ERGATIVITY: ARGUMENT STRUCTURE AND GRAMMATICAL RELATIONS

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Abstract

This dissertation considers the proper treatment of syntactic ergativity, arguing for a framework that decouples prominence at the levels of grammatical relations and argument structure. The result is two notions of subject: grammatical subject and argument structure subject (as in Schachter (1977) and Guilfoyle, Hung and Travis (1992)), and a uniform analysis of syntactically ergative and Philippine languages. Both these language groups allow an inverse mapping in the prominence of the two highest terms between argument structure and grammatical relations. A level of argument structure, although appearing in much recent work, is shown to be particularly well motivated by the examination of ergative languages. A study of Inuit, Tagalog, Dyirbal, and other languages shows that constraints on imperative addressee and controllee selection, antecedent of anaphors, and the controller of certain adverbial clauses are universally sensitive to argument structure. Thus these phenomena are always accusative or neutral, and we can explain why passive agents and causees can generally bind reflexives. However, constraints on relativization, topicalization, focussing or questioning, specificity or wide scope, coreferential omission in coordination, etc., are shown to be universally sensitive to grammatical relations. Examining just these phenomena, which are sensitive to grammatical relations, we see that many languages are indeed syntactically ergative, and so this option must be countenanced by linguistic theory.

Acknowledgments

My choice for a dissertation topic can be traced to an interest in ergativity that was sparked during my time as an undergraduate at the Australian National University. More recently, Bob Dixon suggested to me that I should write a thesis on how well (or badly?) modern syntactic theories fare in treating ergative languages. However, I haven't altogether done that – although much of this thesis bears on that issue – mainly because it would have been difficult to start writing on such a topic without having first sorted out my own views on the typology of ergative languages. Having started with Australia, let me complete my thanks for that part of the world. I've appreciated having Avery Andrews as an email correspondent and occasional coauthor. I've also been lucky enough to meet various other Australian linguists while at Stanford – mainly ANU graduates of an earlier time – and so I am in the unexpected position of knowing more Australian linguists now than when I began at Stanford.

If the choice of topic still harks back to my Australian education, the treatment of it bears much to my Stanford education. I had a wonderful four years at Stanford. I also remember the climate fondly as winter begins to descend in Pittsburgh. The people on my dissertation committee were among those that contributed most to my time at Stanford. Joan Bresnan was welcoming right from when we first met, provided brilliant and inspiring lectures, organised workshops and discussion groups at Stanford, and did everything she could to assist me in writing this dissertation in less than ideal circumstances. I think perhaps my biggest debt to Ivan Sag is for helping me to become part of the larger linguistics community, but I learned a lot else from Ivan over the years, including much about how to do and present research. Peter Sells is legendary among Stanford students for the quantity and quality of help he gives to students, both individually and in lectures, and I appreciate what I received

even more now that I can see how busy life is on the other side of the fence. Thanks also to the many others at Stanford from whom I took courses and seminars.

The final member of my committee was Mary Dalrymple, who I thank not only for her many comments on the content and organization of this thesis, but also for her advice, help, and friendship throughout my time at Stanford. Most of my contact with Mary was not actually at Stanford but at Xerox PARC. I was very fortunate to receive a Xerox internship for the summer of 1992, and then to have a continuing association with Xerox PARC. Not all that much of what I learned at PARC appears in this thesis, but it has been exceedingly useful in other places, not least in my new job. I learned about many things from Ron Kaplan, including LFG, theoretical computational linguistics, and the history of computing. He also always dealt efficiently with finding ways to pay me, despite my irregular schedule. Others that contributed to the quality of my time at PARC include Jeanette Figueroa, Marti Hearst, Julian Kupiec, John Maxwell, Hinrich Schütze, and Hadar Shem-Tov.

Nearly all the examples in this dissertation come from published sources, and thus this dissertation would not have been possible at all without the dedicated fieldwork of others. A dozen or more examples are taken from the work of each of Maria Bittner, Bob Dixon, Michael Fortescue, Martin Haspelmath, Paul Schachter, and Jerry Sadock, and so they deserve special thanks, although I am also grateful to the many other people on whose work I have drawn.

Thanks also to all the other people who helped me to write this dissertation. Edna Paneatak MacLean willingly discussed Iñupiaq with me, despite the fact that we had to go slowly because of my poor knowledge of the language. Brett Kessler corrected and helped me gloss the Sanskrit examples. Güven Güzeldere okayed some Turkish examples. María-Eugenia Niño was on hand when needed to provide Spanish judgments and Tagalog references. Maria Bittner, Miriam Butt, Martin Haspelmath and Jerry Sadock discussed various aspects of their and my work with me by electronic and regular mail.

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to Hye-won, for being my first friend at Stanford and for submitting this dissertation for me. Even more particular thanks to Jane, for her love and help. This thesis is longer than Jane's, so I must have disturbed her more than she disturbed me. Thanks also to our friends, in particular, Jill, Jennifer, and Pollo. In Gina and Michelle I was fortunate to have some of the nicest administrative staff around. And finally to my family, not all of whom will be able to read this.

Transcriptions, Abbreviations, and Conventions

This section describes conventions and abbreviations that I have used. I have tried to make this dissertation useful as a reference document. There is an index of languages and topics (although I should stress that it is incomplete). The bibliography also acts as an index of citations – at the end of each entry is a list that gives the page numbers where the work is cited. At the first mention of each language (strictly the first mention from Section 1.1 on outside of footnotes), I list in brackets its family affiliation and where it is spoken.

Almost all the examples in this thesis are drawn from previously published sources. The source of each example is given in the Appendix, Sources of Examples. References are to the example number of the cited work, where available (in the form (ch.ex) when examples are numbered separately within each chapter), otherwise to the page number. Most examples appear using the transcription conventions of my source. Some attempts have been made to make transcriptions and the glossing of grammatical formatives more consistent, as outlined below.

All Dyirbal examples are transcribed using a form of the practical orthography now in widespread use by Australianists (including Dixon (1991, 1994)). The correspondences with the system employed by Dixon (1972) are: $ny = \eta$, $j = d_j$, $r =$ and $rr = r$. However, the name Dyirbal is not written in the practical orthography (where it would become Jirrbal).

The transcription of Inuit examples is not completely consistent. Some West Greenlandic examples are in the official orthography while others are in a pure phonemic variant thereof (the new orthography continues to distinguish *i/e*, *u/o* and *v/f*, although these differences are not phonemic). Examples from other varieties of Inuit are transcribed as in their source.

Most Lezgian examples use the transliteration system of Haspelmath (1993), but some examples from Mel′čuk (1988) follow his transcription conventions.

Mayan examples appear in the practical orthography of Terence Kaufmann (the most unusual feature of which is that '7' is used for glottal stops).

Tagalog examples are shown using the style and glossing of Kroeger (1993) (in particular case markers are attached to the following word with an equals sign (=) which indicates cliticization).

The following abbreviations are employed in the glosses:

1, 2, 3	first, second, third person
4	fourth person (Inuit anaphoric form)
I, II, III, IV	noun class markers
A	Absolutive agreement
ABL	Ablative case
ABS	Absolutive case
ACC	Accusative case
ANTIP	Antipassive
ASP	Aspect
AUX	Auxiliary
AV	Active Voice
CAUS	Causative
CMPLTV	Completive aspect
COND	Conditional
COP	Copula
DAT	Dative case
DEF	Definite
DEP	Dependent aspect
DIR	Directional
DM	Determinate
DIRS	Directional Suffix
DV	Dative Voice
E	Ergative agreement
EMPH	Emphatic marker
EXCL	Exclusive
EQU	Equalis case
ERG	Ergative case
FREQ	Frequentative
FUT	Future
GEN	Genitive case
GER	Gerundive
IMMED	Immediately following event
IMPV	Imperative
INCEPT	Inceptive
IND	Indicative mood
INF	Infinitive
INSTR	Instrumental case
INTERROG	Interrogative
INTR	Intransitive ending
IV	Instrumental voice
LNK	Linker
LOC	Locative
MASC	Masculine gender
MOD	Modalis case
MSD	Masdar (event nominalization verb form)
NEG	Negative

NFUT	Nonfuture
NOM	Nominative case
NOMLZ	Nominalizer
O	Object agreement
OGEN	Oblique Genitive extension
OV	objective voice
PART	Participle
PASS	Passive
PART	Participle
PAT	Patient
PERF	Perfective
PL	Plural number
PM	Proper name marker
PURP	Purposive
PRES	Present tense
PRET	Preterite
PAST	Past tense
PSUB	Past subordinate mood
PTCL	Particle
QUES	Question marker
REC	Recent past tense
REL	Relativizer, Relative Case
S	Subject agreement
SG	Singular number
SUBJ	Subject (agreement with)
TERM	Terminalis case
TH	'There' series demonstratives
TM	determinate Topic Marker
TNS	Tense
TR	Transitive ending

In glossing the agreement of Eskimo transitive verbs, agreement with the A argument is always listed first in the gloss, and agreement with the O argument is listed second (even when this doesn't correspond with the historical order of morphemes, for which see Section 2.2.5).

The following abbreviations are used for grammatical frameworks:

ALS	Autolexical Syntax (Sadock 1991)
GB	Government-Binding Theory (Chomsky 1981, Chomsky 1986)
GPSG	Generalized Phrase Structure Grammar (Gazdar et al. 1985)
HPSG	Head-driven Phrase Structure Grammar (Pollard and Sag 1994)
LFG	Lexical Functional Grammar (Bresnan 1982a)
RG	Relational Grammar (Perlmutter 1983)

Contents

CHAPTER 1

Cutting the ergativity pie

THIS DISSERTATION considers the proper treatment of some of the phenomena that have led languages to be considered *ergative* (Dixon 1979, Comrie 1978). At present most such languages have been only sparsely studied, and many fundamental questions in their analysis seem at best incompletely answered. Thus the dissertation tries to concentrate on such basic issues as when ergativity should be analyzed as syntactic or morphological, whether there is a division into two classes of syntactically and morphologically ergative languages, and if so where should it be drawn, whether ergative arguments are always core roles or not, and so on.

The plan of the dissertation is as follows. The first half of this chapter introduces the lines of the analysis that I will propose within a broad typological sweep. This section includes some review of standard approaches to ergativity from the structuralist/functionalist literature. The second half discusses some possible models of ergativity within the tradition of generative grammar and briefly introduces the framework that I will be assuming.

The next chapter examines Inuit (Eskimo). It shows how the main language phenomena support a division between grammatical relations and argument structure, with Inuit showing an inverse mapping between the two. The chapter also serves a second function: since so much of the recent generative literature on ergativity deals in whole or in part with Inuit, I will continue to survey the literature from the vantage point of Inuit.

Chapter Three then turns to the analysis of Lezgian. While Inuit is a difficult case because it is what Dixon (1979) describes as a "mixed pivot language", Lezgian is problematic because there is little evidence for surface grammatical relations at all.

Chapter Four briefly considers the placement of Dyirbal within the typology that I have been developing, and summarizes the conclusions of my study.

The dissertation views language from a basically lexicalist perspective. It isn't a lengthy defense of lexicalism (for which, see among others Bresnan and Mchombo (1993) and Sells (1994)), but adopting a lexicalist perspective is an important part of the argument, and is discussed especially in Section 2.3.1.3. The dissertation also attempts to describe grammatical phenomena by factoring constraints onto different levels (in the tradition of LFG), rather than trying to treat everything in terms of the configurational relationships defined on a single tree structure, as in much GB work. The bulk of the dissertation ends up being about the interplay between a level of grammatical relations and a level of argument structure. Questions of phrase structure and word order have seemed less cogent to the issues that I concern myself with, or at least I have not seen how to make sufficient use of them.

1.1 What is ergativity?

It is a longstanding observation that many languages exhibit not the pattern of case marking known from the major European languages, but rather an ergative pattern of case marking as shown for Burushaski (isolate, Pakistan) in (1), and West Greenlandic (Eskimo-Aleut, Greenland) in (2):

(1) a. ne hír-e phaló bók-i
the.MASC man-ERG seed.PL.ABS sow.PRET-3SG.MASC.SUBJ
'The man planted the seeds.'

b. ne hir yált-i
the.MASC man.ABS yawn.PRET-3SG.MASC.SUBJ
'The man yawned.'

(2) a. Oli-p neqi neri-vaa
Oli-ERG meat.ABS eat-IND.TR.3SG.3SG
'Oli eats meat.'

b. Oli sinippoq
Oli.ABS sleep-IND.INTR.3SG
'Oli sleeps.'

In such languages the more patient-like argument of a transitive verb appears in the same absolutive case as the single argument of an intransitive verb, while the more agent-like argument of a transitive verb is marked differently, in what is known as the ergative case. This contrasts with the accusative system of case marking, illustrated by Latin (ancient Indo-European, Italy) in (3).

(3) a. puella veni-t
girl.NOM come-PRES.IND.3SG
'The girl comes.'

b. puer puella-m audi-t
boy.NOM girl-ACC hear-PRES.IND.3SG
'The boy hears the girl.'

To avoid constant use of clumsy locutions like "the more patient-like argument of a transitive verb", I will use for descriptive purposes the abbreviations introduced by Dixon (1972, 1979), whereby A represents the agent-like argument of a transitive verb, O the patient-like argument of a transitive verb and S the single actant of intransitive verbs. The accusative and ergative systems of case marking then pick out the classes shown in (4):

(4)

Nominative	A	Ergative
	S	Absolutive
Accusative	O	Absolutive

I will always refer to the two direct cases in an ergative language pretheoretically as Ergative and Absolutive (a term ultimately from the Eskimo literature (Thalbitzer 1911)). Many prefer to call the Absolutive case Nominative, in part because both are usually unmarked, as in the examples above, but that is a theoretical decision whose validity I will discuss.

From a basis in case marking, the term *ergative* has been extended to other subsystems of language (verbal agreement, potentially word order, syntactic and even discourse properties) that treat S and O in one way and A in another. The term *accusative* is similarly used when a subsystem treats S and A in one way and O in another. These are not the only two groupings that appear in language, but they are the two most common ones. Others will be introduced later.

Before proceeding, let me introduce a little more basic terminology that I will use throughout. Most grammatical theories distinguish between the basic means by which the actants of verbs are expressed, and more specialized means which have definite semantic restrictions. I will refer to the former as *core roles*, or *terms*, and the latter as *oblique roles*. In case-marking languages, terms are most commonly marked by the basic cases of the language, variously called *direct* or *structural cases*, whereas obliques (and sometimes some terms) are marked by *oblique cases* which have clear semantic content.[1] I will sometimes use the expression *displaced term* for an argument which in some verbal diatheses appears as a term, but which in a certain configuration has been demoted or has been unable to be linked to a term (such as the agent of passive constructions and the dative or oblique causee in the Romance languages).

Returning to our initial examples, the question is what significance this different pattern of morphological marking has for the analysis of ergative languages. Unlike in Latin, the 'subject' of traditional grammar (the class of S and A NPs) is no longer consistently marked by a single case. Do these different morphological markings show that the languages concerned have a fundamentally different syntactic character from familiar accusative languages? This was widely assumed by grammarians in the premodern era. Various analyses could be viewed as denying there are any grammatical relations in an ergative language or suggesting that there is only one general grammatical relation of modifier, but the most common view was that the ergative is something like a passive. This analysis holds that the O bears the same

[1] It is hard to precisely characterize this distinction. Many have noted that ergative cases have semantic correlates, but then some people, such as Wierzbicka (1980, 1981) have suggested that all cases, including nominative and accusative, have meanings. Nevertheless, I feel that there is a basic distinction that has to be made.

grammatical relation as the S of an intransitive (as in the English passive) while the A has a different grammatical relation. This allows one to maintain a simple link between morphological form and syntactic function, which seems desirable, ceteris paribus (and, indeed, most traditional work was averse to recognizing syntactic relations that were not overtly marked). However, it complicates the statement of the mapping between semantics and syntax, where it is often assumed that, universally, an agent argument should be mapped onto the subject position (in the basic verbal voice).

1.1.1 Anderson (1976)

This traditional analysis is challenged by Anderson (1976) and Dixon (1979). Anderson argues that for most morphologically ergative languages there is a clear notion of grammatical subject which picks out the same roles (A and S) that the term grammatical subject picks out in accusative languages, despite the differences in case marking. He suggests that the best understood tests for subjecthood are the major cyclic syntactic rules (of transformational grammar): equi-NP deletion, raising, reflexive binding and conjunction formation. Anderson shows that many ergative languages have analogs of these operations and that they appear to behave in an accusative fashion. He examines equi-NP deletion in Basque (isolate, France and Spain), subject raising in Tongan (Austronesian, Tonga), conjunction reduction in Kâte (Huon, Papua New Guinea) and reflexivization in Abkhazian (Abkhazo-Adyghean, Georgia) and suggests that they all pick out a subject relation comprising the S and A NPs. To present just a couple of Basque examples at this stage, (5) shows how an absolutive reciprocal can be bound by an ergative NP (5a), while the reverse is impossible (5b). Reciprocals never appear in the A or S subject positions, but an S can also bind an oblique reciprocal (5c):

(5) a. Gudari-ek elkar hiltzen zuten
soldiers-ERG RECIP.ABS kill AUX
'The soldiers$_i$ killed each other$_i$.'

b. *Gudari-ak elkarr-ek hiltzen zituen/zituzten
soldiers-ABS RECIP-ERG kill AUX

c. Lagun-ak elkarr-ekin joan dira
friend-ABS RECIP-with go AUX
'The friends$_i$ have gone with each other$_i$ (i.e., together).'

Anderson (1976) presents the data in (6), suggesting that they show that equi-NP deletion followed an accusative pattern in Basque:[2]

(6) a. nahi dut joan
desire have.1SG.3SG go.INF
'I want to go.'

b. nahi dut egin
desire have.1SG.3SG do-INF
'I want to do it.'

Thus Anderson's argument is that the morphology of ergative languages is misleading. In general, syntactic operations show these languages have a grammatical relation of subject grouping A and S, just like accusative languages.

However, Anderson notes that this is not true for all languages. In particular he suggested that Dyirbal (Pama-Nyungan, Queensland, Australia) has processes of both equi-NP deletion and relativization that work on an ergative basis by applying only to S and O NPs. For a language such as this, Anderson concludes that "something like the 'underlying passive' theory appears to be correct" (p. 17).[3]

1.1.2 Dixon (1979)

This line of approach led to the current orthodoxy, as presented in Dixon (1979), the standard survey of ergativity.[4] Dixon analyzes direct arguments in terms of what

[2]However, Ortiz de Urbina (1989:23–34) argues that these examples do not consist of a biclausal equi control construction (with an embedded PRO subject), but rather a monoclausal complex predicate construction. Thus they should be handled at argument structure as I suggest for similar constructions in Inuit in Section 2.3.1.

[3]It is unclear whether Anderson was actually adopting the analysis that in these languages surface ergative structures arise by passivization or whether he was simply referring to a certain configuration of grammatical relations. The distinction is discussed further in Section 1.4.

[4]Dixon updates his ideas in the monograph Dixon (1994). The summary in this section is of Dixon (1979), but it is generally compatible with the position of Dixon (1994). Some ideas and references from Dixon (1994) are used further on.

he regards as universal semantic-syntactic primitives A, S, and O, defined as in Section 1.1.[5] Dixon argues that there are two types of ergative languages, a large class of morphologically ergative languages and a small class of syntactically ergative languages. In the former, tests that are sensitive to surface grammatical relations (these include some of the tests Anderson (1976) uses, in particular tests involving clausal coordination and subordination), show that the underlying grammatical relations do not mirror the surface morphology. Rather, all of these processes clearly pick out a notion of grammatical subject (or *pivot* as Dixon terms it) grouping A and S. For syntactically ergative languages like Dyirbal, similar processes pick out a grouping of S and O. Dixon is careful to distinguish the presence of a pivot (which not all languages need have, or they may use a mixture of pivots) from what he regards as the true universal concept of (deep) subject – which I will refer to here as the *logical subject* following Jespersen (1924). The logical subject is the highest argument at argument structure of the basic form of a predicate, normally the agent or experiencer of transitive verbs. Dixon suggests that all languages have a category of (deep) subject formed by grouping A and S. For semantic reasons certain grammatical processes will universally pick out this notion of deep subject regardless of the surface pivot of the language. This is because it is the (deep) subject that can control events. These processes include deciding the addressee of imperatives, control relations with jussive complements (roughly complements to verbs belonging to Sag and Pollard's (1991) *influence* sort) and the similar control relations with aspectual/modal-like verbs such as 'can', 'must', 'try', 'begin', 'finish', when they occur as lexical verbs in a language.[6] Thus, for example, Anderson's evidence for the syntactic accusativity of Tongan is that there is optional 'subject raising', a process affecting A and S (7b, 8b) but not

[5]Note that, for Dixon, valence changing operations change the assignments of A, S and O, so that passive, for example, puts an underlying O NP into derived S function (Dixon 1994:12). This is compatible with a framework (like mine – see Section 1.4, Grimshaw 1990, Bresnan and Zaenen 1990, etc.) where passive manipulates argument structure, but not with an approach (like in RG, or Bresnan 1982b) where passive manipulates grammatical relations.

[6]Dixon (1994:131f) deletes discussion of jussive complements and adds discussion of reflexives. Note also that on Dixon's theory, operations like passive must change the configuration of A, S, and O – in the case of passive the former O becomes what is called a *derived S*. This is need to explain how the theme can control events in the grammatical English gloss of (9), for example.

O (9) with the verb *lava* 'be possible, can':

(7) a. 'oku lava ke hū 'a mele ki hono fale
PRES possible TNS enter ABS Mary to his house
'It is possible for Mary to go into his house.'

b. 'oku lava 'a mele 'o hū ki hono fale
PRES possible ABS Mary TNS enter to his house
'Mary can go into his house.'

(8) a. 'oku lava ke taa'i 'e siale 'a e fefine
PRES possible TNS hit ERG Charlie ABS DEF woman
'It is possible for Charlie to hit the woman.'

b. 'oku lava 'e siale 'o taa'i 'a e fefine
PRES possible ERG Charlie TNS hit ABS DEF woman
'Charlie can hit the woman.'

(9) *'oku lava 'a e fefine 'o taa'i 'e siale
PRES possible ABS DEF woman TNS hit ERG Charlie
*'The woman can be hit (by Charlie).'

But Dixon does not accept this data (apparently originally from Chung (1978)) as evidence of syntactic accusativity in Tongan, suggesting that it follows from universal properties of deep subjects (Dixon 1979:116; 129, fn. 101). Indeed, as he suggests, all Chung's evidence for syntactic accusativity is of this sort (involving the behavior of aspectual/modal verbs like 'can', 'begin', 'must') and therefore unconvincing.[7] This idea that processes of control and imperative addressee have a partly semantic basis and operate independently of the language particular pivot is important and it is one that I will try to build on.

This universal notion of (deep) subject is independent of whether a language is ergative or accusative at either or both of the levels of morphology or syntax. Dixon

[7] Cf. also argumentation by Mosel and Hovdhaugen (1992:711) concerning the Samoan (Austronesian, Samoa) construction that corresponds to the Tongan examples cited above – they suggest that the restriction on raising follows simply from the corresponding Samoan verb meaning not just 'can' but 'can do something'; see Cook (1991) for a dissenting view on the status of subject in Samoan.

sees syntactic and morphological ergativity as two separate parameters although there is a one way implication in which syntactic ergativity implies (some) morphological ergativity. Note also that morphological ergativity, at least, is not an all or nothing thing – Dixon suggests that no language he surveys is entirely ergative at the surface morphological level.

Whether a language has an ergative or accusative syntactic pivot is to be determined, according to Dixon, by the behavior of language particular syntactic operations such as coordination, subordination and related phenomena that he sees as applying at a level of shallow structure. Dixon suggests that most languages use an S/A pivot for these operations, but a few use an S/O pivot. He gives Walmatjari (Pama-Nyungan, Western Australia) as an example of a morphologically ergative language with an accusative S/A pivot. In three clause linking constructions, including the one shown in (10), clauses can only be linked when they share the S/A NP.

(10) ṭikiřyan-uḷa ma-ṇa-∅-lu-nja mana-waṇṭi patjani
return-after IND-1EXCLS-3O-PLS-PLO tree-PL.ABS chopped
'Having returned, we chopped trees.'

Another example is Basque. In a sentence like (11), the A of the first clause must be interpreted as the S of the second (regardless of whether the first clause is in a reduced form without the auxiliary):

(11) Seme-a eskola-n utzi (zuen) eta klase-ra joan zen
son-ABS school-at leave AUX and class-to go AUX
'S/he left her/his son at school and went to class.'

This contrasts with similar data from Dyirbal where clause linking requires the clauses to share an S/O NP:

(12) bayi yara baŋgul gubi-ŋgu munda-n baŋgun jugumbi-ru
I.ABS.TH man.ABS I.ERG.TH gubi-ERG bring-NFUT II.ERG.TH woman-ERG
balga-n
hit-NFUT
'The gubi [shaman] brought the man here and the woman hit (him).'

I take the above to be the essence of Dixon's analysis. But the paper naturally discusses much more – the functional bases of NP grouping, the different types of

split ergativity that occur, and the process of diachronic change. There is also much other relevant work in the structuralist/functionalist literature – especially the survey article of Comrie (1978) and the work of Silverstein (1976) on the hierarchies conditioning ergativity splits – but since Dixon ably summarizes much of this work, I will move on.

1.1.3 The scarcity of syntactically ergative languages

Examples (11–12) showed a clear difference in syntactic behavior between two languages with ergative morphology. However, there are some reasons to doubt whether the above division into syntactically ergative and syntactically accusative languages correctly, or optimally subdivides the class of languages that have (partially) ergative morphologies or otherwise exhibit 'patient prominence'. One problem is that attempts to add other languages to the class of syntactically ergative languages, thus defined, have tended to prove unsustainable. Anderson (1976) claims without substantiation that Hurrian (ancient isolate, Turkey) is also syntactically ergative. But this is questioned by Pullum (1977) – in large part because the textual record is so scant that the proposition is untestable – and the manuscripts in preparation in which Anderson was supposed to support this claim have not appeared. Marantz (1984) attempts to argue that Central Arctic Eskimo (Eskimo-Aleut, Canada) is syntactically ergative (as opposed to certain other forms of Eskimo, in particular West Greenlandic, which he analyzes as morphologically ergative). However, this claim for a fundamental typological difference between Central Arctic Eskimo and other varieties of Eskimo simply cannot be substantiated (see Johns (1984) and Section 2.4.2, below). Anderson's tests of equi-NP deletion and reflexive binding would identify Central Arctic Eskimo as syntactically accusative, just like all other forms of Eskimo. Levin (1983:64) suggests Yup′ik (Eskimo-Aleut, Alaska) and Yidin^{y} (Pama-Nyungan, Australia). But the only evidence she provides for the syntactic ergativity of Yup′ik is flawed (see Chapter 2, fn. 58), and Dixon (1979:129) describes Yidin^{y} as less ergative than Dyirbal – as a 'mixed pivot' language.

Thus Dyirbal has tended to stand alone as the one true syntactically ergative language. Perhaps because of this, some researchers have maintained that there are

no syntactically ergative languages (such is the position of Johnson (1977), Pullum (1977), and apparently the one of Perlmutter and Postal at the 1974 Linguistic Institute lectures on Relational Grammar). Now this apparent rarity of syntactically ergative languages may just be an historical accident – certain basic word orders are apparently very rare but nonetheless exist – but I would like to suggest that this result has instead come about from cutting the pie in the wrong places. Given the cuts I propose, there will turn out to be a large supply of syntactically ergative languages.

Another problem is that many languages do not appear to fit into the current typology. Chapters 2 and 3 of this dissertation will be spent concentrating on languages that do not fit in in one of two ways. Chapter 3 looks at Lezgian (Nakho-Daghestanian, Russia and Azerbaijan), which like some other Nakho-Daghestanian languages is problematic because there is little or no evidence for a pivot of any sort. However, here and in Chapter 2, I will concentrate on the opposite problem. Many languages have a variety of syntactic phenomena that one might take as evidence in determining the subject or pivot, but the phenomena are not consistent, and some groupings work along ergative lines and others along accusative lines (this is what Dixon (1979, 1994) termed the problem of "languages with mixed pivots"). A classically problematic case is the Philippine languages, and in particular Tagalog (Austronesian, Philippines) (Schachter 1976, Schachter 1977). My aim is to show that the so-called mixed pivot behavior of these language is not random, and is in fact to be expected under an appropriate definition of syntactic ergativity.

1.2 Towards a new typology of mixed-pivot languages

1.2.1 Tagalog

Tagalog has a rich system of so-called voices (up to seven depending on the verb, some of which I will term, following Kroeger (1993): active voice (AV), objective voice (OV), dative/locative voice (DV) and instrumental voice (IV)), which determine the semantic role which is born by the *ang*-marked NP, of which there is normally

one in every sentence.[8] The first three of these voices are illustrated in (13). The *ang*-marked NP is in turn the agent, the theme and the location:

(13) a. B-um-ili ang=lalake ng=isda sa=tindahan
PERF.AV-buy NOM=man GEN=fish DAT=store
'The man bought fish at the store.'

b. B-in-ili-∅ ng=lalake ang=isda sa=tindahan
PERF-buy-OV GEN=man NOM=fish DAT=store
'The man bought the fish at the store.'

c. B-in-ilh-an ng=lalake ng=isda ang=tindahan
PERF-buy-DV GEN=man GEN=fish NOM=store
'The man bought fish at the store.'

The perfective aspect marker is an infix (the stem above is *bili*), and there appears to be a special fusional infix for the perfect in the active voice. Here and generally in the nonfuture aspects Objective Voice is morphologically zero (that is the unmarked form is when the O is the *ang*-marked NP), but this is not always the case.

Schachter (1976, 1977) points out that Tagalog had a split in apparent 'subject properties' (in roughly the sense of Keenan 1976b) between those borne by the *ang*-marked NP and those borne by the Actor. Some of these properties can be lined up as follows:

(14)

Ang-marked NP (Topic)	Actor
Obligatory element of clause	Possible antecedent of reflexives
Launches floating quantifiers	Equi target
Relativization	Imperative addressee
Specific	

Because Keenan's criteria do not consistently pick out a notion of subject in Tagalog, Schachter concludes that the *ang*-marked NP is the Topic, but that various other

[8]Here and elsewhere in this chapter, certain complexities in the data have been suppressed for the purposes of a clean presentation of the basic idea. Some of these lacunae are addressed in later chapters. The omission at hand here is that certain Tagalog constructions do not exhibit voice morphology or an *ang*-marked NP, but the description is accurate for what Schachter (1976, 1977) called Tagalog simple narrative sentences.

properties key off the macrorole of Actor, and that Subject isn't a useful notion in the description of Tagalog. However, he is careful to point out that these Philippinist conceptions of Topic and Actor are somewhat at variance with normal usage (the Topic can be what would normally be called a focus, for example, and the Actor can have various thematic roles in the context of Tagalog verbs meaning roughly 'receive' and 'endure'). But the Topic has reference-related prominence while the Actor has role-related prominence, serving as the protagonist.

I do not wish to illustrate all these properties, nor the other tests discussed by Kroeger (1993), but let me just work through a few which have further application in my crosslinguistic study. Schachter (1977) describes the topic as regularly definite, or more carefully as a term whose reference is presupposed. This was indicated very approximately in the difference in the translation between (13a) and (13b).

Another key property of the Topic is that it is the only position that can be relativized on. This is illustrated in (15) where active voice and objective voice are used when relativizing the actor and patient respectively. It is not possible to form relative clauses unless the gap representing the relativized NP is in the Topic slot (16).

(15) a. Iyon ang=babae=ng b-um-ili ng=baro
that NOM=woman=LNK PERF.AV-buy GEN=dress
'That's the woman who bought a dress.'

b. Iyon ang=baro=ng b-in-ili ng=babae
that NOM=dress=LNK PERF-buy.OV GEN=woman
'That's the dress that a/the woman bought.'

(16) a. *Iyon ang=baro=ng b-um-ili ang=babae
that NOM=dress=LNK PERF.AV-buy NOM=woman

b. *Iyon ang=babae=ng b-in-ili ang=baro
that NOM=woman=LNK PERF-buy.OV NOM=dress

On the other hand, Schachter shows that the Actor can always control a reflexive (regardless of whether it is the Topic) (17a–b) while it cannot itself be a reflexive (17c):

(17) a. Nag-aalala ang=lolo sa=kaniyang sarili
AV-worry NOM=grandfather DAT=his self
'Grandfather worries about himself.'

b. Inaalala ng=lolo ang=kaniyang sarili
OV.worry GEN=grandfather NOM=his self
'Grandfather worries about himself.'

c. *Inaalala ang=lolo ng=kaniyang sarili
OV.worry NOM=grandfather GEN=his self

Also, in the basic pattern of control, it is always the actor that is the gapped controllee, regardless of the verbal voice of the complement. For example, (18a) shows a topic actor controllee, while (18b) shows a non-topic actor controllee (see Kroeger (1993:39, 99) for more extensive paradigms).[9]

(18) a. In-iwas-an ko=ng t-um-ingin kay=Lorna
PERF-avoid-DV I.GEN=COMP AV-look.at DAT=Lorna
'I avoided looking at Lorna.'

b. B-in-awal-an ko si=Maria=ng awit-in ang "Dahil sa
PERF-forbid-DV I.GEN NOM=Maria=COMP sing-OV NOM because DAT
iyo"
you.SG
'I forbade Maria to sing "Because of you".'

Thus the kind of 'subject properties' that Keenan (1976b) identifies are split between two NPs in Tagalog sentences (except when the Actor and the Topic coincide) and it is not immediately obvious to which of these we should apply the term 'subject'.

1.2.2 Inuit

But this problem – where 'subject properties' are split between two NPs in a sentence – is not confined to the Philippine languages. Indeed, a very similar sort of split

[9] The controller is determined on semantic grounds, and can be either a non-topic (18a) or a topic (18b). This follows from the sort of semantic theory of controller selection given in Sag and Pollard (1991) and Pollard and Sag (1994) (where in (18a) the controller is an EXPERIENCER and in (18b) an INFLUENCED participant).

appears to occur in various ergative languages. For example, the Eskimo languages are widely regarded as syntactically accusative (having an S/A pivot), and hence only morphologically ergative. According to the criteria of Anderson (1976), it seems that all Eskimo languages would be regarded as syntactically accusative: evidence from major cyclic transformations like control and binding suggest syntactic accusativity. This is the position argued for in Johnson (1980). Marantz (1984:216) also concludes that West Greenlandic Eskimo is syntactically accusative on rather different grounds. Givón (1984:166) endorses the analysis of Kalmár (1979) that "the language is *not* 'deep' ergative, but rather 'surface' ergative."

However, Woodbury (1977a) notices that there is a mixture of evidence for both S/O and S/A being pivots in Greenlandic, and this analysis is mentioned by Dixon (1979:129), who suggests Eskimo as another mixed pivot language family. We can begin to produce a split of properties quite similar to that shown for Tagalog in Inuit:

(19)

Absolutive marked NP	Actor
Subcategorized element of every clause	Antecedent of reflexives
Relativization	Equi target
Specific/Wide Scope	Imperative addressee

Some of these same properties are briefly illustrated below (they are exemplified in greater detail in Chapter 2). Examples are from West Greenlandic except where noted. All verbs subcategorize for an absolutive argument (although it may not appear overtly because of free pro-drop). Relative clauses are restricted so that the relativized role must be the absolutive within the relative clause.[10] So (20a–b) show relativization of O and S NPs, while (20c) shows that relativization of an A NP is impossible.

(20) a. nanuq Piita-p tuqu-ta-a
polar.bear Piita-ERG kill-TR.PART-3SG
'a polar bear killed by Piita'

[10] Relative clauses in Inuit are actually participial nominalizations, but I am essentially accepting a functional definition of what a relative clause is, following Comrie (1981:136).

b. miiraq kamat-tu-q
child.ABS angry-REL.INTR-SG
'the child that is angry'

c. *angut aallaat tigu-sima-sa-a
man.ABS gun.ABS take-PRF-REL.TR-3SG.SG
*'the man who took the gun'

Thirdly, the absolutive NP has certain special interpretive properties, which much of the traditional literature has interpreted as definiteness, but perhaps specificity is nearer to correct, and which Bittner (1987, 1994) accounts for in terms of scope. The flavor of the distinction between the transitive Central Arctic Eskimo sentence in (21a) and the intransitivized variant in (21b) comes from the specificity, referentiality or givenness associated with the absolutive NP in (21a), unsatisfactorily captured by translating it with 'the':

(21) a. Jaani-up tuktu taku-vaa
Jaani-ERG caribou.ABS see-IND.TR.3SG.3SG
'Jaani sees the caribou.'

b. Jaani tuktu-mik taku-vuq
Jaani.ABS caribou-MOD see-IND.INTR.3SG
'Jaani sees a caribou.'

On the other hand, some properties seem to be sensitive to a notion of 'subject' linking A and S. This is the kind of evidence that (following Anderson 1976) is often taken to suggest that most ergative languages are syntactically accusative. Thus a possessive reflexive can be bound by an A or by an S (22a–b), but not by an O (22c):[11]

(22) a. ataata-ni Juuna-p tatig(i-v)-a-a
father-4SG.ABS Juuna-ERG trust-IND-TR-3SG.3SG
'Juuna$_i$ trusts his$_i$ father.'

[11] In Inuit, possessor agreement is suffixed to nouns. A separate set of reflexive agreement affixes are customarily referred to as the 4th person.

b. Aani illu-mi-nut ingerla-vo-q
Anne.ABS house-4SG-TERM go-IND.INTR-3SG
'Anne$_i$ is going to her$_i$ house.'

c. *Anaana-mi Piita nagligi-jaŋa (Inuktitut)
mother-4SG.ERG Piita.ABS love-3SG.3SG
*'His$_i$ mother loves Piita$_i$.'

and in cases of control, the controllee NP is again the A or S and not the O:

(23) a. Miiqqat __ Juuna ikiu-ssa-llu-gu niriursui-pp-u-t
children.ABS [ERG Juuna.ABS help-FUT-INF-3SG] promise-IND-INTR-3PL
'The children promised to help Juuna.'

b. Miiqqat __ qiti-ssa-llu-tik niriursui-pp-u-t
children [ABS dance-FUT-INF-4PL] promise-IND-INTR-3PL
'The children promised to dance.'

The correlation of properties between Philippine languages and certain other ergative languages (compare again (14) and (19)) is actually quite impressive, but does not seem to have gained wide currency. However, after I began investigating the correlation between properties of Kroeger's (1993) analysis of Tagalog and properties found in the Inuit literature, I became aware of a number of prior observations of this correlation. Johnson (1980) refers to the "remarkable coincidence of results" between her work on Central Arctic Eskimo and Schachter's (1977) discussion of Tagalog, and Payne (1982) makes a similar argument with respect to Yup′ik (Eskimo-Aleut, Alaska). Similarly Blake (1988) compares Tagalog to Kalkatungu (Pama-Nyungan, Australia). At the end of his paper, Andrews (1985) also tentatively considers collapsing the syntactically ergative and Philippine language types, although the parallel with the class of syntactically ergative languages, as traditionally defined, is less convincing than the one that I have been considering. I thus conclude that within a syntactic typology, the basic voices of Tagalog and Inuit should be analyzed the same (something that some previous researchers have been reluctant to do because of the 'differentness' of Philippine voice systems).

1.2.3 Notions of 'Subject'

What, then, is the subject of an Inuit sentence? We might conclude that Inuit should also be put in the too hard basket, and we could start talking about the Actor and Topic of Inuit sentences following Schachter. However, this seems undesirable. If we have any conception whatsoever of universals of human language then we should seek syntactic categories that can be applied across languages of different typological sorts. This is the *condition of generality* of Chomsky (1957:50). It would be irresponsible to exclude Philippine, Eskimo and many other ergative languages from consideration when determining the meaning of the notion 'Subject'. There is absolutely no reason to suggest that basic grammatical primitives should not also be found in Inuit since it has syntactic processes that are in general familiar from languages around the world. Rather, it suggests only that our traditional grammatical categories may need refinement. But this is the whole point of doing crosslinguistic work.

If we accept that linguistic notions should be applicable to Philippine and Eskimo languages, the question then becomes which NP is the subject. There are clearly two choices before us: Either the Philippine Topic and the Eskimo absolutive is the subject or the Philippine Actor and the Eskimo S/A NPs are the subject.[12] It is logically possible that the answer to this question is quite arbitrary. Suppose that these groupings in Philippine and Eskimo languages pick out two notions, A and B, and that it happens that the notion of subject from common European languages is precisely the conjunction of the notions A and B. Then it would be quite arbitrary which of A and B we call subject and which we find a new term for. In practice, however, I do not believe that this is the case.

Nevertheless, part of the problem is that 'subject' is not used uniformly. Some frameworks and analyses define 'subject' in terms of a system of surface grammatical relations, others (such as Dixon (1979)) consider 'subject' as a basically semantic notion, while yet others seem to confuse these different criteria (such as the list of subject properties in Keenan (1976b)). In this sense Schachter is right in suggesting

[12] Given the convergence of properties between the two language families that I have outlined, it would appear typologically irresponsible to consider the other two possibilities, declaring the Topic the subject in Philippine languages and the S/A NP the subject in Eskimo languages or vice versa.

that we need two notions of subjecthood, similar in content to what he terms Topic and Actor, although one could disagree with the choice of names.[13]

The first notion of subjecthood that I want to establish is subject as the privileged term in a system of surface grammatical relations, what I sometimes refer to as the grammatical subject to avoid ambiguity. This notion is similar to the notion of subject in traditional grammar, but it is more clearly seen in Dixon's usage of pivot, the notion of final 1 in RG or subject in LFG. Kroeger (1993) argues extensively that the correct analysis of Tagalog is that the so-called Topic is actually the grammatical subject. Since the Objective Voice is basic in Tagalog (Cena (1977); the arguments are summarized in Foley and Van Valin (1984:137)), this means that Tagalog has an essentially ergative character.[14] Kroeger argues that grammatical subject should be decided on syntactic rather than semantic or discourse/pragmatic criteria, and that a range of these criteria (quantifier float, relativization, number agreement, raising, control of secondary predicates, subject obviation, possessor ascension and conjunction reduction) all pick out the *ang*-marked NP as the syntactically privileged NP,

[13]Schachter was not the first to distinguish these two notions of subjecthood, although pre-generative work did not generally distinguish surface grammatical relations independent of morphological form. Allen (1964:337) wrote: "Discussions of this type often distinguish between a grammatical and a semantic subject. The former is formally definable and usually refers to the noun or pronoun which is in a particular (e.g. 'nominative') case and/or in concord with the verb or with a particular verbal element. The latter (also variously described as 'real' or 'psychological') generally remains undefined and intuitive, since situational or logical correlates such as 'actor' or 'topic' break down in a number of instances."

[14]I take Kroeger (1993) as my main reference on Tagalog. However it should be noted that a 'morphologically' ergative analysis of Philippine languages was proposed earlier by Gerdts (1988) and De Guzman (1988) and in various other works (Blake (1988), Payne (1982), Mithun (1994), Gibson and Starosta (1990), and by various other people mentioned in this last reference). The Relational Grammar analysis of Gerdts and De Guzman differs considerably from Kroeger's in two ways: it simultaneously maintains notions of final 1 and 2 yielding accusative 'subjects' as well as the relations ergative and absolutive, and it generates Active Voice by antipassivization whereas Kroeger argues that the genitive patient in the Active Voice is still a term (hence using the term 'voice' is somewhat misleading, but I have retained it for want of a better term). The binding facts discussed below support Kroeger against almost all other analyses in suggesting that none of the 'voices' of Tagalog result from processes of passivization or antipassivization that demote terms. The claim that the Topic is the subject in Tagalog was also put forward without argument in various early treatments of Tagalog such as Bloomfield's, and was explicitly argued for earlier by H. McKaughan (see Kroeger 1993:19 for references). Cena (1977) gives the same analysis for objective voice sentences as Kroeger; he doesn't make clear how he intends the other voices to be generated.

which is termed the subject. Conversely, the properties appearing to favor the Actor (possible antecedent of reflexives, imperative addressee and equi target) have a decidedly semantic flavor (perhaps meaning that they should be treated at the level of argument structure). Two of the three are listed among Dixon's properties that always work accusatively, due to the nature of Deep Subjects, and Andrews (1985) suggests that binding possibilities in Tagalog should in general be defined in terms of the thematic hierarchy.

But an adequate linguistic theory also needs another notion of subjecthood – the more semantic one. This one is related to Dixon's use of the term 'subject' and Schachter's notion of Actor which is in turn equivalent to Jespersen's notion of logical subject. I want to propose that their category is not quite what we need to capture the other notion of subjecthood. My analysis crucially involves the postulation of a level of syntactic argument structure (a-structure), with its own distinguished term which I call the a-subject. While all logical subjects are a-subjects, I propose below that the compound argument structures that result from derivational operations, like passive, causative, and antipassive yield additional a-subjects. As a result, the other half of 'subjecthood' in Inuit and other languages is not properly described by the grouping A and S, but rather by the larger set of all a-subjects. For example, in a passive both the logical subject and the surface subject count as a-subjects.

Purely syntactic processes, like relativization and topicalization should be sensitive to the hierarchy of grammatical relations, while the more semantic properties of binding, control and imperative addressee should be mainly sensitive to the level of syntacticized argument structure. Tagalog and Inuit are both syntactically ergative languages which implies that the obliqueness ordering of grammatical relations in the basic verbal voice does not match the obliqueness ordering at argument structure. Rather there is an inverse relationship as shown in (24).

(24) **GRs** **a-structure**

SUBJ agent (a-subject)

OBJ patient

The proposal in (24) might be familiar as the Inverse Analysis of previous work (which is discussed below in Section 1.4), but my proposal differs in not expecting the surface

subject or pivot (I will use the two terms interchangeably) to be "the basis of syntactic organization throughout the grammar of the language" (Dowty 1991:582). Rather, I expect to find in any language a principled division between phenomena that are sensitive to the level of grammatical relations, and phenomena that are sensitive to argument structure.

1.2.4 Historical Origins

It is possible that the parallels in the synchronic situation between Philippine and Eskimo languages result in part from the diachronic path that these language families have followed. An historically influential approach to Eskimo has been the 'nominalist tradition'.[15] In this tradition Eskimo sentences are analyzed as being an equation between a subject and a nominalized complement, so that a sentence like (25a) actually has the structure suggested by the calque in (25b).

(25) a. anguti-up nanuq kapi-ja-a
man-ERG/GEN polar.bear.ABS stab-PASS.PART-3SG.3SG
'The man stabbed the polar bear.' (Qairnirmiut)

b. 'The polar bear is the man's stabbed one.'

This analysis seeks to explain the parallels in case marking between possessors and ergative NPs and between the agreement on possessed NPs and verbs. I take it that the analysis has little synchronic appeal – among other reasons because of the unmarked word order shown in (25a), but that it appears to have a certain historical truth. Eskimo transitive verb endings do appear to have evolved from passive participle morphemes.[16]

It is thus very interesting that something of the same explanation has been proposed for Philippine languages. Starosta et al. (1982) argue that the focus morphology

[15] The idea that Eskimo clauses are like nominalizations was proposed by Thalbitzer and Hammerich, supported by Schultz-Lorentzen, Lowe, and Dorais, carefully discussed but not altogether endorsed by Woodbury (1985b), and adopted as the basis of a GB analysis by Johns (1987, 1992). See Johns (1987:51f) and Johns (1992:61, fn. 9) for references.

[16] Eskimo participles are nominal – the language lacks a category of adjectives.

of Philippine languages can clearly be traced back to nominalizing affixes in proto-Austronesian. They argue that the origin of a Tagalog sentence like (26a) is again to be found in the calque given in (26b), although again the current freer word order suggests that reanalysis has taken place.

(26) a. Kakan-in ng=maestro ang=papaya
eat-OV GEN=teacher NOM=papaya
'A/the teacher will eat the papaya.'

b. 'The papaya will be a/the teacher's eatee.'

This explanation might also extend to the Mayan languages that I consider below. They also use the same agreement for ergatives and possessors, but I have not further investigated their historical reconstruction.

These languages thus stand in contrast to cases where ergativity arises from a perfective or maybe from a passive, where the ergative is frequently homophonous to the instrumental or a case like ablative that expresses passive agents (such as in Hittite (ancient Anatolian, Indo-European) (Garrett 1990) and the Indic branch of Indo-European (Anderson 1977)). I believe that historical origin could be a good guide in subdividing the types of ergative languages, although the matter would require much further investigation. Making an initial cut between ergativity arising from nominalization versus ergativity arising from a perfective or passive origin (reinterpreting an oblique instrumental or agent as the ergative NP) seems promising. Note however that I am making quite different predictions to those given in Trask (1979). Trask proposes two types of ergative languages, Type A resulting from a passive made obligatory, and Type B from a nominalized verb form, often a stative participle incorporated into sentences by means of a possessive construction. On Trask's typology, Type A languages should at least briefly go through a syntactically ergative stage while Type B ergativity should always be "relatively superficial" and "not extend beyond case-marking". In contrast, I am suggesting that many languages where ergativity arises from nominalization are syntactically ergative (whereas the ergativity in the Indic Indo-European languages, for example, seems superficial from the point of view of syntactic behavior).

1.2.5 Word order: a necessary digression

In the typological tradition, the basic word order of a language is generally denoted in symbols as SOV, OVS or whatever. Where there is an unmarked position for oblique NPs, this is typologically important additional information and we can write SOXV or SXOV. The question is, what notion of subject are these labels referring to: the pivot or the logical subject? Past work in word order has suffered by not adequately distinguishing these two notions of subjecthood when stating word order generalizations (as noted by Pullum 1977:252).

Dixon (1994:50, fn. 9) faults the SOV notation for not distinguishing his primitive S and A, and suggests that for a universal framework, one should describe basic word order in terms of A, O and S, as some languages present configurations like SV/OVA or VS/AVO. I suspect that this is the wrong direction to head. Given the distinction between the two notions of subject proposed above, I believe that word order should be described in terms of the surface grammatical relations, pivot (P), other core (C), oblique (O), and verb (V), rather than in terms of A, S, and O which refer to terms at a level roughly akin to my level of argument structure.

For example, I would like to argue that Tagalog should be analyzed as a VCP (i.e., VOS) language, like other Austronesian languages such as Malagasy (Keenan 1976a) and Toba Batak (Schachter 1984), whereas it has sometimes been wrongly analyzed as VSO.[17] Once this analysis is adopted, the unmarked order of full NPs in Dyirbal is seen to fall into the common PCV (i.e., SOV) type, rather than it being an example of what has conventionally been the least common sort, OSV.[18] Somewhat unsettlingly, this argument would move Eskimo languages into the least attested type CPV (i.e., OSV). However, to really evaluate this result, one would need a new wide coverage survey of word order, working consistently with the notion

[17]For instance VSO was one of two options Pullum (1977:254) offers for Tagalog while arguing against the idea that Tagalog is a VOS language as had been argued earlier by others. I must add, however, that word order in Philippine languages is complicated, and facts on Actor placement in Cebuano, Kalagan and Pangasinan noted noted by Schachter (1977:295) would need to be integrated into a complete word order typology.

[18]This possibility was noticed but not endorsed earlier by Pullum (1977) (a work that should now be approached with caution because of the many typological discoveries and developments since its publication).

of surface pivot. For example, given the analysis of Tagalog and other Austronesian languages suggested above, note that VCP (i.e., VOS) languages become much more common than has typically been thought to be the case.

Further evidence for whether word order should be described in terms of surface grammatical relations should come from syntactically ergative languages. We should be able to tell whether word order groups O and S because it is working from the category of surface pivot, or whether word order groups A and S using Dixon's notion of (deep) subject. In practice evidence has been thin on the ground, because most ergative languages are verb initial or verb final.[19] However, where there is word order evidence, it generally appears to support a statement of word order in terms of surface grammatical relations (although further syntactic information would be needed to confirm the identification of the pivot in the languages in question). Below are several examples, all of which I draw from Dixon (1994:50–52).

Sanuma (Yanomami, Brazil and Venezuela) has ergative noun morphology and Dixon describes the basic word orders XSV and AXOV. Huastec (Mayan, Mexico) has ergative verbal crossreferencing as in other Mayan languages discussed below and the most frequent constituent orders are what Dixon calls VS/AVO. Päri (Western Nilotic, Sudan) has ergative case marking, and according to Dixon the basic word orders SV/OVA:

(27) a. ùbúr á-túuk`
Ubur.ABS CMPLTV-play
'Ubur played.'

b. jòobì á-kèel ùbúrrì
buffalo.ABS CMPLTV-shoot Ubur-ERG
'Ubur shot the buffalo.'

I suspect that all the above languages could be analyzed in terms of a surface ergative pivot so that Sanuma would be viewed as a COPV language, Huastec as a CVP language, and Päri as a PVCO language. There isn't conclusive evidence in Andersen

[19] Indeed, the fact that ergative languages are usually verb initial or final is an important part of certain theories, such as those of Anderson (1976) and Trask (1979).

(1988) to support an absolutive pivot in Päri, but there is suggestive evidence: the language has antipassive constructions (generally only found in languages with S/O pivots) and Andersen (1988:322) suggests that the diachronic source of ergativity in Päri is a topicalization of O and S that evolved to become the unmarked form (proto-Nilotic appears to have been an accusative VPC language).

1.3 Other languages for which an inverse analysis seems correct

Let us then examine the applicability of this new typology wherein syntactically ergative languages are expected to show the kind of split of properties that we have seen for Philippine languages and Inuit. An Inverse Grammatical Relations analysis of the type I have proposed for Tagalog and Inuit actually seems to be appropriate for a considerable number of ergative languages (although still, perhaps, a minority). Below I suggest other languages that seem to fit into the same class as Tagalog and Inuit. The size of this class is consonant with the observation of Wierzbicka (1981:73) that "deep ergativity in the sense of patient-orientedness or no overall agent-orientedness is much more widespread than is often assumed."

1.3.1 Mayan languages

A breakdown of properties fairly similar to that found for Tagalog and Inuit appears to be widespread in the Mayan languages. England (1983b, 1983a) and Campana (1992) present evidence from Mam (Mayan, Guatemala and Mexico). Mam has a consistently ergative-absolutive system of verbal crossreferencing. The absolutive appears to be the grammatical subject because it is privileged to perform various surface syntactic functions. S and O NPs may be focussed by fronting (28a–b), while an A NP may not (28c). Antipassivization is required (28d):[20]

[20] Abbreviations peculiar to Mayan are: DIR = directional, DIRS = directional suffix, REC = recent past tense, RN = relational noun (special, always possessed structural nouns used to indicate oblique case relationships).

(28) a. xiinaq s-uul
man DEP.ASP.3SGA-arrive.here
'THE MAN arrived here.'

b. qa-cheej x-hi kub′ t-tzyu-7n xiinaq
PL-horse DEP.ASP-3PLA DIR 3SGE-grab-DIRS man
'The man grabbed THE HORSES.'

c. *xiinaq chi kub′ t-tzyu-7n qa-cheej
man 3PLA DIR 3SGE-grab-DIRS PL-horse
*'THE MAN grabbed the horses.'

d. xiinaq x-∅-kub′ tzyuu-n t-e qa-cheej
man DEP.ASP-3SGA-DIR grab-ANTIP 3SG-RN.PAT horse
'THE MAN grabbed the horses.'

Similar evidence of syntactic ergativity appears in question formation. The S and O can be simply questioned (29b, 30b), while questioning an A is impossible (29c) without a change to antipassive verbal morphology (29d):

(29) a. ma-a7 chi tzaj t-tzyu-7n Cheep kab′ xiinaq
REC-EMPH 3PA DIR 3SE-grab-DS José two man
'José grabbed the men.'

b. alkyee-qa x-hi tzaj t-tzyu-7n Cheep
who-PL REC.DEP-3PA DIR 3SE-grab-DS José
'Whom did José grab?'

c. *alkyee saj t-tzyu-7n kab′ xiinaq
who REC.DEP.3SA.DIR 3SE-grab-DS two man
*'Who grabbed the men?'

d. alkyee saj tzyuu-n ky-e kab′ xiinaq
who REC.DEP.3SA.DIR grab-ANTIP 3PL-RN two man
'Who grabbed the men?'

(30) a. ma chi b′eet xiinaq
REC 3PA walk man
'The men walked.'

b. alkyee x-hi b′eet?
who 3PA-DEP walk
'Who walked?'

However control picks out the Actor for the controllee:[21]

(31) ma tz′-ok n-q′o-7n-a __ tx′eema-l sii7
ASP 2SA-DIR 1SE-give-DIRS-1SG/2SG [cut-INF wood]
'I made you cut wood.'

Larsen and Norman (1979) suggest that a pattern of syntactic ergativity of this sort is widespread throughout the Kanjobalan, Mamean and Quichean subgroups of Mayan. Larsen (1987) suggests that the pattern of data in Quiché (Mayan, Guatemala) is not quite as neat as that given above but nevertheless ends up concluding that there is syntactic ergativity.

Van Valin (1981) describes a similar split of properties in Jacaltec (Mayan, Guatemala) based on data from Craig (1977). Relativization, Wh-question formation and clefting are again sensitive to an S/O pivot, which I am terming the grammatical subject. Control is more complicated as it appears that only intransitive verbs may be controlled. A proposed explanation for this (Bok-Bennema 1991, Murasugi 1992) is that Mayan infinitive complements are unable to assign the unmarked (here absolutive) case in parallel with the way that European infinitives (except Portuguese) do not assign the unmarked nominative case of accusative languages. However I will not investigate this hypothesis nor any alternative explanation here. Van Valin also lists preferred cross-clause co-reference as a feature that groups A and S, but it is not altogether clear how this sort of notion of discourse coherence fits in with the syntactic systems I have been considering. It seems more likely to be a fact about the world that narratives most often continue to refer for a period to the actions of the same Actor.[22]

[21] The bare object noun in (31) adjacent to the verb is possibly incorporated as suggested in Campana (1992:70). I am aware of no persuasive evidence either way. The behavior here may be similar to the required intransitivization of controlled subordinate clauses in Jacaltec noted below.

[22] For instance Cooreman (1988) showed that even in Dyirbal, the canonical syntactically ergative language, A/S–A/S cross-clausal referential continuity is more common than O/S–O/S cross-clausal referential continuity.

1.3.2 Chukchi

Comrie (1979) provides some evidence of a similar split of properties in Chukchi (Chukotko-Kamchatkan, Russia). Comrie notes that the negative participle can be used to relativize on an S or O (32) but never an A. Antipassivization is required (33):[23]

(32) a. e-tipʔeyŋe-kə-lʔ-in ŋewəčqet ragtə-gʔe
NEG-sing-NEG-PART-ABS.SG woman.ABS.SG go.home-3SG
'The woman who was not singing went home.'

b. igər a-yoʔ-kə-lʔ-etə enm-etə mən-əlqən-mək
now NEG-reach-NEG-PART-to hill-to 1PL-go-1PL
'Now let us go to the hill which (someone) didn't reach.'

(33) en-agtat-kə-lʔ-a qaa-k ʔaaček-a
ANTIP-chase-NEG-PART-INSTR reindeer-LOC youth-INSTR
winret-ərkən-inet ŋewəčqet-ti
help-PRES-3SGE.3PLA woman-ABS.PL
'The youth who does not chase the reindeer is helping the women.'

On the other hand, the controlled argument of infinitivals is the A or S, as shown in (34), and so Chukchi fits in with the generalizations for control constructions that we have been observing in other languages.

(34) a. gəm-nan gət tite mə-winret-gət — ermetwi-k
I.ERG you.SG.ABS sometime 1SG-help-2SG [ABS grow.strong-INF]
'Let me help you some time to grow strong.'

b. morg-ənam gət mət-re-winret-gət — riwl-ək əməlʔo geče-yo-t
we-ERG you.SG.ABS 1PL-FUT-help-2SG [ERG move-INF all.ABS collect-PASS.PART-ABS.PL]
'We will help you to move all the collected items.'

[23]For positive participles, it seems that participial relativization is restricted to intransitive subjects alone: S, A, and O are relativized via active, antipassive and passive participles respectively. Some other constructions like coreferential omission in coordination show no syntactic constraints in Chukchi.

1.3.3 Toba Batak

Most of the observations made above about Tagalog are in fact true for all Philippine languages, and many extend to western Austronesian languages more generally. However, many of these other languages have more rigid configurationality in their phrase structure than Tagalog and hence indicate more clearly the independence of binding from surface structure command relationships. One such language is Toba Batak (Austronesian, Sumatra, Indonesia), described in Schachter (1984).

Toba Batak also has a distinction between active voice (*mang-*) and objective voice (*di-*):[24]

(35) a. Mang-ida si Ria si Torus
AV-see PM Ria PM Torus
'Torus sees/saw Ria.'

b. Di-ida si Torus si Ria
OV-see PM Torus PM Ria
'Torus sees/saw Ria.'

However, in Toba Batak there is strong evidence that a verb and the following NP of a transitive clause form a constituent, that I will call a VP, regardless of the verbal voice chosen. Emmorey (1984) shows that the pitch accent of a sentence (denoted '*' below) occurs on the last stressed syllable of the predicate, where the first following NP of a transitive clause counts as part of the predicate regardless of the verbal voice chosen:

(36) a. [Muúli] anggína
marry brother.his
'His brother gets married.'

b. [Mang-aléan éme] halak án tu malim án
AV-give rice man to priest
'The man gives rice to the priest.'

[24]Schachter (1984) provides evidence that both arguments in both voices in (35) are terms (as Kroeger (1993) argued for Tagalog).

c. [Di-bóto *málim] na manúhor éme pangula í
OV-know priest buy rice farmer
'The priest knows that the farmer buys rice.'

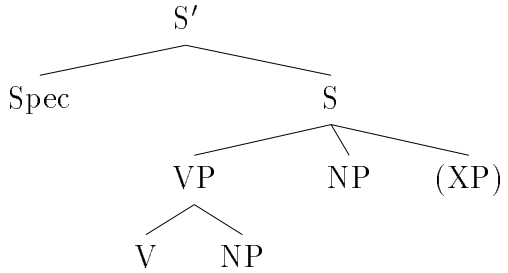
An adverb cannot appear in the middle of the VP between the verb and the NP, though adverbs can generally occur between other major constituents. VPs can be coordinated regardless of the voice chosen:

(37) a. Man-uhor baoang jala mang-olompa mangga halak an
[AV-buy onions] and [AV-cook mangoes] man
'The man buys onions and cooks mangoes.'

b. Di-tuhor si Ore jala di-lompa si Ruli mangga
[OV-buy PM Ore] and [OV-buy PM Ruli] mangoes
'Ore buys and Ruli cooks mangoes.'

In contrast, the VP-external pivot behaves similarly to the *ang* marked NP in Tagalog. This NP may optionally be fronted before the verb in questions or as a topic, while the VP-internal NP may not be. As in Tagalog, one must relativize on the pivot NP. Pretheoretically, the above evidence motivates the phrase structure shown in (38):

(38)



However, despite this clear evidence for phrase structure and a pivot NP, reflexivization shows that an a-subject can bind a non-a-subject (and not vice versa) regardless of the verbal voice (Sugamoto 1984):

(39) a. Mang-ida diri-na si John
AV-saw self-his PM John
'John$_i$ saw himself$_i$.'

b. *Mang-ida si John diri-na
AV-saw PM John self-his
*'Himself$_i$ saw John$_i$.'

(40) a. *Di-ida diri-na si John
OV-saw self-his PM John
*'Himself$_i$ saw John$_i$.'

b. Di-ida si John diri-na
OV-saw PM John self-his
'John$_i$ saw himself$_i$.'

To account for these reflexivization patterns using a surface structure based notion of command would mean suggesting that the phrase structure of the sentences in (39) and (40) were radically different, despite all the evidence I outlined above indicating that the phrase structure is the same despite the changing verbal voice.

Schachter (1984) and Sugamoto (1984) suggest that binding possibilities are defined by the thematic hierarchy. However, whereas most thematic hierarchies place recipient above theme (Kiparsky 1987, Bresnan and Kanerva 1989), they note that a patient argument can bind an oblique recipient in Toba Batak. They take this as evidence that Toba Batak has the language-particular thematic hierarchy shown in (41):

(41) Agent > Patient > Dative

However, this seems most unlikely. Many theories would rule out language-particular thematic hierarchies in principle, and at any rate, evidence from various other Austronesian languages suggests that in this language family, too, goals/recipients outrank themes.[25] Rather, I take this as strong evidence that binding is defined not on the thematic hierarchy, but rather on the independent syntactic level of argument structure. These facts follow a common pattern, namely that at the level of a-structure

[25] For instance Bell (1976:157) for Cebuano, Forsberg (1992:55f) for Tboli. Some other Austronesian sources give thematic hierarchies like the one in the text for Toba Batak, but all cases I know of result from what I regard as misinterpretation of evidence from binding.

terms can bind obliques because they are less oblique at a-structure, regardless of their semantic role. This is further discussed in Section 1.4.[26]

One wrinkle in the Toba Batak data is that the controllee is the pivot, regardless of the verbal voice:

(42) a. Mang-elek si Bill si John man-uhor biang
AV-persuade PM Bill PM John AV-buy dog
'John is persuading Bill to buy a dog.'

b. Mang-elek si Bill si John di-pareso doktor
AV-persuade PM Bill PM John OV-examine doctor
'John is persuading Bill to be examined by a doctor.'

This contrasts with the Tagalog facts cited above, where the a-subject is the controllee, and is unexpected on my account. However, control in Tagalog is more complicated than indicated above and in certain circumstances the controllee in Tagalog is the pivot as well (see the discussion in Kroeger (1993:95–102)). Here, the pivot always seems to be the controllee (while the controller is determined on semantic grounds, as discussed before). I will leave this as an outstanding problem, but perhaps one has to say that determination of the controllee sometimes depends on grammatical relations as well as a-structure prominence.

1.3.4 Tsimshian languages

Tarpent (1982) argues for an ergative analysis of Nisgha (Tsimshian, British Columbia, Canada). Where there are suppletive verb stems differentiating number, they mark the number of the S/O argument.[27] Tarpent argues that coordination is along ergative lines, suggesting that (43) has the translation shown (while noting that it

[26] One should be able to differentiate between these two hypotheses in Toba Batak by looking at binding in the Dative Shift Construction (Schachter 1984:136) (which places recipients into a core role). But the appropriate data is not available to me.

[27] This is probably not evidence either way since Durie (1986) notes that where verbs have suppletive forms for number, it is invariably for the number of the S/O NP – this perhaps rather shows how an S/O NP is more involved in delimiting an event, roughly along the lines of Tenny (1987) or Dowty's (1991) incremental theme.

could mean '... and he kissed Mary', but only if main stress fell on *Mary* rather than *humts'axs* and the context made the intended meaning obvious):

(43) ts'in-t Fred ii-t humts'ax-s Mary
come.in-TM Fred and-**3**.ERG kiss-DM Mary
'Fred came in and Mary kissed him.'

Any of S, A and O can be focussed or relativized, but nevertheless Tarpent finds certain evidence grouping S and O in these constructions. Nisgha has an antipassive which appears to make the demoted O more 'indefinite' but Tarpent's discussion is too imprecise to say much more. Nisgha also has a passive, but one that does not allow expression of the agent. These are all properties consistent with an S/O pivot in the language.

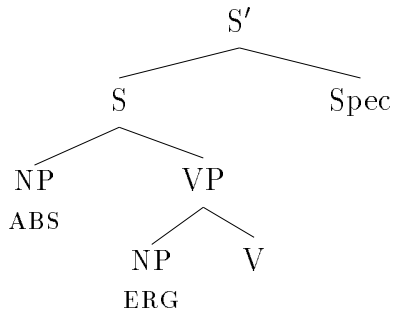
Tarpent (1982) does not cover binding and there is no evidence from control since Nisgha uses modal proclitics and morphological causatives rather than verbal complement structures. However, the A or S is the addressee of an imperative while incorporation is of internal arguments (including the demoted theme of antipassives), suggesting that Nisgha argument structure is again the same as that of other languages that I have discussed.

The situation in Gitksan (Tsimshian, British Columbia, Canada) appears similar (Rigsby 1975). There is less evidence in support of an inverse analysis in Sm'algyɑx (Tsimshian, British Columbia and Alaska), although Mulder (1989a, 1989b) finds some support for an ergative syntax in the focussing and relativization constructions. Sm'algyɑx also appears to lack passive and antipassive operations. It may be changing into a syntactically accusative language.

1.3.5 Nadëb

From the limited information available in Dixon (1994), Nadëb (Maku, Brazil) also appears to have an S/O surface pivot. The pretheoretical phrase structure seems to be as in (44):

(44)



The unmarked basic word order is PCV (with an S/O pivot!), but the pivot can also be postposed to the indicated Spec position. The situation is thus a mirror image of Toba Batak. Dixon (1994:178) notes that in the third person an S/O pivot is used for coordination: when two coordinated main clauses show coreference between their S/O NPs then the appropriate NP may be omitted from the second clause.

On the other hand there is some evidence that Nadëb has the usual sort of argument structure. Weir (1990:325) states that only O and S arguments incorporate (and all the examples of incorporated Ss appear to be with unaccusative verbs) and some incorporated constituents have become idioms such as *mooh wɨ́t* 'work, do, make' from *mooh* 'hand, arm' and *wɨ́t* 'be in movement'.

1.3.6 Summary

This section has shown that there are a considerable number of languages which seem as if they should be described in the same manner as Tagalog and Inuit. The above data demonstrates that mixed pivot languages really have a quite consistent breakdown of properties. The apparently accusative ones are properties like binding, imperative addressee and control which are sensitive to argument structure. These phenomena are a superset of the ones that Dixon (1979) identifies as always sensitive to the notion of (deep) subject. Other phenomena, such as coordination, specificity, relativization and topicalization are sensitive to a level of grammatical relations, and at this level the absolutive is the pivot in all these languages, because they are syntactically ergative. One other group of languages, Dyirbal and related Queensland

languages, which I think should also be analyzed similarly, are discussed in Chapter 4.[28]

However, it is not my claim that all languages with ergative morphology should be analyzed in this way. As is discussed later, other languages have an ergative case for historical or semantic reasons, but the absolutive NPs are not surface pivots. Note also that not all the phenomena listed above will pick out a notion of a-subject or pivot in all languages. In many languages various phenomena are neutral (particularly phenomena that are sensitive to surface grammatical relations). The prediction is rather that if a phenomenon is restricted then it should be sensitive to relations at the appropriate level.

[28]Kazenin (1994) (which I got to read only after writing this chapter) contains a study of mixed-pivot languages from a functionalist perspective (and covers many of the same languages). Kazenin seeks to establish an implicational hierarchy where:

conjunction reduction is ergative → coreferential deletion in purposive constructions is ergative → relativization is ergative

I disagree with certain of Kazenin's classifications of the data. I regard coreferential omission in coordination as patterning ergatively in Tagalog (following Kroeger 1993:33–36) and not accusatively as Kazenin suggests. The argument for accusativity of coreferential omission in coordination in Asiatic Eskimo (Central Siberian Yupik) is actually based on subordinate infinitive forms akin to the Inuit infinitive discussed in Section 2.3.2. In fact, Kazenin (1994:91) notes work by Vaxtin that coordination of finite forms "seems to follow the ergative strategy ... however, ... this problem is not quite clear". My suspicion would be that coreferential omission in coordination in Central Siberian Yupik is in fact neutral, as in other forms of Eskimo (Section 2.2.4), although perhaps the preference for S/O–S/O coreference is nevertheless consonant with the S/O NP being a surface pivot. Finally it is unclear that what Kazenin reports on as "conjunction reduction" in Aguacatec in fact involves conjunction reduction, and at any rate, his description inappropriately simplifies the facts presented in Larsen (1981). In contrast to Kazenin (1994), my prediction would be that both coreferential omission in coordination and relativization are ergative or neutral in *all* languages with an S/O pivot. Purposive constructions should also be ergative in such languages if they are properly analyzed as clause chaining constructions (as in certain Australian languages, see Section 4.1), but should depend on argument structure (and hence appear roughly accusative) if they are actually complement or controlled adverbial clauses. With the different interpretations of the data mentioned above taken into account, I find no data in Kazenin (1994) that conflicts with my hypotheses.

1.4 Theoretical Foundations

1.4.1 Grammatical relations and argument structure

This dissertation centrally involves the interplay between two levels of syntactic representation, which I call grammatical relations structure (gr-structure) and argument structure (a-structure). There is nothing that I present that could not be implemented in various theories of grammar, and so I have chosen an at least somewhat neutral format of presentation (although, it is closest to LFG). The level of surface grammatical relations is familiar from a number of frameworks. It is the level of final grammatical relations in RG, and the level of f-structure in LFG. In GB, the configurational positions of NPs at s-structure are basically equivalent to grammatical relations.

Use of a level of argument structure is also familiar from various places. However, great caution should be used in postulating new levels of structure, especially when they appear to overlap the functionality of other levels of representation, and some may feel that previous uses of argument structure have not been sufficiently justified. I would like to argue that consideration of syntactic ergativity provides strong motivation for a separate level of argument structure, because it demonstrates a clear dissociation between grammatical relations and argument structure prominence. The goal of this thesis is to show that problems of syntactic ergativity can be insightfully handled by use of a separate level of syntactic argument structure, whereas solutions that attempt to use only grammatical relations (or structural positions) and/or thematic roles either do not work or are unrevealing.

Not all conceptions of argument structure are quite the same. The notation I use for a-structure is similar to that of recent work in LFG (Mohanan 1990, Alsina 1993, Butt 1993), but I should emphasize that I am thinking of argument structure as a syntactic representation (as in Bresnan and Zaenen (1990)), while some work in LFG (such as Alsina (1993:85)) has suggested that a-structure is a purely semantic representation. Notions of a-structure are also present in the GB literature (e.g., Grimshaw 1990). However my notion of syntactic a-structure is actually more similar to VP-internal relationships in many recent versions of GB and related Minimalist

work. Note particularly that I am assuming that larger units like clauses and sentences have compound argument structures (akin to the CONTENT corresponding to these units in HPSG or their a-structure correspondent in LFG); argument structure is not simply a feature of lexical items.

While gr-structure and a-structure are syntactic representations, I see them as ultimately resulting from the grammaticization of two different sets of relationships in the world. Gr-structure results from the grammaticization of discourse roles. In particular there is a distinguished entity at gr-structure, which is often called the subject, but which I often call the pivot following Dixon (1979), and I take it that this pivot is derived by grammaticization from the notion of the topic or focus of an event. Because of this there is still an association between subjecthood and topicality (Keenan 1976b:318–319), although, since we are now dealing with a syntactic notion, not all pivots are topical and languages often have additional processes of topicalization.[29]

Argument-structure in turn results from the grammaticization of notions of semantic prominence, roughly along the lines of the proto-agent and proto-patient properties of Dowty (1991). The distinguished entity at a-structure, I will call the a-subject. Typically a-subjects are the argument that has the most proto-agent properties, but a-structure is also a syntactic level, and so there can be atypical a-subjects, like the a-subjects of *suffer*, *undergo*, and *receive*.

Given the two levels of a-structure and gr-structure, we need to determine two mappings. The first would determine the argument structure of a verb or other predicator based on its meaning. Let me call this a theory of argument projection. Secondly, we need a mapping from a-structure to gr-structure, which I will refer to as a linking theory.[30] In this work, my main aim is to motivate the two levels, and I only briefly discuss the mappings. About the theory of argument projection, it

[29] See, among others, Bresnan and Mchombo (1987) for the evolution of grammaticized topics.

[30] Note, however, that the term 'linking theory' is sometimes used to refer to something more like a theory of argument projection, or a theory that maps directly from 'the semantics' to surface grammatical relations (for instance, in Alsina (1993)). I believe that the ergative syntactic phenomena that I study here show quite clearly that it is wrong to try to do linking directly between the semantics and surface grammatical relations. Rather, an independent level of argument structure is strongly motivated and the the factorization of the mapping into two parts is to be greatly preferred.

will be sufficient to know that agents and experiencers normally become a-subjects, but see Dowty (1991) for development of a linking theory which I regard as generally compatible with what I present here. The possibilities for linking are discussed briefly below.

1.4.2 Approaches to ergativity

If one is working in a categorical or discrete framework (as opposed to a fuzzy or squishy one), then, regardless of whether the terms of reference are configurational positions, grammatical relation labels or positions in subcategorization lists, there are only so many fundamentally different approaches for capturing ergative phenomena. As far as I am aware, a clear classification of the possible approaches was first provided in the RG work of Johnson (1977) and Postal (1977). While analyses have many variants in terms of other elements of the framework they assume or the level at which various groupings occur, it is notable that most subsequent analyses of ergative languages can be classified into one of the categories that Johnson and Postal outlined. Here I will present a slightly augmented and reworded classification into six classes of treatments of ergativity.[31] At the end of each section I will mention analyses that could be regarded as exemplars of the approach.[32]

Syntactic Accusativity. At the level of grammatical relations, the A and S arguments are in the subject position, while O arguments are in the object position. In this analysis, grammatical relations are the same as in accusative languages and the language is only morphologically ergative. This is the analysis of Anderson (1976) for all ergative languages except Dyirbal and Hurrian, the analysis proposed by Chung (1978) for certain Polynesian languages including Samoan, and the analysis proposed for morphologically ergative languages by Marantz (1984). Johnson (1977) argued that this was the correct analysis for Dyirbal,

[31] Postal (1977) states his classes in terms of initial grammatical relations, but this was before the integration of the Unaccusative Hypothesis (Perlmutter 1978) into RG. To maintain Postal's definition of the classes, one has to examine the level after unaccusative Ss have advanced to be 1s.

[32] Many of these analyses are described in more detail later; others are exemplars listed by Postal (1977) to which the reader is referred for references.

and most likely for all languages.

Ergative-as-Passive. An ergative clause is the result of obligatory passivization of transitive verbs. The details depend on the treatment of passivization in a framework, but before passivization applies, the position of A, S and O NPs is the same as in accusative languages, while after passivization of transitive verbs, S and O NPs are subjects and A NPs are agentive obliques. This analysis is sometimes associated with Schuchardt, but by referring to transitive sentences in ergative languages as having a passive character, he seems rather to have been adopting the Oblique Analysis discussed below (see Plank (1979:30, fn. 9)). This analysis is considered for some Australian languages, especially Warlpiri, in Hale (1970), although in his concluding remarks he doubts that such an analysis will prove to be correct. It appears to be the analysis Anderson (1976) adopts for Dyirbal, though the reference is brief, and it occasionally surfaces in other (stillborn) analyses in the generative literature (such as George (1974) and Jake (1978)).

Absolutive-S-as-Object. At a certain level of structure, A NPs are treated as subjects while both O and S NPs are treated as direct objects. Perhaps the first proposal of this form appears in Trager's (1946) analysis of Taos (Tanoan, New Mexico, U.S.A). Postal sees the analysis of Mohawk in his own dissertation and an analysis of Chinook by Silverstein in this class. A clear recent exemplar of this approach is Bobaljik (1992). Larsen (1987) is also an analysis of this type, as is Legendre et al. (1994).

The Oblique Analysis. The language has no transitive clauses. The O and S arguments are treated as subjects, while A arguments are obliques (functioning something like instrumental NPs). Postal saw the elements of this analysis in proposals by Martinet for Basque and by Jacobsen. Clear recent advocates of this analysis are Mel′čuk (1988) for Lezgian, and Bok-Bennema (1991:25) and Kiparsky (1987) for Dyirbal. The surface nature of this analysis is like the Ergative-as-Passive account, but it does not postulate passivization as the means by which this configuration is derived.

The Inverse Analysis. In this analysis S and O NPs are subjects and A NPs are direct objects. This configuration is often, but not necessarily, seen as being set up before valency changing rules apply, so that antipassive in (syntactically) ergative languages can be said to be the same rule as passive in accusative languages. This approach is advocated by Dixon (1972) for Dyirbal, a line of research in Montague/categorial grammar that has examined Dyirbal and Quiché (Schmerling 1979, Trechsel 1982, Dowty 1982, Dowty 1991), apparently by Mel′čuk (1988) for Dyirbal, and Marantz (1984) in his treatment of languages that he classes as syntactically ergative (Dyirbal and Central Arctic Eskimo).

The Four Relations Analysis. The level of grammatical relations must recognize all of the grammatical relations subject (grouping A and S), object (O NPs), absolutive (grouping O and S) and ergative (A NPs). Different languages will have different rules sensitive to various of these grammatical relations. This is the analysis of Postal (1977) (although he regards the grammatical relations subject and object as primitives while ergative and absolutive are defined relations) and it is also the analysis of Woodbury (1977a).

It is quite possible that the same analysis is not correct for all languages that have ergative forms in their morphology. Splitting languages into different groups with respect to this classification has already been adopted by Anderson (1976) and Marantz (1984). I will advocate a split as well.

Certain analyses of ergativity cannot be simply placed into one of the above categories because they are attempting to capture a combination of ergative and accusative phenomena, not by the the method of the Four Relations Analysis, but by having different levels organized accusatively and ergatively. However, generally the different elements of the analysis can individually be analyzed in terms of the categories listed above. This applies to the analysis of syntactically ergative languages that I present: I adopt the inverse analysis at the level of surface grammatical relations, but assume an accusative organization for all languages at the level of argument

structure.[33]

It would be premature to evaluate these five alternatives here, but let me just mention a few points that can be made briefly. The perceived absence of passives/antipassives in ergative languages has sometimes been taken as an argument in favor of the Ergative-As-Passive analysis (as passive has already applied, we should not expect it to apply again). However, while the languages of the Caucasus tend to lack passives/antipassives, it is now well-known that many ergative languages have these operations. It has been suggested that an advantage of the Inverse Analysis is that antipassive in a syntactically ergative language becomes the same operation as passive in a syntactically accusative language (Marantz 1984). But this analysis also has only limited appeal once it is noticed that many languages have both passive and antipassive (for example, the Mayan and Eskimo languages). Both the Inverse Analysis and the Oblique Analysis are antithetical to RG. In RG the Universal Alignment Hypothesis requires that an A starts as an initial 1 and an O as an initial 2. The relationships of the Oblique Analysis could thus only be generated at a later stage, and this would mean that an Ergative-As-Passive analysis results. Short of unmotivated use of 3s as a holding space, there is no way to generate the Inverse Analysis at all, as whichever of 1 or 2 first advanced or retreated should send the other relation en chômage.

What I wish to propose in this thesis is that there are two types of ergative languages, syntactically ergative languages and morphologically ergative languages. I am proposing a much enlarged class of syntactically ergative languages (as outlined above), and for all these languages I propose that the Inverse Analysis is correct. For the remaining morphologically ergative languages, I naturally adopt Syntactic Accusativity. Related to the enlargement of the class of syntactically ergative languages is the proposal of an enlarged role for argument structure, which always has an essentially accusative organization. I propose that binding theory, control and the determination of imperative addressees is in general sensitive to argument structure and hence roughly accusative. I will call my analysis of syntactic ergativity the

[33] I think roughly the same statement can be made about the treatment of Inuit by Bittner (1994), though the classification of this analysis is admittedly less clear.

Inverse Grammatical Relations analysis, in an attempt to emphasize that while the grammatical relations are inverted in such languages, argument structure remains the same as in all other languages.

1.4.3 Argument projection, linking, and valence changing operations

While many theories of linking are designed on the assumption that agents should always become subjects, adoption of an Inverse Grammatical Relations analysis means allowing much greater flexibility in the linking between a-structure positions and the level of grammatical relations (so that agents can become objects, for instance). As Kroeger (1993:40) notes, this flexibility does not fall out of most current theories of linking, but as I suggested above, I think that progress can be made when we clearly separate the two mappings of argument projection and linking, with argument structure being the level at which they meet.

At least three linking possibilities seem to be observed crosslinguistically. Western Austronesian languages allow great flexibility in which argument at a-structure becomes the pivot. Depending on the voice marker chosen, a variety of mappings are possible without demotion of higher arguments to oblique roles. Secondly, there are many languages which always use a 'straight-through' mapping, in which the obliqueness ordering of terms is the same at a-structure and at gr-structure (45). This gives syntactic accusativity:

(45) **gr-structure** **a-structure**

SUBJ ← a-subject (agent)

OBJ ← patient

Finally there are languages that always use an inverse mapping for transitive verbs, like this:

(46) **gr-structure** **a-structure**

SUBJ ← a-subject (agent)

OBJ ← patient

Such languages are syntactically ergative.[34] In both these last two language types,

[34] I am unaware of any syntactically ergative languages that have ditransitive verbs (where all

the mapping is invariant, and different realizations of arguments at gr-structure can occur only as a result of derivational morphology, like passive, that leads to compound argument structures.

Let me lay out more explicitly my conception of the level of syntacticized argument structure.[35] In my framework, argument structure is a syntactic level and valence changing operations are operations on argument structure. The basic argument structure for a verb is an ordered list of the verb's arguments, for example:

(47) a. yawn⟨1⟩ 1*John yawned.*

b. finish⟨1, 2⟩ 1*Sarah finished* 2*her book.*

c. present⟨1, 2, 3⟩ 1*Judith presented* 2*an award to* 3*Cynthia.*

There are two principles governing the obliqueness ordering of arguments within a single level argument structure. Firstly, direct arguments precede obliques. If desired, this division can by indicated explicitly by setting off oblique arguments with a bar (|). Thus the two argument structures of *give* are:

(48) a. give⟨1, 2| 3⟩ 1*Stacey gave* 2*the chocolates to* 3*Simon.*

b. give⟨1, 3, 2⟩ 1*Stacey gave* 3*Simon* 2*the chocolates.*

At any rate, we need an oblique argument/direct argument distinction, since various subsystems of language, such as case marking, are sensitive to it. Within each of the direct and oblique arguments, arguments are ordered according to thematic obliqueness. The thematic hierarchy of Bresnan and Kanerva (1989) will be sufficient:

(49) Ag > Ben > Recip(Go)/Exp > Inst > Th/Pt > Loc

This separate ordering of direct and oblique arguments has been previously motivated by Hellan (1988) and adopted by Dalrymple (1993:172–177). Note that it also

three arguments are terms), and so the interesting question of how the mapping would look in such cases appears not to arise.

[35] I call it syntacticized since working out the consequences of these proposals for languages with expletives would appear to require representing the expletives at argument structure, which is precisely what some advocates of more 'semantic' argument structures (e.g., Alsina (1993)) do not wish to do. See Bresnan and Zaenen (1990:53) for independent evidence from resultatives that nonthematic arguments interact with the rest of argument structure.

explains the Toba Batak binding facts mentioned in Section 1.3.3 without claiming that thematic obliqueness is differently defined in Toba Batak.

In my framework valence changing operations result in complex nested argument structures. T. Mohanan (1988) suggested a representation for apparently monoclausal or 'clause union' causatives where they are biclausal at argument structure but monoclausal at the level of grammatical relations, and this has been widely adopted by others (Alsina and Joshi 1991, Alsina 1993, Butt 1993). The argument structure of causatives is then said to be either (50a) or (50b), where the first argument of CAUSE is the causer, and the second is the causee. The causee role is fused with one of the arguments of the base predicate, and the alternation in which role the causee is identified with corresponds to the two types of causatives familiar from many languages (roughly, those with an indirect object versus an oblique expression of the causee, when a transitive verb is causativized).

(50) a. CAUSE⟨—, —, look.after⟨—, —⟩⟩

b. CAUSE⟨—, —, look.after⟨—, —⟩⟩

This analysis of causatives is similar at a high level to a GB analysis such as the one in Baker (1988): the causative verb is a higher predicate, and there is some form of predicate composition. This is in contrast to theories which have been based around the demotion or promotion of certain arguments (such as Williams (1981) and Zubizarreta (1985)). The analysis of causatives contrasts with Baker's (1988) analysis of applicatives where applicatives are introduced as a subordinate predicate, namely a preposition. However, Austin (1992) has argued from Australian data that the correct analysis of applicatives/comitatives is also as a higher predicate, roughly along the lines of (51), where the applicative morpheme introduces the higher predicate AFFECT:[36]

(51) AFFECT⟨—, —, separate⟨—, —, —⟩⟩

[36]See also Alsina (1993:616f) for a related but slightly different proposal.

One argument for this approach is that Austin notes that the same morphemes are used for applicatives and causatives in many Australian languages, and so a similar representation is to be preferred.

Now, for passives, many people have assumed that the argument structure of the verb is roughly as in (52) (such is roughly the account of Grimshaw 1990, Bresnan and Zaenen 1990, and Kiparsky 1987). The argument structure is the same as for the active verb, except that the logical subject (or external) argument has been suppressed. This is marked by the empty set symbol and indicates that such a role cannot be expressed by a direct argument.

(52) $\text{look.after}\langle \underset{\emptyset}{\underset{|}{\text{—}}}, \text{—} \rangle$

In contrast, I would like to suggest that the argument structure of passives should rather be as in (53). Again, passive is now represented as a higher predicate that modifies the argument structure of the basic root.[37] The single nominal argument of the passive affix's argument structure is identified with the patient of the stem's argument structure.

(53) $\textsc{pass}\langle \underbrace{\text{—}, \text{look.after}\langle \text{—}, \text{—} \rangle} \rangle$

In Korean, it is almost always the same morpheme that is used to form passives and lexical causatives. This provides an argument in favor of this representation of passives which is parallel to Austin's argument for choosing a representation for applicatives.

What then of antipassives? Antipassives are regarded as an abstract noun by Baker (1988), so again an antipassive is a subordinate predicate. However, I will analyze antipassives in parallel with passives, as shown in (54).

(54) $\textsc{antip}\langle \underbrace{\text{—}, \text{look.after}\langle \text{—}} | \text{—} \rangle \rangle$

[37] Essentially the same representation for the passive is proposed by Pinker (1989:239). Although the many differences in framework make precise comparison difficult, there is also a clear conceptual relationship with the transformational analysis of Hasegawa (1968).

The lower patient becomes an oblique. At present I will just stipulate this.

Conceptually I believe that there is a nice parallelism in these proposals. All argument structure changing operations now introduce higher predicates (and could be viewed as combinators in the sense of Hindley and Seldin (1986)). As we will see soon, the binding facts of Inuit and other languages provide important evidence that this approach is correct. Below I tend to write a-structures as attribute-value matrices, but this is just a notational difference of no theoretical importance. The following should be taken as two different depictions of the same argument structure:

(55) a. ASK⟨she, him, look.after⟨—, children⟩⟩

b.
$$\begin{bmatrix} \text{ASK} & \\ \text{A-SB} & \text{she} \\ \text{ARG} & \text{him} \\ \text{XARG} & \begin{bmatrix} \text{LOOK.AFTER} & \\ \text{A-SB} & \text{—} \\ \text{ARG} & \text{children} \end{bmatrix} \end{bmatrix}_{a\text{-}s}$$

Note that under my analysis, antipassive in a syntactically ergative language is *not* the same operation as passive in a syntactically accusative language, because valence changing operations apply to argument structure and not to surface grammatical relations. Rather passive in a syntactically ergative language is the same operation as passive in a syntactically accusative language. This is a welcome result terminologically: it means that my technical notions correspond with the established terms in the typological literature, whereas the proposal of Marantz (1984) that antipassives in syntactically ergative languages were really passives created obvious terminological chaos. Independent of this, I believe it is also the right result – evidence presented in Chapter 2 shows quite clearly that passive and antipassive are argument structure operations.

The remainder of this section explores a couple of connections with other proposals. Firstly, I briefly address how what I have just proposed fits certain predictions of HPSG, but also causes some problems. The final subsection then deals with reconciling the three primitives of Dixon (A, S, and O) with the more binary nature of most

generative theories of grammar. I examine proposals for four primitives and suggest that they can be more smoothly integrated.

1.4.4 HPSG

That at least some parts of binding may be sensitive to argument structure (or simply thematic relations) has been suggested in many places, including work by Jackendoff (1972), Wilkins (1988) and Williams (1994) on English, Sells (1988) on Albanian, Hellan (1988) on Norwegian, Grimshaw (1990) on Japanese, and Dalrymple (1993) and Joshi (1993) on Marathi. Nevertheless most work on binding in GB assumes that binding is defined over configurations at s-structure (following Chomsky 1981), and most work on binding in LFG (such as Dalrymple (1993)) argues that the syntactic domains that constrain binding possibilities are defined on f-structure, the level of surface grammatical relations.

In contrast, it seems to me that HPSG3 (the framework used in Pollard and Sag (1994), Chapter 9 and within other more recent work) is actually predicting a split of properties with *all* binding sensitive to argument structure, even if this prediction is perhaps somewhat an historical accident. Let us briefly review recent developments in HPSG. In HPSG2 (the rest of Pollard and Sag (1994)), there was a unified SUBCAT list which listed all the subcategorized arguments of a verb or other predicator. For example, the transitive verb *likes* had the lexical entry in (56) (many details omitted):

(56) likes

$$\begin{bmatrix} \text{HEAD} & {}_{verb}[\text{fin}] \\ \text{SUBCAT} & \langle \boxed{1}\text{NP}[\text{NOM}]_{3s}, \boxed{2}\text{NP}[\text{ACC}] \rangle \end{bmatrix}$$

In HPSG3, following work by Borsley (1989), the unified SUBCAT list is divided into three lists for complements (COMPS), subjects (SUBJ) and specifiers (SPR). The Subcat(egorization) Principle is reformulated as the Valence Principle which ensures that arguments on all three lists are correctly dispensed. However, these three new valence lists have not replaced the old SUBCAT list (as Borsley perhaps originally intended). The SUBCAT list has been retained in the sign of lexical entries, as the locus of binding theory (among other things). Canonically, the values of a word's

valence features 'add up' (via the **append** relation) to the word's SUBCAT value, but other noncanonical relationships are allowed (for example, in pro-drop languages).

This gradually led to the realization that the old SUBCAT list had become similar to notions of argument structure in other frameworks (especially the somewhat 'syntacticized' argument structure suggested by Kiparsky (1987; lectures, 1993), and in recent work the old SUBCAT list has been renamed ARG-S to reflect this (Sag and Godard 1994, Iida et al. 1994). The result is that argument structure is distinguished from a word's valence, as illustrated for the English word *likes* in (57).

(57) likes

$$\begin{bmatrix} \text{HEAD} & {}_{verb}[\text{fin}] \\ \text{SUBJ} & \langle \boxed{1}\text{NP}[\text{NOM}]_{3s} \rangle \\ \text{COMPS} & \langle \boxed{2}\text{NP}[\text{ACC}] \rangle \\ \text{ARG-S} & \langle \boxed{1}, \boxed{2} \rangle \end{bmatrix}$$

The important observation here is that if a language differed from English in its assignment of verbal arguments to the valence lists – for example, a syntactically ergative language, as I am defining it, would have the mapping in (58) – then HPSG is predicting that everything that depends on SUBCAT/ARG-S, in particular binding theory will be unchanged.

(58) likes

$$\begin{bmatrix} \text{HEAD} & {}_{verb}[\text{fin}] \\ \text{SUBJ} & \langle \boxed{2}\text{NP}[\text{ABS}]_{3s} \rangle \\ \text{COMPS} & \langle \boxed{1}\text{NP}[\text{ERG}] \rangle \\ \text{ARG-S} & \langle \boxed{1}, \boxed{2} \rangle \end{bmatrix}$$

That is, in 1994, an argument structure based theory of binding just falls out of the current HPSG formalism (see, for instance, Iida et al. (1994)).

What about control? If I suggest that the least oblique element on the ARG-S list is the controllee of complement or adverbial clauses, it might seem as if control theory also falls out of the current framework.[38] However, this doesn't actually work

[38]Indeed, as a technical point for those well-versed in HPSG control theories, this proposal allows an argument-structure-based theory of control that can handle Philippine languages like Tagalog,

in the current formalism, since the ARG-S is not carried up to phrasal signs, only the unsatisfied members of the valence lists. Suggesting that the ARG-S of the parent of a headed phrase is the same as that of the child would destroy a major locality principle of HPSG, whereby currently a node can only see unsatisfied valence list entries of a child or sibling.

Nevertheless, for my theory to work I need a parent or sibling to be able to see the a-subject of a clause rather than (or in addition to) the pivot in control relationships. Two choices are available to me. Either I could just ignore locality, and pass up the ARG-S to parent nodes anyway (by making ARG-S a head feature or a part of CONTENT that is always inherited from the head child of a headed phrase). Some evidence to support this approach could perhaps be gained from phenomena that have been said to be sensitive to logical objecthood.[39] Alternatively, I could introduce an attribute MAX-A-SUBJ which is inherited between the parent and head of a headed phrase, and which is token identified with the highest a-subject of the head's argument structure. Under this proposal, the locality that results from HPSG's current feature geometry would be undermined less. The proposal perhaps also derives a little support from the fact that, while binding is commonly sensitive to all a-subjects, control (and imperative addressee) is only ever sensitive to the highest a-subject in an argument structure.

Also, the SUBJ and COMPS lists, as currently configured in HPSG, do not correctly capture what I take to be the most important divisions among grammatical relations, a division first between terms (otherwise known as core roles) and non-terms followed by a second cut that distinguishes a certain term, as in (59) (see Alsina (1993:63–67) among others for motivation of this classification). I will therefore make use of

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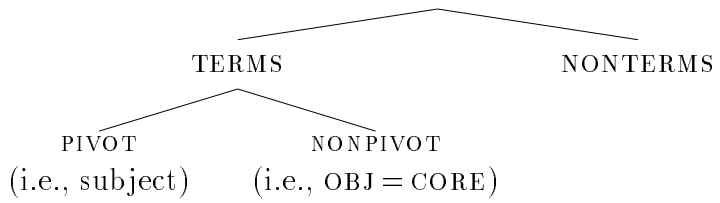
even on the Pollard and Sag (1994) Chapter 7 treatment of control – it is not necessary to revert to Sag and Pollard's (1991) version which worked by adding an external argument (EXT-ARG) attribute to CONTENT.

[39] See T. Mohanan (1990) for motivation of the notion 'logical object'. Within my proposal, the logical object can be defined as the most oblique term. As an example of a phenomenon to study, Joshi (1993:171f) argues that the 'gap' in prenominal past participial phrases which is identified with the nominal head is always the logical object, but it may be possible to capture this notion purely through semantic entailments.

keyword grammatical relations in what follows.[40]

(59)



While I mean by pivot neither more nor less than is understood by the term (grammatical) subject, I will henceforth use the term pivot, since, as Dixon has observed, it can be very confusing to refer to a grouping of O and S as the subject. I will then label other core roles simply as CORE – this grammatical relation is fully equivalent to OBJect in standard systems of grammatical relations.[41]

Except for the qualifications expressed above, I believe that my theory can be easily implemented within HPSG. It also fits naturally into an LFG framework. With lesser or greater work depending on the case, I believe the main ideas could in fact find their way into any syntactic framework.

1.4.5 The four underlying primitives model

Dixon (1979) argues for the primacy of A, S, and O as syntactic-semantic primitives, but this tripartite division is somewhat at odds with the binary divisions most prevalent in generative grammar. In particular, most frameworks would want to map these three classes into four categories given by the crosscutting distinctions between transitive and intransitive verbs and between internal and external arguments. Dixon (1979, 1994) notes that some languages mark some Ss like As and some like Os and introduced the notations S_a and S_o for such cases. Such languages can be referred to as Active-Stative (or by just one of these, depending on which is the marked term). Dixon feels that any such division of intransitives is secondary to the fundamental division of actants into A, O and S, but his arguments for the primacy of S seem less

[40] That is, grammatical relations have names rather than being defined by a notion such as obliqueness in a SUBCAT list.

[41] More precisely, it is fully equivalent in systems that allow multiple objects undifferentiated by grammatical relation, for instance the system of Alsina (1993).

than convincing.[42] More recent work suggests that this language type deserves a fuller treatment: many of the languages traditionally described as ergative, such as Basque (Levin 1983:332f) and Georgian (see Harris (1981), but also the critique in Hewitt (1987)), actually have an at least partly active-stative character, and other languages such as Eastern Pomo (Hokan, California, McClendon 1978), Guaraní (Tupí-Guaraní, Paraguay, Veláquez-Castillo 1991) and Acehnese (Austronesian, Sumatra, Indonesia, Durie 1985) appear to be organized on active-stative lines.

In contrast to Dixon, some others in the typological literature, such as Kibrik (1979) have worked with a basic four term system of syntactic-semantic primitives, distinguishing one and two argument verbs and agent- and patient-like arguments:

(60)

	Argument type	
	Agent-like	Patient-like
One argument	$A_i = S_a$	$O_i = S_o$
Two argument	A_t	O_t

This kind of system where the basic division is into agent-like and patient-like terms (compare also Foley and Van Valin's (1984) central use of the notions of Actor and Undergoer) is much more compatible with what is normally assumed in generative grammar, following the adoption of the Unaccusative Hypothesis of Perlmutter (1978), where we can map A and O onto the external/internal argument distinction at D-structure in GB or initial 1s and 2s in RG. This organization seems to give a more natural representation of active-stative languages while not precluding the treatment of ergative and accusative languages. Thus it does not appear that Dixon's arguments for the use of A, S, and O necessitate revision of the standard conceptions of D-structure or argument structure in generative grammar.[43]

I believe it may turn out most insightful to analyze both active-stative languages and the other common system (contrastive marking where all of A, S and O are

[42] Dixon (1994) presents cases where Active-Stative languages treat all Ss the same or all S/A NPs or all S/O NPs the same. But it is not clear that such evidence is inconsistent with a model that provides a four way classification at argument structure.

[43] Although it must be remarked that dividing verbs into unergative and unaccusative classes is not without problems (Levin 1983:52–54, Zaenen 1993). Ultimately verbs may need to be cross-classified by semantic features rather than there being a binary division of intransitives into unaccusative and unergative classes.

marked differently) in terms of either an extended ergative case or an extended accusative case, as suggested in Bittner and Hale (forthcoming b). However, I do not examine active-stative languages further in this dissertation.

1.5 An analysis of binding

Binding is generally taken to require some kind of command relationship defined on some form of hierarchical structure. I will argue here for binding relationships defined on a form of syntacticized argument structure (the command relationship will thus be called a-command; I define it formally in Chapter 2).

If the binder of reflexives or the controller of the gap in certain adverbial clauses is restricted, my claim is that it will generally be restricted to arguments that are the most prominent at some level of argument structure. For an active verb this will be the logical subject; for a passive verb either the logical subject or the promoted patient, for a causative verb, either the causer or the causee, but for antipassives, just the logical subject, since it is the highest argument at both levels of the argument structure. I will call arguments that are most prominent (first) on some level of a-structure a-subjects. I take this notion as distinct from logical subject because Jespersen's use of logical subject was clearly meant to indicate the agent of a passive to the exclusion of the patient.

My first approximation to a universal binding theory is then in (61):

(61) a. Command is defined on a-structure.

b. If antecedence is restricted, it is restricted to a-subjects.

c. If antecedence depends on obliqueness, it is obliqueness at the level of a-structure.

Note that in general I am suggesting that phenomena that have been analyzed as sometimes sensitive to logical subjects are in fact sensitive to a-subjects and should in general pattern the same for all a-subjects. Later I will discuss the extent to which this prediction is confirmed.[44]

[44]For the impatient, the answer is nearly always, but not exceptionlessly.

1.5.1 Binding in Tagalog

Tagalog provides some initial plausibility for this approach. It appears that regardless of which NP is the subject (the *ang*-marked NP), an NP can bind thematically more oblique NPs (62a–b), but not the other way around (62c), where thematic obliqueness is defined via some version of the conventional thematic hierarchy. An object binding a grammatical subject is shown in (63a) while (63b) shows a recipient able to bind a (grammatical subject) theme.

(62) a. Iniisip nila ang=kanilang sarili
DV.think.about GEN.they NOM=their self
'They think about themselves.'

b. Nag-iisip sila sa=kanilang sarili
AV-think.about NOM.they DAT=their self
'They think about themselves.'

c. *Iniisip sila ng kanilang sarili
DV.think.about NOM.they GEN.their self

(63) a. Sinaktan ng=babae ang=kaniyang sarili
DV.hurt GEN=woman NOM=her self
'A/the woman hurt herself.'

b. Sinabi ni=Juan kay=Maria ang=katotohanan tungkol
PERF.TELL.OV GEN=Juan DAT=Maria NOM=truth about
sa=sarili niya
DAT=self 3SG
'John$_i$ told Mary$_j$ the truth about self$_{i/j}$.'

That binding in Tagalog is sensitive to nothing other than argument structure obliqueness follows, I would argue, from the fact that Tagalog has no argument structure affecting operations such as passive and antipassive.[45] Under my analysis, if these operations existed, they should affect binding possibilities. To the extent that the

[45] However, there are causatives. These do affect the argument structure, and both the causer and the causee can bind a reflexive. See, for instance Miller (1988) for Tagalog, Bell (1976:77) for Cebuano.

framework in general seems reasonable, this could be taken as evidence for Kroeger's analysis of Tagalog over others where various of the voices are claimed to be passives or antipassives.

1.5.2 Binding in Inuit

Kroeger (1993) provides considerable evidence that the choice of which Tagalog NP to call subject, the Actor or the Topic, is principled and not arbitrary. Returning to Inuit, I believe I can make the same sort of arguments. A closer examination of the Inuit evidence also suggests that properties of the absolutive should be regarded as grammatical subject properties, while apparent properties of A and S are correctly treated in argument structure terms.

Earlier it was suggested that binding in Inuit was accusative, which could be captured by proposing a 'subject' grammatical relation grouping S and A. However, more careful analysis (due mainly to Bittner (1994), but see also Sadock (forthcoming) and Woodbury (1985a)) shows clearly that neither control in adverbial clauses nor binding is controlled just by A and S NPs, but is also controlled by other a-subjects, such as passive agents and causees. I will very briefly examine binding here and put aside the largely similar control facts. A full analysis of both appears in Chapter 2.

Inuit has both lexical pronouns and reflexives and agreement suffixes that mark the same pronominal/anaphoric distinction: the so-called 3rd person affixes are obviative like pronouns while the so-called 4th person markers require to be bound in the same manner as reflexives. This 3rd/4th person alternation appears with both the agreement suffixes of subordinate verbs and suffixes to a head noun that agree with the possessor.

The majority of cases of binding have the anaphoric pronoun or suffix bound by an A or S NP. In addition to the examples in (22) above, (64a) shows an overt reflexive bound by an S NP, and (64b) shows a reflexive possessive ending bound by an A NP.[46]

[46] I do not illustrate here a direct equivalent to a plain transitive such as *John cut himself* because a language-particular condition on binding of coterms in Inuit means that such a sentence has no syntactic form preserving translation. See Chapter 2 for much more on this and other aspects of

(64) a. immi-nut uqar.viga-anga
self-TERM speak.to-IND.INTR.1SG
'I spoke to myself.'

b. palasi-p nuli-i tuqup-paa
priest.ERG wife-4SG.ABS kill-IND.TR.3SG.3SG
'The priest killed his wife.'

Inuit allows long distance antecedents, so the binder need not be in the same clause, but can be in a higher clause.

But these are not the only possible binders. Other a-subjects can also bind reflexives. There are two classes of cases to consider. One is derived verbs containing 'double transitive suffixes' (Kleinschmidt 1851), that is causative and similar suffixes (including in Inuit suffixes with the basic meanings of 'think' and 'ask'). The other case is passives.

Given the argument structure representations and binding theory that I have developed above, the prediction is that both the agent and the surface subject of passives should be able to bind NPs that they a-command but the agent cannot bind the surface subject, for example, because it does not a-command it, since the higher location of the patient is not a-commanded by the agent (consider again the proposed argument structure shown in (65)).

(65) PASS⟨—, beat⟨—, —⟩⟩

Indeed, the patient can be seen to a-command the agent in the argument structure of the passive. This correctly predicts the licensing of the reflexive possessor shown in (66).

(66) Hansi nulia-mi-nit unatar-niqar-puq
Hansi.ABS wife-4SG-ABL beat-PASS-IND.INTR.3SG
'Hansi$_i$ was beaten by his$_i$ wife.'

An example illustrating binding by either a-subject of a passive is shown in (67):

binding in Inuit.

(67) Naja Tobiasi-mit uqaluttuun-niqar-p-u-q taa-ssu-ma
Naja.ABS Tobias-ABL tell-PASS-IND-INTR-3SG [DEM-SG-ERG
itigartis-sima-ga-a-ni
turn.down-PRF-PRT.TR-3SG-4SG]
'Naja$_j$ was told by Tobias$_i$ that he$_k$ had turned self$_{i/j}$ down.'

The grammatical relations and a-structure for this sentence are shown in (68).

(68)

$$_{gr\text{-}s}\begin{bmatrix} \text{PRED} & \text{be told} \\ \text{PIVOT} & \begin{bmatrix}\text{PRED} & \text{Naja}\end{bmatrix} \\ \text{OBL} & \begin{bmatrix}\text{PRED} & \text{Tobias}\end{bmatrix} \\ \text{COMP} & \begin{bmatrix} \text{PRED} & \text{turn.down} \\ \text{PIVOT} & \begin{bmatrix}\text{PRED} & \text{pro}\end{bmatrix} \\ \text{CORE} & \begin{bmatrix}\text{PRED} & \text{pro}\end{bmatrix}\end{bmatrix}\end{bmatrix}$$

$$_{a\text{-}s}\begin{bmatrix} \text{PASS} & \\ \text{A-SB}_1 & \text{Naja} \\ \text{XARG} & \begin{bmatrix} \text{tell} & \\ \text{A-SB}_2 & \text{Tobias} \\ \text{ARG} & \text{—} \\ \text{ARG} & \begin{bmatrix}\text{turn.down} & \\ \text{A-SB}_3 & \text{pro} \\ \text{ARG} & \text{refl}\end{bmatrix}\end{bmatrix}\end{bmatrix}$$

Here the reflexive can be bound by either a-subject A-SB$_1$ or A-SB$_2$.[47]

Similarly for derived forms with double transitive affixes, the complex argument structure of *anginirusinnaannginnirarpaa* shown in (69) allows an oblique reflexive to be bound by either a-subject (70a), whereas a reflexive associated with a simplex verb with the same surface arguments can only be bound by the ergative (70b):

(69) SAY$\langle$—, —, could.not.be.bigger$\langle$—, —$\rangle\rangle$

[47]It actually cannot be bound by A-SB$_3$ because of the coterm disjointness condition mentioned in the previous footnote.

(70) a. Kaali-p Pavia immi-nit
Kaali-ERG Pavia.ABS self -ABL
angi-nir -u -sinnaa-nngin-nirar-p -a -a
big -CMP-BE-can -NEG -say -IND-TR-3SG.3SG
'Kaali$_i$ said that Pavia$_j$ couldn't be taller than self$_{i/j}$.'

b. Juuna-p Kaali immi-nik uqaluttuup-p-a-a
Juuna-ERG Kaali.ABS self-INSTR tell-IND-TR-3SG.3SG
'Juuna$_i$ told Kaali$_j$ about self$_{i/*j}$.'

While I have shown that a reflexive in a passive can be bound either by the agent logical subject or by the surface absolutive subject, the above proposal may still seem undermotivated – it might just be the case that there is a disjunctive specification of potential binders, which allows both the above possibilities. Bittner (1994) provides crucial evidence that this is not the case and I will present this evidence, within my framework, in Chapter 2.

1.5.3 Echoes in Accusative Languages

While the dissociation between surface grammatical relations and argument structure is shown most vividly in ergative languages of the type for which the Inverse Analysis is appropriate, it cannot be stressed too strongly that the argument structure based account of binding (and control in adverbial clauses) that I have outlined here, and which I present in more detail in Chapter 2 is not a proposal designed only to account for the strange binding behavior of ergative languages. Rather, I would submit that an argument structure based approach to constraints on binding is necessary in *any* monostratal theory of syntax that recognizes complex predicates formed from embedded argument structures (such as much recent work in LFG, including Alsina (1993), Andrews and Manning (1993) and Butt (1993), and also certain work in HPSG such as Iida et al. (1994)). Indeed, the need for major revisions in the binding theory that have been caused by the introduction of complex predicates has so far not been sufficiently appreciated.

Thus in accusative languages as well, we find construal phenomena of binding and control that are sensitive to all a-subjects. One language in which this can

be seen clearly is Japanese (these data are drawn from Iida et al. 1994). Japanese adverbial clauses in the *-nagara* 'while' form are generally described as having their subject controlled by the subject of the higher clause, but actually their subject can be controlled by any a-subject, including the causee of a causative (71a) and the logical subject of a passive (71b).

(71) a. Tanaka-wa kodomo-tati-ni utai-nagara tegami-o kak-ase-ta.
Tanaka-TOP children-PL-DAT sing-while letter-ACC write-CAUS-PAST
'Tanaka$_i$ made the children$_j$ write a letter while he$_i$/they$_j$ sang.'

b. Hanako-ga Taroo-ni aruki-nagara aisatu s-are-ta
Hanako-NOM Taroo-by walk-while greet do-PASS-PAST
'Hanako$_i$ was greeted by Taroo$_j$, while (she$_i$/he$_j$ was) walking.'

Similarly, with respect to binding theory, Kitagawa (1986) suggested that both the overt pronoun *kare* ('he') and the zero pronoun ('little pro') should be regarded as pronominal elements and subject to typical Principle B effects, as shown in (72).

(72) *Taroo-wa Hanako-ni kare-o/∅ sarakedasi-ta.
Taroo-top Hanako-DAT he-ACC/pro reveal-PAST
'Taroo$_i$ revealed him$_{*i}$ to Hanako.'

However, in the morphological causative construction, as shown in (73), either *kare* or the zero pronoun in the lower object position may be bound by the grammatical subject. The obviation condition is correctly stated in terms of argument structure: it is necessary and sufficient that a pronominal in the lower object position be disjoint in reference with the nearest a-subject, which is the dative causee (Kitagawa 1986).

(73) a. Taroo-wa Ziroo-ni kare-o bengos-ase-ta.
Taroo-TOP Ziroo-DAT he-ACC defend-CAUS-PAST
'Taroo$_i$ made Ziroo$_j$ defend him$_{i/*j/k}$.'

b. Taroo-wa Ziroo-ni ∅ bengos-ase-ta.
Taroo-TOP Ziroo-DAT pro defend-CAUS-PAST
'Taroo$_i$ made Ziroo$_j$ defend him$_{i/*j/k}$.'

Indeed, much of the evidence in the literature for doing morphology in the syntax (Baker (1988) and both prior and subsequent literature), in which all a-subjects are

treated as 'subjects' at some stage in the syntactic derivation, can be reinterpreted as evidence that the current approach proceeds along the right lines (given a lexicalist framework). In other words, for the case of passives, I am accepting the argument of Perlmutter (1984) from Russian (Slavic, Russia) reflexives that the passive must have a complex representation of some sort.[48] Perlmutter argues that both the logical subject and surface subject of a passive must be a 1 at some level because either can be the antecedent of a reflexive:

(74) a. Boris mne rasskazal anekdot o sebe
Boris.NOM me.DAT told joke about self
'Boris$_i$ told me a joke about himself$_i$.'

b. Èta kniga byla kuplena Borisom dlja sebja
this book.NOM was bought Boris.INSTR for self
'This book was bought by Boris$_i$ for himself$_i$.'

I would merely argue that the correct representation is embedded argument structures rather than multiple strata of grammatical relations – the behavior of syntactically ergative languages seems good evidence of this.[49]

In Sanskrit (ancient Indo-European, India), as well, either a logical subject (75a) or a grammatical subject (75b) can bind a reflexive, but binding by the logical subject is preferred.[50]

(75) a. sarpas tenātmanā svālayaṃ nītaḥ
snake.NOM he.INSTR self.INSTR self.house.ACC brought.PASS.PART.NOM
'The snake was brought by him$_i$ himself to self$_i$'s house.'

b. anṛtaṃ tu vadan daṇḍyaḥ svavittasyāṃśam
untruth.NOM but telling.NOM fine.GER.NOM self.property.GEN part.ACC
'But a perjurer$_i$ is to be fined one eighth (*lit.* part) of self$_i$'s property.'

There are numerous cases from other languages that could be added: reflexives in Cebuano (Austronesian, Philippines) (Bell 1976:77), Turkish (Turkic, Turkey)

[48] His other argument from Acehnese is flawed – see Durie (1985).

[49] For a similar argument, cf. Grimshaw (1990:167–173).

[50] This contrasts with Russian and Inuit where the grammatical subject is the preferred antecedent. I have no explanation for this (it may just be conventional).

(Kiparsky 1987), Lithuanian (Slavic, Lithuania) (Kiparsky 1987), Chi-Mwi:ni (Bantu, Somalia) (Marantz 1984:271), Hindi (Indo-European, India) (T. Mohanan 1990:161–165),[51] Chamorro (Austronesian, Guam) (Baker 1988:212); one reflexive (*swataah*) in Marathi (Indo-European, India) (Joshi 1993:133–135);[52] control of the unexpressed argument of gerund phrases and *sense* 'without' phrases in Catalan (Alsina 1993:269–271).

It should be pointed out that there are, however, some languages where a causee or the logical subject of passives does not have all the binding capabilities of other subjects. For example, K. P. Mohanan (1981) (see also Marantz (1984:278)) describes Malayalam as such a language:

(76) a. amma kuṭṭiyekkoṇṭə aanaye swaṉṯam wiṭṭil weccə
mother.NOM child.INSTR elephant.ACC self's house at
ṉuḷḷiccu
pinch-CAUS-PAST
'Mother$_i$ made the child$_j$ pinch the elephant$_k$ at self's$_{i/*j/*k}$ house.'

b. jooṇiyaal meerī swaṉṯam wiiṭṭil weccə ṉuḷḷappeṭṭu
John.INSTR Mary.ABS self's house.LOC at pinch.PASS.PAST
'Mary$_i$ was pinched by John$_j$ at self$_{i/*j}$'s house.'

In cases like this I would like to suggest that binding is most likely restricted to a-subjects that are also terms. Alsina (1993:266–269) describes a similar conjunction of conditions as determining the binding of the Catalan reflexive phrase *per si sol* 'on one's own'. This reflexive can be bound by either a grammatical subject (which is also an a-subject) or a causee expressed as a term, but it cannot be bound by either the logical subject of a passive or an oblique causee.

I know of only one reported case of an anaphor that can be bound by a logical subject but not by a grammatical subject and that is the Marathi anaphor *aapaṇ* (Dalrymple 1993:11–13, Joshi 1993:125–133). If such is indeed the case, this binding

[51] While either the logical subject or the grammatical subject of a passive may bind the reflexive *apnaa*, the causee of morphological causatives may not. Mohanan analyzes it as not being a logical subject. It's not clear to me how I wish to incorporate this case into my theory.

[52] Some earlier work regarded only grammatical subjects as possible antecedents of *swataah*, but logical subjects are now recognized as possible antecedents by both Joshi and Rosen and Wali (1989).

possibility cannot be excluded entirely, but it nevertheless seems very marked.

I see no particular reason why this argument structure based account of binding should not extend gracefully to other languages. I will leave this as basically a promissory note, but there are interesting comparisons. The above binding theory is largely identical to the one proposed by Pollard and Sag (1992, 1994) once the SUBCAT list is reinterpreted as argument structure (ARG-S) along the lines suggested above. HPSG's local o-command corresponds to the property described in (61c), and o-command is derived from local o-command by incorporating a notion of command as in (61a). Williams (1994) argues that binding holds at the level of theta roles, although the details of the approach are different. Dalrymple (1993:168–177) collects a variety of evidence for binding of coarguments largely depending on thematic superiority.

It is standardly accepted that binding theory cannot be defined solely in terms of an ordering of roles on a thematic hierarchy. For if this were the case we would expect (77) to be good (since agent > theme).[53]

(77) *Himself was washed by Sam.

But in my theory, since passive applies at the level of argument structure, giving the argument structure (78) for the sentence in (77), it is predicted that this binding relationship is impossible. In (78), the agent does not a-command the highest position of the theme (shown in italics).

(78) PASS⟨*himself*, wash⟨Sam, — ⟩⟩

So standard arguments for defining binding at the level of grammatical relations or via s-structure command are not arguments against the current theory. On the other hand, my proposal can hope to explain not only data from other languages such as Tagalog, but also apparent thematic conditions on binding in English, such as Jackendoff (1972) suggested to explain the following data from Postal (1971):

(79) a. ?*John pleases himself.

b. John likes himself.

[53]In English, it could be argued that it is a lexical gap that there is no nominative case reflexive, but the same argument can be made, more convincingly in languages that have nominative reflexives.

(80) a. Bill talked to Mary about herself.

b. ?*Bill talked about Mary to herself.

(81) a. ?Bill showed Mary herself (in the mirror).

b. *Bill showed Mary to herself (in the mirror).

See Dalrymple (1993:168–177) and Hellan (1988) for some suggestions along these lines. Both of these authors also argue for the position that terms a-command obliques (see also Sells (1988)). As well as giving an account of the Toba Batak facts (Section 1.3.3), in English, too, this is required to allow binding patterns like (82), where an oblique recipient is bound by a direct argument theme (whereas most thematic hierarchies place recipient above theme).

(82) a. Mary explained John$_i$ to himself$_i$.

b. John introduced Bob$_i$ to himself$_i$.

1.6 Conclusion

My theory is thus that in all languages *construal* properties, such as binding, imperative addressee and the controllee of adverbial and complement clauses should be determined at the level of argument structure that I have outlined.[54] This level of argument structure has an essentially accusative nature and multiple a-subjects result at this level when valence changing verbal derivations occur (such as passive, antipassive and causative).

Independently of this, in many languages one can motivate a surface structure relation of grammatical subject or pivot. It is language specific whether certain operations will treat the pivot specially or whether they apply to all NPs or to all terms. But the type of surface structure operations that sometimes distinguish pivots include: relativization (role in subordinate clause); restrictions on topicalization,

[54]Although sometimes there will be a secondary syntactic condition, such as requiring that the antecedent is also a term.

focussing or cleft formation; necessarily wide scope or specific element; question formation restrictions (questioned element); launcher of quantifier float; coreferential omission in coordination; and raising.

The obliqueness ordering at the level of grammatical relations can be different to the obliqueness ordering at the level of argument structure. Because of this there are two sorts of ergative languages. In syntactically accusative, morphologically ergative languages, the A and S NPs are the pivot, while in syntactically ergative languages the S and O NPs are the pivot. Under my more restricted conception of what phenomena are potentially sensitive to the surface pivot, I have shown that there are many syntactically ergative languages.

We cannot expect too much uniformity. There is some irreducible variation. For example, some languages with ergative case marking, such as Inuit, also have an ergative pattern of agreement suffixes (it is hard to tell this from the third person forms that have appeared above, but it is more obvious with other forms). However, other languages with ergative case marking have an accusative pattern of agreement suffixes (for example, Warlpiri (Pama-Nyungan, Australia) or Burushaski, cf. (1)). Nevertheless, I have tried to motivate two universally valid notions, grammatical subject (pivot) and a-subject. I believe that there is a core intuition and a core set of properties related with each, and both can be applied crosslinguistically.

CHAPTER 2

Inuit (West Greenlandic)

INUIT is an appropriate language to focus on because, not only have the Eskimo languages been studied longer and in greater detail than most other ergative languages (notably including the pioneering work of Kleinschmidt 1851), but many recent theoretical proposals on ergativity are based largely or solely on data from Eskimo languages. The first section will briefly review some of the basic facts of Inuit (in particular West Greenlandic, if no other variety is mentioned). The next section both presents much more data and shows how Inuit supports the distinction between grammatical relations structure and argument structure argued for in the previous chapter. The final part of the chapter then compares what I have presented to the other main generative analyses of Inuit ergativity from the eighties and nineties.

2.1 Basic background on Inuit

2.1.1 Genetic Affiliation

Inuit belongs to the Eskimo-Aleut family. The Eskimo languages in turn break up into the Yupik languages (spoken in Alaska and the eastern tip of Russia) and Inuit, the distribution of which includes northern parts of Alaska, Canadian Inuktitut, and all Greenlandic languages, including West Greenlandic (Kalaallit oqaasii). While the emphasis below is on West Greenlandic, most of what follows is applicable to all Eskimo languages.

2.1.2 Case Marking and Case Markedness

All nouns/pronouns/demonstratives etc. are consistent with ergative/absolutive case marking.[1] Actually, many forms, such as 1st and 2nd person pronouns and plural (and, where they exist, dual) nouns have non-contrastive forms, with all of S, A, and O marked the same, but singular nouns distinguish absolutive and ergative. The absolutive is unmarked, while the ergative has a suffix. The ergative is also used as the possessive case. The ablative, modalis and terminalis are the three cases used for displaced terms. Further details about the names, form, and function of Inuit noun cases are found in (83–85). There is little consistency in the use of case names in the Eskimo literature. I will use the names in the left column, except that the relative case will usually be glossed ERG or GEN depending on its function in a sentence.

(83)

	Alternative Case names
Absolutive	Nominative
Relative	Ergative, Genitive
Modalis	Instrumental(is), Comitative, Accusative, Secondary
Terminalis	Dative, Allative
Ablative	Distantialis
Locative	Localis
Vialis	Translative, Prosecutive, Perlative
Equalis	Equative, Aequalis, Similaris, Simulative, Comparative Conformative

(84)

	Eastern Inuit (Greenlandic)	
Case	SG	PL
Absolutive	∅	-(i)t
Relative	-(u)p	-(i)t
Modalis	-mik	-nik
Terminalis	-mut	-nut
Ablative	-mit	-nit
Locative	-mi	-ni
Vialis	-(k)kut	-tigut
Equalis	-tut	-tut

[1] Woodbury (1977a:313) suggests that an exception to this is plural demonstratives where a suffix *-ku* is used only to mark O, but this does not correspond to the description of Fortescue (1984:262) where *-ku* is regarded simply as a demonstrative plurality marker, to which optionally *-a* is added in the relative case (and colloquially, also in the absolutive).

(85) **Absolutive** marks S and O.

Relative marks A and possessors. In *-niq* nominalizations, the relative can mark S or O; with participles, it can mark A.

Modalis means 'with' in various contexts and is used for instrumentals. It is used for the demoted theme in the antipassive,[2] for the theme in unmarked ditransitives (see the discussion around (213)), for an NP representing concealed questions or propositions or acting as a secondary predicator ('They call him Ajuqi-MOD') and as the case that modifies incorporated nouns.

Terminalis marks directional to(wards) and goals and benefactives. Standardly used to code the reflexive theme argument in the intransitivized reflexive of semantically transitive verbs.[3] Expresses definite agent in impersonal agent construction. Used for the demoted ('causee') subject when a 'double transitive' affix is added to a verb (Section 2.3.1).

Ablative Means 'from' and is used for demoted agents in the passive.[4]

Locative marks location or temporal in/at/on.

Vialis marks over/through or a frequentative temporal meaning.

Equalis means as/like and can be added after other case endings.

2.1.3 Word Order

Though it has sometimes been claimed that word (or, rather, constituent) order in Inuit is free (Johnson 1980, Bittner 1987), most authors accept that there is a neutral ordering of constituents (Fortescue 1984, Woodbury 1981, Bittner 1994). This is as in (86) where Adv_1 stands for sentence adverbials and Adv_2 for predicate adverbials. An example sentence is shown in (87).

(86) Adv_1 ERG ABS OBL Adv_2 Verb

[2]However, the theme of an antipassive sometimes also appears in the Terminalis.

[3]This is now pretty much obligatory in standard West Greenlandic. Other dialects use the Modalis. Woodbury (1977a:316) suggests the choice is dialectal and insensitive to the semantic value of the cases.

[4]In Yup'ik, where the ablative is lacking, the terminalis is used in passives and the modalis for 'from'. Even just within West Greenlandic, there is variation in oblique agent marking, and any of ablative, modalis or terminalis is possible (Woodbury 1977a:324). Johnson (1980:52, fn. 7; 15) suggests that in Central Arctic the terminalis is used "in certain semantically predictable cases, as when state-of-mind predicates (love, worry about) are involved."

(87) Kaali-p arnaq aalisakka-nik tuni-v-a-a
Kaali-ERG woman.ABS fish-PL.MOD give-IND-TR-3SG.3SG
'Kaali gave the woman some fish.'

This unmarked order of NPs applies even in semantically biclausal constructions with double transitive suffixes of the sort to be considered in Section 2.3.1 (Fortescue 1984:93):

(88) Hansi-p quaq uatsin-nut niri-qqu-aa
Hansi-ERG frozen.meat.ABS we-TERM eat-ask-IND.3SG.3SG
'Hansi told us to eat the frozen meat.'

Inuit lacks subordinating conjunctions (like *that*, *if*). There is no overt *Wh*-movement and there are no relative pronouns. Word order is quite variable, reflecting emphasis, newness and heaviness. Informally, it seems that noun phrases are fronted when they are a topic or focus, or can be placed after the verb when they are a focus. For simple sentences, any order of the noun phrases and the verb is an acceptable sentence.

Complement clauses generally occur to the right of the verb. Light complement clauses can also precede the verb. It appears likely that the base position of complement clauses is preverbal, but that most clauses (being relatively heavy) appear in a right extraposed position. In general, heavy constituents can be extraposed after the verb.

Given the typological patterns in observed word orders, word order can be taken as very weak evidence for subjecthood in a language. To the extent that PCV (i.e., SOV) languages are much more common than CPV (i.e., OSV) languages, this could be taken as evidence that the ergative NP is the subject. Others (such as Bittner (1994), see Section 2.4.3.3) have sought to downplay the importance of word order, suggesting that the ergative-first order results from topicalization, and thus that the language is underlyingly PCV, with an absolutive pivot.

2.1.4 Termhood, Passive and Antipassive

Both the Absolutive and the Ergative should be regarded as terms, or core arguments. With the exception of the infinitive mood, they are both always cross-referenced on the

verb. The unmarked word order appears to distinguish between terms and obliques, as does the binding theory, as will be discussed below. Both the ergative and the absolutive can also be demoted to oblique roles: the absolutive (of transitive verbs) can become a modalis by antipassivization as shown in (89b), while the ergative can become an ablative or other cases by passivization, (90b–c). There is further discussion of the antipassive in Section 2.2.2.

(89) a. Hansi-p inuit tuqup-paa
Hansi-ERG people.NOM kill-IND.3SG.3SG
'Hansi killed the people.'

b. Hansi inun-nik tuqut-si-vuq
Hansi.ABS people-MOD kill-ANTIP-IND.3SG
'Hansi killed people.'

(90) a. Juuna-p miiqqa-t paar(i-v)-a-i
Juuna-ERG children.PL.ABS look.after-IND-TR-3SG.3PL
'Juuna is looking after the children.'

b. miiqqa-t Juuna-mit paari -ni -qar -p -u -t
children-PL.ABS Juuna-ABL look.after-GER-HAVE-IND-INTR-3PL
'The children are looked after by Juuna.'

c. miiqqa-t Juuna-mit paari -sa -u -pp -u -t
children-PL.ABS Juuna-ABL look.after-PPART-COP-IND-INTR-3PL
'The children are looked after by Juuna.'

There are two passives in Greenlandic: the dynamic passive shown in (90b) and the stative passive shown in (90c). Fortescue (1984:266) describes the first as unrestrictedly productive while the latter is "somewhat less so". A third *-tit* pseudo-passive, occurring mainly in the spoken language, is formed from the intransitive (reflexive) form of the causative/permissive double transitive affix ('John let himself get bitten by a dog.'). Diachronically, the dynamic passive is formed from the *-niq* nominalized form of the verb followed by the postbase for 'have', while the stative passive derives from the passive participle verb form, followed by the copular postbase and then intransitive inflection (as shown in (90b–c)). However, it is unclear to what extent these derivations are still part of the synchronic grammar of Inuit.

2.2 Arguments for the absolutive being a surface pivot

In this section I will examine a number of phenomena that treat the S and O NPs in Inuit as a class. Taken individually, different explanations could perhaps be found for some of these phenomena, but I wish to argue that the only way to give a coherent explanation for this whole class of phenomena in Inuit and to explain the parallels with other languages discussed in Chapter 1 is to recognize an S/O pivot in Inuit.

2.2.1 Relative clauses

As noted in the last chapter, the only relative clauses in Inuit are actually participial nominalizations, which are strictly clausebound. Greenlandic has a series of participial moods used both in subordinate clauses and in relative clauses (note that a different participial mood is used for intransitive and transitive relative clauses). In some other forms of Inuit, the participial mood is also used in main clauses (see Section 2.4.3.2). It is a somewhat surprising fact that participial relative clauses can be formed by relativizing on either the S (91a) or O (91b) of the embedded clause, but not by relativizing on an A argument (91c):[5]

(91) a. miiraq kamat-tu-q
child.ABS angry-REL.INTR-SG
'the child that is angry'

b. nanuq Piita-p tuqu-ta-a
polar.bear.ABS Piita-ERG kill-TR.PART-3SG
'a polar bear killed by Piita'

c. *angut aallaat tigu-sima-sa-a
man.ABS gun.ABS take-PERF-REL.TR-3SG.SG
intended: 'the man who took the gun'

This immediately recalls the Keenan-Comrie Accessibility Hierarchy (Keenan and Comrie 1977), according to which if the gap in a relative clause can occur with

[5] There are also some marginal examples of relativizing the possessor of S or O (Bittner 1994:56–57), although I will not further discuss them.

only one grammatical relation, it is the subject relation. This suggests that Inuit absolutive NPs serve as the surface subject or pivot. Inability to relativize on A arguments cannot be explained as merely a morphological gap: there is a transitive particple form; but it cannot be used to form relative clauses.

2.2.2 Semantic scope/Specificity

It was mentioned in the last chapter that the pivot NP in Tagalog is normally definite – it is an NP whose reference is presupposed. Thus different voices cause contrasts in presupposed reference such as the following:

(92) a. K-in-ain ko ang=isda
PERF-eat.OV I.GEN NOM=fish
'I ate the fish.'

b. K-um-ain ako ng=isda
AV.PERF.eat I.NOM GEN=fish
'I ate (some) fish.'

This follows from the nature of pivothood. Being an a-subject is a relation in a syntactic system, but the diachronic roots of a-subjecthood are thematic prominence. Similarly, although pivot is also a syntactic notion, the origin of subjecthood is discourse prominence. This connection between subjecthood and presupposed reference has been noted before in the literature. A number of the subject properties of Keenan (1976b) refer to this prominence. He notes that: subjects tend to have absolute reference (*A student owes John a report* implies the existence of a student but not of a report, p. 317); it is harder to suspend the presupposed reference of subjects than of other NPs (p. 318); subjects are normally the topic of the sentence (p. 318); positions that must be filled by definite or highly referential NPs are likely to be subject positions (p. 319). Keenan (1976b:319) also notes that subjects preferentially have wide scope. This claim is consonant with the results of Ioup (1978): Ioup reports the preference hierarchy for certain grammatical relations to have wide scope shown in (93).

(93) underived subject > derived subject/logical subject > indirect object > prepositional phrase > direct object

See also Givón (1984) for further exploration of the idea that the subject, although a grammaticized syntactic category, exists to code referentiality/topicality at the level of pragmatics/discourse.

Of course, as Kroeger (1993:14–15, 62–65) notes, it is not easy to specify exactly what the discourse prominence of the *ang*-marked NP consists of. It is not exactly that the pivot has to be definite. Examples like (94) with an indefinite but apparently specific pivot are possible, or the pivot can be a generic.[6]

(94) Kinuha niya ang isa=ng aklat
PERF.take.OV he.GEN NOM one=LNK book
'He took a (certain) book.'

And it is not exactly that the subject must fit in with typical discourse notions of topic. It can actually be a newly introduced focus in answer to a question as in (95):

(95) – Ano ba ang binili mo sa=pamilihan?
what QUES NOM PERF.buy.OV you.GEN DAT=market
– Binili ko ito=ng damit
PERF.buy.OV I.GEN this.NOM=LNK dress
– 'What did you buy at the market?'
– 'I bought this dress.'

Nevertheless, the subject NP has a strongly felt discourse prominence that has been remarked on by nearly all observers of the language.

Exactly the same can be said about the absolutive NP in Inuit. The traditional wisdom of Eskimologists is that the absolutive NP of a transitive verb must be definite. This thesis originated with Kleinschmidt (1851:85) and has been widely adopted by later authors (see for instance the discussion in Fortescue (1984:248–252), which is roughly along traditional lines, though with a careful discussion of the various

[6] With some trepidation, let me offer the following working definitions. An NP is *specific* within a certain context of use when it has unique individuation for the speaker. I take this term as synonymous with *presupposed reference*, but specificity does not imply existence since the unique individuation referred to above is within the mentally projected world of the speaker. An NP is *definite* within a discourse context if it is given information, if the speaker can assume it to be within the consciousness of the hearer. This is hard to define exactly in part because of the use of accommodation, as discussed by Lewis (1979). A *generic* expression uses an NP attributively to refer to a type.

nuances and possibilities that occur). The contrast is generally drawn between the interpretation of the absolutive NP in transitive sentences versus the interpretation of the modalis NP in the corresponding intransitivized antipassive form.[7] Compare for example the pairs in (96–97) where the translations indicate how the contrast has generally been perceived.

(96) a. atuakka-t atuar-pai
book-PL.ABS read-IND.3SG.3PL
'He read the books.'

b. atuakka-nik atuar-puq
book-PL.MOD read-IND.3SG
'He read some books.'

(97) a. Siġmia-m katin-nia-ġaa aġnaq Canada-miñ (Iñupiaq)
Siġmiaq-ERG marry-FUT-3SG.3SG woman-ABS Canada-ABL
'Siġmiaq is going to marry the (a specific) Canadian woman.'

b. Siġmiaq katin-niaq-tuq aġna-mik Canada-miñ
Siġmiaq.ABS marry-FUT-3SG woman-MOD Canada-ABL
'Siġmiaq is going to marry a Canadian woman.'

However, a statement simply in terms of definiteness has proven unsatisfactory for Inuit as well as for Tagalog. Bittner (1987, 1994) suggests that the difference is actually one of scope. Thus she shows that the absolutive NP of both an intransitive (98) and a transitive sentence (99) must take wide scope with respect to sentential operators such as negation, whereas other NPs, such as the ergative NP can take wide or narrow scope (100).

(98) atuagaq ataasiq tikis-sima-nngi-la-q
book.ABS one.ABS come-PERF-NEG-IND-3SG

(i) 'One book hasn't come (yet).'
$\exists x(\text{book}(x) \wedge \neg\text{come}(x))$

[7] Kleinschmidt (1851) refers to these semantically transitive, but syntactically intransitive forms as 'half-transitive'.

(ii) *'No books have come (yet).'

(99) Juuna-p atuagaq ataasiq tigu-sima-nngi-la-a
Juuna-ERG book.ABS one.ABS get-PERF-NEG-IND-3SG.3SG

(i) 'There is a book which Juuna hasn't got (yet).'
$\exists x(\text{book}(x) \wedge \neg\text{get}(J, x))$

(ii) *'Juuna hasn't got any books (yet).'

(100) atuartu-p ataatsi-p Juuna uqaluqatigi-sima-nngi-la-a
student-ERG one-ERG Juuna.ABS talk.to-PERF-NEG-IND-3SG.3SG

(i) 'No student has talked to Juuna (yet).'
$\neg\exists x(\text{student}(x) \wedge \text{talk.to}(x, J))$

(ii) 'One student hasn't talked to Juuna (yet).'
$\exists x(\text{student}(x) \wedge \neg\text{talk.to}(x, J))$

The remainder of this subsection will contain further (inconclusive) discussion of the virtues and pitfalls of various attempts to characterize these contrasts, but in terms of the main theme of this section the parallel with Philippine and other languages should be clear. The absolutive NP in Inuit possesses the same properties of discourse prominence or presupposed reference as the pivot NP in Tagalog, and this is thus further strong evidence for recognizing a pivot (or grammatical subject) in Inuit that groups S and O.

Further discussion

As stated above, traditional wisdom held that in pairs such as those given above in (96) that the absolutive NP in transitive sentence must be definite while the modalis NP of the intransitivized antipassive variant must be indefinite. However, it has been noticed that a simple division into definite and indefinite NPs is not satisfactory (Johnson 1980:12–13, Bittner 1987:196–198): definite NPs such as proper names can appear in the modalis case with antipassives, and the translation equivalents of indefinite object NPs from European languages occur as absolutives in transitive clauses. This has led to various attempts to refine this distinction. Kalmár (1979) attempts to

work in terms of given and new arguments of discourse (but crucially used a culture-specific definition of what is given in Inuit discourse). Johnson (1980) describes the data in terms of pragmatic backgrounding and foregrounding. We might also wish to invoke notions such as specificity or referentiality, or the strong/weak distinction in NP readings argued for by De Hoop (1992) (who includes some discussion of the data from West Greenlandic).

The most radical reformulation of this distinction is presented by Bittner (1987, 1994) who attempts to explain this phenomenon in terms of semantic scope (in marked contrast to Johnson (1980:18) which argues that this was a pragmatic rather than a semantic issue). Bittner observed certain interactions between NP scope and sentential operators, such as negation (expressed in Inuit as verbal suffixes). The following table summarizes Bittner's data on whether different items can have wide and/or narrow scope with respect to negation and other similar sentential operators:

(101)

	Scope wrt operator	
	Wide	Narrow
Ergative agent of transitive	✓	✓
Ablative agent of passive	✓	✓
Nonovert agent of passive	×	✓
Modalis (Instrumental) of antipassive	*× → ✓	✓
Incorporated theme of active intransitive	×	✓
Absolutive of intransitive (including passive)	✓	×
Absolutive argument of transitive	✓	×

The entry marked with an asterisk deserves futher comment. Bittner (1987) stated that the modalis NP of an antipassive must take narrow scope, but Bittner (1994:116) suggests that either scope is in fact possible. It is merely that narrow scope is preferred (for essentially Gricean reasons given the availability of the necessarily wide scope active transitive alternative). Thus Bittner (1987) suggests the readings shown for the active and antipassive pair in (102), but the account of Bittner (1994) would hold that the reading of (102a) is also available to (102b) but pragmatically dispreferred.

(102) a. atuartut ilaat ikiur-tariaqar-pa-ra
of.students one.of.them.ABS help-must-IND.TR-1SG.3SG
'$\exists x$[x is one of the students & it is necessary that (I help x)]'

b. atuartut ilaan-nik ikiu-i-sariaqar-pu-nga
of.students one.of.them.MOD help-ANTIP-must-IND.INTR-1SG
'It is necessary that ($\exists x$[x is one of the students & I help x])'

Bittner (1987) suggests that these scope facts all hold of a wide range of affixal operators: (i) negation *-nngit*; (ii) tense and aspect *-ssa* 'FUT', *-sima* 'PERF', *-tar* 'FREQ', *-lir* 'INCEPT' and *-qqi* 'again'; (iii) modals of necessity and possibility *-sinnaa* 'can', *-gunar* 'probably' and *-tariaqar* 'must'; and (iv) other mood operators such as the conditional, interrogative, imperative and contingent, e.g., *-ku* 'COND' and *-pi* 'INTERROG' (see Bittner (1987:203–204) for examples). Further, she suggests that the same scope facts hold with respect to adverbial phrase sentential operators and world-creating predicates such as 'believe', 'say that' and 'look for'.

While Bittner has provided a wealth of new data, there are still some problems: (i) with her theory for explaining this data, (ii) with certain data, and (iii) with respect to her arguments against other accounts.

To explain the data, Bittner (1994) suggests that the s-structure (as she defines it – see Section 2.4.3.3) acts as the default logical form for a sentence, and that other NP scopes are made possible by quantifier raising (QR) which can only increase the scope of an NP with respect to s-structure. Thus on her account, the absolutive NP is in [Spec, IP] at s-structure – above sentential operators like negation – and so must scope outside such operators, whereas the ergative NP is a VP-internal subject (the distinguished adjunct of VP) and so the ergative NP can scope within sentential operators like negation, or it can raise by QR at LF to scope over sentential operators.

Bittner (1994:1–2) makes the following comparison between the Inuit data presented in (98–100) and the situation holding in English:

> In English, subjects are normally restricted to take wide scope relative to negation and other VP-level operators while objects can take either narrow or wide scope:
>
> ([1]) a. One book hasn't come (yet). $\exists > \neg$
>
> b. One student doesn't know John (yet). $\exists > \neg$
>
> c. John hasn't received one book (yet). $\neg > \exists, \exists > \neg$
>
> ...

> In English, the scope patterns exemplified in ([1]) can be plausibly attributed to the c-command relations which hold at s-structure – that is, at the syntactic level which determines structural Case assignment, agreement and syntactic binding relations. ... For English, this correctly predicts that the nominative subject will be outside the scope of VP-level operators (such as the negation, $\neg$), since it is outside the VP at the s-structure level. ... Accusative objects, on the other hand, can take narrow scope by virtue of their VP-internal s-structure position. Their alternative wide scope readings are due to the option of argument raising at LF.

However, notwithstanding the inclusion of the hedge "normally", this scarcely seems satisfactory as a statement of the situation in English, and totally ignores Carden (1970a, 1970b) and subsequent work. There appear to be many examples in English where many speakers allow the subject (A/S NP) to scope inside a sentential/VP operator:

(103) a. All that glitters is not gold.

b. Someone always interrupts me when I start talking.[8]

Carden (1970a, 1970b) studies the interpretation of structurally identical sentences such as those in (104), discussing whether speakers assigned them a NEG-Q interpretation (the quantified NP has scope inside the negation operator) (105a) or a NEG-V interpretation (the quantified NP has scope outside the negation operator) (105b).

(104) a. All the boys didn't leave.

b. Everyone didn't go to the store.

(105) a. $\neg\forall b R(b)$

b. $\forall b \neg R(b)$

Carden finds that whether speakers get either or both the NEG-Q or the NEG-V interpretation varies apparently randomly among speakers in a way not correlated with standard sociolinguistic variables or even family membership. Gil (1982) refers to

[8]This example, and some of the references on this topic were provided to me by Ivan Sag. Others I owe to Paul Kiparsky.

work in his MA Thesis (1977) suggesting apparent geographical variation in interpretation: Midwest American English speakers generally obtain only the NEG-Q interpretation while speakers from the North-East may get either or both readings (consistent with Carden's data).

If we accept for the moment Gil's claim and the form of explanation for it offered above by Bittner, the results are preposterous, I would suggest. We would have to say that Midwest speakers not only have the subject in a VP-internal position at s-structure, but that for some reason it is unable to raise at LF. Among North-Eastern speakers, the grammars of some are the same while others have the subject in a VP-internal position at s-structure but allow raising at LF, while yet others have the subject in [Spec, IP] at s-structure so that only the NEG-V reading obtains. But there does not appear to be any independent evidence that would support or even permit such a claim. For example, the subject precedes negation and what have been analyzed as VP-initial adverbs in all forms of American English. The subject also appears preceding auxiliaries rather than near the verb of which it is a thematic dependent, as would be expected if it were in a VP-internal subject position (for more detailed substantiation of the position that the subject is in [Spec, IP] at s-structure in English, see Koopman and Sportiche (1991) and references cited therein; also the argument from VP Ellipsis in McCloskey (1991)). Incidentally, Gil (1982) also reports work from his MA thesis that only the NEG-V interpretation is obtained when the same sort of sentences are tested in Modern Hebrew. Hebrew would then be an accusative language with apparently the same scope properties as for Inuit (the pivot must have wide scope with respect to operators like negation).

In fact, it appears unlikely that the data of Carden and Gil indicate dialect or even idiolect variation. Labov (1972:193–198) shows how the scope judgements speakers report depend greatly on context and suggests that "the eliciting context can be controlled to produce NEG-Q and NEG-V 'dialects' at will." This suggests that in general we should aim for a permissive theory of scope that can explain the readings that emerge in any context.

It is notable that all the data in Bittner (1987) came from looking at what are broadly existential NPs, mostly of the form '*n* Xs'. It might thus be thought that the

contrast in available interpretations comes from existential NPs receiving a specific or strong reading when they are in the absolutive case. It seems that existential NPs usually *do* take wide scope when in the pivot position in both English and Inuit (in accord with Keenan's subject properties). Thus there is a clear contrast between English and Inuit transitive sentences that are translation equivalents: in English there is a strong preference for the A NP to have wide scope, while in Inuit there is a strong preference for the O NP to have wide scope.[9]

In fact, Bittner (1994:182–187) appears to weaken her case for a scopal account by showing that if one looks at what are broadly 'universal' quantifiers, the same facts no longer appear to hold. Either the subject or the object of a transitive verb can take wide scope with respect to VP operators:

(106) a. suli atuartu-t tamar-mik Juuna uqaluqatigi-sima-nngi-la-at
yet student-PL all-4PL Juuna.ABS talk.with-PERF-NEG-IND-3PL.3SG
'None of the students have talked to Juuna yet.' *or*
'Not all of the students have talked to Juuna yet.'

b. Aani-p miiqqa-t tama-isa taku-nngi-la-i
Aani-ERG child-PL all-3PL see-NEG-IND-3SG.3PL
'Aani saw none of the children.' *or*
'Aani didn't see all of the children.'

Bittner attempts to account for these observations by noting that universal quantifiers in Inuit seem to be ultimately derived from adverbs. They still take proximative/obviative endings (third/fourth person, see Section 2.3.3) when modifying terms, rather than nominal cases (which they take when modifying oblique roles)), and they can float.[10] She thus suggests that these universal quantifiers are adjectives and this allows them to have special scopal properties (I omit the details here). But this suggestion is not totally convincing. It is unclear how much weight to put on the morphological evidence – the Inuit personal pronoun endings also ultimately derive from adverbial endings not nominal endings (Michael Fortescue, p.c., March 1994).

[9] But note (103b), where an English A NP does take narrow scope.

[10] Interestingly, floating seems to be restricted cross-linguistically to broadly universal quantifiers, many of which have a somewhat adverbial nature.

And, when all is said and done, in examples like (106) there are still regular nouns appearing as the head of absolutive noun phrases which are now exhibiting different scopal properties.

The contrasting behavior of universal quantifiers might make one think that the scope data that Bittner (1987) observes should actually be explained as a property of specificity or referentiality that absolutive NPs acquire. As well as the definite/ indefinite distinction, it seems that natural language additionally requires a specific/ non-specific distinction.

Fodor and Sag (1982) suggest that the readings of indefinites can be divided into two between quantificational readings (where English *a/an* behaves like an extensional quantifier) and cases where the indefinite refers to a specific item, but not one that has been definitely established in the context. This leads to the ambiguity in the sentence (107) between the contexts delineated in (108).

(107) I'd like to buy a book.

(108) a. This is such a lovely store that I think I'd like to buy something. I'd like to buy a book. But I have no idea what I want.

b. Excuse me. I'd like to buy a book. I'm looking for the edition of *Le rouge et le noir* published by Garnier frères.

The question arises as to whether in Inuit we are really dealing with some kind of presupposition of specificity that is attached to the absolutive case, rather than a demand for wide scope. One reason that such an approach seems appealing is that a scopal account apparently cannot explain all the data. Consider again a pair such as:

(109) a. ujarak tigu-vaa
stone.ABS take-IND.3SG.3SG
'He took the stone.'

b. ujarqa-mik tigu-si-voq
stone-MOD take-ANTIP-IND.3SG
'He took a stone.'

If we assume that the pronominal ending on the verb is nonquantificational, then on a purely scopal account, there is no semantic or pragmatic contrast between these sentences – a result strongly at odds with what is reported by native speakers.

This point draws from the corresponding observation made for English by Fodor and Sag (1982). Fodor and Sag argue that specificity cannot be reduced to the scope of indefinites, since a sentence like (110):

(110) A cousin of mine is pregnant.

is ambiguous between a specific and a non-specific reading, although this cannot possibly be for scopal reasons. They argue that rather there is a lexical ambiguity in indefinite NPs between a quantificational (existential) reading and a referential reading. On a referential reading, indefinites appear to have widest scope in the same way that definite NPs always appear to take widest scope. They present a number of further arguments attempting to show how specific (referential) indefinites don't behave like quantifiers: they can escape so-called scope islands (just as referential definites can), they do not prevent VP-deletion as quantifiers with wide scope do, and they can only 'escape' to have maximally wide scope – intermediate scope positions are not open to them. These last two claims have been disputed in the literature – and it seems, indeed, that there are valid counterexamples[11] – but nevertheless the basic observation on the ambiguity of (110) remains, as do other contrasts like the ability of indefinites to take nonrestrictive relative clauses whereas other quantified NPs do not allow them. Indeed, it is commonly accepted in the literature now that specificity cannot be reduced to scope (Fodor and Sag 1982, Enç 1991, De Hoop 1992).

What then is the evidence in Bittner (1987) against a non-scopal account? Bittner argues only against a treatment in terms of definiteness, suggesting that the alternative accounts of Johnson and Kalmár mentioned above were too vague to be testable. Bittner's objection to the traditional definiteness account is that one can find examples of both the other possible combinations: definite NPs like proper names in the

[11] Hirschbühler (1982) provides counterexamples to the VP-deletion argument; Farkas (1981), Ludlow and Neale (1991), and Abusch (1994) all argue that indefinites can escape to the supposedly unavailable intermediate scope positions. De Hoop (1992:38, fn. 8) notes but doesn't endorse another challenge by Ed Ruys.

modalis case of half-transitive sentences and indefinites in the absolutive position of transitives. Thus she concludes that the definiteness analysis cannot be right.

Not all of Bittner's (1987) examples are fully convincing. She suggests that names (which are necessarily definite) can be in the modalis:

(111) Jesusimik taku-(si)-vuq
Jesus.MOD see-(ANTIP)-IND.INTR.3SG
'He saw Jesus.'

However, (111) is the only example she gives, and the choice of name is perhaps somewhat unfortunate. Michael Fortescue (p.c., Mar 1994) questions how good sentences with proper names in the modalis case are (in contexts where the intransitivization is not required for grammatical reasons).[12] Fortescue suggests that Greenlanders find this sentence fairly strange. It cannot refer to a straightforward act of seeing a person, but must have some meaning to do with seeing the concept of Jesus.

It actually appears as if there might be some variation in the acceptibility of proper names in the modalis in antipassives. They seem to appear quite freely in Canadian Inuktitut sources (Kalmár 1979, Johnson 1980), although this could possibly be an artefact of elicitation.[13] In contrast Edna MacLean, an Iñupiaq speaker, did not accept sentences with names in the modalis, judging (112) bad.[14]

(112) John tautuk-tuq Mary-mik (Iñupiaq)
John.ABS see-3SG Mary-MOD
*'John sees Mary.'

Several of the counterexamples Bittner (1987) presents of absolutive indefinites are actually partitive readings:

(113) a. arlaat tigu-niar-uk
one.of.them take-IMPER-3SG.3SG
'Take one of them.'

[12] Fortescue's position is that the absolutive can be definite or indefinite, but that the modalis of the antipassive can only be indefinite, except in contexts like relative clauses where an expression can only be formed by antipassivization and there is no contrast.

[13] Johnson (1980:18) points out that speakers sometimes find such sentences odd but nevertheless grammatical.

[14] Even when, as here, the names are "linguist's names" not the names of real people, in contrast to what Kalmár (1979:124) reports.

b. illut taakkua ilaat nuannari-galuar-pa-kka
houses these some.of.them like-actually-IND.TR-1SG.3PL
'I actually like some of these houses.'

Although these phrases are indefinite, they refer to part of a set that has been previously established. De Hoop (1992) develops a theory dividing NP interpretation into strong and weak readings, where the difference in readings is related to the Case of the NP. In De Hoop's system the strong readings are: specific/referential (*A friend of mine is a paleontologist*); partitive (*Two (of the) fish are black*), generic (*Fish are vertebrates*) and generic collective (*Three fossils are more expensive than two*). Thus on an analysis via strong/weak readings, the examples in (113) would be covered, as would many of the other examples that Bittner (1987) discusses. For example, Bittner (1987) suggests that the contrast in (102), repeated below as (114) cannot be explained by a definiteness account, but it appears to follow on an account where the absolutive must be specific while the modalis must be nonspecific:

(114) a. atuartut ilaat ikiur-tariaqar-pa-ra
of.students one.of.them.ABS help-must-IND.TR-1SG.3SG
'$\exists x[x$ is one of the students & it is necessary that (I help x)]'

b. atuartut ilaan-nik ikiu-i-sariaqar-pu-nga
of.students one.of.them.MOD help-ANTIP-must-IND.INTR-1SG
'It is necessary that ($\exists x[x$ is one of the students & I help x])'

Indeed, De Hoop (1992) attempts to explain the distinction between use of the modalis in the half-transitive and use of the absolutive in the transitive as a Case-based distinction between a weak and strong NP Case, respectively.[15] Thus the distinction would be similar to the alternations between partitive and accusative case in Finnish, or the presence or absence of accusative case in Turkish (Enç 1991).

Another counterexample that Bittner (1987) gives to the claim that modalis NPs must be indefinite is (115).

[15]This involves her adopting Bok-Bennema's (1991) analysis that the modalis case is actually a direct case (namely, accusative), rather than half-transitive forms resulting from antipassivization, although I find that analysis unlikely (Section 2.4.3.1).

(115) Jaaku ilin-nik suqutigi-nnip-p-uq
Jaaku.ABS you-MOD be.interested.in-ANTIP-IND-INTR.3SG
'Jaaku is interested in you.'

This example cannot be analyzed as nonspecific, but having noted that the Finnish accusative/partitive distinction can indicate either a definite/indefinite distinction or irresultativity vs. resultativity, De Hoop (1992:70) suggests that this example is possible because the verb is irresultative. But this suggestion cannot deal with all the remaining counterexamples as we will see below.[16]

Bittner (1994) presents data that argue against the adequacy of a Case-based approach. She notes that for many speakers an antipassive morpheme can appear outside a double transitive suffix as well as inside it (see Section 2.3.1 for discussion of these suffixes). However, when the antipassive morpheme is outside the double transitive affix, the modalis case NP must take wide scope with respect to other sentential operators (as absolutive NPs normally do) whereas when it is inside them, the preference is for narrow scope:

(116) a. Aani-p Juuna atuakka-mik ataatsi-mik
Aani-ERG Juuna.ABS book-MOD one-MOD
tigu-*si*-sima-nngin-nirar-p-a-a
get-ANTIP-PERF-NEG-say-IND-TR-3SG.3SG
'Aani said that Juuna hadn't got any books (yet).'
$\text{say}(A, \neg\exists x(\text{book}(x) \wedge \text{get}(J, x)))$

b. %Aani-p Juuna-mut atuakka-mik ataatsi-mik
Aani-ERG Juuna-TERM book-MOD one-MOD

[16] What I have been glossing as antipassive morphemes do have a clear aspectual meaning (see Bittner (1987:199–202) for some discussion). The semantics of the antipassive morphemes are still poorly understood, but several of them seem to have an imperfective (or perhaps irresultative) meaning. It is possible that ultimately antipassivization (as reflexivization) should be seen mainly as a consequence of attaching intransitive verbal endings to a transitive stem, with the so-called antipassive morpheme being basically aspectual. Indeed, sometimes there is no (overt) antipassive morpheme, e.g., (96). This is an area where further research is needed.

tigu-sima-nngin-nira-*i*-v-u-q
get-PERF-NEG-say-ANTIP-IND-INTR-3SG
(i) $\exists x(\text{book}(x) \wedge \text{say}(A, \neg\text{get}(J, x)))$
(ii) $\text{say}(A, \exists x(\text{book}(x) \wedge \neg\text{get}(J, x)))$
(iii) $^{*}\text{say}(A, \neg\exists x(\text{book}(x) \wedge \text{get}(J, x)))$

Such data cannot be accounted for by any account along the lines of De Hoop (1992) where strong readings are associated with absolutive case and weak readings with modalis case, whereas Bittner is able to give a successful account following from scope interactions of the antipassive and negative morphemes.[17]

Finally there are some clear cases where a specific NP appears in the modalis with a resultative verb. Fortescue (1984) notes that this is possible in relative clauses where agent relatives are necessarily formed by antipassivization:

(117) qimmi-t marluk nannu-mik saassus-si-su-t
dog-PL.ABS two.PL bear-MOD attack-ANTIP-IPART-PL
'two dogs attacking a/the bear'

But Bittner (1994:117) mentions other corpus examples of specific modalis NPs. In one a bear is introduced 'About a fortnight after that funeral, a full grown bear (ABS) came to our village' but then later it is nevertheless referred to by a modalis NP in a sentence like (118).

(118) Miki nannu-mik saassus-si-v-u-q
Miki.ABS bear-MOD attack-ANTIP-IND-INTR-3SG
'Miki attacked the bear.'

Thus it seems that an account like De Hoop's cannot be maintained in the form in which she presented it.

So it seems that neither account is fully successful. The scopal account cannot explain the differences in interpretation that occur even when no scopal contrast is possible, and the proposed theoretical explanation does not extend well to other languages. The weak/strong readings account fails to explain the full range of data on

[17] And see Bittner (1994:138) for another such argument.

scopal interactions and specificity that Bittner provides – indeed, it seems broken beyond repair. It is possible that a scopal account could be made to work by augmenting it with a pragmatic account of how specificity presuppositions are generated (this would be consonant with the arguments of Ludlow and Neale (1991). At the other extreme, recent work from UCLA (Beghelli et al. 1993, Beghelli et al. 1994) has argued against classic theories of scope where scope is uniform and blind to the semantics of individual (quantified) noun phrases, arguing rather that the traditional concept of scope is a result of a conspiracy of factors like specificity and distributivity. Their work would instead suggest that a solution is to be found by dismantling the current dichotomy between scope and specificity.

This is where I will leave this topic. It would have been nice to be able to say something more definitive, to make some clear progress, but I suspect that that job must be left to someone with a greater understanding of the Inuit language than myself. But none of the above undermines the basic observation that the absolutive NP has a special discourse/scopal status.

2.2.3 Nominalizations

Another construction that indicates an S/O pivot in Inuit is the formation of *-niq* nominalizations. In this construction, the S/O argument of the corresponding verb can be expressed in the genitive case modifying the nominalization (119).[18] The ergative argument of the corresponding transitive verb can only be expressed as an ablative oblique, like the agent of a passive (Sadock forthcoming, Bittner 1994:64–66) (120).

(119) a. umiarsu-up qassi-nut tikin-ni-ssa-a nalunngil-ara
[ship-GEN how.many-TERM arrive-NOMLZ-FUT-3SG] know-IND.1SG.3SG
'I know when the ship will arrive.'

b. atuakka-t atuar-nir-at nuannir-p-u-q
[book-PL.GEN read-NOMLZ-3PL.SG] fun-IND-INTR-3SG
'Reading books is fun.'

[18] ... somewhat surprisingly given that genitive case is the same as ergative!

(120) Hansi-p (Aani-mit) ilinniartin-ner-a
Hans-GEN Anne-ABL teach-NOMLZ-IND.3SG.SG
'the teaching of Hans (by Anne)'

2.2.4 Coordination (a non-argument)

Coordination in Inuit is by means of a clitic that attaches to the right of the first word of the second conjunct. In his discussion of Yup′ik, T. Payne (1982:84) suggests as a further argument for an S/O pivot in the language that all else being equal the unrealized S of an intransitive verb following a transitive verb will be interpreted as coreferent with the O of the previous verb. He cites examples such as (121).

(121) Tom-am Doris-aq cinga-llru-a-∅ tua-llu quyi-llru-u-q
Tom-ERG Doris-ABS kiss-PAST-TR-3SG.3SG then-and cough-PAST-INTR-3SG
'Tom kissed Doris and then she coughed.'

I think one should be suspicious whether such a discourse preference should actually be seen as evidence for a syntactic constraint. This view is reconfirmed by the fact that Fortescue (1984:120–133) appears to argue the opposite for West Greenlandic. He suggests that omission in coordination is generally possible but that when the O of the first clause is coreferent with the S of the second, deletion may be difficult but is possible when the ambiguity is clarified by context.

I would like to suggest that the gapping of NPs in coordination is not syntactically restricted in Inuit. Any NP (core or oblique) can have 'wide scope' into the second conjunct of a coordinate sentence, where felicitous. Indeed, I do not believe that there is any special syntactic process that is gapping NPs in Inuit coordination. Rather, I think it is just the normal omission of arguments in discourse ('pro-drop'). Fortescue (1984:132) suggests that the only case where it is not possible simply to delete an actant in the second clause which is coreferent with an actant in the first clause is when an O of the first clause is coreferent with the A of the second. Here he suggests a demonstrative pronoun is required:

(122) Hansi-p Kaalat taku-aa *(taassuma=li)
Hansi-ERG Kaalat.ABS see-IND.3SG.3SG she.ERG=but
taku-nngil-aa
see-NEG-IND.3SG.3SG
'Hansi saw Kaalat but she didn't see him.'

But even here I think the infelicity is likely to be for reasons of discourse coherency rather than it being a syntactic restriction, given the other options for coreferential deletion that are available.

Thus I conclude that coordination is a neutral construction in Inuit and neither supports nor undermines the establishment of an S/O pivot. Note also that in practice clause chains are usually expressed not by coordination of finite verbs but by using infinitive verbs for all forms but one, and then the coreferential a-subject condition discussed in Section 2.3.2 applies.

2.2.5 Order of agreement suffixes on verbs

Some further evidence for a surface syntactic relation grouping S and O can be had from Inuit agreement morphology, although the evidence is more equivocal than is sometimes suggested.

Most transitive verb forms register both core participants, but in the infinitive mood only a single agreement suffix occurs and it cross-references the S and the O arguments of intransitive and transitive verbs, respectively. This part of the agreement system thus has a clear and synchronic ergative-absolutive basis.[19] See Section 2.3.2 for further discussion.

For other verbal moods, many recent authors (Bittner 1994:9, Bittner and Hale forthcoming a:12,[20] Johns 1992:75) suggest that the order of agreement suffixes for transitive forms is always Stem-Ergative-Absolutive (where determinable), and set up

[19] The existence of ergative-absolutive agreement systems goes against Jelinek's (1984) pronominal argument hypothesis, which seems to predict that agreement systems should always be nominative-accusative, with only lexical NPs displaying ergativity. However, indisputably ergative/absolutive agreement systems are also found in other language families, such as Mayan.

[20] "In finite clauses in Inuit, the outermost agreement marker is always construed with the nominative argument, while the innermost marker in transitives is construed with the ergative argument."

their functional projections on this basis.[21] However, historical reconstruction and the surviving surface evidence shows quite clearly that the present West Greenlandic indicative (and that of other varieties) is a mixed system. The historical source for the third person object forms is a marker of O followed by a marker for A (i.e., Stem–ABS–ERG), while other forms are Stem–ERG–ABS (see Fortescue 1984, Bok-Bennema 1991 and particularly Fortescue 1994).[22] Since the third person forms are the least morphologically transparent, one could argue that their construction is opaque to a modern speaker, while the Stem–A–O order of other forms is apparent, but I know of no independent evidence to support this.

In subordinate moods such as the conditional (from whence the majority of the modern indicative suffixes were apparently borrowed (Fortescue 1994)), the ordering is consistently Stem–ERG–ABS for transitive verbs. However, the morphology there is clearly formed on historically nominative-accusative lines. Examination of even the partial paradigms shown in (123) should be sufficient to convince the reader that the transitive form has the same morphology marking A as is used for S in the intransitive forms (although sometimes it is reduced to an assimilated geminate consonsonant) while there is a different following marker for O (3SG: **-gu*, 3PL: **-git*):

(123) West Greenlandic Conditional (partial paradigm)

	Intransitive	Transitive	
Subject		3SG Object	3PL Object
1SG	*-guma*	*-gukku*	*-gukkit*
2SG	*-guit*	*-gukku*	*-gukkit*
3SG	*-ppat*	*-ppagu*	*-ppagit*
4SG	*-guni*	*-guniuk*	*-gunigit*
1PL	*-gutta*	*-gutsigu*	*-gutsigik*
2PL	*-gussi*	*-gussiuk*	*-gussigik*
3PL	*-ppata*	*-ppassuk*	*-ppatigik*
4PL	*-gunik*	*-gunikku*	*-gunikkik*

[21] In contrast Woodbury (1977a:309) presents the following negative conclusion: "Most often, the agreement suffixes are phonologically fused to such a degree that it is impossible to tell whether they work on a nominative-accusative basis or on an absolutive-ergative basis." This is too conservative, but is perhaps not an unreasonable view of a modern speaker's knowledge.

[22] See also Reed et al. (1977:140) for the same generalization with respect to the Central Yup'ik indicative.

The morphological evidence from agreement is thus much more complicated than it is sometimes portrayed, revealing a complex mixture of diachronic and synchronic levels. However, the overall ordering of affixes (i.e., excluding the indicative third person object forms) can be argued to exhibit an ergative organization. Among languages with subject and object agreement, nominative agreement is generally outside accusative agreement (i.e., further from the verb in cases when both are marked on the same side of the verb) while absolutive agreement is generally outside ergative agreement. With the exception of the indicative third person object forms, the order would thus be a typical ergative-absolutive agreement system, but an unusual nominative-accusative agreement system.

2.2.6 Conclusion

My conclusion is that data from relative clauses, scope/specificity, and *-niq* nominalizations, with some support from the order of agreement suffixes, show clearly that the S/O NPs (the absolutive NPs) are the pivot in Inuit. In the next section I will show that phenomena that have been taken as indicative of an S/A pivot in Inuit are actually phenomena that are sensitive to argument structure. Thus the surface grammatical relations of the Inuit sentences in (124) are as in (125), with an absolutive pivot.

(124) a. Ani atuar-poq
Ani.ABS read-IND.INTR.3SG
'Ani reads.'

b. qimmi-t aalisakka-t neri-va-at
dog-PL.ERG fish-PL.ABS eat-IND.TR-3PL.3PL
'The dogs eat the fish.'

(125) a.

$$_{gr\text{-}s}\begin{bmatrix} \text{PIVOT} & \begin{bmatrix} \text{PRED} & \text{'Ani'} \\ \text{NUM} & \text{SG} \\ \text{CASE} & \text{ABS} \end{bmatrix} \\ \text{PRED} & \text{read} \end{bmatrix}$$

b. $$_{gr\text{-}s}\begin{bmatrix} \text{PIVOT} & \begin{bmatrix} \text{PRED} & \text{'fish'} \\ \text{NUM} & \text{PL} \\ \text{CASE} & \text{ABS} \end{bmatrix} \\ \text{PRED} & \text{eat} \\ \text{CORE} & \begin{bmatrix} \text{PRED} & \text{'dog'} \\ \text{NUM} & \text{PL} \\ \text{CASE} & \text{ERG} \end{bmatrix} \end{bmatrix}$$

2.3 Phenomena sensitive to a level of argument structure

In contrast to the previous section, this section looks at phenomena that have traditionally been taken to motivate an A/S pivot in Inuit. I will argue that most of these phenomena must, and the rest can, be described instead in terms of the argument structure notion of a-subject, rather than in terms of surface grammatical relations.

2.3.1 Derivational morphology

2.3.1.1 The Phenomenon

Inuit has a wide range of derivational suffixes (often called *postbases* in the Eskimo literature) some of which cover the semantic field of control verbs in other less polysynthetic languages. These postbases come in two types. One type we might call 'equi-subject' suffixes (where this name is to be taken simply as a convenient label rather than as an analysis). With these verbs, the actant of the suffix (i.e., the wanter, tryer, etc.) is necessarily identified with the surface ergative of a transitive stem (126a) and the surface absolutive of an intransitive stem (126b). If the stem is transitive, the verb agrees with both actants.

(126) a. Aani-p miiqqat ikiur-uma-v-a-i
Aani-ERG children.ABS help-want-IND-TR-3SG.3PL
'Aani wants to help children.'

b. Hansi sinik-kuma-vuq
Hansi.NOM sleep-want-IND.INTR.3SG
'Hansi wants to sleep.'

The other class is termed by Kleinschmidt (1851) 'double transitive' suffixes, because the suffix seems to add a new actant to the event expressed by the stem. This new actant is expressed in the ergative. If the base verb is transitive, its logical subject is marked terminalis and its logical object absolutive (and the latter triggers agreement) (127a–b); if intransitive the stem's actant is marked absolutive (127c):

(127) a. miiqqat uan-nut paari-tip-pai
children.PL.ABS me-TERM look.after-CAUS-IND.TR.3SG.3PL
'He had me look after the children.'

b. Aani-p miiqqat Juuna-mut paasi-sur(i-v)-a-i
Aani-ERG children.ABS Juuna-TERM understand-think-IND-TR-3SG.3PL
'Aani thinks that Juuna understands children.'

c. Aani-p miiqqa-t qasu-nirar-p-a-i
Aani-ERG children-PL.ABS be.tired-say-IND-TR-3SG.3PL
'Aani said that the children were tired.'

Examples like (127a) are parallel to the morphological causatives of many languages. However, Inuit uses syntactically identical postbases to also express other meanings like 'think', 'say' and 'ask' as shown in (127b–c).

There has been a tradition in Eskimo studies which argues that such verbal forms (and other structures involving noun incorporation) need to be analyzed syntactically (Rischel 1972, Woodbury 1977a, Sadock 1980, Smith 1982). The details depend on the framework assumed, but for instance, these verbal forms might be derived by the same cyclic syntactic transformations that were posited to derive equi constructions in English in the framework of Chomsky (1965). Such an approach is consonant with Baker (1988) and related work that does derivational morphology in the syntax. If such an approach were correct, then these affixes would provide evidence for subjecthood in Inuit, since equi is generally analyzed in terms of a controlled subject. It would be argued that the equi subject suffixes are evidence of syntactic accusativity, since the S/A of the stem is the controlled argument. However, recall that this is just the kind of evidence that Dixon (1979) argues should be discounted, suggesting that such predicates always function accusatively. The double transitive suffixes, if anything, represent an ergative syntactic pattern, but this is not strong evidence either

because the pattern resembles a common causative pattern from canonical accusative languages, such as Turkish or the Romance languages (Comrie 1985:338).

Some putative evidence in favor of a syntactic analysis is that these affixes interact with processes of passivization and antipassivization. The stem can be passivized (128a) or antipassivized (128b) before adding an equi subject suffix, resulting in control of the derived-S of the stem. The derived form can also undergo further valence-changing operations such as passivization (128c) and marginally antipassivization (128d).[23]

(128) a. Miqqat Aani-mit ikiur-niqar-uma-pp-u-t
children.ABS Aani-ABL help-PASS-want-IND-INTR-3PL
'The children want to be helped by Aani.'

b. Kaalat Suulu-mik ikiu-i-niar-p-u-q
Kaalat.ABS Suulu-MOD help-ANTIP-intend-IND-INTR-3SG
'Kaalat intends to help Suulut.'

c. Ilisimatuuq inuaaqqa-nit ikiur-uma-niqar-p-u-q
scientist.ABS pygmy-PL.ABL help-want-PASS-IND-INTR-3SG
lit. 'The scientist$_j$ was wanted by the pygmies$_i$ [PRO$_i$ to help t_j].'
i.e., 'The pygmies wanted to help the scientist.'

d. %Kaalat Suulu-mik ikiur-nia-i-v-u-q
Kaalat.ABS Suulut-MOD help-intend-ANTIP-IND-INTR-3SG
'Kaalat intends to help Suulut.'

The situation with double transitive affixes is similar. Passivization (129a) and antipassivization (129b) can occur before a double transitive affix is attached (if the stem is transitive). Passivization (129c), and for most speakers antipassivization (129d) can also occur after the double transitive affix is attached.[24]

[23]This description of the data follows Bittner (1994). Woodbury and Sadock (1986:241) and Sadock (1991:228–229) draw a contrast between double transitive suffixes and equi subject suffixes suggesting that external passivization or antipassivization (as in (128c–d)) is basically impossible with equi subject affixes (although they recognize that there are a few exceptions). However Sadock (1991) concludes that this could well be for semantic rather than syntactic reasons, a position supported by the existence of examples such as those shown. Woodbury and Sadock also suggest that all speakers accept examples like (129d).

[24]Bittner (1994:24) notes that some speakers reject antipassivization outside either a double transitive affix or an equi subject affix. This is denoted with a percent sign (%).

(129) a. Jaaku-p ammit qimmi-nit niri-niqa-tsaali-v-a-i
Jaaku-ERG skin.PL.ABS dog-PL.ABL eat-PASS-prevent-IND-TR-3SG.3PL
'Jaaku prevented the skins from getting eaten by the dogs.'

b. Aani-p Juuna miiqqa-nik
Aani-ERG Juuna.ABS child-PL.MOD
paar-si-sur(i-v)-a-a
look.after-ANTIP-think-IND-TR-3SG.3SG
'Aani thinks that Juuna is looking after the children.'

c. ammit Jaaku-mit qimmi-nut niri-tsaali-niqar-p-u-t
skin.PL.ABS Jaaku-ABL dog-PL.TERM eat-prevent-PASS-IND-INTR-3PL
lit. 'The skins$_i$ were prevented by Jaaku from the dogs eating t_i.'

d. %Aani miiqqa-nik Juuna-mut
Aani.ABS child-PL.MOD Juuna-TERM
paari-suri-nnip-p-u-q
look.after-think-ANTIP-IND-INTR-3SG
'Aani thinks that Juuna is looking after the children.'

Indeed suffixation of postbases can proceed through several cycles. Smith (1982:183) provides the following example:

(130) taku-jau -tit -tau -gasu-gi-jau -juk (Labrador Inuttut)
see -PASS-CAUS-PASS-believe-PASS-3SG
'She was believed to have been made to be seen.'

2.3.1.2 An argument structure based account

However, as Smith (1982:162) appears to observe, such interactions in no way prove that a syntactic analysis of these constructions is correct. Rather these data only sharpen a disjunction between possible analyses. The data show that either all derivational processes, including passivization, antipassivization and the suffixation of equi-subject and double transitive affixes are lexical, or else that all these same processes are syntactic.[25]

[25]Smith (1982) ultimately argues for a syntactic approach. However, much of the argument seems more rhetorical than substantial. He argues that "Duplicating syntactic rules in the morphological

There is a perfectly adequate account of this data in terms of a lexical analysis whereby complex lexical forms are built up by argument composition (Mohanan 1990, Alsina 1993). Such an account: (i) explains the lexicality of these morphologically complex verb forms, (ii) correctly predicts that these operations are sensitive to argument structure rather than surface grammatical function, and (iii) explains why these forms behave as complex predicates, in terms of agreement (as noted above – on a syntactic account it would be quite mysterious why there was agreement with an argument of the lower verb), word order (as discussed above (88)), surface case marking patterns, and relativization (relativization is clausebound, but the absolutive of these complex verb forms can be relativized on (Johnson 1980:23). Double transitive suffixes are quite parallel to the causatives of other languages, and equi subject suffixes are quite parallel to the aspectual and modal suffixes or light verbs of other languages. Recently there has been much literature on how to treat these forms as complex predicates in frameworks broadly compatible with the one I am using, and I refer the reader to these works for fuller exemplification of what I present briefly below: Rosen (1989), Manning (1992), Alsina (1993), Andrews and Manning (1993), Butt (1993), and Iida et al. (1994).[26]

The actant of equi subject suffixes always fuses with the a-subject of the stem, and so they should have argument structures of the form shown in (131):

(131) $\text{intend}\langle \underline{\text{—}}, \text{P}\langle \underline{\text{—}} \ldots \rangle\rangle$

The other cases were already discussed in Chapter 1. Double transitive suffixes have the argument structure suggested for causatives by T. Mohanan (1988). In Inuit, when a double transitive suffix is added to a transitive verb, the embedded logical subject is always an oblique, and so I will propose that in Inuit the second argument of the double transitive suffix always fuses with the logical object (as shown in (132)).

component of the grammar would increase the expressive power of a grammatical theory far beyond what is necessary" (p. 181) as if the solution he proposes – word formation by cyclic transformational rules – were somehow more constrained.

[26] A lexicalist account of Inuit derivational morphology is also provided by Jensen and Johns (1989), although it is unclear how their approach could deal with the binding facts discussed in Section 2.3.3.

For intranstives, the second argument of the causative fuses with the single direct role of intransitive verb stems.

(132) PREVENT⟨—, —, P_{tr}⟨—, —⟩⟩

Passives are also treated via a higher predicate at a-structure:

(133) PASS⟨—, P_{tr}⟨—, —⟩⟩

A-subjects that are not the highest a-subject of a clause, such as both the the embedded a-subject in the argument structure of passives (the logical subject) and the one that results when double transitives affixes are added to transitive verbs (the 'causee'), will appear on the surface as an oblique case. This is broadly compatible with the linking theory proposed by Alsina (1993).

Antipassives are analyzed in parallel with passives, as shown in (134).

(134) ANTIP⟨—, P_{tr}⟨—, —⟩⟩

The embedded logical object of the stem will again surface as an oblique.

These operators will then compose, in the correct way, to predict all the forms shown above. The argument structures of the verbs in (128–130) are shown below in (135–137):

(135) a. want⟨children, PASS⟨—, help⟨Aani, —⟩⟩⟩
ABS ABL

b. intend⟨Kaalat, ANTIP⟨—, help⟨—, Suulut⟩⟩⟩
ABS MOD

c. PASS⟨scientist, want⟨pygmy, help⟨—, —⟩⟩⟩
ABS ABL

d. ANTIP⟨Kaalat, intend⟨—, help⟨—, Suulut⟩⟩⟩
ABS MOD

(136) a. prevent⟨Jaaku, skins, PASS⟨—, eat⟨dog, —⟩⟩⟩
ERG ABS ABL

b. think⟨Aani, Juuna, ANTIP⟨—, look.after⟨—, children⟩⟩⟩
ERG ABS MOD

c. PASS⟨skins, prevent⟨Jaaku, ⟨—, eat⟨ dogs , —⟩⟩⟩
ABS ABL TERM

d. ANTIP⟨Aani, think⟨—, children, look.after⟨Juuna, —⟩⟩⟩
ABS MOD TERM

(137) PASS⟨ she , believe⟨α, —, PASS⟨—, CAUS⟨β, —, PASS⟨—, see⟨γ, —⟩⟩⟩⟩⟩⟩
ABS

In the remainder of this section I would like to discuss further the distinction between supposedly 'lexical' and supposedly 'syntactic' accounts of derivational morphology in Inuit. I think much of this debate has been somewhat misguided, as I hope to demonstrate by a comparison of LFG with Autolexical Syntax.[27]

2.3.1.3 On some correspondences between Autolexical Syntax and other constraint-based theories

This section will discuss some parallels between Sadock's model of Autolexical Syntax (ALS) and work in constraint-based frameworks such as LFG or HPSG. The theme of the first section will be to try to develop correspondences between the different frameworks, and then I will use these parallels to suggest that an earlier debate over whether a lexical or syntactic approach to Eskimo word formation should be adopted (Grimshaw and Mester 1985, Woodbury and Sadock 1986) is no longer a debate at all: the supposed difference in approach largely dissolves.

The conclusion will be that at one time the claims of lexicalist and non-lexicalist analyses seemed clearly distinct, but the dividing line has largely evaporated. There are ways in which words containing complex derivational morphology behave differently from morphologically simple words. For example, they tend to have different

[27]Below, I continue to use PIVOT and CORE rather than SUBJ and OBJ to label grammatical relations, as elsewhere in this thesis, but it should be clear that nothing in the following section depends on that – it is an independent assumption.

binding-theoretic properties (in Inuit, Japanese, and other languages). This contradicts Grimshaw and Mester's (1985:11) claim that "complex verbs are in fact syntactically indistinguishable from simplex verbs." Thus 'lexicalist' analyses have had to provide more abstract levels, beyond the surface syntax (such as some form of argument structure) where such differences in behavior can be represented. In contrast, nonlexical analyses have to provide mechanisms to deal with the surface facts of morphology (see for example Bonet i Alsina (1991) who develops a theory of the surface syntax constraints on clitic templates in Catalan, following the line of work initiated by Perlmutter (1971)). In the end there is convergence in the modules provided by various theories and Woodbury and Sadock's claim that Eskimo morphology requires a 'syntactic' treatment turns out to be quite compatible with 'lexical' theories like LFG after all.

Equating levels. Sadock (1991, forthcoming) assumes a model of grammar with three independent constraining levels: morphology, syntax and semantics, each generated by a context-free grammar. In this section I will examine a match-up of these levels with the levels of LFG, attempting to equate morphology with c-structure, syntax with f-structure, and semantics with a-structure (argument structure) and a bit of what one would include in a real semantics (as is provided by Dalrymple et al. 1993).[28]

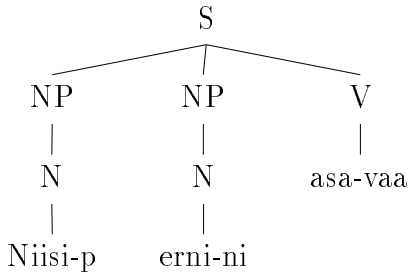
Trying to equate LFG's c-structure with the morphology of ALS may initially seem quite odd, and indeed it is an imperfect match, but key, in that it allows the important alignment between ALS's syntax and f-structure which is at the heart of my discussion. A possible LFG c-structure for a simple West Greenlandic sentence such as (138a) is (138b) and this might seem much more like the syntax tree of ALS, (138c) (from Sadock forthcoming), than representations from the level of ALS morphology,

[28]It seems most convenient to compare ALS with LFG both because LFG is an overtly multilevel framework like ALS, and because the proposal by Grimshaw and Mester that I will discuss used LFG. But I believe that a very similar correspondence can be made with HPSG. This would follow from transitivity if one accepts some of the correspondences between HPSG and LFG that I have observed elsewhere (Manning 1993). At any rate, I will include a few remarks on similarities with HPSG as we proceed.

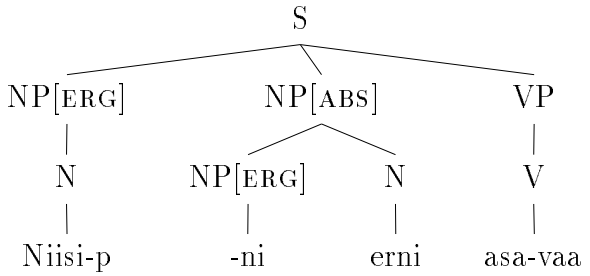
which deal only with the make-up of individual words, as indicated in (138d).[29]

(138) a. Niisi-p erni-ni asa-vaa
Niisi-ERG son-4SG love-IND.3SG.3SG
'Niisi$_i$ loves his$_i$ son.'

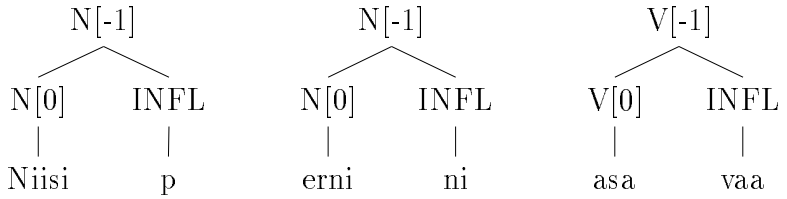
b.



c.



d.



The LFG c-structure and ALS's syntax tree initially look quite similar, and the similarity could be increased by adding a VP node to the LFG c-structure if one wished. In contrast, the c-structure seems to have little to do with ALS's morphology which indicates no relationships above the word level. But the crucial thing to focus on is how the word *ernini* has been treated in ALS's syntax tree: the possessive ending *-ni* of *erni-ni* has been separated off and placed before the noun stem in the position where lexical possessors appear. This sort of decomposition doesn't occur in the LFG c-structure. The important parallel between ALS's morphology and LFG's c-structure is that in both frameworks, this is where the notion of *wordhood*

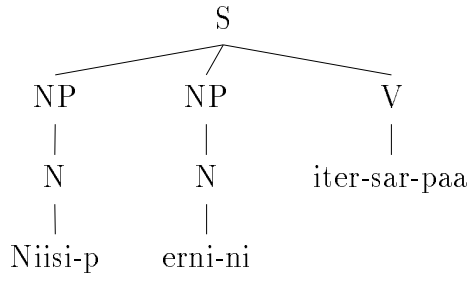
[29]Note that Sadock uses negative numbers for the X′ levels in the morphology.

or *lexicality* is captured (cf. Bresnan and Mchombo (1993), T. Mohanan (1990:63f) for discussion of this point in LFG). Both theories need a notion of wordhood to explain phonological and other processes (see Sadock (1980:302–303) for a thorough discussion of wordhood tests in Greenlandic).

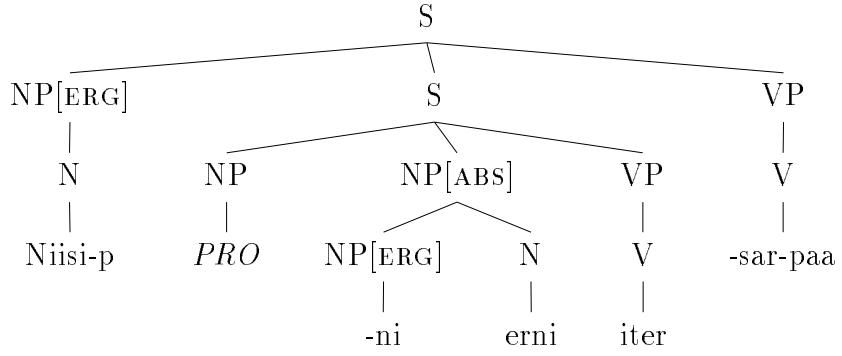
This is illustrated more dramatically if we look at a complex derivational form. For the sentence (139a), the LFG c-structure remains the same (139b), while a 'syntactic' analysis of the sentence would be as in (139c).[30]

(139) a. Niisi-p erni-ni iter-sar-paa
Niisi-ERG son-4SG wake.up-try-IND.TR.3SG.3SG
'Niisi$_i$ tried to waken his$_i$ son.'

b.



c.



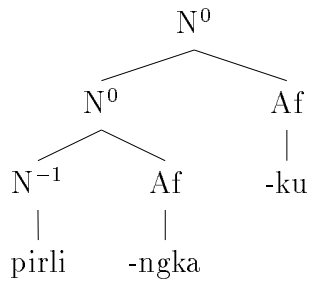
Nevertheless, this doesn't erase the difference that the c-structure in (138b) looks only above the word level while the ALS morphology in (138d) looks only below the word level. The degree of correspondence can be increased by noting that LFG's c-structure has often been extended below the word level to provide an X′-like treatment

[30] This kind of multiclausal syntactic analysis is what Smith (1982) used and is presumably what Woodbury and Sadock (1986) were assuming. I believe Sadock no longer holds this view. Sadock (forthcoming) says of the double transitive affixes that "the syntax of verbs formed with such suffixes does not differ from that of underived transitive verbs" but rather that their semantics is different.

of morphology, just as Sadock does with ALS's morphology. For example Simpson (1983:285) provides the c-structure (140b) for the Warlpiri word in (140a):

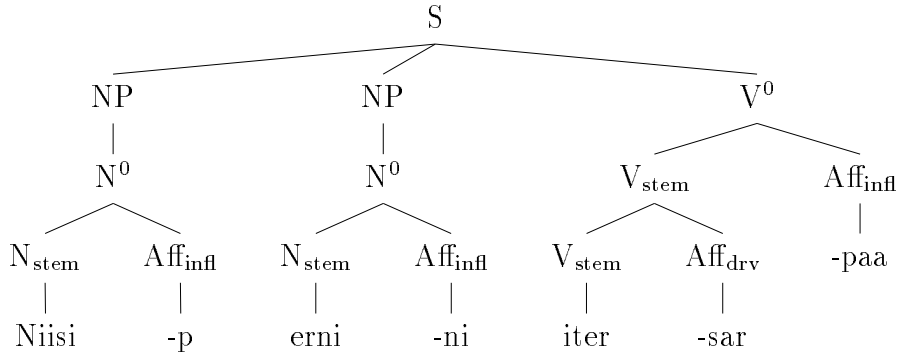
(140) a. pirli-ngka-ku
rock-LOC -DAT
'on the rock' (the second case marker showing a higher function)

b.



Thus LFG is clearly prepared to extend the c-structure to represent sublexical constituency. Indeed this seems to be the preferred approach of LFG practictioners (e.g., Ishikawa 1985, Cho and Sells 1994). Such a solution is also proposed for West Greenlandic nouns and verbs and Japanese causatives in Bresnan (1987). Similar tree-structured representations of sublexical structure have also been explored recently in HPSG – see for instance Krieger and Nerbonne (1993), Riehemann (1993) and Iida et al. (1994). The above and below word level trees can be shown simultaneously, and so we could replace the c-structure in (139b) with that in (141).

(141)



This structure now looks much more similar to the ALS morphology. However, there is still a remaining difference that can't just be swept under the rug: the LFG c-structure is representing structure above the word while the ALS morphology isn't. Given the correspondences that I am attempting to establish, we might wonder

whether this above word c-structure information is needed in LFG (if it apparently isn't needed in the corresponding ALS structure). This is a question that can only be answered in the context of the whole theory and looking closely at what other structures there are to provide this information. And so we are not really ready to answer this question yet. However, to awaken some doubt in the reader's mind, let me note that most of the traditional arguments for constituency were based on whether certain groups of words were treated as a unit by a transformation – this being taken as evidence of constituency. These transformational motivations no longer exist in a theory like LFG. Other classical constituency tests give very equivocal results – see, for instance, the thorough discussion in Chapter 1 of Miller (1991). References to this undermotivation of c-structure appear in the LFG literature. Kaplan and Zaenen (1989a) note how the tools of LFG "leave the c-structures underdetermined" and suggest motivating c-structure on the basis of prosodic structure. So there is at least some reason to believe that the above-word-level c-structure might be dispensible, by enriching some other level to cover the remaining purposes that it serves.[31]

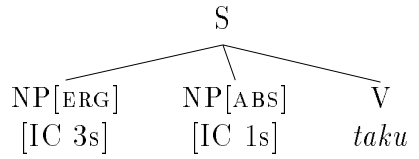
The heart of my proposal is to realize that ALS's syntax should be equated with LFG's f-structure. Why is this so? Recall the treatment of the possessive suffix of *erni-ni* in the ALS syntax tree in (138c). The possessive suffix *-ni* appears preposed as an NP sister of the head noun stem. This is not because it has this position in the surface syntax (or in any plausible modification of it to undo A′ movements such as *Wh*-movement and extraposition), but because it expresses the function Possessor, and that is the canonical position of possessors (i.e., where lexical possessors go). Thus, Sadock's syntax is about representing functional relationships, and not surface syntax, and thus it is properly the analogue of f-structure in LFG.

Let us consider one more example: the treatment of a transitive verb. Sadock (forthcoming) emphasizes how "a transitive mood suffix on a verb, e.g., *-mmanga*

[31]Going in the other direction, note the following observation of Sadock (1991:223, fn. 12): "If one wanted, the morphological words could be combined into a single structure by supplementing the rules of the morphology with the rule MS → W*. Such a rule makes the claim that there is no interesting morphological constituency above the level of the word, which may or may not turn out to be true."

(past subordinate mood, third person singular external category, first person singular internal category) counts as both a third person singular ergative term and a first person singular absolutive term in the clause, as shown in [(142a)] for the verb *takummanga* 'when he saw me'", using the lexical entry for the suffix from (142b).

(142) a.



b. *-mmanga* syntax: NP[ERG], NP[ABS]
semantics: ARG, ARG
morphology: INF[MOOD PSUB, EC 3s, IC 1s]

The kind of representation in (142a) has no parallel with the lexicality preserving representations of LFG's c-structure, where *takummanga* necessarily appears under a V^0 node, but it is directly parallel to LFG's f-structure. Sadock's analysis that "verb inflections can be NPs in syntax ... even though they are suffixes in morphology" is implemented in LFG by having the suffixes (optionally) introduce PREDs at f-structure for various grammatical functions (Bresnan and Mchombo 1987, Simpson 1991). If one ignores the unimportant representational differences, (142a) is virtually identical to what LFG would propose as the partial f-structure induced from the lexical entry for *takummanga*, roughly (143):

(143)
$$\begin{bmatrix} \text{CORE} & \begin{bmatrix} \text{PRED} & \text{'pro'} \\ \text{CASE} & \text{ERG} \\ \text{PERS} & 3 \\ \text{NUM} & \text{SG} \end{bmatrix} \\ \text{PRED} & \text{'see}\langle\_\_, \_\_\rangle\text{'} \\ \text{MOOD} & \text{PSUB} \\ \text{PIVOT} & \begin{bmatrix} \text{PRED} & \text{'pro'} \\ \text{CASE} & \text{ABS} \\ \text{PERS} & 1 \\ \text{NUM} & \text{SG} \end{bmatrix} \end{bmatrix}$$

There is a little extra information represented in the ALS syntax that doesn't appear in the f-structure – it is pretty much the information from the LFG c-structure that

was missing in the ALS morphology, namely the linear order of phrasal constituents and perhaps some extra levels of phrase structure embedding (such as a VP node). Note, however, that the linear precedence of ALS's syntax isn't always reflecting linear order, as again the treatment of *-ni* illustrates, but Sadock has proposals for limiting the divergences. Given this need for divergences, it's not clear that this is a better place for such information than c-structure/morphology. The issue mainly revolves around whether constraints on the word order of lexical constituents should be written in categorial terms (as in GPSG LP rules (Gazdar et al. 1985)) or in functional terms (or possibly both). I will not try to resolve this issue here.

This leaves semantics. Equating ALS's semantics with LFG's a-structure should occasion little debate. Both levels indicate the semantic arguments of a clause and the relationships in which they stand. Sadock (1991:223, fn. 11) notes how his semantics does the work of the principles of Functional Uniqueness, Completeness, and Coherence in LFG without requiring the stipulation of external well-formedness conditions. Arguably this desideratum is still not provided by LFG's a-structure, but it is provided by the kind of semantics envisioned by Dalrymple et al. (1993). At any rate, since semantics is not here my primary focus, this matter need not be debated further. Both ALS's semantics and LFG's a-structure allow an essentially identical statement of the argument structure constraint on possible binders of reflexives and infinitival controllers in Inuit, for example. As I will show later, this use of a form of syntacticized argument structure for determining binding closely parallels work in HPSG in which binding theory is run off the argument structure (ARG-S, formerly called SUBCAT), such as Pollard and Sag (1992) and Iida et al. (1994).

The conception of the lexicon is also very similar in all of ALS, LFG and HPSG: a place where the morphological, syntactic and semantic properties of phonological forms can be stated. The remainder of the theory of ALS deals with information flow and constraints on mismatches between levels. This latter area has been less developed in LFG than other theories, but there seems no formal inability to generate the correct constraints. At any rate, these principles impinge little on the discussion below, and thus I will ignore them.

The dissolution of a debate. Given the above understanding of how the levels of ALS and LFG should properly be equated, let us reconsider the debate between Grimshaw and Mester (1985) and Woodbury and Sadock (1986). My basic contention is that with the perspective of hindsight, this debate should never have taken place. While my analysis could be criticized as a reconstruction,[32] the basic result is that with the passage of time, advocates of a 'syntactic' analysis of polysynthetic forms have nevertheless had to deal with their wordhood (as Sadock does with ALS) while advocates of a 'lexical' analysis have had to provide mechanisms whereby morphologically complex words are in some respects different from morphologically simple words (as in Iida et al.'s (1994) account of Japanese causatives, or the kind of account of binding in Inuit that I consider here). The issue seems to boil down to a generalization of what Grimshaw and Mester (1985:15, fn. 21) said about case marking: "Multiple case marking *might* be attributed to syntactically derived verbs only. In a lexical theory, on the other hand, multiple case marking might be a property of morphologically derived verbs only." In other words, the more complex structures of derived forms can result from recursion in the morphology rather than recursion in the syntax.

Grimshaw and Mester (1985). Grimshaw and Mester (1985) consider the passive, antipassive, equi and double transitive postbases in Labrador Inuttut.[33] Smith (1982) suggested that the equi and double transitive postbases should have a syntactic analysis so that at some level of structure such postbases are essentially like an English verb like *want* or *make* which introduces a clausal or VP complement and that there is then subsequent verb raising or clause union (i.e., the deep structure representation is roughly as suggested in (139c)). Grimshaw and Mester (G&M) argue that rather these forms should be generated by lexical rules, along the same lines as the lexical analysis of the passive (Bresnan 1982b) and antipassive, proposing the rules in (144):

[32]For example, the version of LFG Grimshaw and Mester assumed used lexical rules rather than X′ morphology and had no notion of a-structure.

[33]The data are identical to the West Greenlandic data given at the beginning of this section, except for one wrinkle that is mentioned in the next footnote.

(144) a. *-guma* rule [= equi subject postbases. CDM]

$$\begin{array}{ll} \text{V(S, ...)} \rightarrow & \text{V-guma(S, } \emptyset\text{, ...)} \\ y, \ldots & \underbrace{x, y}, \ldots \end{array}$$

where the under brace represents binding.

b. *-kqu* rule [= double transitive postbases. CDM]

$$\begin{array}{ll} \text{V(S, ...)} \rightarrow & \text{V-kqu(S, O, ...)} \\ y, \ldots & x, y, \ldots \end{array}$$

The notation in (144a) is supposed to indicate that postbases of the *-guma* class introduce a new logical argument, but this argument binds the previous subject argument, and hence the old subject argument becomes inexpressible (which is denoted by the $\emptyset$ at the grammatical function level). In (144b), the affix introduces a new subject, and the old subject becomes the object.[34]

G&M suggest that a lexical account is preferable because it most simply accounts for the phenomena that show that these verbs are words, it explains why morphologically complex verbs are identical to other verbs in grammatical behavior (including especially a general observance of the principle of functional uniqueness) and it makes correct predictions concerning rule interactions.

Woodbury and Sadock (1986). Woodbury and Sadock (1986) (W&S) react to the above account suggesting that "where the two approaches make clearly different predictions, the facts of Eskimo languages support a syntactic treatment not G & M's lexical treatment" (p. 234). I will proceed carefully through their argumentation.

The first point concerns functional uniqueness. G&M suggested that morphologically complex verbs had the same syntax (phrase structure configurations, agreement and case marking patterns) as other simplex verbs, a point not automatically explained by a multiclausal syntactic account. W&S note that this is only partially

[34]G&M only consider the case where the stem is intransitive, since Smith (1982) reports that double transitive suffixation is restricted to intransitive stems. Woodbury and Sadock (1986) note that double transitive suffixes can be added to transitive verbs in all other described varieties of Eskimo (as noted for West Greenlandic above) – the construction then becomes more akin to the causatives and permissives in other languages for which detailed lexical analyses have been given (e.g., Alsina 1993 and Butt 1993).

true. While functional uniqueness clearly applies in this domain to allow only one absolutive and one ergative argument, the use of multiple affixation does allow multiple displaced terms, whereas no simplex verb has these case marking patterns. (145a) shows double antipassivization leading to two modalis NPs in Labrador Inuttut and (145b) shows two terminalis NPs resulting from suffixing two double transitive postbases to a transitive verb stem in Central Alaskan Yup′ik.

(145) a. Angutik anna-mik taku-∅-kqu-ji-juk siitsi-mik
man.ABS woman-MOD see-ANTIP-want-ANTIP-IND.INTR.3SG squirrel-MOD
'The man wants the woman to see the squirrel.' (Labrador Inuttut)

b. Uu-m pi-llru-a-nga, Jim'a-mun tan'gurrar-nun
this-ERG do-PAST.IND-3SG-1SG Jim-TERM boy-PL.TERM
tegu-vkar-ni-lu-ku, qalqapa-ka (Central Alaskan Yup′ik)
take-let-say-INF-3SG axe-ABS.1SG
'This (person) (spoke) to me and said that Jim let the boys take my axe.'

W&S are correct that this data goes against a strict interpretation of the claim that complex verbs should only have the same case frames as simplex verbs, but this data does not force a syntactic treatment. Rather it can be noted that the morphological suffixing of postbases licenses displaced terms, and recursive suffixation licenses multiple displaced terms. Thus recursion in morphological structure can replace the postulation of recursive syntactic structure. For the core roles, the claim of functional uniqueness is here and elsewhere maintained: there remains at most one absolutive and one ergative NP and at most two crossreferencing case markers.

Noun incorporation, raised by W&S as a more telling argument for a syntactic approach, is actually not a problem in LFG, once we accept that it is the f-structure that captures the "syntactic" nature of Eskimo incorporation that W&S observe. While this is not the place for a complete analysis of noun incorporation,[35] the outlines of an analysis are presented below (this analysis is not materially different to the ones suggested in Bresnan (1987) and Simpson (1991)). We want to explain how

[35]For detailed discussion of noun incorporation in Inuit, see among others Sadock (1980, 1985, 1986).

an incorporated noun can have a modifying adjunct in the modalis case (146a) or a possessive modifier as in (146b).[36]

(146) a. Suulut ataatsi-mik ammassat-tor-poq
Suulut.ABS one-MOD sardine-eat-IND.3SG
'Suulut ate one sardine.'

b. Tuttu-p neqi-tor-pu-nga
reindeer-GEN meat-eat-IND-1SG
'I ate reindeer meat.'

The essence of the analysis is a c-structure rule that makes all parts of an NP optional:[37]

(147) $$\text{NP} \rightarrow \begin{array}{ccc} (\text{NP}) & (\text{N}) & (\text{N}) \\ (\uparrow\text{POSS}) = \downarrow & \uparrow = \downarrow & (\uparrow\text{ADJ}) = \downarrow \\ & & (\uparrow\text{CASE}) = (\downarrow\text{CASE}) \\ & & (\uparrow\text{NUM}) = (\downarrow\text{NUM}) \end{array}$$

and that lexical verbs can be formed by adding certain postbases to nouns (so-called 'noun incorporation'):

(148) a. $$\text{V}^{-1} \rightarrow \begin{array}{cc} \text{N}_{\text{stem}} & \text{Aff}_{\text{vrblz}} \\ (\uparrow\text{OBL}_{mod}) = \downarrow & \uparrow = \downarrow \end{array}$$

b. $$\text{V}^{0} \rightarrow \begin{array}{cc} \text{V}^{-1} & \text{Aff}_{\text{infl}} \\ \uparrow = \downarrow & \uparrow = \downarrow \end{array}$$

Together with the lexical entries for *-tor* and *-{v/p}oq* in (149), and a few other straightforward rules and lexical items,[38] this will allow a 'syntactic' analysis of

[36]Presuming that such an account is indeed the one we want. While Sadock (1980, 1985, 1986) argues for the possibility of possessor stranding, Bittner (1994) presents a model that does not allow possessor stranding, emphasizing that it is very restricted (as Rischel (1971) noted) and suggesting that the occasional examples involve an idiom or other exceptional constructional possibilities (Sadock (p.c., 1994) questions the possibility of explaining the observed examples as idioms, noting that possessor-stranding is productive). The sketch analysis I present here will allow possessor stranding in line with Sadock's model.

[37]However, LFG's principle of completeness will prevent headless NPs in normal circumstances. Thus this account explains without further stipulation why a stranded possessor can appear with an 'incorporated' head, while an NP cannot otherwise consist of simply a genitive case possessor NP (thanks to Jerry Sadock for questioning me on this point).

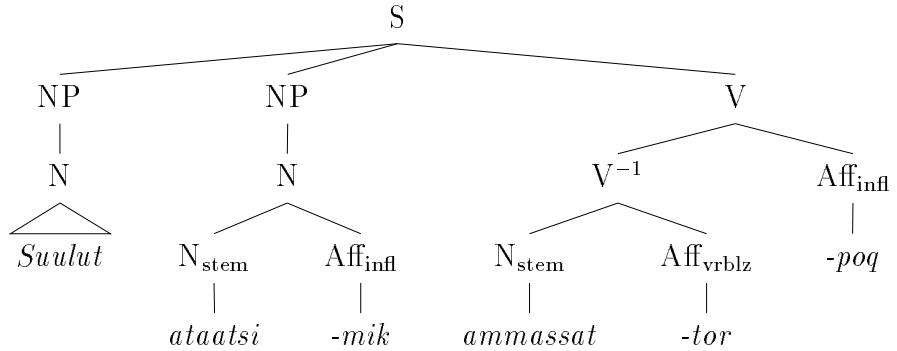
[38]For the miniature grammar I am considering, the following will suffice:

Greenlandic noun incorporation at f-structure (150b), while maintaining a lexicality-respecting c-structure (150a):

(149) a. *-tor* $\text{Aff}_{\text{vrblz}}$ $(\uparrow \text{PRED}) = \text{`use/eat}\langle(\uparrow \text{PIVOT})(\uparrow \text{OBL}_{mod})\rangle\text{'}$
$(\uparrow \text{OBL}_{mod}\ \text{CASE}) = \text{MOD}$

b. *-voq* Aff_{infl} $(\uparrow \text{PIVOT NUM}) = \text{SG}$
$(\uparrow \text{PIVOT PERS}) = 3$
$(\uparrow \text{PIVOT CASE}) =_c \text{ABS}$

(150) a.



(i) a. $\text{S} \rightarrow \text{NP}^*\ (\uparrow\{\text{PIVOT}|\text{CORE}|\text{OBL}_{mod}\}) = \downarrow \quad \text{V}\ \uparrow = \downarrow$

b. $\text{N} \rightarrow \text{N}_{\text{stem}}\ \uparrow = \downarrow \quad (\text{Af}_{\text{case}})\ \uparrow = \downarrow$
$(\ (\uparrow \text{CASE}) = \text{ABS}\ )$

c. *-mik* Af_{case} $(\uparrow \text{CASE}) = \text{MOD}$
Suulut N_{stem} $(\uparrow \text{PRED}) = \text{`Suulut'}$
ataatsi N_{stem} $(\uparrow \text{PRED}) = \text{`one'}$
ammassat N_{stem} $(\uparrow \text{PRED}) = \text{`sardine'}$

b.
$$\begin{bmatrix} \text{PIVOT} & \begin{bmatrix} \text{CASE} & \text{ABS} \\ \text{NUM} & \text{SG} \\ \text{PERS} & 3 \\ \text{PRED} & \text{`Suulut'} \end{bmatrix} \\ \text{PRED} & \text{`eat}\langle\text{—}, \text{—}\rangle\text{'} \\ \text{OBL}_{\text{mod}} & \begin{bmatrix} \text{PRED} & \text{`sardine'} \\ \text{CASE} & \text{MOD} \\ \text{NUM} & \text{SG} \\ \text{PERS} & 3 \\ \text{ADJ} & \begin{bmatrix} \text{PRED} & \text{`one'} \\ \text{CASE} & \text{MOD} \\ \text{NUM} & \text{SG} \\ \text{PERS} & 3 \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

Just as in W&S's syntactic analysis, the incorporated noun is treated as "logically an instrumental [i.e., modalis, CDM] case object" *at the level of f-structure.*

Various other of the points raised by G&M and W&S either don't distinguish between a 'lexical' and a 'syntactic' account (as W&S observe), or can equally be accounted for lexically with a more liberal understanding of what LFG provides. The fact that reflexives and infinitives can look to the 'subject' of the base verb for a controller in cases of double transitive affixation does not indicate that there must be a phrase-structural subject for both the verb stem and the double transitive affix. Given that the logical subject of passives can also be the controller of reflexives and infinitives, the data suggests clearly that binding is rather sensitive to argument structure (see below). W&S object to G&M's account which allowed free recursive application of lexical rules suggesting that certain possibilities are restricted and suggesting that "the lexical theory fails to account for such idiosyncracies in the ordering of word-formation processes". However, it seems that while no account of such restrictions was given by G&M, a lexical account should be better able to explain processes of ordering and grammaticization that restrict possible combinations than any syntactic account (W&S do not actually offer an account either). Certain ordering restrictions may well be semantic and equally explainable under either theory. Similarly the observation that there are affixes that can only attach to underived intransitive verbs

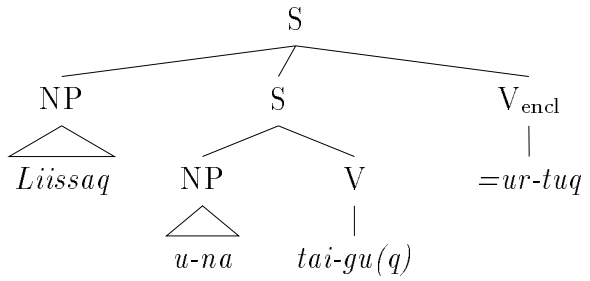
(and not ones resulting from passivization or antipassivization) is not very telling once it is noticed that this affix "always comes before any other postbases when it is used" (Woodbury and Sadock 1986:240 citing Reed et al. 1977:177) – this can be explained by a purely morphological restriction.

The only evidence that clearly seems to sit uneasily with what we are calling the 'lexicalist' analysis is the existence of postinflectional complementation as in the Central Alaskan Yup'ik example in (151):[39]

(151) Liissaq=u-na tai-gu-ur-tuq
Lisa.ABS=this.one-ABS come-IND.3SG-utter-IND.3SG
'Lisa uttered "This one is coming".'

This structure indeed seems to violate the desired restrictions on functional uniqueness (there are two absolutive NPs) and is a rare case in Eskimo where derivational affixes follow the normally word-final inflectional morphology of the verb. However, as W&S themselves note, such postinflectional complementation does not result in the same phonological processes as normal suffixation and it seems that an analysis of *-urtuq* as an enclitic is quite appealing here. Under such an analysis, this sentence would be biclausal at c-structure and f-structure and *-urtuq* would simply 'lean' on the preceding word:

(152)



In summary, Eskimo derivational morphology clearly requires some notion of recursion, but it seems that the implementation of recursion can be either at the phrasal level or at the level of morphology. There is a clear sense in which inflectional suffixes can act as pronouns and semantic predicates in Eskimo languages, but this can be

[39] A demonstrative cliticizes to the preceding word in Central Alaskan Yup'ik. Thanks to Jerry Sadock for explaining this to me.

appropriately captured at the level of f-structure or a-structure in LFG. To the extent that LFG (or HPSG) remains a 'lexical' theory, there do not seem any obstacles to treating the supposedly 'syntactic' properties of certain suffixes within them.

Notions of lexicalism. It is nevertheless the case that LFG and HPSG end up having to use a notion of the lexicalist hypothesis that is somewhat weaker than that implied in early work. That is, one cannot maintain the strongest version of the lexicalist hypothesis given in (153):

(153) Syntactic rules cannot make reference to any aspects of word-internal structure. (Anderson 1982)

because morphologically complex words can have different subcategorization or binding properties from simple words, and that is presumably because of some aspect of their internal structure. However, we can maintain a weaker version whereby all derivational and inflectional processes are performed prior to lexical insertion and are invisible to syntax, but the syntax can see the informational structures produced by the morphology (using a sophisticated form of feature percolation). An information-oriented version of the lexicalist hypothesis is then saying:

(154) The syntax can see all features of full words, but does not have access to how these features were built up inside the morphology.

It can then be accepted that in some cases these informational structures may be of a type produced only by morphologically complex words (and so there is not complete observance of the principle of Structure Preservation that W&S discuss).

The above definitions of *lexical integrity* give a kind of information-theoretic characterization of lexical integrity – syntactic rules are restricted in terms of how much information about morphological structure that they have access to. Bresnan and Mchombo (1993) suggest that the way to approach lexical integrity is rather by noting that "words are built out of different structural elements and by different principles of composition than syntactic phrases." This follows the proposals of Simpson (1991) that the lexical integrity hypothesis is that "constituent structure processes are blind to the internal structure of lexical categories". Complete words undergo lexical insertion at the terminal nodes in phrase structure trees, and the categorial component

cannot move or refer to individual morphemes. But functional information is allowed to percolate throughout the informational representation(s) of a sentence, e.g., the f-structure (which can give the appearance of movement).[40]

The essence of Bresnan and Mchombo's (1993) approach is that the grammar of a language *does* possess a morphology, separate from its syntax, with its own elements of structure and rules of composition. They wish to capture that structure-dependent syntactic rules do not apply to morphological elements (morphemes) while functional information can flow freely through the morphology and syntax. They discuss five tests for their notion of lexical integrity: extraction, conjoinability, gapping, inbound anaphoric islands and phrasal recursivity. The second last (inbound anaphoric islands) seems to fit less well with their definition than the others since it seems less clearly to do with word structure, although Bresnan and Mchombo attempt to interpret it in this way. But overall the claim is that grammar includes a component that determines syntactic constituency and that its principles differ from those that apply to morphemes in terms of their elements, ordering constraints, and the availability of recursivity. See also Sells (1994) for similar arguments for distinguishing words and morphemes (rather than treating both uniformly via functional projections) within Japanese and Korean.

Thus, in many ways the above proposed LFG and ALS analyses are much more similar than has been made clear in the literature. But are there still remaining clear differences that would help us decide between them? The data that Bresnan and Mchombo (1993) and Sells (1994) provide serve to motivate a level of syntactic constituency that observes lexical integrity (arguing against the reservations expressed near the beginning of this section). Any such constraints are at present imperfectly rendered in ALS because its syntactic level is mixing lexical items and morphemes (they could perhaps be captured by extending the level of morphology above the word). The potential weak link of Sadock's (1991, forthcoming) proposals is that the mixture of phrase structural and functional information in the level of syntax predicts

[40] However, Simpson does claim that the indexing of anaphoric information is blind to the internal structure of words (because of bracket erasure in the theory of Lexical Phonology/Morphology), whereas I accept that morphologically complex forms can and sometimes do produce different anaphoric binding possibilities from any simple verb.

a certain coupling which may not always exist. On the other hand, to the extent that the coupling exists, Sadock's proposal would be strengthened. This matter requires further study, but some further discussion appears in Section 2.4.5.

2.3.1.4 Conclusions

In this section I have shown that double transitive and equi-subject postbases must be treated as forming complex predicates. I have shown that it is not necessary to form such complex predicates in the syntax. Indeed, given their lexicality, it seems more desirable to form them in the morphology. It has been argued elsewhere (Rosen 1989, Alsina 1993) that complex predicate formation is an argument structure operation. Thus we should expect these postbases to be sensitive to relations at the level of argument structure, and this is indeed what we found. So these postbases give us information about Inuit argument structure and do not provide evidence for surface grammatical relations (as Dixon (1979:115–118) argued).

2.3.2 The Inuit 'Infinitive'

Inuit has a mood morpheme *-(l)lu*, often referred to as the infinitive,[41] which is used in certain verbal complements and more commonly in adverbial clauses, either with a meaning like 'while' or to indicate sequential actions. Complement uses are shown below with a transitive complement (155a) and an intransitive complement (155b).

(155) a. Miiqqat — Juuna ikiu-ssa-llu-gu niriursui-pp-u-t
children.ABS [ERG Juuna.ABS help-FUT-INF-3SG] promise-IND-INTR-3PL
'The children promised to help Juuna.'

b. Miiqqat — qiti-ssa-llu-tik niriursui-pp-u-t
children [ABS dance-FUT-INF-4PL] promise-IND-INTR-3PL
'The children promised to dance.'

Note that the gapped NP in the complement must be the A or the S NP. This could be taken as an indication of syntactic accusativity, but in the last chapter I showed how

[41] But also as the gerundive (Bok-Bennema 1991), the appositional mood (Woodbury 1985a) and the contemporative (Fortescue 1984, Sadock forthcoming).

control is generally sensitive to the more semantically-oriented notion of a-subject. Stating that the controllee must be the highest a-subject of the infinitival clause also gives a perfectly satisfactory account of the possibilities shown in (155). I will propose that the correct constraint on use of the infinitive is as in (156).

(156) The infinitive mood indicates overlapping reference[42] between the highest a-subject of the infinitival clause and the minimal a-commanding a-subject of the clause in which the infinitive is embedded.

If the infinitival clause contains a passive, then my argument structure based account of passivization predicts control between the closest a-subject of the main clause and the derived S of the infinitive (the highest a-subject of the infinitival clause – if being the controllee was not restricted to the highest a-subject of the subordinate clause, then the oblique agent would also be a possible controllee, contrary to the facts). This prediction is confirmed, as shown in (157), the structure of which is shown in (158).

(157) Hansi isir-puq Kaala-mil=lu taku-niqar-luni
Hansi.NOM come.in-IND.3SG Kaalat-ABL=and see-PASS-INF.4SG
'Hans came in and was seen by Kaalat.'

(158) a.

$$_{gr\text{-}s}\begin{bmatrix} \text{PRED} & \text{come.in} \\ \text{PIVOT} & \begin{bmatrix}\text{PRED} & \text{'Hans'}\end{bmatrix} \\ \text{XADJ} & \begin{bmatrix} \text{PRED} & \text{be.seen} \\ \text{PIVOT} & \text{—} \\ \text{OBL} & \begin{bmatrix}\text{PRED} & \text{'Kaalat'}\end{bmatrix}\end{bmatrix}\end{bmatrix}$$

[42] I state the constraint in terms of overlapping reference rather than coreference because examples from traditional narratives suggest that only a part-whole relationship between the two NPs is actually required. The distinction can generally be ignored while reading this section but see (162a) for an example. This issue is further discussed in Bergsland (1955:22–23) and Sadock (forthcoming).

b. $\begin{bmatrix} \text{come.in} & \\ \text{A-SB} & \text{Hans} \\ \text{then} & \begin{bmatrix} \text{PASS} & \\ \text{A-SB} & \text{—} \\ \text{XARG} & \begin{bmatrix} \text{see} & \\ \text{A-SB} & \text{Kaalat} \\ \text{ARG} & \text{—} \end{bmatrix} \end{bmatrix} \end{bmatrix}_{a\text{-}s}$

For the controller of the infinitive, there is positive evidence that we are dealing with a-subjects rather than grammatical relations. The a-subject of an infinitive clause must always be controlled by the immediately higher a-subject under which it is embedded. With simple predicates, this amounts to coreference with the higher A/S NP, but if the higher verb contains a double transitive affix, an infinitival modifying the meaning of the stem will have its subject coreferent to the absolutive (which is the a-subject of the stem) (159a), the structure of which is shown in (159b).

(159) a. atisalirsur-lu-ni uqursa-qqu-aa
get.dressed-INF-4SG put.on.warm.clothes-ask-IND.TR.3SG.3SG
'She told him to get dressed and put on warm clothing.'

b. $\begin{bmatrix} \text{PRED} & \text{ask.to.put.on.warm.clothes} \\ \text{PIVOT} & \begin{bmatrix} \text{PRED} & \text{'pro'} \\ \text{GEND} & \text{MASC} \end{bmatrix} \\ \text{CORE} & \begin{bmatrix} \text{PRED} & \text{'pro'} \\ \text{GEND} & \text{FEM} \end{bmatrix} \\ \text{XADJ} & \begin{bmatrix} \text{PRED} & \text{get.dressed} \\ \text{PIVOT} & \text{—} \end{bmatrix} \end{bmatrix}_{gr\text{-}s}$

$$_{a\text{-}s}\begin{bmatrix} \text{ask} & \\ \text{A-SB} & \text{she} \\ \text{ARG} & \text{him} \\ \text{XARG} & \begin{bmatrix} \text{put.on.warm.clothes} & \\ \text{A-SB} & \text{—} \\ \text{WHILE} & \begin{bmatrix} \text{get.dressed} & \\ \text{A-SB} & \text{—} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

Similarly, if the next higher verb is passive, an infinitive complement can be coreferent with the higher verb's logical subject agent. In (161a), there is coreference between the lower a-subject of 'tie up' (the logical subject) and the a-subject of 'prevent'.

(160) a. uumasuq pikin-naviir-lu-gu qilirsur-niqar-p-u-q
animal$_j$ kick.about-prevent-INF-3SG tie.up-PASS-IND-ITR-3SG
'The animal$_j$ was tied up (by somebody$_i$) preventing it$_j$ from kicking about.'

b.
$$_{gr\text{-}s}\begin{bmatrix} \text{PRED} & \text{be.tied.up} \\ \text{PIVOT} & \begin{bmatrix} \text{PRED} & \text{'animal'} \end{bmatrix} \\ \text{XADJ} & \begin{bmatrix} \text{PRED} & \text{prevent.to.kick.about} \\ \text{PIVOT} & \begin{bmatrix} \text{PRED} & \text{'pro'} \end{bmatrix} \\ \text{CORE} & \begin{bmatrix} \text{PRED} & \text{'pro'} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

$$_{a\text{-}s}\begin{bmatrix} \text{PASS} & \\ \text{A-SB} & \text{animal} \\ \text{XARG} & \begin{bmatrix} \text{tie.up} & \\ \text{A-SB} & \text{pro} \\ \text{ARG} & \text{—} \\ \text{and} & \begin{bmatrix} \text{prevent} & \\ \text{A-SB} & \text{—} \\ \text{ARG} & \text{pro} \\ \text{XARG} & \begin{bmatrix} \text{kick.about} & \\ \text{A-SB} & \text{—} \end{bmatrix} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

Further notes on the infinitive

The contemporative mood endings of infinitive verbs agree only with the absolutive argument, regardless of the transitivity of the verb (and unlike participles, the infinitival ending does not vary with the transitivity of the verb). Such an agreement pattern would be quite unusual if Inuit were merely morphologically ergative, but makes more sense given that the absolutive argument is the pivot. The contemporative mood endings are shown in (161).

(161) West Greenlandic Contemporative

	SG	PL
1st	*-llunga*	*-lluta*
2nd	*-llutit*	*-llutik*
3rd	*-llugu*	*-llugit*
4th	*-lluni*	*-llutik*

The contrast between the third person and the anaphoric fourth person ending is discussed in detail in the next subsection. It often appears as if the third and fourth person endings distinguish the transitivity of the infinitive verb (the fourth person endings appearing with intransitive verbs, and the third person endings occurring with transitive verbs) because anaphors are also sensitive to a-structure.[43] However, because binding can be long distance (unlike control of infinitives) there is not an exact match (see (173c) for a fourth person ending on a transitive infinitive).

Neither absolutive nor ergative a-subjects appear in infinitival complements such as those shown in (155) – presumably because these are complements any overt NP r-expression in such a position would violate Principle C. However, with adverbial uses of infinitives, although there must be control as indicated, the overt NP can appear in either the infinitival clause or in the higher clause (or it can be pro-dropped in both). Thus in adverbial infinitival clauses, overt NPs serving as any of A, S, or O are licensed. Further examples are shown in (162).[44]

[43] And they appear to be misinterpreted in this way by Bok-Bennema (1991:206–7).

[44] The ergative case marking on *arna-p* in (162b) makes it clear that it belongs to the infinitive clause and not the main clause which is intransitive.

(162) a. niviarsiaq sikkir-lu-ni kiina-nngu-a nui-rata-nnguar-puq
[girl.ABS blossom-INF-4SG] face-little-3SG appear-all.the.same-little-3SG
'The girl (i.e., the willow herb) blossoming, her little face appeared at last.'

b. arna-p atisassat irrur-lu-git irinarsur-p-u-q
[woman-ERG clothes.ABS wash.INF-3PL] sing-IND-INTR-3SG
'While the woman$_i$ washed the clothes, she$_i$ sang.'

2.3.3 Binding Phenomena

2.3.3.1 Introductory exemplification

Before showing the plausibility of an argument-structure based account of binding in Inuit, let me briefly introduce the elements that such an account should cover. Inuit has an overt anaphor noun *immi-* as in (163).

(163) a. uqar-puq Hansi immi-nut ikiur-tariaqar-tuq
say-IND.INTR.3SG Hansi.ABS self-TERM help-must-IPART.3SG
'He$_i$ said that Hansi$_j$ must help himself$_{i/j}$.'

b. immi-nut malugi-ler-poq nakua-nngor-lu-ni
self-TERM notice-begin-IND.3SG strong.person-become-INF-4SG
'He$_i$ began to notice himself$_i$, (himself$_i$) becoming a strong person.'

There is also an anaphoric adverbial *namminiq* which acts as an emphasizer:

(164) namminiq taku-aa
self.EMPH see-IND.TR.3SG.3SG
'She$_i$ saw it herself$_i$.'

There are overt pronouns (forms of the demonstrative system used for already mentioned forms), such as *taassuminnga* in (165). However, most frequently pronouns are 'dropped' but pronominals can also be coded by agreement suffixes, as discussed below.

(165) Juuna-p Kaali taa-ssu-minnga uqaluttuup-p-a-a
Juuna-ERG Kaali.ABS DEM-SG-MOD tell-IND-TR-3SG.3SG
'Juuna$_i$ told Kaali$_j$ about him$*_{i/j/k}$.

Other NPs (r-expressions) will show Principle C effects, although these are not further discussed in this section.

Precisely matching the anaphor/pronoun division in lexical forms, Inuit has in the notional third person a distinction in agreement affixes (used for both verbal agreement and the possessors of nouns) between reflexive and pronominal agreement. The pronominal agreement is conventionally termed third person agreement and it can be analyzed as having the same obviative properties as lexical pronouns. The reflexive agreement is conventionally termed fourth person agreement, and it can be analyzed as having the same binding properties as lexical reflexives. Both third and fourth person suffixes can agree with an overt local NP. However, there is widespread 'pro-drop', and overt NPs agreeing with fourth person suffixes are restricted to places where no Principle C violation would result (basically adverbial clauses, e.g., (183a)).

Possessed nouns agree with their possessor, and the distinction between third and fourth person endings in Inuit gives the following contrast (unlike the normally ambiguous English translation in (166a)).

(166) a. Hansi-p erni-ni asa-vaa
Hansi-ERG son-4SG.ABS love-IND.3SG.3SG
'Hansi$_i$ loves self$_i$'s son.'

b. Hansi-p erner-a asa-vaa
Hansi-ERG son-3SG.ABS love-IND.3SG.3SG
'Hansi$_i$ loves his/her$_{*i/j}$ son.'

This same third/fourth person contrast appears on subordinate verb forms (indicative and other main clause verb forms have only a third person).[45]

(167) a. iser-ami Kaali innar-poq
[enter-PSUB.4SG] Kaali.ABS lie.down-IND.3SG
'When he$_i$ went in, Karl$_i$ lay down.'

[45] In some varieties of Eskimo, fourth person suffixes only appear on adverbial subordinate verbs (Bok-Bennema 1991:291, fn. 10), but in Greenlandic, they also occur on complement subordinate verbs.

b. iser-at Kaali innar-poq
[enter-PSUB.3SG] Kaali.ABS lie.down-IND.3SG
'When he$_{*i}$ went in, Karl$_i$ lay down.'

Finally, Inuit has lexical pronominal-reflexives, *immi-nir-mi-* and *nammi-nir-mi-*. As suggested by Bittner (1994),[46] these forms can be analyzed as simultaneously obeying the conditions on anaphors and pronouns, and hence they act as a necessarily long distance reflexive.[47]

Following Bittner (1994), I will argue in the next subsection that all of these elements can be accounted for under a uniform set of binding conditions. Very roughly, I will argue that a reflexive must be bound by an accessible a-subject, a pronominal must be free of the immediately higher a-subject and the pronominal reflexive must be bound by a higher a-subject that isn't the nearest one. Such an account will predict the data shown in (168).

(168) a. Kaali uqar-p-u-q Pavia *immi-nit*
Kaali.ABS say-IND-INTR-3SG Pavia.ABS self-ABL
angi-nir-u-sinnaa-nngi-tsu-q
big-CMP-BE-can-NEG-IPART-3SG
'Kaali$_i$ said that Pavia$_j$ couldn't be taller than self$_{i/j/*k}$.'

b. Kaali uqar-p-u-q Pavia *taa-ssu-mannga*
Kaali.ABS say-IND-INTR-3SG Pavia.ABS DEM-SG-ABL
angi-nir-u-sinnaa-nngi-tsu-q
big-CMP-BE-can-NEG-IPART-3SG
'Kaali$_i$ said that Pavia$_j$ couldn't be taller than him$_{i/*j/k}$.'

[46] And earlier by Mohanan (1981) for the similar pronominal anaphor *taan* in Malayalam.

[47] Pronominal-reflexives are innovative forms dating from the 1920s and still not used by all speakers (Bittner 1985). Bittner suggests her analysis is appropriate for all speakers that use this form. However, there are some apparent counterexamples in the literature. For example, Fortescue (1984) gives (i) where *namminirminit* is acting as a short distance reflexive (equivalent to *imminit*):

(i) namminir-mi-nit ani-vuq
self.OBV-4SG-ABL come.out-IND.INTR.3SG
'She came out of her house/place.'

However, it is quite possible that the long distance reflexive usage has stabilized among the younger speakers with which Bittner has worked, and in general this section adopts her generalizations on the distribution of reflexive forms.

c. Kaali uqar-p-u-q Pavia *immi-nirmi-nit*
Kaali.ABS say-IND-INTR-3SG Pavia.ABS self-OBV-ABL
angi-nir-u-sinnaa-nngi-tsu-q
big-CMP-BE-can-NEG-IPART-3SG
'Kaali$_i$ said that Pavia$_j$ couldn't be taller than self$_{i/*j/*k}$.'

However, unlike Bittner, I will suggest that these conditions operate on argument structure. Some comparison of the similarities and differences with Bittner's own account can be found in Section 2.4.3.3.

2.3.3.2 A-subjects and coterms

In Section 1.5.1 I argued, following Kroeger (1993), that reflexive binding in Tagalog is based on argument structure prominence. In this section I will show the adequacy of an argument structure based account of binding in Inuit. Thus the fact that the absolutive NP is the surface pivot, as argued above, does not of itself affect binding possiblilites.

Inuit is a language in which the class of possible binders is constrained (cf. (61b)). The binder of an anaphor must be an a-subject. Thus in simple sentences a reflexive fourth person ending can be bound by an A (169) or S (170) a-subject, but a fourth person ending cannot be bound by an O NP (even though it is the pivot) (171).

(169) a. palasi-p nuli-i tuqup-paa
priest-ERG wife-4SG.ABS kill-IND.TR.3SG.3SG
'The priest$_i$ killed his$_i$ wife.'

b. $$_{gr\text{-}s}\begin{bmatrix} \text{PRED} & \text{kill} \\ \text{CORE} & \begin{bmatrix}\text{PRED} & \text{priest}\end{bmatrix} \\ \text{PIVOT} & \begin{bmatrix}\text{PRED} & \text{wife} \\ \text{SPEC} & \begin{bmatrix}\text{PRED} & \text{self}\end{bmatrix}\end{bmatrix}\end{bmatrix} \qquad _{a\text{-}s}\begin{bmatrix} \text{kill} & \\ \text{A-SB} & \text{priest} \\ \text{ARG} & \begin{bmatrix}\text{wife} & \\ \text{POSS} & \text{self}\end{bmatrix}\end{bmatrix}$$

(170) a. immi-nut uqar.viga-anga
self-TERM speak.to-IND.INTR.1SG
'I spoke to myself.'

b. $$_{gr\text{-}s}\begin{bmatrix} \text{PRED} & \text{speak.to} \\ \text{PIVOT} & \begin{bmatrix}\text{PRED} & \text{I}\end{bmatrix} \\ \text{OBL} & \begin{bmatrix}\text{PRED} & \text{self}\end{bmatrix} \end{bmatrix} \qquad _{a\text{-}s}\begin{bmatrix} \text{speak.to} & \\ \text{A-SB} & \text{I} \\ \text{ARG} & \text{self} \end{bmatrix}$$

(171) *Anaana-mi Piita nagligi-jaŋa (Inuktitut)
mother-4SG.ERG Piita.ABS love-3sg.3sg
'His$_i$ mother loves Piita$_i$.'

This gives us the first constraint on reflexives: a reflexive must be bound by an a-commanding a-subject. This is in line with the universal binding theory suggested in the previous chapter. Formally, the definitions I will adopt are:[48]

(172) a. An argument α a-commands an argument β iff α does not include β and every a-structure that contains all instances of α contains all instances of β.[49]

b. An argument is an a-subject if it is the least oblique argument at any level of the argument structure.

The definition in (172b) depends on the definition of obliqueness that I proposed in Chapter 1: terms are less oblique than obliques, and within these two groupings, obliqueness is given by a thematic hierarchy, so that, minimally, the agent or experiencer becomes the a-subject of a simple verb. The a-structures in (169b) and (170b) then clearly satisfy these conditions: in each case the binder is an a-subject that a-commands the reflexive.

[48]In these definitions, an argument is any value in an argument structure, and is not to be understood as in contrast to 'adjunct'.

[49]I phrase the definition in terms of 'all instances of β' to allow for cases where β appears in multiple places in the argument structure, due to the fusion that occurs in passives and causatives. Alternatively, it could be stated so as to refer specifically to the highest occurrence of β. In this situation, and in general when arguments are unified, it seems that only the highest instance of a group of unified items counts as visible. This same issue turns up in the functional uncertainty based theory of long distance dependencies of Kaplan and Zaenen (1989b). The theory given there overgenerates in cases of functional control (where verbs like *seem* introduce equations like $(\uparrow\text{SUBJ}) = (\uparrow\text{XCOMP SUBJ})$), since the functional uncertainty path can end at either the grammatical function of the overt NP or at the second grammatical function that is controlled. The account needs to be restricted so that only the higher position containing the overt NP is visible, as can be done by adding a term to the functional uncertainty equation.

Anaphors in Inuit are long distance: there need not be binding in any particular domain, and so in principle a reflexive element can be bound by any a-commanding a-subject. This is illustrated below for a lexical reflexive (173a), the adverbial *namminiq* (173b), and for the fourth person ending on an infinitive (173c).

(173) a. qutsavigi-umallir-paa maanna tikillugu immi-nik
be.grateful.for-feel.like-IND.TR.3SG.3SG [now until self-MOD
paar-si-sima-mmat
look.after-ANTIP-PERF-PSUB.3S]

He$_i$ felt grateful that he$_j$ had looked after him$_i$ up till now.'

b. Maalia uqar-puq Hansi-p namminiq
Maalia.ABS say-IND.INTR.3SG [Hansi-ERG self.EMPH
ikiur-tariaqa-raani
help-must-PART.3SG.4SG]

'Maalia$_i$ said that Hansi$_j$ had to help her$_i$ herself$_i$.'/
'Maalia$_i$ said that Hansi$_j$ himself$_j$ had to help her$_i$.'

c. savaati-mi ilisara-lu-ni miirturvigi-lir-manni
sheep.PL-4SG recognize-INF-4SG bleat.at-begin-PSUB.3PL.4SG
misiga-aq qullili-lir-lu-ni ...
feel-IND.3SG tears.well-begin-INF-4SG

'When his$_i$ sheep, recognizing him$_i$, began to bleat at him$_i$, he$_i$ felt tears coming to his$_i$ eyes, ...'

Consider the verb *ilisaraluni* 'recognizing him' in (173c). There is necessary coreference between its a-subject (the sheep) and the a-subject of the next higher verb *miirturvigi-lir-manni* 'began to bleat at' (Section 2.3.2), but the fourth person marker (marking the O argument) is coreferent not with this a-subject, but the a-subject of the next verb up *qullililirluni* (i.e., he$_i$).

So far the conditions on reflexives in Inuit that we have examined are in line with what we expect from the theory of binding outlined in Chapter 1. However, Inuit has an additional restriction against coreference between coterms (two argument are coterms if they are both terms within the same gr-structure clause). This is not universal,[50] but some such restriction on coreference with 'nearby' arguments is

[50]Cf. both the Tagalog example (63a), and the binding of the Basque reciprocal shown in (5a)

extremely common.

This constraint is needed to explain the binding possibilities of the agreement suffixes on subordinate verbs. Consider the example in (174).

(174) iserfigi-mma-ni Kaali-p Hansi eqippaa
[visit-PSUB.3SG-4SG] Kaali-ERG Hansi.ABS hug.IND.3SG.3SG
'When he$_i$ visited him$_j$, Karl$_j$ hugged Hans$_{i/k}$.'

According to what has been said so far, this sentence should be able to have either the reading shown (where the fourth person visitee is bound by the a-subject of the matrix sentence), or the translation 'When he$_i$ visited himself$_i$, Karl$_j$ hugged Hans$_{i/k}$' (where the fourth person visitee is bound by the local a-subject, the visitor, yielding a simple reflexive). However, this latter reading is actually impossible (even when a more pragmatically plausible sentence is chosen). This can be captured by postulating a language-particular constraint which disallows an anaphoric element in Inuit from being bound by a coterm.

Additionally, it is well known that in West Greenlandic (and other forms of Eskimo) the paradigm of the lexical reflexive is defective. The reflexive lacks direct case forms: there is no absolutive form **immi* which would allow the sentence in (175). This meaning must be expressed by intransitivizing the verb and optionally adding a terminalis case form of the anaphor as shown in (176).

(175) *palasi-p immi tuqup-paa
priest-ERG self.ABS kill-IND.TR.3SG.3SG
*'The priest$_i$ killed himself$_i$.'

(176) a. palasi immi-nut tuqup-puq
priest.ABS self-TERM kill-IND.INTR.3SG
'The priest$_i$ killed himself$_i$.'

b. $$_{gr\text{-}s}\begin{bmatrix} \text{PRED} & \text{kill} \\ \text{PIVOT} & \begin{bmatrix}\text{PRED} & \text{priest}\end{bmatrix} \\ \text{OBL} & \begin{bmatrix}\text{PRED} & \text{self}\end{bmatrix} \end{bmatrix} \qquad _{a\text{-}s}\begin{bmatrix} \text{kill} & \\ \text{A-SB} & \text{priest} \\ \text{ARG} & \text{self} \end{bmatrix}$$

where the ergative a-subject binds the absolutive.

In intransitivized forms like (176), the S NP is an a-subject which a-commands the oblique argument, but the oblique is not a coterm of the S NP, so even with a general constraint on binding coterms the S NP can bind the oblique. Thus the restriction on the binding of coterms in Inuit cannot be directly tested with lexical reflexives. On the other hand the coterm restriction is not only consistent with the distribution of lexical anaphors but provides a functional motivation for the lexical gap, as suggested by Sadock (forthcoming). Assuming that the coterm condition applies uniformly, note that a sentence such as (175) would be impossible even if there were direct case forms of the lexical reflexive. Indeed, direct case forms of the lexical reflexive could never be used in main clauses. They could be used in subordinate clauses, but here they would almost always be redundant, since their meaning is already captured by fourth person affixes and/or the infinitive mood.[51] Thus assuming that the coterm condition applies uniformly, the lexical gap in the reflexive paradigm is motivated: if these forms existed, they would bear almost no functional load.

Is this additional constraint correctly stated in terms of a condition on coterms? Dalrymple (1993) documents a number of cases where anaphors must be free within a small domain. She characterizes these constraints (in LFG) in terms of a Coargument Disjointness Condition, which says that the anaphor must be free of all coarguments of the same PRED. I could restate my coterm constraint in terms of the Coargument Disjointness Condition, by suggesting that *all* the oblique cases of Inuit are semantic cases that introduce their own PRED, but I doubt that this is the correct solution. The possible disjunction we are concerned with is between a case marking case suffix which might yield an f-structure like (177a) and a semantic case suffix which would yield an f-structure like (177b):

(177) a. $\begin{bmatrix} \ldots & \\ \text{OBL} & \begin{bmatrix} \text{PRED} & \text{`squirrel'} \end{bmatrix} \\ \ldots & \end{bmatrix}$ b. $\begin{bmatrix} \ldots & \\ \text{OBL} & \begin{bmatrix} \text{PRED} & \text{`on}\langle\text{—}\rangle\text{'} \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{`squirrel'} \end{bmatrix} \end{bmatrix} \\ \ldots & \end{bmatrix}$

[51] The only place where they could non-redundantly signal a binding relationship is between the subject of a transitive infinitive and a higher a-subject that is not the immediately higher a-subject. Such circumstances occur rarely.

In the cases Dalrymple documents, there is a distinction between 'case marking' prepositions or cases which disallow the reflexive (as in these cases the argument still counts as an argument of the main predicate) and 'semantic' prepositions or cases which allow the reflexive (as the reflexive is now an argument of the preposition or semantic case). This is shown for Marathi *aapaṇ* in (178) and Norwegian *seg* in (179), both of which Dalrymple analyzes as reflexives that obey the Coargument Disjointness Condition.

(178) a. *Jane aaplyaaši baḍbaḍte
Jane with self mutters
*'Jane$_i$ mutters to/with herself$_i$.'

b. Jane-ne aaplyaakartaa saaḍi gheṭ li
Jane-ERG for self sari bought
'Jane$_i$ bought a sari for herself$_i$.'

(179) a. *Jon fortalte Ola om seg
Jon told Ola about self
*'Jon$_i$ told Ola$_j$ about self$_{i/j}$.'

b. hun kastet meg fra seg
She threw me from self
'She$_i$ threw me away from self$_i$.'

To extend the use of the Coargument Disjointness Condition to Inuit, one would have to say that all uses of the oblique cases were semantic. However, this does not appear to be the case. Consider again the intransitivized reflexive in (170a) or a semantically ditransitive verb like (180):

(180) a. Juuna-p Kaali immi-nik uqaluttuup-p-a-a
Juuna-ERG Kaali.ABS self-MOD tell-IND-TR-3SG.3SG
'Juuna$_i$ told Kaali$_j$ about self$_{i/*j}$.'

b. Juuna-p Kaali taa-ssu-minnga uqaluttuup-p-a-a
Juuna-ERG Kaali.ABS DEM-SG-MOD tell-IND-TR-3SG.3SG
'Juuna$_i$ told Kaali$_j$ about him$_{*i/j/k}$.'

It seems that many of the uses of oblique cases in Inuit are quite syntacticized, but nevertheless the binding conditions in Inuit are sensitive to whether we are dealing with a term or an oblique argument (so that *imminik* can be bound by Juuna in (180a)). Thus a condition on coterms seems appropriate.[52]

2.3.3.3 An argument structure based account

I am now ready to present the complete conditions on reflexive binding in Inuit. I will use the following auxiliary definitions, in addition to those already introduced in (172):

(181) a. Two grammatical function Γ and Δ are coterms if both Γ and Δ are terms (core roles) of the same predicate.

b. An accessible a-subject is an a-commanding a-subject which is not a coterm.

c. Minimality is given by the ordering imposed by a-command.

The binding constraints on reflexives, pronominals and pronominal reflexives (regardless of whether they are lexical items or agreement suffixes) are then:

(182) a. A reflexive must be bound by an accessible a-subject.

b. A pronoun must be free of the minimal accessible a-subject and coterms.

c. A pronominal-reflexive must satisfy both (182a) and (182b).

Stating the obviation condition on pronominals in terms of the minimal accessible a-subject explains the behavior of third person endings on subordinate verbs. Such endings include the closest upstairs logical subject among their obviation targets. For example in the dependent past mood (which has both ergative and absolutive agreement markers), we have already seen that fourth person marking of the absolutive

[52] As a technical aside, note that even the use of semantic cases, as is being suggested in the text, would not allow an appropriate command relationship to be stated on grammatical relations rather than a-structure (e.g., by using f-command (Dalrymple 1993)). The problematic cases are oblique a-subjects as in (186) and (192) which would not command their anaphors. See Section 2.3.3.4 for further discussion. Note also that the obviation condition on pronominals is *not* simply a coargument disjointness condition. Indeed, this obviation condition falls outside the system of possible obviation conditions hypothesized by Dalrymple (1993).

does not indicate coreference with the local a-subject (the ergative NP), producing a simple reflexive, but rather must indicate coreference with a higher a-subject, as shown in (183a). Similarly, the obviative third person absolutive ending indicates noncoreference with the next higher a-subject (the minimal accessible a-subject), and not just with the coterm ergative NP (183b):

(183) a. Juuna-p Kaali tatigi-mm-a-ni tuqqissima-v-u-q
[Juuna-ERG Kaali.ABS trust-PSUB-3SG-4SG] stay.calm-IND-INTR-3SG
'Because Juuna$_i$ trusted Kaali$_j$, he$_j$ stayed calm.'

b. Juuna-p Kaali tatigi-mm-a-gu tuqqissima-v-u-q
[Juuna-ERG Kaali.ABS trust-PSUB-3SG.3SG] stay.calm-IND-INTR-3SG
'Because Juuna$_i$ trusted Kaali$_j$, he$_{*i/*j}$ stayed calm.'

This follows from the binding conditions stated above. For (183b) the structure is as in (184), and in particular, the obviative absolutive ending ensures that $j \neq k$ since pro$_k$ is the minimal accessible a-subject.

(184) $$_{gr\text{-}s}\begin{bmatrix} \text{PRED} & \text{stay calm} \\ \text{PIVOT} & \text{pro}_k \\ \text{ADJ} & \begin{bmatrix} \text{PRED} & \text{trust} \\ \text{PIVOT} & \begin{bmatrix}\text{PRED} & \text{Kaali}_i\end{bmatrix} \\ \text{CORE} & \begin{bmatrix}\text{PRED} & \text{Juuna}_j\end{bmatrix}\end{bmatrix}\end{bmatrix} \qquad _{a\text{-}s}\begin{bmatrix} \text{stay calm} & \\ \text{A-SB} & \text{pro}_k \\ \text{BECAUSE} & \begin{bmatrix} \text{TRUST} & \\ \text{A-SB} & \text{Juuna}_i \\ \text{ARG} & \text{Kaali}_j \end{bmatrix}\end{bmatrix}$$

Let us turn now to the cases that show that all a-subjects are possible binders and not just A/S NPs ('subjects' on a syntactically accusative account). These data come from more careful analysis due mainly to Bittner (1994), but see also Sadock (forthcoming) and Woodbury (1985a). Recall that there are two sources of a-subjects which are not A/S NPs. One is derived verbs containing double transitive suffixes (that is causative and similar suffixes); the other is passives. According to the binding theory that I have developed, both the oblique agent and causee arguments of these derived verbs should be able to bind anaphors that they a-command, but a passive agent cannot bind the surface subject, for example, because it does not a-command it. The highest location of the patient is not a-commanded by the agent:

(185) PASS⟨—, look.after⟨—, —⟩⟩

Indeed, the patient a-commands the agent in a passive.

Chapter 1 presented an example of a reflexive that could be bound by either a-subject of a higher passive verb. This example is repeated below:

(186) Naja Tobiasi-mit uqaluttuun-niqar-p-u-q taa-ssu-ma
Naja.ABS Tobias-ABL tell-PASS-IND-INTR-3SG [DEM-SG-ERG
itigartis-sima-ga-a-ni
turn.down-PERF-TPART-3SG-4SG]
'Naja$_j$ was told by Tobias$_i$ that he$_k$ had turned self$_{i/j}$ down.'

(187)
$$_{gr\text{-}s}\begin{bmatrix} \text{PRED} & \text{be told} \\ \text{PIVOT} & \begin{bmatrix}\text{PRED} & \text{Naja}\end{bmatrix} \\ \text{OBL} & \begin{bmatrix}\text{PRED} & \text{Tobias}\end{bmatrix} \\ \text{COMP} & \begin{bmatrix} \text{PRED} & \text{turn.down} \\ \text{PIVOT} & \begin{bmatrix}\text{PRED} & \text{pro}\end{bmatrix} \\ \text{CORE} & \begin{bmatrix}\text{PRED} & \text{pro}\end{bmatrix}\end{bmatrix}\end{bmatrix}$$

$$_{a\text{-}s}\begin{bmatrix} \text{PASS} & \\ \text{A-SB}_1 & \text{Naja} \\ \text{XARG} & \begin{bmatrix} \text{tell} & \\ \text{A-SB}_2 & \text{Tobias} \\ \text{ARG} & \text{—} \\ \text{ARG} & \begin{bmatrix} \text{turn.down} & \\ \text{A-SB}_3 & \text{pro} \\ \text{ARG} & \text{refl}\end{bmatrix}\end{bmatrix}\end{bmatrix}$$

The accessible a-subjects for the fourth person ending on the subordinate verb are A-SB$_1$ and A-SB$_2$. Note that the coterm disjointness condition prevents the anaphor from being bound by A-SB$_3$ (which would mean that 'he$_k$ turned himself$_k$ down'). In the present context, however, the important point is that the fourth person anaphor can be bound by either a-subject of the higher passive verb.

Another text example of a pronominal-reflexive being bound by a passive oblique a-subject is the somewhat complicated (188):

(188) taamaattu-nik illu-lior-ta-ler-pu-t
[such-PL.MOD house-make-habitually-begin-IND.INTR-3PL]
nunaqataasu-nil=lu immi-nermi-n-nit sujuariaqi-su-tut
[neighbor-PL.ABL=and [self-OBV-PL-ABL be.very.advanced-IPART-EQU]
isigi-neqa-ler-llu-tik
regard-PASS-BEGIN-INF-4PL]

'They$_i$ started regularly to build such houses and (they$_i$) began to be regarded by the neighbors$_j$ as somebody who was much more advanced than selves$_j$.'

The second part of this sentence (the infinitival clause) has the a-structure representation shown in (189).

(189)
$$\begin{bmatrix} \text{PASS} & & & \\ \text{A-SB}_1 & \text{pro} & & \\ & \begin{bmatrix} \text{regard} & & \\ \text{A-SB}_2 & \text{neighbors} & \\ \text{ARG} & \text{—} & \end{bmatrix} & & \\ \text{XARG} & & \begin{bmatrix} \text{pro} & & \\ \text{ARG} & & \\ & \text{RELMOD} & \begin{bmatrix} \text{be very advanced} & \\ \text{A-SB}_3 & \text{pro} \\ \text{ARG} & \text{refl-pro} \end{bmatrix} \end{bmatrix} \end{bmatrix}_{a\text{-}s}$$

Our theory predicts that *immi-nermi*, the reflexive pronominal, must be free of the minimal accessible a-subject, A-SB$_3$, but that it must be bound by some higher a-subject (A-SB$_1$ or A-SB$_2$). In the text example, it is bound by the oblique passive agent A-SB$_2$.

The a-structure based account is also supported by examples including verbs with double transitive affixes. The complex argument structure of *anginirusinnaannginnirarpaa* shown in (190a) allows an oblique reflexive to be bound by either a-subject (190b), whereas a reflexive associated with a simplex verb with the same surface arguments can only be bound by the ergative (191b):

(190) a. SAY⟨A-SB$_1$, —, could.not.be.bigger⟨A-SB$_2$, *immi-nit*⟩⟩

b. Kaali-p Pavia immi-nit
Kaali-ERG Pavia.ABS self -ABL
angi-nir -u -sinnaa-nngin-nirar-p -a -a
big -CMP-BE-can -NEG -say -IND-TR-3SG.3SG
'Kaali$_i$ said that Pavia$_j$ couldn't be taller than self$_{i/j}$.'

(191) a. tell⟨A-SB$_1$, —, *immi-nit*⟩

b. Juuna-p Kaali immi-nik uqaluttuup-p-a-a
Juuna-ERG Kaali.ABS self-MOD tell-IND-TR-3SG.3SG
'Juuna$_i$ told Kaali$_j$ about self$_{i/*j}$.'

The example in (190) shows a double transitive affix added to an intransitive verb with the result that the surface absolutive is also an a-subject that can bind reflexives. When a double transitive suffix is added to an already transitive verb, the lower a-subject (the 'causee') surfaces as a terminalis case oblique. My account predicts that this a-subject should also be able to bind reflexives that it a-commands, just like the logical subject of passives. Example (192) confirms this prediction.[53]

(192) Aalu-p Pavia-mut Suulut savim-mi-nik kapi-qqu-aa
Aalu-ERG Pavia-TERM Suulut.ABS knife-4SG-MOD stab-ask-IND.3SG.3SG
'Aalut$_i$ told Pavia$_j$ to stab Suulut$_k$ with his$_{i/j/*k}$ knife.'

The a-structures for complex derivation morphology that were motivated earlier also explain the following binding contrast:

(193) a. Kaali-p Juuna-mut irni-ni tatigi-sur(i-v)-a-a
Kaali-ERG Juuna-TERM son-4SG.SG trust-think-IND-TR-3SG.3SG
Kaali$_i$ thinks that Juuna$_j$ trusts his$_{i/*j}$ son.'

b. THINK⟨K, 'self's son', trust⟨J, —⟩⟩

[53]Examples of this sort are given by Fortescue (1984:144) and Bittner (1992:37) but it must be pointed out that Sadock (forthcoming) reports that his consultants failed to accept binding by the terminalis a-subject (even though his own theory predicts it as well). This may just be because, out of context, the ergative is a much more prominent possible binder.

(194) a. Kaali-p Juuna irni-mi-nik
Kaali-ERG Juuna.ABS son-4SG.SG-MOD
tatigi-nnis-sur(i-v)-a-a
trust-ANTIP-think-IND-TR-3SG.3SG
Kaali$_i$ thinks that Juuna$_j$ trusts his$_{i/j}$ son.'

b. THINK$\langle K,\ J,\ \underbrace{\text{ANTIP}\langle\text{—}}\rangle,\ \underbrace{\text{trust}\langle\text{—}}\rangle,$ 'self's son'$\rangle\rangle\rangle$

In (193), the second argument of the double transitive suffix is fused with the logical object, and so the lower a-subject cannot bind inside it (because it fails to a-command it). In (194), antipassivization has occurred inside the double transitive suffix. This means that the second argument of the double transitive suffix fuses with the single direct argument of the resulting intransitive verb. Thus in this case the lower a-subject does a-command the possessive reflexive, and binding is possible, as shown.

2.3.3.4 Evidence against certain alternatives

Surface c-command. Binding in Inuit cannot be captured in terms of a surface c-command constraint. It is difficult to prove this in general since many different phrase structures can be assumed, but I believe the examples discussed below are sufficient to prove that this approach is not viable. If we assume that adverbial clauses are adjoined in phrase structure, then adverbial clauses are problematic:

(195) Juuna immi-nut saa-mm-at Else-p qiviar-p-a-a
[Juuna self-TERM turn-PSUB-3SG] Else-ERG look.at-IND-TR-3SG.3SG
'When Juuna$_i$ turned toward her$_{i/j}$, Else$_j$ looked at him.'

In (195), if the adverbial clause is adjoined to the matrix IP, then *Else-p* would not c-command the anaphor, but can bind it. This example can be countered by suggesting that adverbial clauses are daughters of IP or that c-command can see through the segments of an adjunction structure. However, the following sentence is more problematic:

(196) Peri-p Cecilie aappillas-sur(i-v)-a-a Bjarke-p
Peri-ERG Cecilie.ABS blush-think-IND-TR-3SG.3SG [Bjarke-ERG
iqi-mm-a-ni
embrace-PSUB-3SG-4SG]
'Per$_i$ thought that Cecilie$_j$ blushed when Bjarke embraced self$_{i/j}$.'

Here, the main clause verb contains a double transitive affix, and when (as here) the adjunct semantically modifies the embedded stem *aappillas* 'blush', the reflexive fourth person ending can be bound by either the surface ergative or absolutive of the main clause. Such a sentence could be problematic for two reasons. Firstly, note that the adverbial clause has been extraposed after the verb and if such extraposition is analyzed as adjunction to a higher functional projection such as CP, then the solutions mentioned previously cease to work.

Separately, we have to determine the surface syntactic structure of sentences with verbs with double transitive affixes. If we assume a biclausal structure (along the lines of Baker (1988)), then this example cannot be explained because *Cecilie* will fail to c-command the adverbial clause. If we assume a monoclausal structure, then examples like (190–191) are problematic. There is no account of why the absolutive c-commands the oblique in one structure but not the other. Similarly the monoclausal structure cannot explain why a-subject obliques can bind anaphors in subordinate clauses while other obliques in the same case and presumably the same position cannot.

Thus I conclude that any attempt to do binding purely off phrase structure must resort to certain abstractions (such as the postulation of biclausal structures for the level on which binding is defined, and the availability of certain movement operations, such as extraposition, between this level and the surface form).

Linear precedence. While antecedents most commonly precede lexical anaphors, this is by no means required. See example (195). And, of course, fourth person agreement suffixes regularly precede their antecedents (for example in (174)). Not only would an account based on linear precedence thus require a reordered level, but a satisfactory binding theory stated in terms of linear precedence seems unavailable because binding is restricted to a-subjects, whereas necessarily there would be many cases of other r-expressions preceding anaphors.

Surface grammatical relations. I have argued that not all cases of binding can be explained in terms of surface grammatical relations. Even if we adopted a syntactically accusative account in which the A and S NPs were the subject, there would be no explanation of how certain O NPs and certain ablative and terminalis case obliques (namely those that are a-subjects on my account) are also possible binders. In particular, note that the absolutive arguments of simple ditransitive verbs and the absolutives of causatives must be analyzed as bearing the same surface grammatical relation (as indicated by agreement, relativizability, etc.), and yet their binding properties differ (cf. (190–191)).

Thus an account in terms of what are truly surface grammatical relations cannot be adopted. However, if causatives and passives were allowed to be functionally complex (multiclausal) at the level of grammatical relations, then, given further representational assumptions, it could be maintained that everything which can bind a reflexive is a subject. These assumptions include that a passive oblique agent is at some level a subject rather than just being base generated as an oblique as in many current versions of generative grammar. Just such an assumption can be seen in the work of Guilfoyle et al. (1992) and Bittner (1994). Within LFG, an account of morphological causatives in Japanese which posited a multiclausal f-structure was adopted by Ishikawa (1985) and Saiki (1985). I am not aware of any work within LFG that has posited a multiclausal f-structure for the basic passive construction of a language, but a biclausal representation for the Japanese adversative passive is adopted by Ishikawa (1985) and Saiki (1985), and its general adoption is possible within the underlying architecture.

However, a large body of work in LFG (Manning 1992, Alsina 1993, Butt 1993) and other frameworks (Aissen and Perlmutter 1983, Rosen 1989, Iida et al. 1994) has argued that causatives and passives are actually monoclausal at the level of grammatical relations, and that an account as envisioned in the last paragraph cannot be maintained. Similar arguments can be made for the monoclausality of causatives in Inuit, and they were briefly given at the beginning of Section 2.3.1: agreement, case marking, relativization and word order argue that Inuit passives and causatives are monoclausal at the level of grammatical relations. Indeed, the lines of the argument

are much clearer in syntactically ergative languages where prominence at the levels of argument structure and grammatical relations are dissociated as we have seen. Thus I conclude that no account in terms of grammatical relations is possible.

Against a disjunctive account. I have argued for a uniform account in which anaphors can be bound by all and only accessible a-subjects while pronominals must be free of the closest accessible a-subject. One could argue that the complexities of my argument structure representation could be avoided by using a disjunction, and saying that a reflexive may be bound by either a logical subject or by the surface absolutive subject of passives. But such an account would actually have major disadvantages compared with the account presented here. Firstly, it would fail to explain the overwhelming tendency for all a-subjects to behave alike in all languages in constructions with derivational morphology (cf. Section 1.5.3).

Secondly, a purely disjunctive account of antecedence of reflexives does not account for why the logical subject cannot bind (an anaphor inside) the theme of the passive:

(197) *ataata-ni Juuna-mit tatigi-niqar-p-u-q
father-4SG.SG Juuna-ABL trust-PASS-IND-INTR-3SG
*'His$_i$ father is trusted by Juuna$_i$.'

Some ad hoc condition would be needed to rule out this case, but it follows automatically on my account since the agent of a passive does not a-command the theme, as can be seen in (198):

(198) PASS⟨theme, look.after⟨agent, —⟩⟩

Bittner (1994) provides further important evidence against a disjunctive account by looking at items that are subject to obviation, namely pronouns, third person endings, and the pronominal reflexive. In a simple clause, an obviative form must be disjoint from the local a-subject, which is the A or S, but in a passive clause, such a form need only be disjoint from the oblique agent a-subject, since this is the minimal a-commanding a-subject, and can be coreferent with the S NP. Consider the sentences in (199):

(199) a. umiarsuarmiu-t akunnirit sisamat sini-riir-m-ata
sailor-PL.ABS [hours four sleep-PERF-PSUB-3PL]
itir-p-u-t
wake.up-IND-INTR-3PL
'The sailors$_j$, after they$_{*j/k}$ had slept for four hours, woke up.'

b. umiarsuarmiu-t akunnirit sisamat sini-riir-m-ata Juuna-p
sailor-PL.ABS [hours four sleep-PERF-PSUB-3PL] Juuna-ERG
itirsar-p-a-i
wake.up-IND-TR-3SG.3PL
'Juuna$_i$ woke up the sailors$_j$, after they$_{*i/j/k}$ had slept for four hours.'

c. umiarsuarmiu-t akunnirit sisamat sini-riir-m-ata
sailor-PL.ABS [hours four sleep-PERF-PSUB-3PL]
itirsar-niqar-p-u-t
wake.up-PASS-IND-INTR-3PL
'The sailors$_j$ were woken up (by somebody$_i$), after they$_{*i/j/k}$ had slept for four hours.'

For a morphologically simple verb, (199a) shows that the third person suffix on the dependent verb indicates that this verb's subject must be disjoint from the absolutive a-subject of the matrix verb (as we saw before), despite this being pragmatically odd. The same disjoint from minimal accessible a-subject reading occurs (quite naturally this time) in (199b) – there must be non-coreference with the ergative NP, but coreference can occur with the absolutive NP or any other salient individual. The a-structure of (199b) is shown in (200):

(200)
$$_{a\text{-}s}\begin{bmatrix} \text{wake up} & \\ \text{A-SB} & \text{Juuna} \\ \text{ARG} & \text{sailors} \\ \text{after} & \begin{bmatrix} \text{A-SB} & \text{pro} \\ \text{duration} & \text{four hours} \end{bmatrix} \end{bmatrix}$$

The important contrast is then to compare the matrix passive (199c) with (199a). In (199c) the a-structure of which is indicated in (201), the dependent verb's subject may be coreferent with the absolutive surface subject of the matrix verb, since

the obviative ending only requires its referent to be free of the immediately superior a-subject, which is the suppressed agent of the passive, A-SB$_2$ (at least on one attachment possibility for the adjunct). Coreference with the higher S (or another individual) is freely permitted. This follows if the third person marker indicates that the argument is free of the minimal accessible a-subject, as on the nested argument structure account. It does not follow under a disjunctive theory of possible binders.

(201)
$$\begin{bmatrix} \text{PASS} & \\ \text{A-SB}_1 & \text{sailors} \\ \text{XARG} & \begin{bmatrix} \text{wake up} & \\ \text{A-SB}_2 & \text{PROARB} \\ \text{ARG} & \text{—} \\ \text{after} & \begin{bmatrix} \text{A-SB}_3 & \text{pro} \\ \text{duration} & \text{four hours} \end{bmatrix} \end{bmatrix} \end{bmatrix}_{a\text{-}s}$$

Indeed it is hard to come up with a statement of the facts if we assume a simple conception of argument structure with passives simply resulting from the suppression of the highest argument, as in Bresnan and Zaenen (1990). The pronominal could neither be required to be free of NPs that are both the logical subject and the grammatical subject of the appropriate clause, nor NPs that are either the logical subject or the grammatical subject of the appropriate clause. Rather the pronominal must be free of the logical subject which is in the same clause if the pronominal is an oblique, but is in the next higher clause if the pronominal is a core argument. Such a constraint is clearly less elegant and natural than the binding theory that results under my conception of argument structure.

Similar considerations arise with the pronominal reflexive in sentences with verbs with double transitive suffixes. Thus in (202), the pronominal reflexive *immi-nirmi* is possible despite the fact that it is bound by the A argument of the same clause precisely because the clause involves a verb with a double transitive suffix, and so the pronominal-reflexive is not bound by the minimal accessible a-subject which is the absolutive NP.[54]

[54]Peter Sells (p.c.) notes that there appears to have been some slippage of reference here, as we

(202) Larsi-p iqqarsariasi-a Juulu-p immi-nirmi-nil=luunniit
[Larsi-ERG intelligence-3SG.SG.ABS] Juulut-ERG self-OBV-ABL=EVEN
pitsa-u-nir-u-suri-lir-p-a-a
excellent-be-CMP-BE-think-INCH-IND-TR-3SG.3SG
'Juulut$_i$ began to think that Lars' intelligence was even more excellent than OBV-SELF$_i$.'

This follows on my account because the argument structure is as in (203):

(203) THINK$\langle J_i$, —, BE-MORE-EXCELLENT$\langle$A-SB$_2$, *immi-nirmi*$_i\rangle\rangle$

Because of the nested argument structures, *immi-nirmi* is free of the minimal accessible a-subject (A-SB$_2$), but bound by the higher a-subject (*Juulut*$_i$), as required.

Other alternatives. This subsection has shown that certain intuitively simpler theories of binding cannot be maintained. Of course, the the account I presented is not the only extensionally adequate way to characterize the binding possibilities of Inuit. Indeed, it draws on the account of Bittner (1994: Ch. 4) and I believe the two accounts to be extensionally equivalent. I would however suggest that the recognition of the levels of grammatical relations and argument structure suggested here yields a simple, intuitive account whereas the complex structures of Bittner (1994) offer no particular explanatory advantage. The account is also similar to that of Sadock (forthcoming). Both of these accounts are further discussed in Section 2.4.

2.3.4 Imperatives

The addressee of imperatives is the A/S argument. One can have Passive imperatives and antipassive imperatives, where the addressee is the derived S. The condition on the addressee of imperatives is exactly the same as for the controllee of infinitives: it is the highest a-subject of the clause that is construed as controlling the event.

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would expect '... than self's intelligence.' However, this doesn't affect the binding possibilities or the point being made.

2.3.5 Expressive adjectival postbases

Woodbury (1985a:276–277) describes for Central Yup′ik Eskimo the behavior of what he termed *expressive adjectival postbases* (EAPs). I presume this construction also occurs in other forms of Eskimo. An expressive adjectival postbase can be added to a noun, and it then modifies the head:

(204) qayarr-lugaq (General Central Yupik (GCY))
kayak-funky
'funky old kayak'

But they can also be added to a verb, in which case they modify the logical subject (A/S) of transitive and intransitive verbs (205b–c).

(205) a. arnaq uterte-'urlur-tuq (GCY)
woman.ABS return-poor-IND.3SG
'The woman, poor thing, returned.'

b. Apaya-m tan'gurraa-t ikayu-'rlur-a-i (GCY)
Apauaq-SG.ERG boy-PL.ABS help-poor-IND-3SG.3PL
'Apayaq, poor thing, helped the boys.'

However, Woodbury notes that when such a postbase is added to the stem of a transitive verb before further suffixing it with a double transitive postbase, the EAP modifies the absolutive argument, and not the optional oblique terminalis case embedded logical subject:

(206) Apaya-mun ikayu-'rlu-qaa-sq-a-qa tan'gurraa-t (GCY)
Apayaq-TERM.SG help-poor-please-tell-IND-1SG.3PL boy-PL.ABS
'I asked Apayaq to help the boys, poor things.'
*'I asked Apayaq, poor thing, to help the boys.'

This is in contrast to the behavior we saw above for control of infinitives and the antecedent of reflexives. Within the analysis developed here, I would propose that EAP data should be analyzed by saying that EAPs are sensitive not only to a-structure but a combination of a-structure and surface grammatical relations (perhaps due to the pragmatic/discourse role of EAPs). An EAP attached to a verb (stem) will modify the highest argument at a-structure which is grammatically linked as a direct argument.

2.3.6 Summary

In this section I have shown that complex predicate forming derivational suffixes, control of infinitives, all aspects of binding theory, and the determination of the addressee of imperatives is sensitive to argument structure in Inuit. This is what would be expected in the framework which I laid out in Chapter 1. Such phenomena should not be taken as establishing surface grammatical relations, in Inuit or in other languages.

2.4 Approaches to Inuit

This section examines certain treatments of Inuit syntax from the eighties and nineties. In doing so, it exemplifies various other approaches to ergativity, generally ones more in the tradition of recent generative grammar than those examined in Chapter 1.

2.4.1 Johnson (1980) on Central Arctic Eskimo

2.4.1.1 Johnson (1980)

Johnson (1980) argues for the morphological ergativity of Central Arctic Eskimo, suggesting that phenomena which select the absolutive (participial relativization, unmarked case, always agrees with verb) are actually markedness properties, which select the unmarked NP, and so these properties shouldn't be used to define Subject. Rather, the addressee position of the imperative, control of coreferential "deletion" with "subject-equi-complementizers" and binder of reflexives consistently pick out a Subject relation which is the ergative NP of transitive clauses and the absolutive NP of intransitives. Thus, she argues that Central Arctic Eskimo has a nominative-accusative system of grammatical relations.

I agree with Johnson on the basic division of properties, but I have argued that her unmarked NP is actually the pivot (grammatical subject) while her subject should be analyzed as the a-subject (the least oblique argument at a level of argument structure).

2.4.1.2 Central Arctic Eskimo

As discussed in the following section, Marantz (1984) presents a reanalysis of the data from Johnson (1980), claiming that Central Arctic Eskimo is syntactically ergative, while other varieties of Eskimo such as Greenlandic are morphologically ergative.

It is thus important to nail down exactly what is meant by "Central Arctic Eskimo". Johnson (1980) says that the field-work was done in Rankin Inlet, North West Territories. The majority of Inuit in Rankin Inlet speak the Aivilik dialect (Dorais 1990:194) (and most of the rest Kivallirmiutun, the "Caribou" dialect studied by Johns (1992)). Dorais refers to work by Johnson "on the phonology of localizers in the Rankin Inlet Aivilik dialect", and the examples include the phoneme /s/ lacking from Kivallirmiutun and so it is reasonable to conclude that Aivilik is the dialect Johnson (1980) describes. Aivilik appears to be related most directly to North Baffin and the other Eastern Inuktitut dialects (Dorais 1990:195), and so use of the term "Central Arctic Eskimo" is somewhat misleading, as this term is also applied to the Western Inuktitut dialects Inuinnaqtun and Natsilik (Dorais 1990:196). While Eastern Inuit dialects are innovative and differ in certain respects from other forms of Inuit, there is little reason to accept Marantz' conclusions of a fundamental typological difference between Aivilik, and other forms of Inuit. The major syntactic phenomena of the dialects are identical, whereas the differences Marantz' account depends on are very minor and rest on doubtful data.

2.4.2 Marantz (1984) and Levin (1983)

Marantz (1984) develops the thesis that syntactic ergativity results from an alternative assignment of thematic roles to D-structure positions. This thesis is further developed by Levin (1983) who principally examines Dyirbal, Warlpiri and Basque (concluding that the first is syntactically ergative in Marantz' sense, while the latter two are morphologically ergative but syntactically accusative).

It would take us too far afield to review the entire of Marantz (1984) (which presents a rather heterodox version of early GB), so here I will consider his work only in so far as it bears on the nature of ergativity (i.e., Chapter 6). Marantz's treatment

of ergativity is in some ways quite traditional. He accepts Dixon's binary division of ergativity into two sorts: morphological ergativity vs. syntactic ergativity (although he does not use these names).

For the variation in case marking that leads to morphological ergativity, he simply notes that there is a variation between two case marking systems, which he terms Type A and Type B. With a syntactically accusative language, Type A gives morphological accusativity, and Type B gives morphological ergativity, via a stipulative rule that determines Case marking based on the transitivity of a clause. For a syntactically ergative language, Type A case marking would be ergative case marking, while Type B case marking would give surface accusative case marking, as seen in the following chart (based on Marantz (1984:198, Table 6.1)). Note that Marantz regards absolutive as the same case as nominative, and ergative as the same case as accusative.

(207)

	Syntactically			
	Nominative-Accusative		Ergative	
	A	B	A	B
S	NOM	NOM (ABS)	NOM (ABS)	NOM
A	NOM	ACC (ERG)	ACC (ERG)	NOM
O	ACC	NOM (ABS)	NOM (ABS)	ACC

One immediate problem is that no language has ever been found that is syntactically ergative but predominantly uses Type B case marking, but Marantz attempts no explanation of this. This apparent problem is discussed further in Section 4.2.2. The bulk of Marantz's account is an analysis of syntactic ergativity.

Most of the problems in Marantz (1984) arise from a problematic choice of what the parameter is that distinguishes syntactically ergative languages from syntactically accusative ones. Marantz's theory assumes a distinction between internal and external arguments. Arguments internal to the VP at d-structure are assigned their thematic roles by the verb, but the external argument is assigned its thematic role by the entire predicate (the semantics of the VP). Marantz sees syntactic ergativity as arising from a choice of one of two generalizations for the argument structure of transitive verbs, as in (208) (adapted from Marantz 1984:196).

(208) a. Accusative languages:
agent roles — assigned by predicates
theme/patient roles — assigned by verbs

b. Ergative languages:
agent roles — assigned by verbs
theme/patient roles — assigned by predicates

Since with an intransitive verb, the one role is always assigned by the predicate, this parameter essentially mirrors Dixon's parameter of whether a language chooses to group A/S vs. O or O/S vs. A. However, whereas Dixon sees this grouping as a surface pivot, Marantz saw this grouping as occurring at D-structure (apparently at odds with both Dixon's notion of a (deep) subject, and the facts).

2.4.2.1 Syntactically ergative languages do not have a different argument structure

Since, under Marantz' hypothesis, the external/internal argument distinction is reversed in syntactically ergative languages, one would expect that they would show the opposite behavior on the criteria that Marantz uses to motivate subject/object asymmetries. Marantz never discusses this issue, but the data scarcely supports his theory.

His first argument is that varying the (logical) object of a verb can alter the semantic role assigned to the (logical) subject (*X took the money* vs. *X took a nap*), while varying the subject can never change the semantic role assigned to the object. This argument at best seems to have a quantitative ring ("Varying the subject of a transitive verb, however, simply does not produce a range of predicates on objects similar to the range of predicates on subjects produced by varying the objects of transitive verbs" (pp. 26–27)), but to the extent that it can be motivated in English, I would expect that the same result would occur in all languages, including syntactically ergative languages because in general the theme/patient argument has a greater role in determining the nature of an event (Tenny 1987, Dowty 1991). This is not what Marantz' theory predicts for syntactically ergative languages, however. But let me turn immediately to the idiom argument which is closely related and more objectively testable.

The second line of evidence concerns the preponderance of object-idioms over subject-idioms in English. Indeed the latter have been claimed not to exist, but there are a few fairly solid examples, such as *The vultures appear to be circling FBI Director William Sessions* (*US News and World Report* noted by A. Manaster-Ramer). Nevertheless, there is a very clear asymmetry here, although it may perhaps better be explained by other means.[55] At any rate, this asymmetry casts doubt on rather than confirming the proposal in (207). For Dyirbal, Dixon (p.c.) notes that idioms in general are absolutive-verb compound idioms, such as the examples in (209), while no ergative-verb idioms have been noted.[56]

(209) a. munu-madal
arse throw
'to give up (some task), to chuck it in'

b. buŋgu-banal
knee break
'to bend over, fold'

c. mala-wugal
hand give
'to give a hand'

d. miyay-yambul
smile pull
'to make someone laugh'

Examples like these are the opposite of what would be predicted by the proposal in (207).[57]

[55]Paul Kiparsky (lectures, 1993) has suggested that the explanation lies in terms of prominence on the thematic hierarchy, rather than in the internal/external argument distinction. Nunberg et al. (1994) argue that there are essentially semantic reasons for the observed distribution of idiom patterns (among other things, the proverbial nature of idioms leads them to favor inanimates, which are less commonly agents). They argue that idioms therefore provide no evidence for subject/object asymmetries at the level of syntax.

[56]Most idioms in Dyirbal seem to be compounds of this sort, but since almost all theories predict that external arguments cannot form verb compounds, the basic argument goes through unchanged.

[57]See Levin (1983:256) for discussion of other idioms involving inalienable possession of theme arguments, but beware that her examples (5.47) and (5.48) both contain copying errors.

A third line of evidence, not considered by Marantz, is noun incorporation. It is generally accepted that only internal arguments can incorporate. Therefore, if Central Arctic Eskimo were syntactically ergative in Marantz' sense, it should allow incorporation of agentive arguments, but not themes. However, this is not the case. As Johnson (1980:21) shows, Central Arctic noun incorporation is similar to that of other varieties of Eskimo in incorporating internal arguments:

(210) Piita tuktu-siuq-puq
Piita.ABS caribou-look.for-IND.3SG
'Peter is looking for a caribou.'

2.4.2.2 Marantz' syntactic evidence and a rebuttal

What evidence, then, did Marantz provide for the syntactic ergativity of Dyirbal and Central Arctic Eskimo? He suggested that many of the arguments standardly given for the syntactic ergativity of Dyirbal (such as pivot chaining on absolutive arguments), are not arguments either way, because his theory makes no predictions about these phenomena (which Marantz suggested was a good thing since languages independently differ on what basis they use for topic chaining, and he quoted contrastive data from Yidin^{y}). He does make the following series of predictions, though.

1. Marantz's theory predicts that it is always the SUB (his notation for the VP-external argument at the level of s(yntactic) structure) that is the controlled element. However, he suggests that there are not control constructions in any of the good candidates of syntactically ergative languages.[58]

2. Dative shift. If the result of dative shift in a Type A Accusative language is

[58]This claim is somewhat surprising, but no arguments are presented for it. Both the Eskimo infinitive and the Dyirbal purposive construction in its jussive complement use have been regarded as such a construction. If they were so regarded, Dyirbal is consistent with Marantz' analysis, while Eskimo in general would not be (I have not been able to check the facts for 'Central Arctic Eskimo' in particular, but would imagine that they are the same (in relevant respects) as the facts in other dialects). I argue later that Marantz (1984) is right in concluding that the Dyirbal construction is not a control construction (Section 4.1). Levin (1983:126–129) argues that the double transitive postbases of Yup′ik show a control pattern indicating that Yup′ik is syntactically ergative in the sense of Marantz' Ergativity Hypothesis. However, this argument involves analyzing these suffixes as object-control verbs which seems wrong (cf. fn. 64), and totally ignoring the equi-subject postbases which falsify her account.

that there are two NPs in accusative case, then the result of dative shift in a Type B Accusative language (i.e., a morphologically ergative language) should be that there are two NPs in absolutive case. However, if the language is syntactically ergative, Marantz argues from a series of assumptions that I will not go through that the result must be a lexical entry of the following sort:

(211) *tuni-*, V, 'give'(*agent*, *goal*)[−log subj], [+transitive]

That is, the verb (exceptionally) assigns semantic roles to both the agent and goal, but it is 'passive-like' in being [−log subj] and so the goal becomes the SUBJ (by stipulation) and the theme must be licensed by another case assigning mechanism. This approach makes dative shift in a (syntactically) ergative language totally unlike dative shift in an accusative language, but Marantz suggests that this theory makes the following two predictions (in interpreting these predictions, it is crucial to note that, under the hypothesis that Central Arctic is syntactically ergative, Marantz is using 'passive' to describe what I have been referring to as the Eskimo antipassive). First, the theme should be expressed in the same way as displaced subjects are in passive constructions. Secondly, since the dative shifted form is already [−log subj], such a form should not passivize. Marantz suggests both of these properties hold in Central Arctic Eskimo (the displaced theme is marked in the modalis (which Johnson (1980) and Marantz (1984) called the comitative)).

Neither of these predictions extend over to Dyirbal: the displaced theme in dative shift constructions is always in the instrumental case, even in dialects and constructions where the displaced subject of a passive must appear in the dative, and such dative-shifted forms can passivize. Marantz suggests that Dyirbal lacks a real dative shift construction and that the appearance of dative shift simply results from certain verbs having multiple argument structures, one corresponding to the basic form and one to the dative shifted form. By postulating two argument structures for such Dyirbal verbs, they are not counterexamples to Marantz's theory, but this result is achieved in a rather uninteresting way.[59]

[59]See Levin (1983:288–289) for a more thorough discussion of problems with Marantz' analysis of verbs of giving in Dyirbal.

On closer scrutiny, however, it seems unlikely that even Central Arctic supports Marantz' conclusions. Marantz (like Johnson (1980) before him) argues that the form in (212a) is basic and that (212b) is then the result of dative-shift.

(212) a. anguti-up titiraut nutarar-mut tuni-vaa
man-ERG pencil.ABS child-TERM give-IND.3SG.3SG
'The man gave a pencil to the child.'

b. anguti-up titirauti-mik nutaraq tuni-vaa
man-ERG pencil.MOD child-ABS give-IND.3SG.3SG
'The man gave the child a pencil.'

This is possible in Central Arctic, because the verbal forms are apparently the same. Note, however, that this does not extend to most varieties of Inuit, where (212b) is the basic case frame, and (212a) is clearly derived. For example in West Greenlandic, the basic form is as in (213) with the goal in the absolutive and cross-referenced on the verb, while the theme appears in the modalis:

(213) Juuna-p miiqqa-t atuakka-mik nassip-p-a-i
Juuna-ERG child-PL.ABS book-MOD send-IND-TR-3SG.3PL
'Juuna sent the children a book.'

Most ditransitive verbs then have another Case frame marked by suffixation of *-ut(i)* where the ABS argument above becomes TERM and the MOD argument becomes ABS:

(214) Juuna-p atuagaq miiqqa-nut nassi-up-p-a-a
Juuna-ERG book child-PL.TERM send-UT-IND-TR-3SG.3SG
'Juuna sent the children a book.'

Use of *-ut(i)* is not restricted to ditransitive verbs – it is a common, if sometimes semantically irregular, argument adding affix (Fortescue 1984:89–91, Woodbury 1977b). It most commonly adds a theme role, although it can add a benefactive role to certain semantic classes of verbs.

Therefore, from Inuit-internal criteria, it seems most likely that Central Arctic has merely lost a certain overt morpheme, but that this still is not a dative-shift construction, but rather its reverse. Marantz' argument also depends on the assumption that in a syntactically accusative language, the "second object" will always remain

in the normal object case, rather than being demoted into an oblique case but I also doubt that this is true in general.

3. Finally other parts of Marantz's theory predict an ambiguity whereby lexical reflexive forms can have either a reflexive/reciprocal or a passive meaning (cf. Spanish *Las estatuas no se besan* 'Statues don't kiss each other' or 'One doesn't kiss statues'). However, because of the different role assignments in syntactically ergative languages, the ambiguity should rather be that a sentence meaning 'He washes himself' should also mean 'He washes (something unspecified)'. This prediction seems to be confirmed with the Dyirbal reflexive *-riy*.[60]

Central Arctic Eskimo (like all other varieties of Eskimo) doesn't have a special lexical reflexive form. Rather, the intransitivized form of the verb is used with a reflexive word appearing in the modalis case (which Marantz refers to as the comitative).[61] Nevertheless Marantz suggests that these intransitivized forms also have a passive meaning and provide "remarkable support" for his analysis. The central contrast is that as well as a reflexive meaning, there is supposed to be the following contrast in the second meaning of intransitivized forms between Central Arctic and Greenlandic Eskimo, reflecting the fact that only the former is syntactically ergative:

(215) a. angut taku-vuq (Central Arctic)
man-ABS see-IND.3SG
'The man sees (something).'

b. Tigianaq taku-vuq (Greenlandic)
fox-ABS see-IND.3SG
'The fox was seen.'

However the claims for Greenlandic are disputed by Johns (1987). Firstly, as Marantz himself notes, the contrast in (215) at best holds for a subset of verbs in the languages. Many other transitive verbs either have no intransitivized form, or

[60] Note, however, that the nonreflexive use of this morpheme (what Dixon terms the false reflexive) differs from constructions like the Spanish one cited in that an instrumental case NP can still be used to mark the actor (as also in the antipassive (what Marantz called the passive)). In the Spanish impersonal *se* construction, the agent cannot be expressed; it must simply be 'one'. So it is not clear that the constructions are comparable.

[61] As opposed to the terminalis which is more usual in Greenlandic, cf. (85).

the intransitivized form is always a stative/inchoative preserving the theme, or an unspecified-object-deletion-like form preserving the agent in both of these languages (just as in English (*I broke the door*/ *The door broke* vs. *I fought the Romans*/*I fought*). An example of each type in Qairnirmiut is shown below (see Woodbury (1981), Johns (1987:87–105) for further discussion of verb classes in Eskimo languages):

(216) a. Jaani-up niqi tamua-jaa
Jaani-ERG meat.ABS chew-PART.3SG.3SG
'Jaani chews the meat.'

b. Jaani tamua-juq
Jaani.ABS chew-IPART.3SG
'Jaani chews.'

(217) a. arna-up kaapi kuvi-jaa
woman-ERG coffee.ABS spill-PART.3SG.3SG
'The woman spilt the coffee.'

b. kaapi kuvi-juq
coffee.ABS spill-IPART.3SG
'The coffee spilt.'

And so Marantz (1984) claims that this parametric difference between Greenlandic and Central Arctic occurs only in a remaining residual class of verbs. The fact that Inuit intransitives are not specifically reflexive forms is already problematic for Marantz' predictions, as noted by Levin (1983:118), who points out that the intransitive conjugation is found with verbs of all semantic classes, and that it cannot be associated with the feature [−T] that Marantz would associate with a (purely) reflexive form.[62] Moreover, Marantz only ever names one member of the putative residual class, *taku-* 'see' as in (215). However, it seems that this supposed contrast does not actually exist. Johns (1987:43) suggests that her Greenlandic consultant translated *taku-voq* as 'He sees (something)' (in line with Central Arctic) and not as 'He was seen.' Example (217b) is originally from Swadesh (1946:45). Johns cites a

[62]The feature [−T] indicates, following Burzio (1986), that a verb does not assign a thematic role to its subject.

communication from Woodbury suggesting that Swadesh 'manufactured' this example. Indeed, the example does not seem to be present in Kleinschmidt (1851), the source for Swadesh's sketch grammar. Further, Marantz gave (218) as his example of how in Greenlandic, reflexives behave much as in the Spanish, with an ambiguously passive meaning:

(218) Piniartoq toquppoq.
hunter-ABS kill-IND.3SG
'The hunter was killed' *or*
'The hunter killed himself.'

However Bok-Bennema (1991:150) cites Johns (1987) and her own consultant as suggesting that this sentence can only have a reflexive reading and not the first (middle) reading given above.[63] In summary, a putative change in the intransitivization class of one or two Inuit verbs seems scarcely sufficient evidence on which to build a theory of language.

Johns (1987) lists some other more general criteria for rejecting Marantz' analysis. It would imply that there are cognate morphemes in Greenlandic and Central Arctic which are passive in one and antipassive in the other and vice versa. Such a fundamental reanalysis is perhaps not impossible, but it seems unlikely (the dialects are partially mutually intelligible). Further Johns notes that a theory like Marantz' is incompatible with any version of a Semantic Bootstrapping hypothesis (Grimshaw 1981, Pinker 1984) that depends on there being a basic mapping between semantic arguments and their D-structure positions (or in more syntactic terms, the theory is a fundamental violation of Baker's (1988) Uniformity of Theta Assignment Hypothesis). Note that my own Inverse Grammatical Relations analysis does not violate these hypotheses (although it does then allow inverse mappings between argument structure and grammatical relations which a child would have to learn).

[63]That is, the verb should be placed in the class of purely transitive verbs.

2.4.3 Three GB analyses

This section looks at three recent GB analyses of Inuit (and ergativity more generally). I assume a certain familiarity with the versions of GB that were in vogue when I was writing this. See Napoli (1993) for background.

2.4.3.1 Bok-Bennema (1991)

Bok-Bennema rejects the hypothesis of two unrelated types of ergativity (morphological and syntactic) and suggests, following Payne (1980), that ergativity results from the inability of a verb to assign (structural) Case to its direct object (an analysis which would allow parallels to be drawn with other parts of the grammar where problems arise with Case, such as causatives). Thus she begins a modern trend of 'syntacticizing' what was previously thought of as morphological ergativity. The result in Inuit is three possible strategies: (i) expressing the agent as an oblique, (ii) expressing the theme as an oblique, and (iii) exceptional case marking.

Bok-Bennema argues that the passive and antipassive constructions of Inuit result from taking options (i) and (ii) above, while option (iii) yields the canonical transitive construction. She suggests that absolutive case is like nominative as it is unmarked, and always present (modulo pro-drop). Thus, agreement with an absolutive argument is like subject agreement, and absolutive should be assigned by I. This suggests that the direct object NP scrambles out of the VP to a position within the domain of Infl where Case is assigned. Bok-Bennema suggests that assigning nominative to the direct object is possible because another element in I (which is also present in the homophonous possessive agreement markers) assigns Case to the ergative subject. She suggests that Ergative case on intransitive subjects could be ruled out either by making nominative case assignment compulsory or by making the agreement feature incompatible with intransitive verbs.

Bok-Bennema has a third argument for aligning nominative and absolutive (p. 15, 29, 190, 226), suggesting that in a number of morphologically ergative languages, non-finite clauses have special restrictions – they always have to be intransitive in Mayan languages, and the complements of "object-control verbs" (a subset of the

double transitive suffixes of Section 2.3.1[64]) have to be intransitive in Inuit. She cites data such as the following from Central Arctic Eskimo:

(219) a. *Arna-up nutaraq$_i$ PRO$_i$ titirauti nani-rqu-vaa
woman-ERG child.ABS pencil.ABS find-tell-IND.3SG.3SG
'The woman tells the child to find a pencil.'

b. Arna-up nutaraq$_i$ PRO$_i$ titirauti-mik nani-si-rqu-vaa
woman-ERG child.ABS pencil-MOD find-ANTIP-tell-IND.3SG.3SG
'The woman tells the child to find a pencil.'

The argument here seems to be based on exploring the theory internal consequences of a preconceived notion of what the structure of these sentences is. On the assumption that the double transitive suffixes project independently as verbs, Bok-Bennema expects sentences where a stem has been suffixed by a double transitive suffix to be biclausal, and then tries to make theoretical capital out of the fact that (219a) is bad (whereas it should be possible on a biclausal object-control analysis). But as we have already discussed (and as Bok-Bennema also notes), it is not that double transitive postbases cannot be suffixed to transitive stems, it is simply that the embedded (causee) a-subject must then appear as a terminalis oblique, as was shown in (127a–b). Another example from Central Arctic is shown below:

(220) anguti-up Piita-mut qimmiq tautu-rqu-vaa
man-ERG Peter-TERM dog.ABS look.at-want-IND.3SG.3SG
'A/The man wants/tells Peter to look at the dog.'

There is nothing in this pattern of data that is unique to ergative languages. Exactly the same observation could be made about the morphological or otherwise monoclausal causatives of many other languages. For example, in Turkish, the correct form is (221a) with an oblique (dative) causee, not (221b) (styled on (219a), above):

[64]Bok-Bennema proposes dividing each of the two classes of affixes we discussed in Section 2.3.1 into two – the double transitive suffixes into object control verbs and causative/ECM verbs and the equi-subject suffixes into raising and equi verbs. But this analysis seems to be supported mainly by considering translation equivalents in European languages rather than by looking at Inuit-internal criteria (as she acknowledges on p. 174). For the former pair of classes, Bittner (1992:94, fn. 6) observes that "I am not aware of any evidence in WG Inuit to justify this difference in the analysis" and suggests that a treatment of some of the verbs in this class as object control verbs is problematic.

(221) a. Dişçi mektub-u müdür-e imzala-t-tı
dentist.NOM letter-ACC director-DAT sign-CAUS-PAST
'The dentist made the director sign the letter.'

b. *Dişçi müdür-ü mektub-u imzala-t-tı
dentist.NOM director-ACC letter-ACC sign-CAUS-PAST
*'The dentist made the director sign the letter.'

Indeed Comrie (1985:338) notes that this is the most common pattern for causatives crosslinguistically.[65] Use of an oblique agent might suggest that the stem has undergone intransitivization, but this issue mirrors similar continuing discussion in accusative languages, such as whether the French *faire par* construction involves passivization (Kayne 1975).[66] For these and other reasons, I find Bok-Bennema's discussion of observing lexical integrity versus employing independent syntactic projection (pp. 172–179) very unsatisfactory. The facts presented seem little related to the identification of absolutive case or to the analysis of ergativity in general.

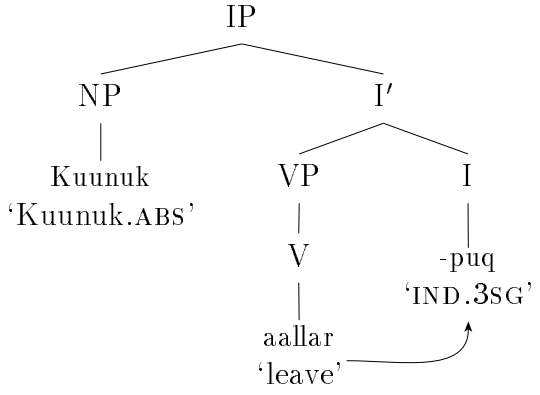
Bok-Bennema suggests the following structures for simple intransitive and transitive clauses at S-structure (the NP of an intransitive clause can have the D-structure position of either of the NPs in the transitive clause depending on whether the verb is unergative or unaccusative):[67]

[65] Bok-Bennema attempted to distinguish a class of object control verbs from causative/ECM verbs, but this seems unsustainable, as noted in the previous footnote. Bok-Bennema could have made some capital from the fact noted in footnote 34 that in Labrador Inuttut double transitive suffixes attach only to transitive stems (although she appears not to have noticed this and illustrates the above argument with Central Arctic and Greenlandic forms). However, it is also common crosslinguistically for the formation of morphological causatives to be restricted to intransitive stems.

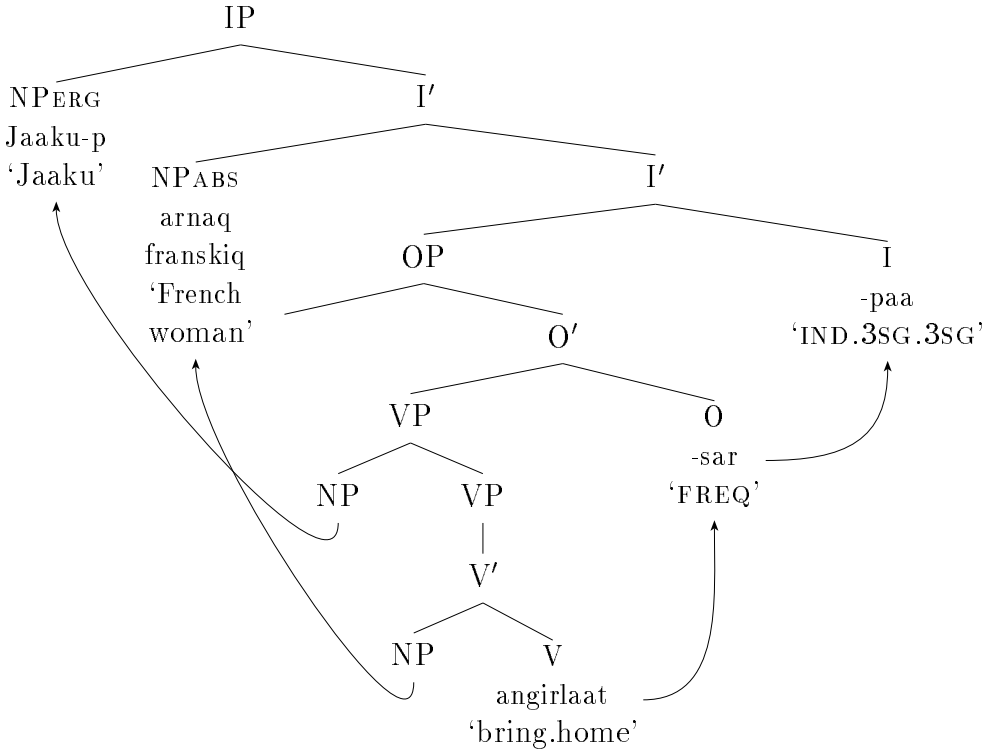
[66] Note that the Inuit terminalis is semantically closest to a dative case – indeed some authors call it that – rather than a semantically instrumental/ablative case of the sort that is common for passive agents.

[67] (222b) is the structure of (225).

(222) a.

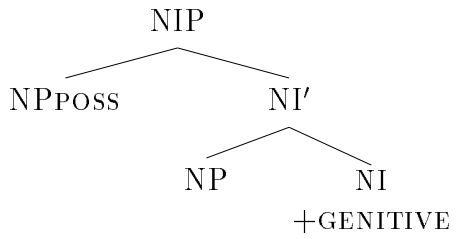


b.



The parallelism between possessive and actor agreement is captured by the assumption that Inuit NPs also have an inflectional head. Her equivalent of DP is called NIP:

(223)



Bok-Bennema suggests that I assigns both ergative and absolutive Case. The ergative argument moves to [Spec, IP] – it is now in the same A position as intransitive subjects which gives a natural explanation of the generally nominative-accusative anaphoric binding facts (but not the ability of logical subjects of passives to bind reflexives that motivated the a-structure account of binding discussed in Section 2.3.3). It is also in the same Spec-Head relationship as is used for ergative/genitive assignment in NIPs, and so if we assume that MOOD within I also licenses genitive case, the case marking of the ergative argument is explained.

Where, then, does the object go? Assuming that objects are generated adjacent to the verb, the canonical word order:

(224) Adv_1 ERG ABS OBL Adv_2 Verb

suggests that the absolutive has scrambled left away from its D-structure position next to the verb.

Further Bok-Bennema reports Bittner's observation that the direct object NP in examples like (225) cannot take narrow scope (different women each time) with respect to the frequentative operator:[68]

(225) Jaaku-p arnaq franskiq angirlaat-tar-paa
Jaaku-ERG woman.ABS French.ABS bring.home-FREQ-IND.3SG.3SG
'Jaaku often brings home a French woman.'

Bok-Bennema uses this fact to argue that the object must be outside of the scope of these operators at S-structure. Since some of these operators appear in I as well as O on her analysis, this indicates that the absolutive argument must scramble to adjoin to I′ (an unusual landing spot, but Bok-Bennema claims to have evidence for

[68]This is true even of less pragmatically loaded examples, as discussed in Section 2.2.2.

adjunction to intermediate projections in Inuit noun phrases as well). This movement is necessary because the absolutive argument needs Case. It cannot get Case from the verb (by hypothesis), but it can be assigned nominative by Infl, in a process of "Adjunct-Head" agreement, which Bok-Bennema suggests might also be needed to assign absolutive in predicate nominal constructions.

Quite apart from the generally unappealing disjunctive assignment of nominative Case and adjunction to I′, this account seems to make selective use of Bittner's scope observations. While Bok-Bennema correctly reports Bittner's observations for the scope of transitive absolutives, she does not consider Bittner's report that the ergative argument can take wide or narrow scope with respect to sentential operators. If we follow standard practice and have an operation of Quantifier Raising, but not Quantifier Lowering, this would suggest that the Ergative argument would have to appear lower at S-structure. Thus if the argument from scope above is to be taken seriously, these structures need modification.

The 'Modalis is Accusative Case' hypothesis. In the final chapter of her book, Bok-Bennema presents a different hypothesis that Modalis is really an accusative case marker assigned by the verb. While the optionality of modalis arguments and the usual presence of *-si* or another antipassive derivational morpheme initially makes the standard antipassive analysis look attractive, Bok-Bennema suggests it has three flaws:

1. It doesn't explain why antipassives are only found in ergative languages.[69]

2. Restrictive theories of valency-changing rules that only affect the highest (or external) argument would not allow an antipassive rule that demotes objects.

3. Assuming the biclausal analysis for intransitive verbs to which double transitive suffixes have been attached that we discussed above, antipassivization of these forms does not work as her antipassive analysis would predict.

[69]She finds the claims of Postal (1977) for restricted (construction-specific) antipassive rules in various accusative languages unconvincing.

She suggests that analysis of antipassivization as incorporation of an abstract noun by Baker (1988) solves some of these problems but doesn't explain why antipassives only occur in ergative languages.

Her proposal is then that all uses of the modalis (see the list in (85)) are in fact cases of an accusative case assigned by the verb. In other words, the modalis is analyzed as a direct case. She suggests this clearly explains why antipassives only occur in ergative languages – this is normal nominative-accusative case assignment. The problem with double transitive suffixes is solved, since ECM verbs regularly assign accusative to subjects. She thus suggests that the so-called antipassive suffixes are really a form of raising verb that can license accusative case.

I find this analysis generally unconvincing. Saying that modalis is accusative would greatly complicate the statement of the binding theory, especially in dialects like Central Arctic where the modalis is regularly used to form the intransitivized reflexives of transitive verbs:

(226) angut ingmi-nik kapi-vuq
man.ABS self-MOD stab-IND.3SG
'The man stabbed himself.'

If the modalis is a direct case, this binding pattern should be impossible, according to the binding theory developed earlier (or the similar theories of Bittner (1994) and Sadock (forthcoming)).

The claim of the functional uniqueness of direct cases/functions would also cease to hold. Recall from Section 2.3.1 that a clause can have multiple modalis NPs due to multiple suffixation of antipassive suffixes (example (145a)). The statement of basic word order would be complicated (now there would be a core argument, the modalis, mixed in among the oblique NPs) as would be verb agreement (antipassive forms take intransitive agreement, suggesting that they have only one direct argument, but now they would actually have two direct arguments). Finally, it is unclear why passive could not apply to an antipassive form promoting the modalis NP.

2.4.3.2 Johns (1987, 1992)

Johns' analysis of Inuktitut (in particular, the Qairnirmiut (Caribou) dialect of Baker Lake to the west of Hudson Bay) makes the argument that the appearance of ergativity is just "an epiphenomenon resulting from the interaction between language-particular lexical features and universal principles" (p. 58). She essentially imports the "nominalist tradition" (Section 1.2.4) into a GB framework, carefully building up an analysis of sentences in the participial mood, which I summarize below. The analysis depends on three assumptions: (i) the inability of the verb to project a VP in Inuktitut, (ii) that the morpheme *-jaq* is consistently a passive participle morpheme with nominal category in all its occurrences, and, (iii) the set of functional categories postulated for Inuktitut.

The Passive nominal. A passive participle morpheme *-ja(q)/-ta(q)/-ga(q)* may attach to the stem of transitive verbs yielding a nominal whose referential index is the internal argument:

(227) kapi-*jaq* miki-juq
stab-PASS.PART.ABS small-INTR.PART.3SG
'The stabbed one is small.'

(Johns assumes that a role inherited by derivational morphology (here, the agent) need be realized iff there is a licensing mechanism, acknowledging that this is a violation of the θ-Criterion.)

The copula attaches to nominals creating a verb to which can be attached intransitive agreement, and this general process in this particular case produces the Inuktitut passive:

(228) nanuq anguti-mit kapi-*ja*-*u*-juq
polar.bear.ABS man-ABL stab-PASS.PART-COP-INTR.PART.3SG
'The bear was stabbed by the man.'
lit. 'The polar bear is the by the man stabbed one.'

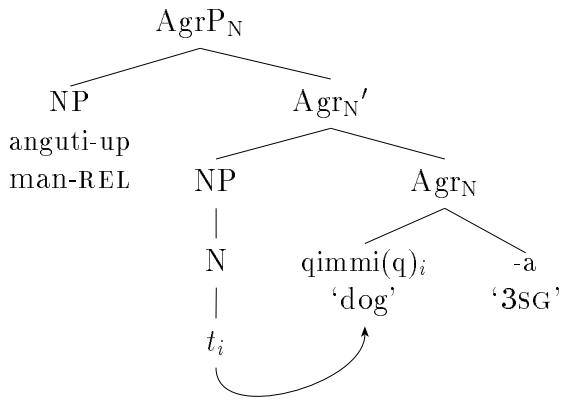
(Here the copula or some higher node can optionally license expression of the agent argument as an adjunct.)

The possessive phrase. Possessive phrases are analyzed as a functional projection Agr_N (essentially equivalent to D). This projection can occur above any NP including the passive nominal, yielding either a regular possessive phrase or the transitive relative construction (which translates as 'the one that agent Ved'), as appropriate:

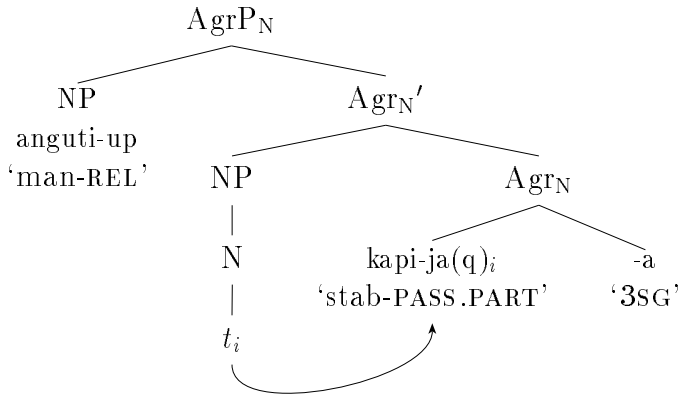
(229) a. anguti-up qimmi-a
man-REL dog-3SG
'the man's dog'

b. anguti-up kapi-ja-a
man-REL stab-PASS.PART-3SG
'the one that the man stabbed'
lit. 'the man's stabbed one'

(230) a.



b.

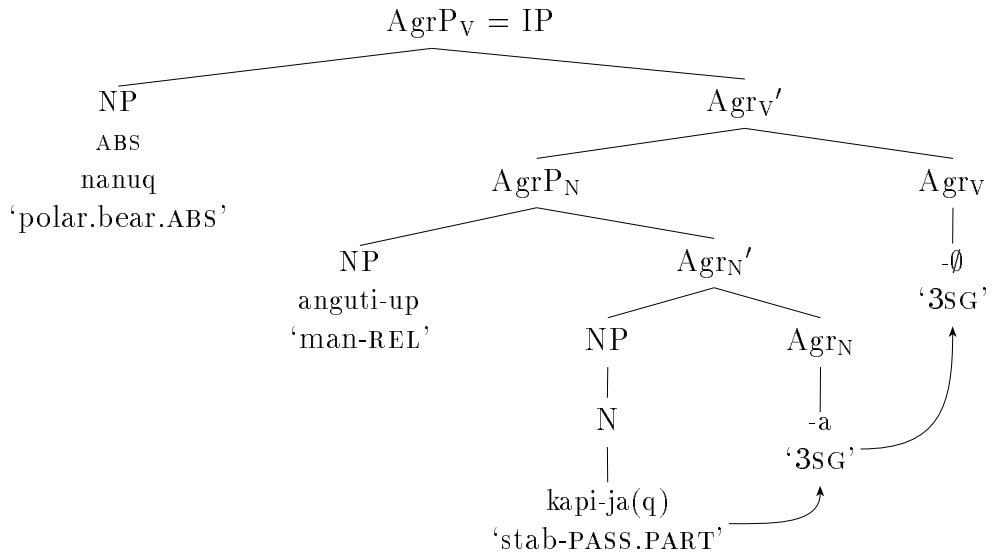


This analysis is appealing because the same case, Relative, marks possessors and agents of active sentences in Inuit, and the agent cross-referencing on the verb is identical to possessive cross-referencing on the verb. The specifier gets a possessive θ-role in (230a), and the agent role in (230b). Note that it cannot receive the theme

role in (230b) as this is already assigned as the passive nominal's referential index (a theoretical observation supported by the data).

The transitive clause. The (participial mood) transitive clause results from embedding the transitive relative construction in a further Agr functional projection:

(231)



(It's not clear what forces the second head movement – presumably morphological constraints. Note, also, that only deverbal forms can appear under Agr$_V$, and not other NPs/AgrP$_N$s.) Intransitive verbs are embedded only beneath Agr$_V$. This explains why patient and intransitive verb agreement are similar. We can simply say that absolutive case is assigned to the specifier of Agr$_V$. Johns suggests that the fact that absolutive agreement appears outside ergative agreement (in non-zero forms) is also explained.[70] The suggestion is that the literal translation of (231) is roughly 'The polar bear is the man's stabbed one', although there is no overt copula morpheme here, as there is with the passive.

It's around this point that things get messy. To account for the default order of NPs in Inuit sentences (ERG < ABS, see Section 2.1.3), Johns suggests that there is movement of the ergative NP which is actually required by what has been said so far: citing Baker (1988:99), it is assumed that traces of X^0 do not assign Case, so following

[70] But recall the caveats presented in Section 2.2.5.

the head movement of $\mathrm{Agr_N}$ to $\mathrm{Agr_V}$ the ergative NP must move so that it can still be Case marked.[71] Johns suggests that the ergative NP moves to adjoin to $\mathrm{AgrP_V}$ (she assumes that an agreement element can govern through another agreement element to which it is morphologically adjoined, though this seems novel). I see several problems here – firstly, Baker (1988) presents empirical support for this proposal in a framework that did not use the many functional projections that result from the Split-Infl hypothesis of Pollock (1989) and later work. This constraint cannot be maintained in a more recent analysis (such as Johns') with multiple functional categories that verbs and other predicates move up through. These items cannot lose their Case assigning ability every time they move.[72] Secondly, it's not clear that the adjoined $\mathrm{Agr_N}$ should be able to assign Case as suggested, and if the $\mathrm{Agr_N}$ complex is assigning two cases, it is not clear what determines which one is assigned where. Thirdly, it is quite unclear whether Johns' analysis correctly captures even the basic nominative-accusative binding facts of Inuit, let alone the more complicated data observed in Section 2.3.3. Johns' argues that the ergative NP can bind inside the absolutive NP because it moves to adjoin to a position above the absolutive NP at s-structure. But, given her structures, it is quite unclear how [Spec, $\mathrm{AgrP_V}$] of an intransitive verb and an NP adjoined to a transitive $\mathrm{AgrP_V}$ form a natural class for binding theory, or why adjunction to a higher position affects binding anyway.[73] Moreover, the suggestion of A′-movement of the ergative argument should perhaps create weak crossover violations, which it doesn't (this issue is discussed in Section 2.4.4.2, below).

The discussion so far has dealt solely with the participial mood. This mood is very common in main clauses in the form of Inuit that Johns studied, but less common or

[71] The motivation for this claim (the need for possessor ascension in cases of incorporation in Mohawk), stands in contrast to examples of allowed possessor stranding in Eskimo cited by Sadock (1980) (although Bittner (1994) has questioned their productivity).

[72] For example, if French finite verbs move to T at S-structure, as in Pollock (1989), then under the assumption being considered in the text, they would not be able to assign Case to their objects. Either some form of extended transparency must be assumed, in the spirit of Grimshaw's (1991) extended projections, or alternatively, the proposals of Chomsky (1991) impose a much weaker requirement: merely that at some point in the derivation, the verb must pass into or through AgrO and that the object NP must pass into or through [Spec, AgrO].

[73] And similar problems would arise for identifying the controllee of infinitives, which is also basically nominative-accusative (Section 2.3.2).

not used in main clauses elsewhere. At any rate, there is an alternative, the indicative mood with transitive endings *-vaq/-paq*:

(232) anguti-up nanuq kapi-va-a
man-REL polar.bear stab-IND.TR-3SG.3SG
'The man stabbed the bear.'

The transitive indicative has none of the nominal properties of the passive participial that we have gone over: it cannot occur in passive sentences, passive nominals, nor the transitive relative construction. Nevertheless, Johns suggests that sentences with this form are exactly the same, but that the transitive indicative has the special property of requiring to attach to Agr_V (she suggests it has the feature Declarative which has to appear in Agr_V). This thesis appears to have a certain diachronic truth (Section 1.2.4), but both for the indicative and verbal uses of the participial mood, I find it has little appeal as a synchronic analysis. There is really no reason to think that the ergative NP is functioning as a noun possessor in verbal clauses, indeed both the preferred and other possible word orders indicate otherwise.

An unaccusative/unergative split? Johns does not explore all the consequences of her proposals for the basically GB framework in which she writes. For example, she seems committed to a lexical treatment of the passive (via the passive nominal morpheme), rather than a syntactic treatment where the underlying logical object moves to the surface subject position. Indeed she does not seem to have available to her any notion of movement from a D-structure VP internal position to a surface subject position, and so she could not represent a split between unaccusative and unergative intransitive verbs in this way either.

Johns (1987:102) in fact argues that there is no evidence for a split between unergative and unaccusative intransitives in Inuit (as does Bok-Bennema (1991:44)). It is perhaps true that a binary unaccusative/unergative distinction is not very well founded (see Zaenen 1993), but I think that Inuit does possess evidence of the sort that has been used to motivate unergative and unaccusative classes of intransitives. It has already been mentioned in the discussion of Marantz (1984) (around example

(216)) that of verb stems that can be used transitively and intransitively, some preserve the agent in the intransitive use and others the theme. In intransitive uses of the latter verbs it would seem appealing in a GB framework to say that the theme of verbs that preserve the theme is generated VP internally at D-structure.[74] This could be supported from evidence from noun incorporation. The general pattern in languages is that only theme-like internal arguments tend to incorporate. Mithun (1984:875) summarizes some of her results as follows: "If a language incorporates N's of only one semantic Case, they will be patients of transitive V's—whether the language is basically of the ergative, accusative, or agent/patient type.... If a language incorporates only two types of arguments, they will be patients of transitive and intransitive V's." Thus the point of current interest is that while Sadock (1980) speaks only of object incorporation,[75] Bittner (1994:69) and Bittner and Hale (forthcoming b) show that incorporation of unaccusative subjects is in fact possible:

(233) a. ipittu-nik savi-irup-p-u-q
sharp-PL.MOD knife-be.gone-IND-INTR-3SG
'There are no more sharp knives.'

b. pualasu-nik puisi-nip-p-u-q
fat-PL.MOD seal-arrive-IND-INTR-3PL
'There arrived fat seals.'

This suggests that these affixal verbs are unaccusative (and in general affixal verbs can be made into standalone verbs by suffixing them to the dummy stem *pi-*).[76]

[74] However, Johns (1987) does not find this convincing, preferring to work in terms of aspectual classes.

[75] And, on the basis of this, Baker (1988:124–127) seeks a Case parameter that would explain this and the intransitive agreement on verbs with incorporated arguments in Greenlandic (unlike some other languages).

[76] A third potential argument for unaccusativity is the alleged appearance of antipassives of unaccusative intransitive verbs. Bittner (1988) contains one example of such a construction, which is repeated in Bok-Bennema (1991:263) and De Hoop (1992:76). However, Bittner and Hale (forthcoming b) report that the initial example was only obtained from one consultant, and follow up work with six consultants on this and other sentences with antipassives of intransitives suggests that such sentences are all ungrammatical.

What is the structure of relative clauses? Johns (1987, 1992) assumes that the structure of Inuit relative clauses is actually two noun phrases in apposition.[77] Johns presents no particular argument for this structure (apart from the fact that it works within the context of her analysis), but I suppose one could argue as follows. If we think of the relative clauses above as a head noun followed by a participial phrase, then note that the participial phrase follows the head noun, just like a noun which attributively modifies another noun:

(234) a. arnaq kalaaliq
woman.ABS Greenlander.ABS
'the/a Greenlandic woman'

b. kalaaliq arnaq
Greenlander.ABS woman.ABS
'the/a female Greenlander'

Secondly, note that participial relatives are nominalizations. This is further discussed in Section 2.4.3.2, but note here that they take nominal case endings, agreeing in case and number with the pivot:

(235) miiqqa-nut Juuna-p paari-sa-i-nut
child-PL.TERM Juuna-ERG look.after-REL.TR-3SG.PL-TERM
'for the children that Juuna is looking after'

Indeed 'participial relatives' can appear as independent noun phrases meaning 'the one who (was) Ved'. Thus assimilating them to the class of other appositional nominals is appealing. So Johns would suggest that the structure of:

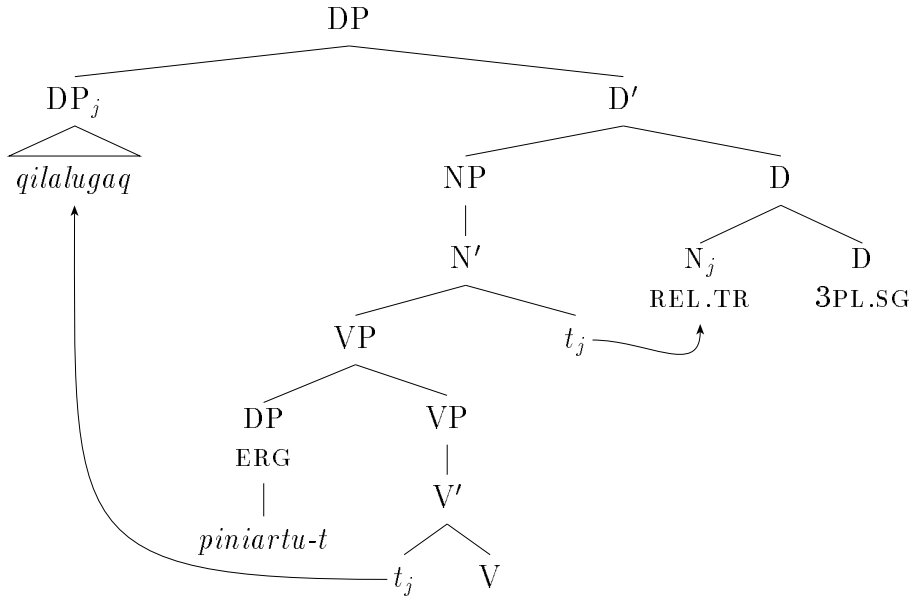
(236) qilalugaq piniartu-t malirsu-ga-at
whale.ABS hunter-GEN.PL chase-REL.TR-3PL.SG
'the whale that the hunters are chasing'

is more accurately represented by the calque 'the whale, the hunters' chased one' (recall that ergative case is the same as genitive case).

[77] This also the position of Fortescue (1984:52–53).

However, Bittner (1994) argues that a head noun and a following relative clause are actually a single clausal nominalization (a nominalized internally-headed relative clause), rather than there being an appositional structure of a head noun followed by a nominalized participial relative. She suggests the phrase structure shown in (237).[78]

(237)



Bittner provides one fairly compelling argument for this clausal structure, namely that the ergative/genitive NP can bind a reflexive on what Johns proposed as the head noun:

(238) nirisa-ni Maakka-p sani-mi-nut ilisima-sa-a
[food-4SG.SG Maakka-ERG side-4SG-TERM put-REL.TR-3SG.SG]
qimmir-suu-p aallarup-p-a-a
dog-big-ERG run.away.with-IND-TR-3SG.3SG
'A big dog ran away with her$_i$ food which Maakka$_i$ had put by her$_i$ side.'

This would be totally unexpected if we were simply dealing with two nominals in apposition, and so I conclude that an analysis via a clausal nominalization is correct. Some further discussion on the treatment of clausal nominalizations within the type of framework that I am assuming can be found in Chapter 3.

[78]Bittner is interpreting the case of *piniartut* here as functioning within a clause (ergative), not as modifying a noun (genitive).

Extension to other languages. Towards the end of her paper, Johns tries to extend her model to Dyirbal, referring to certain suggestions of Hale (1970). This section is quite misguided. Hale's paper itself is problematic (see Dixon (1972:135–137), Dixon (1994:200) and the references cited in the latter), but Johns' use of it is worse. She suggests that the /l/ of L-conjugation Dyirbal verbs is a passive participle morpheme. This is what Hale (1970) suggests as the diachronic origin of the L-conjugation in Australian languages, but Hale (1970:772) argues that this is not the correct synchronic analysis of languages including Dyirbal. He argues that the /l/ has been reanalyzed as a conjugation class marker, and gives as evidence that the conjugations have become partially inconsistent with strict subcategorization (in Dyirbal about 90% of transitive stems are in the L-conjugation, the rest in the ∅/Y-conjugation, and about 20% of intransitive verbs are in the L-conjugation (Dixon 1972:54)). It is clear that an analysis of /l/ as a synchronic passive participle morpheme cannot be maintained for Dyirbal for this, and other reasons (such as the existence of the Dyirbal antipassive).

2.4.3.3 Bittner (1994)

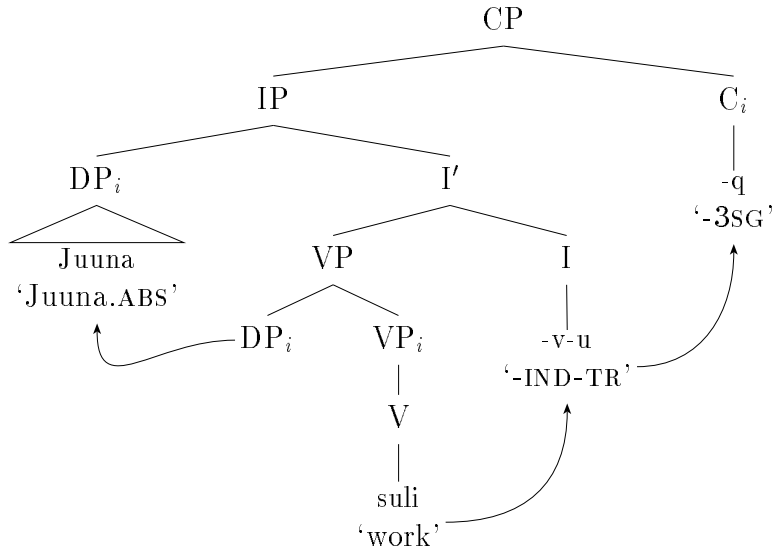
Bittner (1994) is a work of such scope and depth that I cannot possibly summarize it adequately in a few pages, but I will try and outline some of the major lines of the analysis and their assumptions. Bittner also provides a Case-theoretic explanation of morphological ergativity in (West Greenlandic) Inuit. Again, the verb cannot assign accusative Case and so the object must raise to a higher projection to receive Case. But the details of her framework are rather different. Bittner attempts to motivate an abstract level of syntax, for which she maintains the name s-structure, suggesting that this level determines structural Case assignment, agreement, syntactic binding relations and the minimum scopes of quantifiers (it is the default LF). This level is not required to have any particular relationship to the surface form, and indeed Bittner makes liberal use of PF movement operations, for what she regards as syntactically unimportant movements (various processes of adjunction and extraposition).

Arguing that absolutive agreement is outside ergative agreement (when they are not fused) and that absolutive agreement is fused with switch reference morphology,

which is usually in C(omp) (Finer 1985), Bittner suggests that absolutive agreement is in C while ergative agreement is in I.[79] She assumes a version of the VP-internal subject hypothesis where at D-structure subjects are the distinguished adjunct of a lexical head (a position I will denote as [Adj, VP]), and suggests that the absolutive argument of transitive verbs is generated in [Spec, VP] and that the instrumental (theme) argument of a ditransitive verb is generated as the complement of V. She assumes that only the complement, specifier and distinguished adjunct of lexical heads are A positions (so [Spec, IP], for instance, is an A′ position).

The basic structures for transitive and intransitive sentences that Bittner assumes are shown in (239). Bittner (1994) has the argument of all intransitive verbs originating in [Adj, VP], but Bittner (email, Dec 1993) suggests that unaccusative subjects could be base generated in [Spec, VP] and then be forced to move through the distinguished adjunct of VP position by invoking the Extended Projection Principle (Chomsky 1982:10).

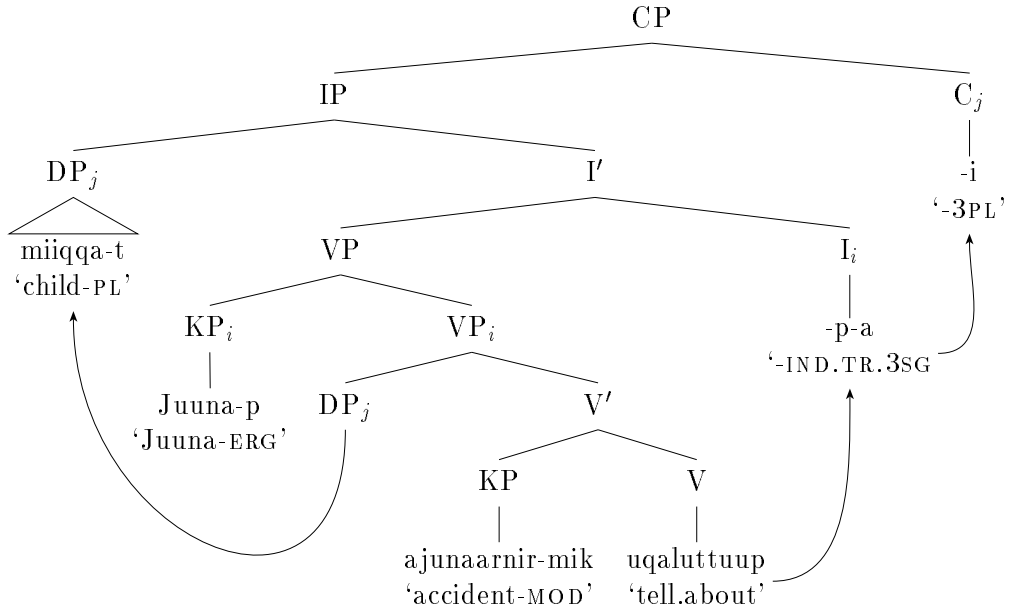
(239) a.



'Juuna works.'

[79] Note that neither of the premises here is unproblematic. The order of agreement affixes varies as discussed in Section 2.2.5. Both ergative and absolutive agreement suffixes on subordinate verb forms distinguish between proximative and obviative forms, so it is not clear why absolutive agreement in particular should be in Comp, and moreover, these suffixes appear to act more like unbounded reflexives than a switch reference system (Section 2.3.3).

b.



'Juuna told the children about the accident.'

As further evidence for placing ergative agreement in I, she notes that with infinitive verbs in *-(l)lu*, there is only agreement with absolutive arguments:

(240) a. Miiqqat — Juuna ikiu-ssa-llu-gu niriursui-pp-u-t
children.ABS [ERG Juuna.ABS help-FUT-INF-3SG] promise-IND-INTR-3PL
'The children promised to help Juuna.'

b. Miiqqat — qiti-ssa-llu-tik niriursui-pp-u-t
children [ABS dance-FUT-INF-4PL] promise-IND-INTR-3PL
'The children promised to dance.'

Bittner suggests that this agreement pattern supports her theory of agreement whereby absolutive agreement is controlled by Comp and ergative agreement by Infl: one suggests that, just as in English, a non-finite Infl does not agree. But this equation, as well, is not unproblematic, since note that in (240a) there is an overt absolutive NP appearing in [Spec, IP], and the standard prediction of GB control theory is that an overt NP cannot be licensed in [Spec, IP] in infinitive clauses.

As shown above, the morphologically unmarked absolutive NPs are analyzed as K-less DPs, but other nominals are analyzed as KPs.[80] The K trivially licenses the

[80] K(ase) was introduced into GB as a feature by Fukui (1986:54) and proposed as a functional

DP complement, but the K of structural cases is deemed to be empty so that it in turn has to be antecedent-governed by a head in a Case-assigning configuration so as to satisfy the ECP.[81] Bittner stresses how her theory of Case differs from both the category-oriented theory of early GB and the position-oriented theory of more recent work. For Bittner, Case assignment only occurs in a more elaborate structural configuration: informally, a head can only assign Case to an NP that it governs if it can also 'see' another NP which can serve as a case competitor for the first NP. This means that heads can gain and lose their Case assigning potential depending on what NPs are generated in or move through their projections. The proposal seems to offer very nice results for Inuit, but looks increasingly forced when extended to other language types (it requires null determiners adjoined to V heads to provide a Case competitor in accusative languages, and so on). Note also that Case is assigned under government, and not by the now usual mechanism of Spec-Head agreement.

Bittner does not try to derive the unmarked surface word order at S-structure. She notes (1992:11):

> Out of context, the preferred order of arguments in clauses is ERG-NOM-OBL-V. This appears to be derived by fronting the ergative subject over the nominative object at PF, without consequences for any of the syntactic or semantic phenomena discussed in this study.

Given the scope facts that she reports (Section 2.2.2), one cannot get both the word order (ERG < ABS) and scope (absolutives have wide scope) right at S-structure. One needs to postulate discrepancies between S-structure and either PF or LF, and Bittner chooses the former (of course she also needs and uses Quantifier Raising to account for scope ambiguities, but nevertheless, this makes the S-structure the default LF). However, the movements en route to PF which Bittner proposes in various places appear to weaken the empirical base of the theory, and Bittner never suggests what interface conditions of the phonetic component require such movements.

category above DP (similar to CP above IP) by Lamontagne and Travis (1987:176).

[81] 'Emptiness' is here an abstract notion, since on Bittner's analysis all Ks have surface phonological content if their complement is lexical (and don't if it is a pro). There is thus no correlation between these overt phonological differences and the notion of emptiness for purposes of the ECP.

For binding purposes, Bittner suggests that arguments of a verb reconstruct down to their highest A-positions inside the VP (since A′ movement does not count for binding, and she analyzes [Spec, IP] as an A′ position).[82] Binding is limited in Inuit to NPs that are distinguished adjuncts of a lexical projection. The coverage of the binding theory I believe to be identical to the one that I offered earlier, essentially because the notion of the VP projection in recent GB work mirrors the notion of argument structure. In Bittner's work, passives and double transitive suffixes are analyzed as higher verb projections, and thus both the embedded and higher a-subjects of these constructions on my analysis are NPs in [Adj, XP] of one of two lexical projections on her analysis. However, Bittner cannot state binding theory in terms of c-command between the anaphor and its antecedent since in many cases (such as anaphors and agreement markers in adverbial clauses) the reconstructed subject will be too low in the tree to c-command (or even m-command) the anaphor. To solve this problem, Bittner proposes to use accessible subject paths, which is essentially a system of coindexation that heads up from a subject to the head of the extended projection in which it appears. The head of a subject path is then required to c-command the antecedent. I see this as an essentially technical solution, without any particular explanatory merit. Basically the s-structure is not of itself providing the dominance relations that her account requires.[83] Control of the controlled subject of infinitives is also stipulated to be by a subject via the Extended Control Condition ("A controlled element is bound by an accessible subject path in its binding domain").

The result is two notions of "Subject". The items in [Spec, IP] which receive

[82] This is consistent with the original definition of A and A′ positions – given the VP-internal subject hypothesis, [Spec, IP] never receives a θ-role and so should be an A′ position, but most other recent work wishes to maintain [Spec, IP] as functionally an A-position in languages like English, and so many people now work in terms of L-related positions, which includes [Spec, IP]. A potential flaw with regarding [Spec, IP] as an A′ position is that movement to A′ positions is predicted within GB to cause weak crossover violations. This issue is discussed further in Section 2.4.4.2.

[83] Bittner's explanation of why the ergative cannot bind the local absolutive in subordinate clauses (compare the discussion around (174)) is quite technical. As mentioned, the absolutive agreement is analyzed as being in C. A stipulation in the definition of a path c-commanding a node (p. 43) states that a path π can only c-command a node if "the head of π is not an extended projection" of the node. Thus although the subject path heads up to the top of the extended projection, CP, it can never actually bind something in C^0. As far as I have been able to tell, this stipulation has no other use.

absolutive Case provide one natural class. The other notion of subject is things that are the distinguished adjunct of a lexical head.[84] These two notions of subject are essentially the same two notions that I try to motivate in the present work, and indeed my analysis is generally compatible with (and in places inspired by) the analyses of Bittner. The question that remains in my mind, however, is whether the theoretical backdrop of Bittner's analyses are helping or hindering her proposals. For example, as discussed immediately above, constructing the binding theory in terms of subject paths so that there is something that c-commands anaphors, seems essentially a technical feat, rather than the framework in any way illuminating what is going on.

2.4.3.4 Parallels

All of these three analyses have at least a few commonalities. Each places the absolutive in a "high" position within the projection of I(nfl). In Bittner and Johns' analyses, the absolutive NP is in [Spec, IP], or its equivalent (AgrP_V on Johns' analysis). In contrast, Bok-Bennema adjoins the absolutive NP to I′. Although it is not readily apparent, I believe all three analyses present basically the same theory of what ergativity is – namely that the verb cannot assign accusative case in ergative languages. Bok-Bennema says this explicitly, while in Johns' analysis this follows from the claim that verbs cannot project a VP in Inuit (and so two arguments can only be expressed by using passive participle forms). Bittner's analysis is essentially the same as Bok-Bennema's except that she reverses the markedness (wrongly, I believe, given that accusative languages are much commoner than ergative ones). On her analysis no verb is inherently able to assign Case, and verbs only gain the ability to assign case if a case competitor (a D^0) is adjoined to them. This adjunction occurs in accusative languages, but not in ergative languages like Inuit.[85] The accounts differ in their treatment of binding. Bok-Bennema and Johns attempt to capture binding

[84] This is similar to the proposal of Guilfoyle et al. (1992).

[85] This markedness reversal leads to another odd markedness reversal in the analysis of passives in accusative languages (Bittner and Hale forthcoming b). The *addition* of a passive morpheme has to be analyzed in their framework as the *removal* of the adjoined D that normally licenses verbs to assign accusative case in accusative languages.

asymmetries in terms of configurational relationships in the higher functional projection part of the tree. Bittner does binding mainly in terms of relationships within lexical (mainly VP) projections. I thus see her account as quite similar to both the account developed here and the one in Sadock (forthcoming).

2.4.4 Bobaljik (1993) and his precursors

The majority of analyses of ergativity equate Absolutive with Nominative (and then sometimes Accusative with Ergative) with the result that intransitive sentences have the same analysis in both ergative and accusative languages while transitive sentences are analyzed differently in the two language types. Bobaljik (1992) describes himself as reviving the idea of Levin and Massam (1985) that we should rather equate Nominative and Ergative, and also Accusative and Absolutive. This has the result that transitive sentences are analyzed the same in ergative and accusative languages, whereas intransitive verbs are analyzed differently. Essentially, ergativity then means that all intransitive verbs have "object agreement" with their actant. Bobaljik's proposal thus reduces to the suggestion that intransitive subjects in ergative languages are like objects, that is the Absolutive-S-as-Object analysis that was discussed in Chapter 1.

2.4.4.1 Levin and Massam (1985)

Levin and Massam consider the treatment of morphologically ergative languages (assuming Marantz's division into morphologically and syntactically ergative languages). Their theory of Case is that NOM/ERG case is always assigned by I and ACC/ABS case is always assigned by V. The appearance of morphological ergativity depends on a parameter of whether I or V must always be a Case-assigner. The subject is always in [Spec, IP], but V can assign Case at a distance in morphologically ergative languages.[86]

[86] The Niuean data Levin and Massam discuss are apparently problematic for Bobaljik (1992) as he has the intransitive subject remain in "object position" whereas Levin and Massam depend on all subjects being in the subject position, but I have not further investigated the situation in Niuean.

They consider Niuean (Austronesian, Tongic subgroup) sentences with sentential complements, and observe that in some the subject takes ergative case, and in most absolutive, without apparent differences in word order. They explain how this conflicts with previous theories of Case-marking of S-bar arguing that S-bar must be able to be Case-marked, but that some S-bar's have inherent Case. They then examine how this conflicts with Burzio's generalization (if construed to hold of sentential complements), arguing that T $\rightarrow$ A does not always hold (but is derivable from Case Theory in certain contexts), while A $\rightarrow$ T is confirmed and can be derived from their Case Theory.[87] They suggest that the Case-marked S-bars cannot be NPs because then they would be extraction islands, and they are not. However this argument is not very strong, since many languages (e.g., Quechua (Manning 1991), Chicheŵa (Bresnan 1994a)) exhibit similar 'nominalized' sentential complements, whose external distribution is that of NPs. This phenomenon remains a general problem for syntactic theory.

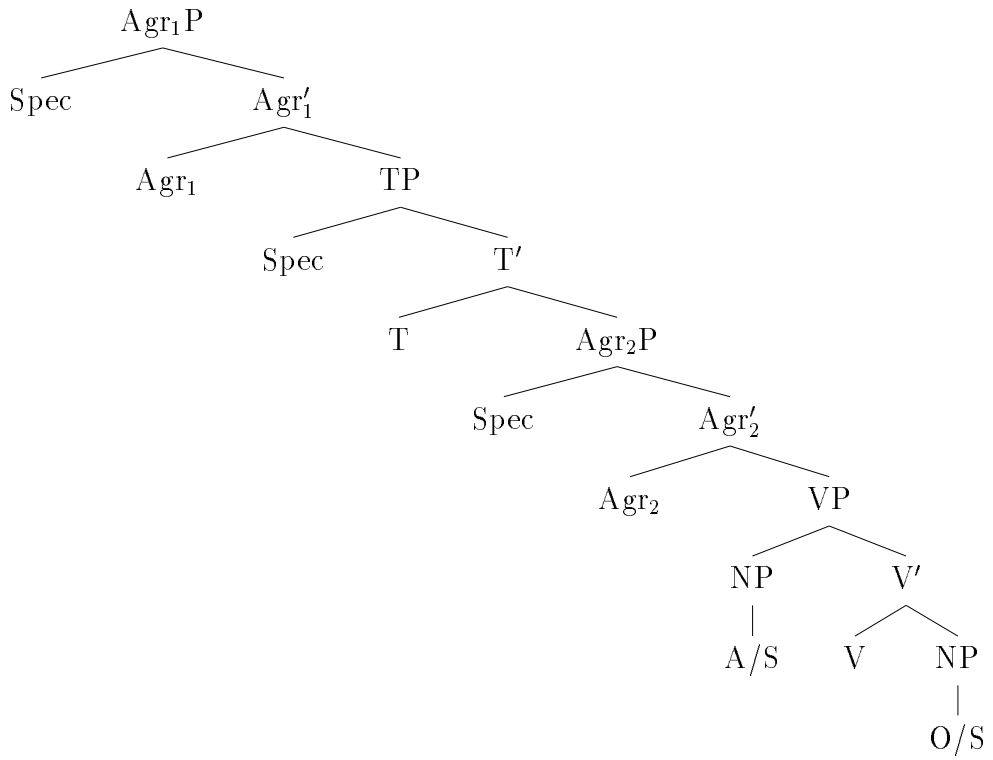
2.4.4.2 Bobaljik (1992)

Bobaljik adopts the kind of articulated IP tree shown in (241) and suggests that while in transitive sentences, A always moves to Agr_1 and O always moves to Agr_2, for intransitive sentences, in an accusative language, S moves to Agr_1 while in an ergative language S moves to Agr_2. This movement is forced by which Agr is "active".[88]

[87] Where T = assignment of a θ-role to the subject and A = Case assignment to the object.

[88] This notion of 'active' must be distinct from the notion of strong vs. weak features that appears in other Minimalist work.

(241)



These different movements yield the different Case-marking patterns, since nominative (= ergative) Case is checked by Agr_1 while accusative (= absolutive) Case is checked by Agr_2. He acknowledges that nominative and absolutive resemble each other as being the Case that is always (at least abstractly) realized, and as being generally the morphologically unmarked case, but this is seen just as a reflection of which Agr is "active" (the always active Agr would tend to be less marked, perhaps by Economy).

Bobaljik never makes clear whether he sees his claims as applying to what have been termed morphologically ergative languages, or syntactically ergative languages or both. Of the languages discussed (Basque, Niuean, Abkhaz, Inuit, Nisgha) the majority have standardly been categorized as morphologically ergative.[89] Bobaljik makes two arguments for his analysis.

[89] But we saw in Chapter 1 that there are reasons to believe that both Inuit and Nisgha should actually be classed as syntactically ergative, at least according to the Inverse Grammatical Relations hypothesis that I have advanced.

Argument One. The main argument for this proposed structure comes from binding theory. Bobaljik suggests that in ergative languages, just as in accusative languages, the A argument binds the O argument in reflexives and reciprocals. For example, in Basque:

(242) mutil-ek elkar ikusi dute
boys-ERG each other.NOM see AUX.3SGA.3PLE
'The boys saw each other.'

Bobaljik (following Anderson 1976) takes this as evidence that the ergative NP asymmetrically c-commands the absolutive NP at the level at which the Binding Theory applies. Inuit lacks basic transitive reflexives (it intransitivizes the verb), but the same point can be illustrated with the reflexive form of the possessive marker (compare (169a) and (171)).

Further Bobaljik cites Chomsky (1992) in suggesting that Binding Conditions, as conditions on interpretation, should apply at LF, the interpretive interface, and hence suggests that it is not the case that Binding can be satisfied at an earlier level of derivation, with the c-command relationships then undone by subsequent movement. This command relationship must exist at LF and the default assumption is that the ergative also c-commands the absolutive at S-structure ('spell-out') and so absolutive cannot possibly be assimilated to nominative. Note that this use of LF directly contradicts Bittner's analysis, where the absolutive must be higher than the ergative (at least in the default LF) to explain the wide scope reading of absolutives. While not directly committed to a level exactly like either s-structure or LF, in general I side with Bittner in believing that binding is best defined on an intuitively "deeper" level, which I term argument structure.

Finally Bobaljik argues against the alternative account which equates nominative and absolutive case as follows. If the absolutive argument raises to [Spec, IP] to get Case and then the ergative argument raises by an A′ movement to some higher position either to capture the Erg-Abs-V word order facts of Inuit or in order to also explain the binding facts mentioned above (as in Johns 1992) then one would expect Weak Crossover effects that do not occur. This prediction, and the question of weak crossover in general will be further discussed later in this section.

Argument Two. Bobaljik notes that in accusative languages, NPs in [Spec, Agr_1] cannot be marked nominative or trigger agreement in tenseless contexts (infinitives and gerunds)[90] and so must usually be realized as PRO. Given Bobaljik's ergativity hypothesis, the obvious prediction is that in tenseless contexts in ergative languages, the ergative argument should be unable to appear or trigger verb agreement, while the absolutive argument should be able to appear and trigger agreement in both transitive and intransitive sentences.

While noting that many ergative languages lack suitable infinitive forms, Bobaljik claims that this prediction is supported by the Inuit *-(l)lu-* construction. He suggests that this construction is like an infinitive, has agreement only with the absolutive argument, and allows expression of an absolutive but not an ergative argument within the same clause, citing examples like:[91]

(243) a. Miiqqat ikiu-ssa-llu-git niriursui-vutit
children-ABS help-FUT-INF-3PL.ABS promise-IND.2SG
'You promised to help the children.'

b. aggi-ssa-llu-tit niriursui-vutit
come-FUT-INF-2SG promise-IND.2SG
'You promised to come.'

c. niviarsiaq sikkir-lu-ni kiina-nngu-a nui-rata-nnguar-puq
girl.ABS blossom-INF-4SG face-little-3SG appear-all.the.same-little-3SG
'The girl (i.e., the willow herb) blossoming, her little face appeared at last.'

Bobaljik (1992) takes this construction as evidence for his analysis, saying that in infinitivals, just as in English, Agr_1 is defective in a non-tense environment and hence it can neither license Case nor agreement. In other words, he claims that in a *-(l)lu* infinitive, there will be neither agreement with A, nor will A be licensed to appear overtly with ergative Case. The agreement facts are correct, but the claims about

[90] Though this is not the case in Portuguese, of course (Raposo 1987). Portuguese infinitival clauses allow overt nominative subjects and the verb agrees with them. This is generally analyzed as resulting from a case assigned to the CP percolating to the subject, or a Case originating in C being assigned to the subject.

[91] Example (243b) corrects a typo in Bobaljik's (33a). The translation of (243c) has also been altered in accord with my understanding of Bergsland (1955).

overt NPs are just wrong: as discussed in Section 2.3.2, neither an S nor an A can appear in complement uses of the infinitive, while in adverbial uses like (243c), overt NPs functioning as any of A, S or O may appear. Hence, this argument collapses.

2.4.4.3 Bobaljik (1993)

The first half of Bobaljik (1993) reworks Bobaljik (1992) bringing it into accord with the available linguistic data, while the second half deals with two topics: how to recapture the notion of Subject within this framework, and how to deal with active-stative languages in which some intransitive verbs take an ergatively-marked actant.

So, in the first section Bobaljik deletes discussion of Niuean as an ergative language with an accusative binding theory, suggesting that the "reflexive" there is used more as an emphatic marker. He cites discussion by Keenan (1991) of Samoan where the "reflexive" *lava* is principally an emphatic marker but can be used with either the ergative or absolutive of a transitive to indicate coreference, based more on precedence than dominance. See also Mosel (1991) who argues for this element in Samoan not being an anaphor at all.

Regarding the Inuit infinitive, without overtly correcting his earlier claims, Bobaljik now suggests that we should "focus primarily on the agreement morphology, assuming that the relations expressed by this morphology are the essential relations of the clause" whereas "consideration of the distribution of lexical NPs is potentially misleading" (p. 64). The theoretical basis for this is suggesting that Inuit falls in with the class of languages whose lexical NPs have been analysed as adjuncts while the agreement morphemes are actually the arguments of the verb (Jelinek 1984, Baker 1991). This proposal dodges the "counterevidence" from the distribution of overt NPs in infinitive clauses, but it makes a number of further predictions, which Bobaljik does not go on to discuss. I will take up this agenda below.

The next section deals with how to recapture the notion of deep subject (grouping A and O) under Bobaljik's analysis (recall that under his analysis, the A argument moves to [Spec,Agr1], while the S moves to [Spec,Agr2]). Bobaljik suggests this class is needed to determine the antecedent of reflexives and the controller and controllee

in controlled construction like the Inuit *-(l)lu* infinitive.[92] The essence of Bobaljik's proposal is that we make checking the features of T the equivalent of the "Extended" part of the Extended Projection Principle, that every clause must have a subject. If this feature checking is required, then an A argument (and an S argument in an Accusative language) will move first to [Spec, TP] and then to [Spec, Agr1], while an S argument in an ergative language will move to [Spec, Agr2] and then to [Spec, TP]. Being in [Spec, TP] conveys subject properties. There are a number of theory internal issues here – many Minimalist analyses regard the subject as moving straight to [Spec, AgrS], bypassing TP, and if T's N-features are strong, as Bobaljik assumes, then an S and an O will actually be in different positions at Spell-Out. This might be detected by word order facts (for instance by using adverbs that adjoin to Agr2P), but the available evidence actually suggests that all absolutive NPs are in the same position at S-structure (Section 2.1.3). However, given the current state of flux of the Minimalist Framework, I will not pause to investigate these issues in detail. The crucial point is that this analysis gives Bobaljik a configurational way of grouping A and S, as well as the configurational way of grouping S and O that was previously proposed. I also want to have two notions of subjecthood, but I believe it is necessary to define a-subject over argument structure as I have done, and an analysis that simply groups surface A and O will be insufficient.

The final section addresses the fact that a number of Ergative languages have the perhaps unexpected property that some intransitive verbs mark their single actant Ergative rather than Absolutive (Basque, Georgian, etc.).[93] Bobaljik's solution is to adopt Hale and Keyser's (1986) suggestion that unergatives are underlyingly transitive. In cases where there is Ergative marking on the S argument, there is analyzed as being an unincorporated object (either abstract, or arguably overt in certain Basque forms) whereas in other cases like Inuit where all intransitives clearly

[92] Though, again recall the evidence from Section 2.3.3 that these actually appear to be properties of a-subjects, not just surface As and Os. I have not yet seen a minimalist account of passive or ECM constructions, but I believe Bobaljik's proposals would not extend correctly to these cases.

[93] The section does not address the question of why and whether these languages should be analyzed as Ergative rather than Active, but under Bobaljik's analysis, arguably this is just a terminological question.

act as intransitives, the analysis is that unergatives are underlyingly still transitive, but that their object incorporates into the verbal head as Hale and Keyser suggest. Note that Bobaljik's proposal amounts to a very strong semantic claim about languages such as Basque, namely that all and only those intransitive verbs that take an Ergative argument are unergative verbs which underlyingly have the syntactico-semantic structure suggested by Hale and Keyser. But I believe a closer examination of almost any such split intransitive language will belie this claim. Most commonly the class of single actant verbs taking the Ergative/Active marking is either much smaller than the semantic class of unergatives, or conversely, much larger, and the Stative class is fairly small and often closed (Merlan 1985). For the case of Basque in particular, it has been argued that there is not a perfect match between semantically unaccusative/unergative verbs and the choice of ergative/absolutive case marking (Ortiz de Urbina 1989:42–44). Clearly meaning and case marking are correlated, but only imperfectly.

2.4.4.4 Why Absolutive should be grouped with Nominative (Morphologically)

Bobaljik's analysis differs from most others in identifying nominative case with ergative case rather than employing the usual identification of nominative case with absolutive case.[94] However, I believe that, at a morphological/morphosyntactic level, the right choice is to identify Absolutive and Nominative, for at least the reasons laid out here.

Markedness. It is a basic observation that nominative or absolutive is the case that is always registered on some term of a verb (modulo pro-drop and quirky case marking) in Accusative and Ergative languages respectively, and almost exceptionlessly they are the morphologically unmarked cases (there are a few exceptional languages with marked nominatives, but the absolutive seems to be exceptionlessly unmarked).

[94] The idea of nominative and absolutive being the same unmarked category appears in Trubetzkoy (1939), and was probably just assumed by various earlier authors, as the term 'absolutive' was something of a late invention.

These observations can be extended: nominative and absolutive are the cases nearly always used for citation, and for the 'topic' of equational or copular sentences (Dixon 1979:72).

Ordering of verbal agreement. In languages with dual agreement with both affixes on the same side of the verb, the general pattern is that object markers are closer to the verb than subject markers in Accusative languages (for example in Bantu languages (Chichewa, Chi-Mwi:ni, Haya), Muskogean languages (Chickasaw and Choctaw), Aztec (Michoacan, Sierra), Kunparlang (Non-Pama-Nyungan, Australia)).[95] In contrast, in languages with Ergative-Absolutive verbal cross referencing, it is the ergative affix that appears closest to the verb while the absolutive affix is outside it, for example in Inuit, Abkhaz, Mayan (Jacaltec, Quiché and Tzutujil).[96]

The value of this evidence depends on one's theory. To someone adopting the assumptions of Baker (1988) and the Split-Infl Hypothesis, ordering of affixes gives very important information about not only morphology but the syntactic structure (the ordering of functional projections). Under the new morphology-checking framework of Chomsky (1992), the importance of this evidence is marginalized, but nevertheless, I will take it as indicating something important at a morphological level.

Plausibility of Historical Change. Languages are not statically ergative or accusative. There are fairly well examined cases of languages changing their character from ergative to accusative and vice versa. There is also a fairly intuitive account of how this can happen, dating to at least Kuryłowicz (1946). Kuryłowicz's basic observation is that if an accusative language has a passive (that allows expression of an oblique agent), and for whatever reasons, prefers passive verb forms to the point that it stops using transitive verb forms (as seems to be happening in Maori), then the language has almost become ergative. This transition is complete when the previous marker of an oblique agent is reinterpreted as the marker of a core grammatical

[95] Chi-Mwi:ni, Haya, Chickasaw and Choctaw are from Murasugi (1992:98–99), Chichewa and Kunparlang from Bresnan and Mchombo (1987), Aztec from Merrifield et al. (1974).

[96] Murasugi (1992:99–100).

relation, and the old passive marker is reanalyzed (perhaps as a transitive marker). The same account can be told in reverse for an ergative language that prefers the antipassive becoming accusative. The important thing to note is that in this account, the old nominative becomes the absolutive in the new system and vice versa. There is no similarly appealing story in which the old licenser of nominative case becomes the new licenser of ergative case.

While it is certainly not the case that all ergative systems arise from passives (cf. Garrett 1990, Section 1.2.4), in general ergatives (and accusatives) arise from marked cases while absolutives arise from the unmarked case (nominative).

Semantic Scope/Specificity. As Bittner (1987) discusses, if any argument in a sentence has a general presupposition of specificity, or is almost always interpreted as a wide scope argument, then it is the nominative in Accusative languages and the absolutive in Ergative languages. This again suggests that it is nominative and absolutive that form a natural class.

2.4.4.5 Weak crossover and the Pronominal Argument Hypothesis

The flow of ideas in this subsection is rather complex. In part this is because I am discussing two incompatible proposals of Bobaljik's: Bobaljik (1992) argues that certain analyses of Inuit should be ruled out because they would predict weak crossover violations that do not occur (an argument repeated in Bobaljik (1993)), while a later section of Bobaljik (1993) suggests that Inuit is a pronominal argument language (in the sense of Jelinek (1984)) which would imply that Inuit should exhibit no weak crossover effects, at least with NP arguments. The Pronominal Argument Hypothesis in turn can be argued for and against from a number of points of view. I argue, following Baker (1992) and against Bobaljik (1993) that the existence of pronominal arguments cannot be simply correlated with overt morphology. As well as predicting the absence of weak crossover effects on NPs, adopting the pronominal argument hypothesis has been used to explain various things such as the appearance of free word order and free pro drop, and rich case and agreement systems (Jelinek 1984, Speas 1990). But in general these phenomena seem poorly correlated. In this discussion I

can but touch the surface of these issues. See Bresnan (1994b) and Ortiz de Urbina (1989:88–95) for two recent contrasting treatments of weak crossover (the latter dealing with Basque, another ergative language), and Austin and Bresnan (1994) for a detailed defence of the view that the phenomena that have been handled under the pronominal argument hypothesis are not in fact phenomena that covary.

Weak Crossover. Bobaljik (1992) suggests that a technical problem with certain previous analyses of ergativity is that the derivations they propose should lead to weak crossover violations that do not in fact appear to occur. For example, recall that on Johns' (1992) analysis, the ergative argument moved by A′ movement to adjoin to a position above the absolutive argument. But if this were the case, Bobaljik argues, then a sentence like (244a) should be ruled out as a weak crossover violation for the same reason that (244b) is ruled out in English.[97]

(244) a. Piita-up$_i$ anaana-ni t_i nagligijaŋa
Piita-ERG mother-POSS.3SG.REFL.ABS love.3SGE.3SGA
'Piita$_i$ loves his$_i$ mother.'

b. *Who$_i$ does his$_i$ mother love t_i?

While the analysis of Bittner (1994) avoids this problem by suggesting that the ergative NP is fronted at PF, note that under Bittner's analysis, [Spec, IP] is an A′ position, so the potential problem for Bittner's analysis is that A′ movement of the absolutive NP to [Spec, IP] should lead to weak crossover violations in certain circumstances. But in fact it is acceptable for the possessor of an ergative to be coindexed with the absolutive NP that moves over it:

(245) Ilaani niviarsiaraq arna-ata t_i aper-aa
Once girl.ABS mother-3SG.SG.ERG ask-3SG.3SG
'Once her$_i$ mother asked the girl$_i$...'

[97] The details of why it is ruled out depend on the account of weak crossover used, but standardly a weak crossover violation results when a coindexed term appears between an operator (the result of A′ movement) and its trace. Also, because the ergative NP is being postulated to move by A′ movement to its default position, note that the result is that all cases of binding the possessor of an absolutive by an ergative should be ruled out, and not only cases when the ergative NP is a *Wh*-word or a quantifier.

To bolster his case Bobaljik (1992) notes that clear weak crossover effects have been noted in certain ergative languages (Basque and Nisgha). He does not examine Inuit, but nevertheless took the above to be an argument in favor of his own analysis in which there was no A′ movement. However, for separate reasons to do with sustaining his argument from infinitive clauses, Bobaljik (1993) suggests that Inuit is a pronominal argument language, which would predict that there would never be any weak crossover effects in Inuit sentences with NP arguments for quite separate reasons. Thus I will return to the discussion of weak crossover after a discussion of the pronominal argument hypothesis.

The Pronominal Argument Hypothesis. There has been a long tradition in Native American linguistics, dating at least to Boas, which suggests that in certain languages the 'agreement affixes' of verbs are actually pronominal arguments of the verb stem, while optional lexical NPs are merely modifying adjuncts. Jelinek (1984) first brought this argument into the generative fold, dubbing it the Pronominal Argument Hypothesis. Under such an account, it is the pronominal crossreferencing on the verb that exhibits configurational structure, while lexical NPs are just adjuncts which can appear freely positioned. The most interesting recent discussions of this proposal are to be found in the work of Baker (1991, 1992), which I summarize below.

Bobaljik (1993) claims that it is significant that the Inuit infinitive agrees with S and O, but not A, because, under the assumption that a Jelinek-style analysis is appropriate for Inuit, this shows us that an S or O argument is permitted with the infinitive (as witnessed by the overt agreement) while an A argument is not allowed (it must be PRO which is silent both lexically and as a piece of agreement morphology). Now this argument only goes through on the strong (and perhaps naive) assumption that there is an absolute correlation between a morpheme being overt and its serving as a pronominal argument, syntactically and semantically. There are various arguments against this – for example you encounter problems when you try to extend a Jelinek-style analysis to other Australian languages such as Jiwarli which totally lack overt verbal cross-referencing (Austin and Bresnan 1994), but the nicest argument against this position that I know is from Baker (1992), and I will

summarize it briefly here.

Bobaljik's claims are vitiated as soon as you accept that some cases of "pronominal arguments" must be zero morphemes, as is already accepted by Jelinek (1984) for the analysis of the Warlpiri third person arguments – and in Inuit, too, we could simply suggest that all infinitival mood ergative markers happen to be zero morphemes. But Baker makes a much more sophisticated argument than that from Mohawk.[98] He considers the forms in (246) and asks whether the object markers in the neuter and feminine-zoic genders (246b-c) can be analyzed as zero morphemes (given that the agreement affix in such cases is the same as for an intransitive subject(246a)).

(246) a. te-**k**-nunyakhw-a' 'I dance (intransitive)'

b. **k**-nuhwe'-s 'I like it (neuter)'

c. **k**-nuhwe'-s 'I like her (feminine-zoic)'

d. **ri**-nuhwe'-s 'I like him (masculine)'

His answer is that while the feminine-zoic object marker seems to be a zero morpheme, all the available evidence indicates that the neuter is not a zero morpheme, but rather neuter is denoted by *the absence of a morpheme.* When a verb is placed in the stative aspect, intransitives *and verbs with neuter objects* undergo an inversion process where the subject agreement morpheme is replaced by an object agreement morpheme, whereas forms with an object agreement marker remain unchanged (247).

(247) a. te-**wak**-nunyahkw-v 'I have danced (intransitive)'

b. **wak**-nuhwe'-u 'I have liked it (neuter)'

c. **k**-nuhwe'-u 'I have liked her (feminine-zoic)'

d. **ri**-nuhwe'-u 'I have liked him (masculine)'

Generally Mohawk verbs mark subject number, but this number marking is neutralized if there is an object. Crucially, feminine-zoic objects cause neutralization of number marking (just like masculine objects) but neuter objects do not neutralize

[98]See also Nordlinger (1993) for a similar argument from Wambaya.

subject number marking. Thirdly, the agreement morphology can only mark two actants, and this results in the curious restriction that for ditransitive verbs, the direct object must be neuter. This can be easily explained if we assume that Mohawk verbal morphology can express no more than two arguments, but that the neuter is not represented in the morphology (whereas the feminine-zoic is expressed as a zero morpheme). (See Baker (1992:31–32) for data justifying these last two arguments.)

Baker then shows that syntactically, a third person neuter actant behaves in every way identically to other pronominal agreement actants. Binding theory, free word order and comitative modifier possibilities are exactly the same with third person neuter objects as with any other objects. The only conclusion is that a third person neuter pronominal is somehow associated with the appropriate forms in Mohawk in the syntax, even though morphologically there is nothing there, not even a zero morpheme. Thus evidence of overt or non-overt morphology cannot be taken as definitive evidence of whether there is a pronominal. Hence facts about overt morphology can at most be suggestive – they cannot be taken as decisive evidence, as Bobaljik (1993) would wish.

Baker (1991) adopts Jelinek's pronominal argument approach for the analysis of Mohawk, but goes beyond the standard diagnostics that Jelinek used to motivate her approach to nonconfigurationality in Warlpiri (namely, free word order, discontinuous constituents, and free null anaphora, to which can be added lack of movement transformations, lack of pleonastic NPs and use of rich Case and verbal agreement systems (Speas 1990)). Baker examines and finds support for Jelinek's analysis by looking at disjoint reference conditions ((248a) is good, despite other evidence for Binding Condition C operating in Mohawk), data from extraction from lexical NPs (as opposed to sentential complements), and the absence of weak crossover subject/object asymmetries ((249b) is good, unlike the translation).

(248) a. Wa'-t-ha-ya'k-e' Sak rao-a'share'
FACT-DUP-1SS-break-PUNC Sak MSP-knife
'He$_i$ broke Sak$_i$'s knife.'

b. Ro-ya'takehnha-s Sak rao-a'share'
MsO-help-HAB Sak MsP-knife
'Sak$_i$'s knife helps him$_i$.'

(249) a. Uhka wa'-te-shako-noru'kwanyu-' rao-skare'
who FACT-DUP-MsS/FsO-kiss-PUNC MsP-friend
'Who$_i$ kissed his$_i$ girlfriend?'

b. Uhka wa'-te-shako-noru'kwanyu-' ako-skare'
who FACT-DUP-MsS/FsO-kiss-PUNC FsP-friend
'Who$_i$ did her$_i$ boyfriend kiss (her)?'

Weak Crossover revisited. Reconsidering in this light Bobaljik's analysis, Bobaljik seems forced to say that at least Basque and Nisgha, for which he documents weak crossover effects, are not pronominal argument languages.[99] On the other hand, while his objections to certain other analyses of Inuit as being wrong because they would predict that sentences in the normal word order should be weak crossover violations can technically be maintained, Bobaljik now seems committed to the position that Inuit should not display Weak Crossover phenomena. Moreover, he is also predicting similar disjoint reference and extraction non-asymmetries of the sort Baker describes.

A preliminary assessment suggests that the data actually split (which would support Austin and Bresnan (1994)). Bittner (1994:155–158) reports normal Principle C behavior in Inuit, so Inuit does not have this property of nonconfigurationality.[100] My own discussions with one Iñupiaq speaker suggested that standard weak crossover examples were acceptable to her.[101] For example, contrasting with the English data in

[99] Even though Basque, at least, demonstrates many of the other properties that are classically associated with the 'nonconfigurationality' that the pronominal argument hypothesis allows: free word order and a rich case and agreement system (Ortiz de Urbina 1989:78 and elsewhere).

[100] Note also that the use of discontinuous constituents is extremely limited in Inuit and the order of agreement affixes discussed in Section 2.2.5 – varying but normally with the absolutive marker outside the ergative – would appear to preclude these affixes being regarded as the configurational part of the language.

[101] However, I should immediately qualify this datum by pointing out that Maria Bittner (email, Jun 1994) reports getting inconsistent results when she tested weak crossover examples. So more thorough examination of this issue is clearly necessary.

(250), the Iñupiaq data is in (251).[102]

(250) a. Who$_i$ helped his$_i$ mother?

b. *Who$_i$ did his mother help t_i?

(251) a. Kia aaka-ni ikayuq-p-a-ung?
Who.ERG mother-4SG.ABS help-INTERR-TR-3SG.3SG
'Who$_i$ helped her$_i$ mother?'

b. aaka-ngan kiña ikayuq-p-a-ung
mother-3SG.ERG who.ABS help-INTERR-TR-3SG.3SG
'Who$_i$ was helped by his/her$_{i/j}$ mother?'

In (251a), fourth person morphology (Section 2.3.3) means that the sentence can only have a coreferent meaning as shown. In (251b), the possessor can be another individual, but importantly it can also be *Who$_i$*. There is no weak crossover violation.[103]

2.4.5 Sadock (forthcoming)

Sadock (forthcoming) outlines an autolexical syntax treatment of ALS (which I have already done to some extent in Section 2.3.1) and then proceeds to provide a treatment of binding theory. The account he provides is very similar to, and in some ways inspires, the account presented here. Binders of reflexives must satisfy a syntactic condition (they must asymmetrically c-command the reflexive) and a semantic condition (they must be an a-subject). The account differs in choosing the syntax rather than the argument structure as the level at which command is defined. In conjunction with proposing the phrase structure shown in (252), this gives Sadock a neat account of what I captured through the coterm condition: ergatives cannot bind absolutives

[102]Inuit lacks overt *Wh*-movement but weak crossover effects should still be seen because the *Wh*-word moves at LF. Compare, for instance the similar weak crossover data for English quantifiers in (i) and see Bobaljik (1993:60–61).

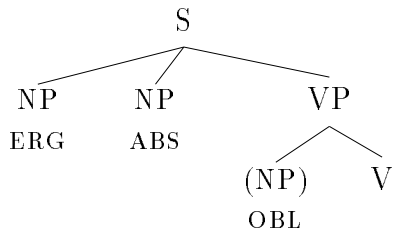
(i) a. Everyone$_i$ helped his$_i$ mother.

b. *His$_i$ mother helped everyone$_i$.

[103]Note that (251b) is active, unlike its gloss.

because they do not asymmetrically c-command them, while both ergative and absolutive a-subjects asymmetrically c-command oblique NPs (recall that for Sadock pronominal agreement appears as an NP at the level of syntax).

(252)



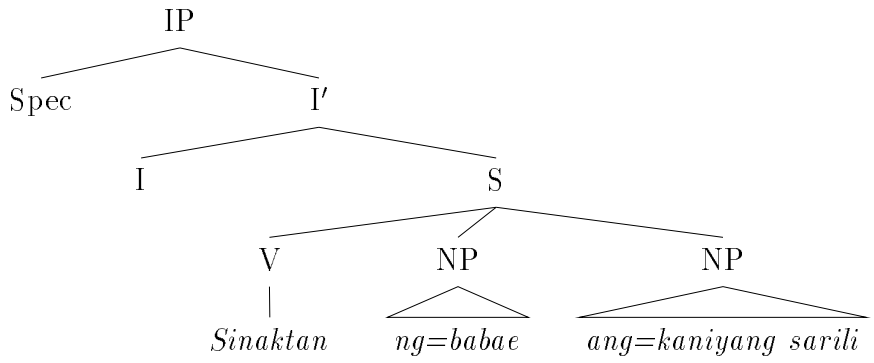
The independent evidence for this phrase structure is not strong – although Sadock tries to make the best case for it – and some additional representational assumptions seem to be required, such as that adverbial clauses are generated as a daughter of S rather than being adjoined. Nevertheless, the structure seems to account neatly for the Inuit data. However, I believe that this approach cannot be argued to have general crosslinguistic application, and further that there is a possible problem lurking in the Inuit data.

I showed above (Section 1.3.3) that in Toba Batak an antecedent need not command an anaphor at the level of syntax, but must command the anaphor at the level of argument structure. More simply, note that general adoption of a condition of asymmetric c-command would prevent the postulation of even a partially flat structure of the sort Sadock suggests in all those languages such as Basque or Tagalog where core arguments can bind other core arguments (that are more oblique at the level of argument structure). For example, this theory of binding would not be able to license the reflexive in (253) given the phrase structure suggested by Kroeger (1993:133, 136), which is shown in (254).[104]

(253) Sinaktan ng=babae ang=kaniyang sarili
DV.hurt GEN=woman NOM=her self
'A/the woman hurt herself.'

[104]See Kroeger (1993) for a defense of this somewhat unusual phrase structure. The present argument depends only on the claim that there is a flat structure for the NPs following a verb.

(254)



Thus the incorporation of syntactic structure command relationships seems unsatisfactory within a crosslinguistic theory of binding.

Finally there is one difference between the predictions of my account and Sadock's. My account (following Bittner (1994)) predicts that a passive agent should be able to bind another oblique argument of the verb, since it is an a-commanding a-subject. However, this should be impossible on Sadock's account, since the oblique agent of passives does not asymmetrically c-command other obliques, since they are both daughters of VP. The data on this point deserves further investigation, but Bittner (1992) gives an example that supports this binding possibility:[105]

(255) a. Jaaku Piita-mit immi-nik uqaluttualia-mik nassin-niqar-p-u-q
Jaaku.ABS Piita-ABL self-MOD story-MOD send-PASS-IND-INTR-3SG
'Jaaku$_i$ was sent a story about self$_{i/j}$ by Piita$_j$

b. PASS⟨J, send⟨P, —, self-story⟩⟩

[105]She notes, however, that some speakers fail to allow binding by the ablative NP, but argues that this is due to the greater salience of the absolutive NP.

CHAPTER 3

Lezgian

IF THE Philippine, Eskimo and Mayan language families have been the cause for much linguistic debate by providing apparently conflicting notions of subjecthood, other languages have proved problematic by providing little or no evidence for the surface grammatical relation subject. In this chapter I consider one such language, Lezgian, and how it could be treated within the framework that I have been developing (see Van Valin (1981) for a similar consideration of the related language Archi). Certain NPs (the ergative and absolutive NPs of transitive and intransitive verbs respectively and dative experiencers) clearly have a certain prominence in Lezgian, but this is mainly with respect to phenomena that I am regarding as sensitive to argument structure. There seems to be very little that cannot be captured in terms of a-structure prominence and use of the term/non-term distinction. One could argue for a very weak S/O pivot (purely on the basis of case marking) or a very weak S/A pivot (on the basis of certain control facts Haspelmath notes, although maybe they can be otherwise explained). This unfortunate indeterminacy over whether an argument has prominence solely because it is an a-subject, or whether it should also be treated as a grammatical subject has been noted for other languages that lack a rich set of valence changing operations. See, for instance, Inman (1993:64) for discussion of (Colloquial) Sinhala. Ultimately, we would hope to be able to settle these issues, but in the meantime, the existence of such languages provides a strong reason for carefully distinguishing 'subjecthood' tests that are tests of a-subjecthood, from ones that are

tests of grammatical subjecthood.

3.1 Basic Background on Lezgian

The earliest written Lezgian literature dates from the second half of the nineteenth century, and the Russian general Uslar also provided a good grammatical description of the language during this period. From the 1920s on there is work in Russian on Lezgian (most notably work by Gadžiev in the forties and fifties). Unfortunately, this work is inaccessible to me, and this chapter is based entirely on work on Lezgian written in English – principally Mel′čuk (1988) and the excellent grammar by Haspelmath (1993).

3.1.1 Genetic Affiliation

Lezgian is a member of the Lezgic branch of the Nakho-Daghestanian family (its closest relatives including Archi and Tabasaran), spoken in southern Daghestan (inside Russia) and northern Azerbaijan.

3.1.2 Case Marking and Case Markedness

All nouns, pronouns and demonstratives have absolutive/ergative case marking. The absolutive appears to be a bare stem (e.g., *sew* 'bear.ABS'). The ergative and all the 16 other cases are then formed from an oblique stem (e.g., *sew.re* 'bear.ERG', *sew.re-z* 'bear-DAT').[1] The ergative also has a zero ending, but is based on the oblique stem. (Alternatively, one could say that the ergative is simply zero, and that the absolutive is subtractive.) The ergative is used only to mark the agent of transitive verbs (it apparently sometimes marked instrumentals in older forms of the language (Haspelmath 1993:84)). The other 16 cases are a dative and a genitive and 14 originally locative cases arranged in a slightly defective three by five paradigm. Many of the other cases have subcategorized uses (dative experiencer subjects, postelative stimuli, postessive patients, adelative subjects of *že* 'can', etc.).

[1] In these and other examples, I follow Haspelmath in using a period (.) to separate the bare stem from the oblique stem ending, and a hyphen (-) to mark other case endings.

3.1.3 Agreement

There is no agreement. The only possible qualification to this statement is that nouns mark number and so nominal predicates have the same number as their subjects in copular clauses:

(256) Suw.a-n c'eh-er gzaf muq̃ajat hajwan-ar ja
mountain-GEN goat-PL.ABS much careful animal-PL COP
'Mountain goats are very careful animals.'

However, I would suggest that this is not a grammaticized agreement system, but rather that *hajwan-ar* 'animals' is plural simply because we are talking about more than one goat; that is because of a fact about the world. There is some further discussion of this phenomenon in Section 3.3.2.

Among the Daghestanian languages, Lezgian is exceptional in lacking agreement, and so it is perhaps worth briefly considering the comparative evidence. Proto-Daghestanian apparently had a noun class system and the verb agreed with the O/S in class (that is, there was an ergative agreement pattern). This pattern of class marking and agreement is preserved in all of the modern languages except certain members of the Lezgic subfamily (namely, Lezgian, Agul and the southern dialect of Tabasaran (Kibrik 1985, Kibrik 1987)), though it seems to also be decaying in Avar (it is present only on vowel-initial verb stems (Kibrik 1987)). Archi (Lezgic subfamily) is typical: it has a system of four noun classes, and the verb agrees with the O/S in class and number. The situation in Tabasaran (also Lezgic subfamily) is complex (Kibrik 1985). There are three sets of person and number agreement markers for verbs, which I will term actor, undergoer and dative. Intransitive verbs can take the actor or undergoer agreement affixes in what appears to be a fluid split-S system (using the terminology of Dixon (1994:71)). Two actant verbs agree with an actor using the actor suffixes or an experiencer using the dative suffixes and in certain cases there is then an optional second agreement marker (either undergoer or dative) agreeing with an undergoer or recipient argument. Additionally the verb marks a collapsed version of the proto-Daghestanian class system, distinguishing only two classes and again agreeing with the O/S. This class agreement system is totally lost in the

southern dialect. Thus the old ergative agreement system is being overlaid by a fluid active-stative system. The beginnings of a person-number agreement system can also be seen in Akhvakh (Kibrik 1985).

3.1.4 Word Order

Sentences are normally head (i.e., verb) final, although especially in speech, one or more constituents of the clause may appear after the verb. The most common word order seems to be SV/AOV,[2] but Haspelmath (1993:301) suggests that this is just a consequence of a preference for putting given information before new information and the fact that subjects are generally given information. Thus word order should perhaps be given the sort of pragmatic treatment argued for in Austin (forthcoming). Heavy constituents can be moved to either end of a sentence. The immediately pre-verbal position seems to have something of a special status – questioned constituents usually, but not necessarily, appear here. But note that this is a clause-bound re-ordering: although the questioning of elements in subordinate clauses is allowed in Lezgian, the questioned constituent remains within its own clause.

3.1.5 Termhood

Because of the lack of valency alternations and agreement, it is very difficult to assess termhood in Lezgian. Circumstantial evidence can be had from the distribution of Lezgian valence patterns. For what Haspelmath (1993:269) calls the standard valence patterns, it is noteworthy that they divide into two groups, intransitive and transitive valence patterns. All the intransitive patterns have an absolutive argument (and zero or one other oblique case argument) and the transitive patterns have both an ergative and an absolutive argument (and then similarly zero or one oblique case arguments). This might suggest that the absolutive and ergative are terms. The remaining 'nonstandard' valence patterns are genitive arguments of certain verbal idioms, dative experiencer subject verbs and noun + *awun/x̂un* 'do/be' compounds. Dative experiencer subjects can be distinguished from other oblique case arguments

[2] I use here Dixon's notation for word order, since it is not clear what the pivot is in Lezgian.

that could be regarded as a-subjects, and so I will suggest that they should also be regarded as terms.

3.1.6 Valence changing morphology

Valence changing morphology is very limited in Lezgian. There is a causative morpheme *-ar* (Haspelmath 1993:163), but it is less than fully productive. For verbs with which it does occur, with one or two exceptions it adds an ergative argument (i.e., moving the verb from an intransitive to a transitive valence pattern). The affix *-ar* also appears with a limited number of transitive verbs, but here it causes no difference to the verb's meaning or valence pattern. There is also a periphrastic anticausative, made from the stem of weak transitive verbs and the auxiliary *x̂un* 'become, be'.[3] It is used to denote processes strictly without an external agent (as opposed to merely backgrounding the agent). This limited range of voice changing operations appear to provide very little evidence about the structure of Lezgian.

3.2 Phenomena expected to be sensitive to argument structure

In this section I will provide evidence from idioms, imperatives, binding and control (in complement and adverbial clauses) to show that in Lezgian too these phenomena seem to be sensitive to argument structure.

3.2.1 Binding Theory

In the vast majority of cases, the antecedent of a reflexive is an a-subject. That is, the antecedent can be an ergative A NP (257a), an absolutive S NP (257b), or a dative experiencer subject (257c); or it can be in various other roles that can still plausibly be analyzed as a-subjects, such as the adelative argument of *x̂un* 'be able' (257d).

[3]Lezgian verbs are divided into strong verbs (stressed on a thematic vowel) and weak verbs (stressed on the stem and lacking a thematic vowel). This construction is only available for weak verbs.

(257) a. Kamal.a wiči-n buba.di-n ruža q̃aču-na
Kamal.ERG self-GEN father-GEN rifle.ABS take-AOR
'Kamal$_i$ took his$_i$ father's rifle.'

b. Ruš güzgü.d-a wiči-z kilig-na
girl.ABS mirror-INESS self-DAT look-AOR
'The girl$_i$ looked at herself$_i$ in the mirror.'

c. Ada-z wiči-n roman patal küne ga-ji x̂tin delil-ar
he-DAT [self-GEN novel for] [you.all.ERG give-AOP like detail-PL.ABS]
kimi-zma-j
lacking-IMPF.CONT-PAST
'For his$_i$ novel he$_i$ still needed details like the ones you gave.'

d. Q'üzü q̃ulluǧči.di-waj anžax gila wiči-n fikir exir.da-l q'wan
old employee-ADEL only now [self-GEN thought end-SRESS until
luhu-z x̂a-na
say-INF] can-AOR
'Only now could the old employee$_i$ express his$_i$ thoughts completely (*lit.* up to the end).'

Lezgian has a number of interesting, arguably idiomatic, constructions where one of the apparent actants is a genitive case modifier of a noun. Several such expressions are formed with the noun *rik'.í-* 'heart'. An example is shown in (258):

(258) Selim.a-n rik'.e-laj — penžer aq'al-iz alat-na
Selim-GEN heart-SREL [(ERG) window close-INF] fall.off-AOR
'Selim forgot to close the window.'
lit. '(For him) to close the window fell off from Selim's heart.'

On the assumption that such constructions have a normal argument structure, along the lines of (259),

(259) forget⟨*forgetter*, *forgotten*⟩

but idiomatic syntactic expression, then this construction can be used to distinguish things sensitive to a-subjecthood from things that are sensitive to a surface grammatical relation. It is thus important to note that the genitive NP in this construction can control reflexives:

(260) Ada-n rik'.e-l wiči-n stxa-jar xkwe-zwa
she-GEN heart-SRESS self-GEN brother-PL return-IMPF
'She remembers her brothers.'

Antecedence is not strictly limited to subjects. Sometimes a recipient can bind a theme, or a theme can bind a locative:

(261) Axundov.a Bašir.a-z-ni Abduselim.a-z čpi-n q̃ulluǧ-ar
Axundov.ERG Bašir-DAT-and Abduselim-DAT selves-GEN job-PL
mubarak-na
congratulate-AOR
'Axundov congratulated [Bašir and Abduselim]$_i$ on their$_i$ new jobs.'

Haspelmath (1993:411) suggests that the absolutive NP of a transitive sentence can only be the antecedent for a reflexive "when the antecedent is animate and no other possible antecedent exists in the clause". But this constraint seems doubtful since later (p. 416) Haspelmath shows a reciprocal whose antecedent is the absolutive of a transitive sentence and inanimate:[4]

(262) Ada k'us-ar sad=sada-w agud-na
she.ERG pieces-PL.ABS one.ABS=one-ADESS approach-AOR
'She put the pieces$_i$ together (*lit.* close to each other$_i$).'

At any rate, an absolutive noun cannot bind (into) the ergative or dative experiencer argument in its own clause:

(263) a. *Wiči Ali gata-zwa
self.ERG Ali.ABS beat-IMPF
*'Himself$_i$ is beating Ali$_i$.'

[4]The reciprocal is expressed by a reduplicated form of *čeb* 'themselves', or (here) *sad* 'one'. In this reduplicated form, the first component appears in the case of the antecedent and the second in the case required by the syntactic position of occurrence of the reciprocal. This is of interest mainly because it is a counterexample to the restrictive theory of information sharing presented in Pollard and Sag (1994) (if their binding theory is assumed to have universal applicability), where only information of type *index* (person, number and gender) is shared between antecedents and anaphors. In Lezgian, CASE must be transmitted as well, but in the current architecture of HPSG there is no small bundle of information that includes information on person, number, gender and case (the minimal containing sort is actually *local*). See Haspelmath (1993:415–416) for further examples of this construction. See Kathol (1994) for an HPSG agreement theory that does group CASE with other agreement features (although it appears not to make any predictions about agreement possibilities in cases of anaphoric binding).

b. *Wiči-z Ali.di-n ruš-ar aku-na
self-DAT Ali-GEN daughters-PL.ABS see-AOR
*'Himself$_i$ saw Ali$_i$'s daughters.'

The examples I have presented so far are consistent with an a-structure based account of binding. However, Haspelmath (1993:401) argues that binding in Lezgian is not actually syntactically determined, but depends rather on pragmatics. He writes: "In contrast to a number of particularly well studied languages (especially English) where coreferential omission and reflexivization have been shown to be subject to well-defined grammatical constraints, Lezgian does not show such clear grammatical conditioning of rules of coreference. The controller and the target of reflexivization and coreferential omission seem to be pragmatically rather than syntactically determined." He is concerned with such exceptional examples as the following, in the first of which the absolutive NP binds inside the ergative NP, and in the second of which the apparent antecedent is the possessor of an oblique NP.

(264) a. Tağı=xalu wiči-n fikir-r.i ak'ağ-nawa-j
Tağı=uncle self-GEN thought-PL.ERG torment-PRF-PAST
'Uncle Tağı was tormented by his thoughts.'
lit. 'Self$_i$'s thoughts tormented Uncle Tağı$_i$.'

b. I xür-er.i-n q'üzü-bur.u-n gaf-ar-aj, čeb inriq^h
these village-PL-GEN old-SBST.PL-GEN word-PL-INEL selves here
Dağustan.d-aj ata-j-bur ja
Daghestan-INEL come-AOP-SBST.PL COP
'According to the old people$_i$ of these villages, they$_i$ came here from Daghestan.'

The data are thus overall quite reminiscent of data on *zibun* binding in Japanese: the antecedent of *zibun* can usually but not always be described in terms of 'subjecthood' – what I am viewing as a-structure prominence (Gunji 1987, Katada 1991). In any such situation, there are two choices: either one can adopt a disjunctive theory of antecedence (where antecedence normally obeys syntactic constraints, but certain examples are pragmatically licensed by an alternative mechanism) or one can maintain a single set of binding conditions, which necessitates relying on as yet not very developed theories of pragmatics. The majority of the literature on binding in Japanese

has adopted the first course, maintaining that antecedence of *zibun* is a test for subjecthood, while acknowledging that there are certain exceptional, perhaps logophoric cases. However Iida (1992, 1994) argues strongly for Japanese that a unified account should be maintained. She argues that use of the reflexive is principally determined by the *speaker's perspective* – the vantage point from which the speaker decides to view the event, which is often but not always that of the subject, although she supplements this with a simple syntactic condition. Her condition (in the formalism of HPSG – see Pollard and Sag (1994)) is that *zibun* cannot o-command its antecedent. This constraint is basically equivalent to saying that *zibun* cannot a-command its antecedent in my framework. This is a much weaker constraint than saying that the antecedent must a-command the anaphor, but if applied to Lezgian, it would nevertheless rule out examples like (263) while permitting examples like (264). Further, Iida's notion of speaker's perspective quite clearly motivates the use of the reflexive in examples like (264).

I am not really in a position to decide between these two alternatives. But on either theory, whatever syntactic constraints that there are on binding are stated at the level of argument structure. The theories differ mainly in whether most examples are treated purely in terms of a-structure prominence, with a pragmatic theory for the remaining cases, or whether all examples are treated by the conjunction of a weak condition in terms of a-structure prominence and a strong theory of pragmatic prominence.

Kibrik (1985) presents some reflexization facts from various other Daghestanian languages. All of these languages clearly deserve further study, but for Tabasaran he writes "note that actant reflexivization is thus controlled by the highest-ranked semantic role in the hierarchy given above" and the same seems to be true of Akhvakh. Such observations support the a-structure based account of binding which I have been proposing. However, if examples like those in (264) should also turn up in other Nakho-Daghestan languages on closer examination, then deciding between the two alternatives discussed above could turn out to be a recurring problem.

3.2.2 Imperatives

The addressee of an imperative (or a negative imperative, which uses a different prohibitive verb form) is the a-subject, most commonly the ergative NP of a transitive verb (265a), the absolutive NP of an intransitive verb (265b) or a dative experiencer a-subject (265a):

(265) a. __ Sa žins.ini-n člen-ar žuğur-a wa abur
[DAT one kind-GEN constituent-PL find-IMPV] and [[they.ABS
galk'ur-zawa-j sojuz-r.i-n k'anikaj __ c'ar č'ugu
connect-IMPF-PART conjunction-PL-GEN below] ERG line.ABS draw.IMPV]
'Find the coordinate constituents and draw a line below the conjunctions that connect them.'

b. Ja Farid, __ ša!
PT Farid ABS come.IMPV
'Farid, come!'

The addressee is commonly deleted, as in the above examples, but it can appear apparently without any special emphasis:

(266) Wuna bağišlamiš-a, buba
you.ERG forgive-IMPV father
'Forgive me, father.'

In contrast, the absolutive argument of a transitive verb cannot be the addressee of the imperative even when this would not be completely implausible semantically (Haspelmath 1993:290):

(267) *Ja Allahq̃uli, policija.di __ jaq^{h}
PT Allahq̃uli police.ERG ABS catch.IMPV
*'Allahquli, let the police catch you!

Finally, the genitive idiom construction again suggests that the constraint is properly stated in terms of argument structure rather than some surface syntactic position, because an imperative can be formed with the genitive possessor as the addressee:

(268) Čun či q'aq'an q̃aw.a-l hik' ksu-da-j-t'a —
[we.ABS we.GEN high roof-SRESS how sleep-FUT-PAST-CND] GEN
rik'.e-l xkwaš
heart-SRESS return.IMPV
'Remember how we used to sleep on our high roof.'

3.2.3 Controlled adverbial clauses

Lezgian has a series of converbs that can be used to form adverbial clauses and for a limited degree of clause chaining. Here I will focus on the aorist converb. Haspelmath (1993:376) states that it "is used to express chains of actions carried out by the same subject." This is true as a first order generalization; a few exceptions are discussed below. In particular, when the converb is used to express sequential action, the a-subject of the adverbial clause is gapped, regardless of whether it is the ergative NP of a transitive (269a), the absolutive NP of an intransitive (269b) or a dative experiencer (269c).

(269) a. Načal'nik.di — sehne.di-z eq̃eč'-na ča-z wiri-da-z čuxsağul
director.ERG [ABSstage-DAT go.out-AOC] we-DAT all-SBST-DAT thanks.ABS
laha-na
say-AOR
'The director came onto the stage and thanked all of us.'

b. Kamal.a — ruža q̃aču-na tar.a-z aq'ax-iz bašlamiš-na
Kamal.ERG [ERGrifle.ABS take-AOC] tree-DAT climb-INF begin-AOR
'Kamal took a rifle and started climbing up a tree.'

c. Wun — am t-aku-na xkwe-mir ha
you.ABS [DAThe.ABS NEG-see-AOC] return-PROHIB PT
'Don't come back without having seen him.'

This is true of the overwhelming number of examples although there are the odd exceptions. Haspelmath (1993:404) notes (270) but suggests that it is only possible when the ergative argument is inanimate and therefore not a typical subject:

(270) Düja, q'il-äj=q'il.i-z jalaw-r.i q'u-na, ku-zwa
world.ABS [end-INEL=end-DAT flame-PL.ERG hold-AOC] burn-IMPF
'The world, completely engulfed in flames, is burning.'

lit. ... flames having caught [it] from end to end ...'

Also, in the following special temporal construction, there is no control (Haspelmath 1993:305):

(271) Am fe-na wad warz ja
she.ABS go-AOC five month COP
'She went five months ago.'
lit. 'She having gone, it has been five months.'

3.2.4 Control of infinitival complement clauses

Lezgian has a variety of syntactic forms for complement clauses (see Haspelmath 1993: Ch. 20). The three main strategies are infinitive, masdar,[5] and substantivized participle complements. The latter two types of complements are clausal nominalizations. Here I will just examine infinitival complements.

3.2.4.1 Controllee

Most verbs that select an infinitival clause complement control the a-subject of that complement. Again, this a-subject can be the ergative of a transitive verb (272a), the absolutive of an intransitive verb (272b), or a dative experiencer (272c):

(272) a. *Za-waj* __ a bejaburčiwal ex-iz že-zwa-č-ir
I-ADEL [ERG that shame.ABS bear-INF] can-IMPF-NEG-PAST
'I could not bear that shame.'

b. Dide.di-z __ šeher.di-z fi-z k'an-zawa
mother-DAT [ABS town-DAT go-INF] want-IMPF
'Mother wants to go to town.'

c. Nabisat.a-z __ wiči-n ğül akwa-z k'an-zawa
Nabisat-DAT [DAT self-GEN husband.ABS see-INF] want-IMPF
'Nabisat wants to see her husband.'

[5]The masdar is the traditional term in Caucasian studies for the verb form used in event nominalizations.

This is consistent with my general theory that the controllee should be an a-subject. There is further discussion of infinitival complements below in Section 3.3.4.2.

According to the predictions of GB, the lack of tense should prevent an infinitive from assigning nominative case, and thus licensing one of its arguments. But, in Lezgian, an infinitive can appear with all of its subcategorized arguments. It is rather a property of the upstairs verb whether there is control. While the verbs above control the a-subject of the infinitive, the verb *kiče* 'is afraid to/that' also takes an infinitive complement, but only optionally controls the a-subject of the infinitive ((273a) shows control, (273b–c) show full clausal complements):

(273) a. Selim.a-z — wiči-n buba.di-q^{h} galaz raxa-z kič'e-da-j
Selim-DAT [ABS self-GEN father-POESS with talk-INF] afraid-FUT-PAST
'Selim$_i$ was afraid to talk to his$_i$ father.'

b. Ruš.a-z gada.di-z wič akwa-z kič'e-zwa
girl-DAT [boy-DAT self.ABS see-INF] fear-IMPF
'The girl is afraid that the boy will see her.'

c. Ada-z i zeherlu q'il-er bağ.d-a awa-j
he-DAT [these poisonous head-PL.ABS [garden-INESS be.in-PART]
q̃uš-ar.i ne-z kič'e x̂a-na
bird-PL.ERG eat-INF] afraid be-AOR
'He was afraid that the birds in the garden might eat these poisoned heads.'

Bobaljik (1993:63, fn. 8) suggests that the cases of overt ergatives in "infinitive" complement clauses in Lezgian presented by Murasugi (1992:113) are not a problem for his theory because the constructions in question are nominalizations, not true infinitive clauses. While this is perhaps true of the examples Murasugi presented,[6] the same cannot be said for the form ending in *-(i)z* which is called the infinitive here (following Haspelmath). These infinitive clauses do not have the external syntax of NPs and appear only (i) as complements to certain verbs, (ii) in purpose clauses, and (iii) in adverbial clauses (similar to the ones in which the Inuit infinitive appears). This distribution is quite similar to that of other verb forms recognized as infinitives.

[6] Actually Murasugi's examples (3.24a) and (3.24c) are aorist converbs, while (3.24b) is a substantivized participle (none are masdar forms as Bobaljik asserts). Of these only (3.24b) is truly a nominalization, but none are what I would want to term an infinitive form.

3.2.4.2 Controller

Most verbs that take infinitive complements can be thought of as 'subject control verbs' since the a-subject of the higher clause is identified with the a-subject of the complement, but note that the controlling a-subject can be in an oblique case (272a), depending on the subcategorization frame of the higher verb. There are also 'object control verbs' where the controller of the complement is an oblique in the main clause:

(274) a. Cükwer.a gada.di-w — ženg.ini-z eq̃eč'-iz ta-zwa-č-ir
Cükwer.ERG boy-ADEL [ABS battle-DAT go.out-INF] cause-IMPF-NEG-PAST
'Cükwer did not allow the boy to go to the battle.'

b. Q̃abustan.a wa-z — čüngür jağ-iz čir-na-j
Q̃abustan.ERG you-DAT [ERG čüngür hit-INF] teach-AOR-PAST
'Q̃abustan taught you to play the *čüngür* [a string instrument].'

In general, the controller needs to be determined semantically, as argued by Sag and Pollard (1991) and Pollard and Sag (1994). Consider in particular the Lezgian examples shown in (275) which again involve idioms with *rik'* 'heart'. Here the controller of the infinitive's subject is a genitive possessor of an oblique superelative NP:

(275) a. — Č'ul q̃aču-z či rik'.e-laj alat-na
[ERG belt.ABS take-INF] we.GEN heart-SREL fall.off-AOR
'We forgot to take a belt along.'
lit. '(For us) to take a belt fell off from on our heart.'

b. Selim.a-n rik'.e-laj — penžer aq'al-iz alat-na
Selim-GEN heart-SREL [(ERG) window close-INF] fall.off-AOR
'Selim forgot to close the window.'

Such a construction would be most problematic for any syntactic theory of controller determination. However, it seems rather less unusual in the context of the semantic theory of control proposed by Sag and Pollard (1991), and Pollard and Sag (1994). Under such an analysis, in this idiomatic construction, the genitive modifier of *rik'* 'heart' would be an EXPERIENCER just like any other EXPERIENCER and given that the main clause introduces an *orientation* type control relation, then the EXPERIENCER can, indeed must, be coindexed with the gapped subject of the infinitive. The

Lezgian construction above would then be quite parallel to genitive controllers which Sag and Pollard discuss, which only occur in NPs in English:

(276) a. Sandy's promise to Tracy to leave the party early caused quite an uproar.

b. The vow of the speakers to fight for abortion rights was met with applause.

Indeed further support for an essentially semantic theory of controller selection come from the observation that an English version of the Lezgian idiom:

(277) It slipped out of Susan's mind to ring her podiatrist.

must mean that Susan is supposed to ring her podiatrist, and cannot mean that she intended to get her secretary to ring the podiatrist.

3.2.5 Idioms

Idioms in Lezgian favor internal (patientive) arguments as in other languages. Some examples from Haspelmath (1993) appear below:

(278) a. čara-da-n šejʔ.ini-z *ǧil* *jarǧi* *awu-r-la* xalq'.di-n
[alien-SBST.SG-GEN thing-DAT *hand* *long* *do*-AOP-TEMP] people-GEN
wilik bejabur že-da
before disgraceful become-FUT

'When one *steals* someone else's things, one disgraces oneself before the people.'

b. Za muštulux ǧa-ji-da-z genže gu-nug *xiw-e*
I.ERG [good.news bring-AOP-SBST.SG-DAT kerchief give-MSD] *neck*-INESS
q'u-nwa-j-di tir
hold-PRF-PART-SBST COP.PAST

'I had *promised* to give a kerchief to the one who brings the good news.'

c. Aq̃waz, ja juldaš-ar, za-q^{h} *jab* *akal-a*
stop.IMPV PT comrade-PL I-POESS *ear*.ABS *attach*-IMPV

'Stop, comrades, listen to me.'

Another common pattern for idioms is where the free slot is the possessor of an absolutive or oblique argument of the verb. These idiom patterns seem in accord with the notion of argument structure being proposed here. They show that Lezgian does not fit with the notion of syntactic ergativity employed in Marantz (1984).

3.3 Is there a surface pivot?

This section will discuss whether there is a surface pivot in Lezgian, and if so what it is. Mel′čuk (1988) argues that absolutive S/O NPs in Lezgian are pivots (indeed the only terms). In the first subsection I present his arguments (I am not aware of any other arguments for the S/O NPs having pivot status in Lezgian). Mel′čuk's proposal is argued against by Job (1985) and more carefully by Haspelmath (1991, 1993), and the next subsection contains corrections and counterarguments to Mel′čuk's analysis, based mainly on arguments from Haspelmath. I conclude that the case for an S/O pivot in Lezgian is extremely weak. The third subsection shows that several phenomena that have been used in other languages for determining pivothood are syntactically neutral in Lezgian (that is, they do not distinguish any subset of S, A and O). The fourth subsection examines what evidence there is for an S/A pivot in Lezgian.

3.3.1 The case for an S/O pivot: Mel′čuk (1988)

Mel′čuk (1988) argues that the correct analysis of Lezgian is that all sentences are intransitive;[7] genuine transitive verbs do not exist in Lezgian, but rather all verbs are stative, with an optional agentive complement.[8] Thus he suggests that the correct calque for (279) is roughly along the lines of 'Caused by Ali, the dog died.'

[7] Mel′čuk (1988) is a revised version of Mel′čuk (1981), based exclusively on data from Gadžiev.

[8] Mel′čuk is vague on precisely what analysis is to be given to the ergative NP, suggesting that it is an "agent complement (or maybe even a circumstantial)", where by circumstantial, Mel′čuk means roughly what I mean by an oblique. However, it would seem that an analysis as an oblique could scarcely be maintained, since, as Mel′čuk observes, there is a clear class of pure intransitive verbs which do not allow an ergative argument, even when adding such a role could not be viewed as semantically anomalous under Mel′čuk's analysis:

(i) a. živ ç̣r-azva
snow.ABS melt-PRES
'The snow is melting.'

b. *raq-ini živ ç̣r-azva
sun-ERG snow.ABS melt-PRES
*The sun is melting the snow.'

(279) Ali-di k^{h}iç qe-na
Ali-ERG dog.ABS kill-AOR
'Ali killed the dog.'

For Mel′čuk, this analysis is an argument that Lezgian has no ergative construction (as he defines the term). However, here we can concentrate on his claim that the absolutive NP is always the grammatical subject or pivot. In this subsection, I will review the arguments Mel′čuk makes for this analysis, and the problems and counterarguments that he attempts to nullify. Ultimately, though, I believe that his analysis is unconvincing, but I will defer criticism of Mel′čuk's analysis to the next subsection.

In the commonest sort of one actant sentence, the single argument is in the absolutive (and this argument must be the grammatical subject according to Mel′čuk's inductive definition of grammatical subject). Mel′čuk then adduces three arguments for why the absolutive NP in what are traditionally viewed as transitive sentences should also be regarded as the grammatical subject:

1. In all sentences in Lezgian, an ergative NP can be omitted without the sentence being incomplete (even in the absence of context), whereas deleting an absolutive NP is possible only when the sentence is embedded within a suitable context.

2. Mel′čuk reports Gadžiev's claim that coreferential omission in coordination is only possible when clauses of the same transitivity are conjoined. Mel′čuk suggested that this in no way supports grouping the A and S together in Lezgian. This is true, but as Mel′čuk observes, it also in no way supports grouping together O and S.

3. With predicative complement uses of substantivized participles, there is (obligatory or optional) agreement with the absolutive NP, regardless of whether it is the S or the O.

Thus Mel′čuk concluded that the absolutive NP should be regarded as the grammatical subject in all sentences.

Mel′čuk noted that there are no voice alternations in Lezgian (which is at least consistent with his position that all sentences in Lezgian are intransitive). He then proceeded to deal with five objections to his analysis, to which we might add a sixth: new data from Kibrik that is discussed in a footnote (Mel′čuk 1988:243–248).

1. Mel′čuk's analysis implies that the ergative case has a heavy semantic load ('due to the actions of X') despite being a direct case, but Mel′čuk believes this not to be a problem since it seems typical of Lezgian for cases to carry "considerable semantic cargoes" suggesting that, for example, the adelative (what Mel′čuk called the ablative) can alternate with the ergative to express involuntary or indirect causation.

2. Lezgian has a number of verbs that only take an ergative case actant.[9] If the ergative in such sentences were regarded as the grammatical subject, this would weaken the claim that the ergative in other sentences is not the grammatical subject, but Mel′čuk suggests that he is happy to regard such sentences as having no grammatical subject, claiming that there are other subjectless sentences in Lezgian (for weather predicates and with certain arbitrary subjects).

3. Work by Talibov had suggested that Lezgian imperative forms agree in person with their understood or overt subject, but Mel′čuk convincingly argues that Talibov was actually collapsing three different verbal moods, which Mel′čuk (also Haspelmath (1993)) refers to as the imperative, the optative and the hortative, and then claiming that the resulting amalgam represented an agreement system. While the imperative is semantically restricted to second person subjects, both the optative and the hortative can occur with a subject of any person (although the hortative is somewhat odd with a second person subject). The optative and hortative have distinct meanings (of desiring something for somebody and of hoping that the addressee agrees that something should take place).

[9] The situation in Lezgian seems to closely mirror that found in Basque (see, for instance, Laka (1993)). Many but not all such verbs derive from compounds of a noun + *awun* 'do'.

4. Lezgian has a causative suffix, and one might be tempted to argue that such causative verbs must be transitive. But Mel′čuk argues that while affixing a causative to what have traditionally been viewed as intransitive verbs produces an apparently transitive verb (280), it is noteworthy that adding the suffix to what have traditionally been viewed as transitive verbs produces little or no difference in meaning (281).

   (280) a. ac^{h}uq̇-un
   'to sit down'

   b. ac^{h}uq̇-ar-un
   'to seat somebody'

   (281) a. aldatmiš-un
   'to cheat, dupe'

   b. aldatmiš-ar-un
   'to cheat, dupe'

   Because of the behavior of the causative affix on so-called transitive verbs, Mel′čuk suggests that the meaning of the affix is not a causative (as in Turkish, say, where it produces a three actant verb when added to a transitive verb), but rather it means 'because of some external efforts', and that this meaning component serves to license an ergative NP with verbs which are otherwise purely intransitive (ones where an ergative NP is normally disallowed).

5. Mel′čuk notes data from Kibrik that with the control verbs *kan* 'want' and *k^{h}ç̣e* 'be afraid of', it is the absolutive of an intransitive, the ergative of a transitive and the dative experiencer of an experiencer subject verb that is controlled and gapped in the lower clause.[10] Mel′čuk suggests that these data do not undermine his analysis and that he would treat them semantically: the gapped (PRO)

[10]Kibrik's data is from the Khlut dialect, but the same facts hold in other dialects. *Kan* and *k^{h}ç̣e* correspond to *k'an* and *kič'e* in standard Lezgian (as transliterated by Haspelmath into roman letters). There is further data relating to the adverbial clause use of the infinitive (called by Mel′čuk the circumstantial gerund) where Kibrik apparently suggests that the main clause actant is always gapped in favor of a coreferential NP occurring in the adverbial clause. But the opposite pattern is also clearly possible (cf. Haspelmath 1993:378–381).

controller is the Agent role (where he intends Agent as a hyperrole covering Actors, Causers, Experiencers and Perceivers).

6. Lastly Mel′čuk discusses the possible objection that he is imposing an 'ergatives are passives' analysis on the language, but dismisses this as a misunderstanding. His analysis acknowledges sentences like (279) as the basic communicatively neutral sentences of Lezgian, merely suggesting that they resemble standard passives in transitivity and use of an agent complement.

Thus Mel′čuk concludes that there is no ergative construction in Lezgian. All sentences are intransitive, and the absolutive NP is always the grammatical subject or pivot: in pure intransitives, in sentences with ergative agents, or adelative (ablative) indirect agents and also in sentences with what others might view as dative experiencer subjects.

3.3.2 The case against an S/O pivot

3.3.2.1 Labile verbs and NP-omissibility

Haspelmath (1993) argues against Mel′čuk's claim that the ergative NP is always omissible, suggesting that in general Lezgian has only limited contextually-licensed omission of NPs (of all cases). He rather supports the older claim of Gadžiev that there is just a small class of *labile* verbs that have two valence patterns, one with and one without an ergative argument (such as *reǧün* which can be 'ERG grind ABS' or 'ABS is ground'). Haspelmath suggests three tests that show that certain verbs are labile in this manner:

1. The negative of labile verbs is ambiguous between an agentive sense and a non-agentive sense:

   (282) Indija.d-a kal-er req'i-zwa-č
   India-INESS cow-PL.ABS kill/die-IMPF-NEG

   'In India cows don't die.' (intransitive frame of labile verb)
   'In India cows are not killed.' (free omission of the subject)

This ambiguity, which occurs only with labile verbs, shows that the 'caused by agent' meaning is contained in one of the frames of the verb, and not simply provided by the ergative case suffix, as Mel′čuk had suggested.

2. As discussed above, the imperative addressee is the absolutive argument of intransitive verbs and the ergative argument of transitive verbs. The absolutive argument of transitive verbs cannot be the imperative addressee, even when the ergative NP is omitted. However, with labile verbs, either the ergative NP (283a), or the absolutive NP in the verb's intransitive use (283b) can be the imperative addressee, even when this is not very plausible on semantic grounds:

   (283) a. Ja Gülmehamed, get'e xu-x!
   PT Gülmehamed pot break-IMPV
   'Gülmehamed, break the pot!'

   b. Ja get'e, xu-x!
   PT pot break-IMPV
   'Pot, break!'

3. Mel′čuk noted the involuntary agent construction, where an involuntary 'agent' can be marked in the adelative (284a) and argued that an advantage of his analysis is that if the regular construction in (284b) is analyzed as an intransitive verb with an agentive complement, then these two structures are quite parallel, whereas on the standard analysis, the agent in one is an oblique, but it is the subject in the other. On Mel′čuk's analysis, the only difference is the case marking of the NP, with the ergative case meaning 'caused by' and the adelative meaning 'indirectly/accidentally caused by'.

   (284) a. Zamira.di-waj get'e xa-na
   Zamira-ADEL pot.ABS break-AOR
   'Zamira broke the pot accidentally/involuntarily.'

   b. Zamira.di get'e xa-na
   Zamira.ERG pot.ABS break-AOR
   'Zamira broke the pot.'

However, Haspelmath suggests that the right generalization is the one presented by Gadžiev, that an adelative involuntary agent *is* simply an additional oblique added to a clause. The parallel above is mistaken and can only be produced with the true labile verbs. An adelative NP cannot normally replace the ergative NP of transitive verbs (285a), but rather an adelative NP can be added to clauses with intransitive verbs (285b), and even clauses with transitive verbs, if the ergative NP can be interpreted non-agentively (285c). Thus the adelative NP is not parallel to the ergative NP.

(285) a. *Taibat.a-waj rak aq^{h}aj-na
Taibat-ADEL door.ABS open-AOR
*'Taibat accidentally opened the door.'

b. Maisa.di-waj cükw-er q'ura-na
Maisa-ADEL flower-PL.ABS wilt-AOR
'Maisa involuntarily allowed the flowers to wilt.'

c. Dide.di-waj perde.di c'aj q'u-na
mother-ADEL curtain.ERG fire.ABS catch-AOR
'Mother accidentally caused the curtain to catch fire.'

For other verbs, Mel′čuk noted cases where the ergative NP was omitted and given a generic human interpretation ('one') and tried to combine these cases with labile verb cases to suggest that the ergative NP was always omissible. But as well as reestablishing the class of labile verbs, Haspelmath notes (p. 287) that it is not only ergative NPs that can be omitted with a resulting generic human interpretation, but all a-subjects. That this is equally possible for absolutives as well as ergatives is clearly seen in an example like (286) where in turn an ergative and an absolutive are admitted and both receive a generic interpretation:

(286) — čara-da-n šejʔ.ini-z ğil jarği awu-r-la —
[ERG alien-SBST.SG-GEN thing-DAT hand long do-AOP-TEMP] ABS
xalq'.di-n wilik bejabur že-da
people-GEN before disgraceful become-FUT
'When one steals someone else's things, one disgraces oneself before the people.'

This discussion undermines Mel′čuk's first argument and also his first counter-argument listed above. Mel′čuk's second argument regarding coordination is really arguing from absence of evidence. However, there has apparently been diachronic change in coordination possibilities, or at any rate the modern Lezgian usage that Haspelmath observes differs from what Mel′čuk reports from Gadžiev. Haspelmath's data, if anything, support an S/A pivot, as I will discuss later. I now turn to Mel′čuk's final argument for an S/O pivot.

3.3.2.2 Agreement of substantivized participles

Mel′čuk (1988:221–222) presents a paradigm of data designed to show that a predicate substantivized participle may agree with an absolutive case NP and must if the absolutive NP is animate, whereas agreement with an ergative NP is impossible. Part of this paradigm is shown in (287):

(287) a. Zun qsan ḳel-aj-di ja
I.ABS well learn-PART-NOMLZ.SG.ABS be.PRES
'I am a well-educated person.'

b. Čʰun qsan ḳel-aj-bur/*-di ja
we.ABS well learn-PART-NOMLZ.PL.ABS be.PRES
'We are well-educated people.'

c. Čʰn-a sa ktab ḳel-aj-di/*-bur
we-ERG one book.ABS read-PART-NOMLZ.SG.ABS/*/-NOMLZ.PL.ABS
ja
be.PRES
'We have read a book.'

d. Čʰn-a gzaf ktab-ar ḳel-aj-di/-bur ja
we-ERG one book.ABS read-part-NOMLZ.SG.ABS/-NOMLZ.PL.ABS be.PRES
'We have read many books'

However, this data is at odds with what is reported by Haspelmath (1993:347–351). He suggests that there are two possibilities. In one both the subject and the substantivized participle complement are in the nominative and the subject and the

substantivized participle complement agree in number as in other nominal copula constructions (recall (256)):

(288) Čun gzaf ktab-ar k'el-aj-bur ja
we.ABS many book-PL.ABS read-AOP-SBST.PL COP
'We are ones who read many books.'

Here the structure is presumably a copular construction between two NPs as in (289). Each of the two NPs joined by the copula is in the absolutive, and additionally *ktab-ar* is absolutive as this is the expected case of the theme argument of *k'elun* 'read'.

(289) Čun gzaf ktab-ar k'el-aj-bur ja
[NP we.ABS] [NP many book-PL.ABS read-AOP-SBST.PL] COP
'We are ones who read many books.'

The use of the copula with substantivized participial clauses is indicative of the fact that these clauses have the external distribution of NPs in Lezgian. Among other tests, this is confirmed by their appearance as the complement of prepositions and in the possessor slot. re postpositions. Like several other postpositions in Lezgian, *q'uluq*^{h} 'behind, after' takes a genitive argument for spatial uses and a superelative argument for temporal uses. As Haspelmath (1993:387) notes, if substantivized participial clauses are NPs, then there is no difference syntactically or semantically between cases of a postposition with a lexical noun complement (290a–b) and cases of a postposition with a substantivized clausal complement (290c), whereas otherwise a disjunctive account would be required.

(290) a. däwe.di-laj q'uluq^h
war-SREL after
'after the war'

b. Sa t'imil k'walax.di-laj q'uluq^h am galat-na
one little work-SREL after she.ABS tire-AOR
'After a little work she became tired.'

c. Fu t'ü-r-da-laj q'uluq^h, dax.di Nadir.a-w daftar
[food eat-AOP-SBST-SREL after] dad.ERG Nadir-ADESS [notebook
ǧi-z tu-na
bring-INF] cause-AOR
'After they had eaten, dad made Nadir bring a notebook.'

Example (291) shows a substantivized participle appearing as a genitive case possessors of another noun (itself a lexicalized masdar form):

(291) ktab.di-n q'ismet k'el-zawa-j-da-n q'at'u-n.i-laj
book-GEN destiny.ABS [read-IMPF-PTP-SBST.SG-GEN] consider-MSD-SREL
aslu ja
depending COP
'A book's fate depends on the reader's considerations.'

These tests seem sufficient to conclude that substantivized clauses have the external behavior of NPs.

The other, initially odd, structure is shown in (292):

(292) Čna gzaf ktab-ar k'el-aj-di ja
we.ERG many book-PL.ABS read-AOP-SBST.SG COP
'We have read many books.'

Here, the surface arguments are those of the base verb (*k'elun* takes a frame of ERG ABS; in (293), *alaq'un* 'be able to' takes a frame of SREL ABS), and the substantivized participle never agrees, being in the default singular form.

(293) Mac'a-laj wuč x̂ajit'ani alaq'-zawa-j-di ja
Mac'-SREL what.ABS INDEF be.able-IMPF-PART-SBST COP
'Mac' can do anything.'

The details of this second construction (which Haspelmath terms the verbal predicate substantivized participle) are slightly obscure; it often but not always seems to be used for contrast or focus. I would like to suggest that there is nothing 'verbal' here but rather the structure of this construction is:

(294) Čna gzaf ktab-ar k'el-aj-di ja
[NP we.ERG many book-PL.ABS read-AOP-SBST.SG] COP
'We have read many books.'

Everything but the copula is a substantivized clause, which the copula predicates of a null expletive. The form of the substantivized participle is always singular as the null expletive is singular (as are the English expletives *it* and *there*). There seems to be independent evidence for such copula constructions with null expletive subjects; compare the examples in (295) (Haspelmath 1993:314):

(295) a. Tam-a serin tir
forest-INESS cool COP.PAST
'It was cool in the forest.'

b. Dağ-lar-a isätda-ni hak' ja
mountain-PL-INESS now-even thus COP
'In the mountains it is like that even today.'

At any rate, the examples in (287a–b) can be analyzed as the first type of predicative substantivized participle,[11] and the forms in (287c–d) with a singular form of the participle can be analyzed as the second type of predicate substantivized participle. The crucial case for Mel′čuk turns out to be the alleged possibility of plural agreement on (287d). However Haspelmath (1991:13; email, Apr 1994) reports that his consultants find this sentence ungrammatical.[12] Thus, regardless of the structure proposed for these constructions, there is not a property of agreement here that groups S and O against A.

3.3.2.3 Other concerns

Several of Mel′čuk's other arguments are also less than fully convincing. The limited productivity of the causative morpheme (especially its restricted appearance on certain transitive verbs) limits the strength of that argument. Mel′čuk's (1988:228) suggestion that "subjectless sentences denoting environmental, physiological and psychological states are quite common in Lezgian" stands in contrast to Haspelmath's (1993:268) observation that there are no verbs that take no arguments (weather verbs being expressed as *marf q̃wazwa* 'rain falls', etc.). Most of the examples Mel′čuk gives are of adjectives in copular constructions. Copular constructions can have only a null expletive subject (as discussed above (295)), but Mel′čuk's argument depends crucially on saying that this is also the case for verbs, which seems to be incorrect. On the other hand, in this dissertation, I essentially accept his argument that evidence from

[11] Actually (287a) could ambiguously also be of the second type.

[12] Further Haspelmath notes that it is unclear where such examples come from, since they do not appear in Gadžiev's works, supposedly the only source Mel′čuk used (p. 209).

controllee selection is not indicative of a surface pivot, but rather that it indicates prominence at argument structure.

3.3.3 Sometimes pivot-sensitive phenomena that are neutral in Lezgian

This section examines relative clauses, scope/specificity and quantifier floating. In some languages these phenomena seem to be sensitive to a surface pivot, but none of them seem to distinguish a pivot relation in Lezgian.

3.3.3.1 Relative clauses

Lezgian has both participial relative clauses and a correlative construction, but I will only examine the former here. From a morphological point of view, Lezgian participial relatives resemble those of Eskimo, but the similarities do not run very deep, as Lezgian allows any role to be gapped in the relative, and allows long-distance relativization. For example, (296a) and (296b) show relativization of the ergative and the absolutive, respectively from an aorist participle. Datives, oblique arguments and locative and temporal obliques can also be relativized on.

(296) a. Q^{h}fe-j jac žanawur-r.i req'-e kuk'war-na
[go.away-AOP] bull.ABS wolf-PL.ERG way-INESS tear-AOR
'The bull which had gone away was killed by wolves on the way.'

b. Pačah.di-n xazina čünüx-aj uǧri-jar čun ja
[king-GEN treasury.ABS steal-AOP] thief-PL.ABS we.ABS COP
'We are the thieves who stole the king's treasury.'

Relativization may be long distance and the relativized element can be in either a finite or nonfinite subordinate clause. In this case only the top level verb appears in the participle form, and the embedded verbs are in their normal form, for example, the finite aorist in (297).

(297) Musa.di ata-na laha-j muhman či xalu tir
[Musa.ERG [come-AOR] say-AOP] guest.ABS we.GEN uncle COP.PAST
'The guest that Musa said had arrived was our uncle.'

Where disambiguation is necessary, the reflexive may be used as a resumptive pronoun:

(298) čun wiči-kaj raxa-zwa-j kas
[we.ABS self-SBEL talk-IMPF-PART] man
'the man we're talking about'

It might be thought that the difference between Eskimo and Lezgian participial relatives results from a category difference: Eskimo participles are nouns, whereas Lezgian ones are not. The suggestion would be that the process of nominalization fixes a certain role of the verb to be the referential index of the noun. However, this suggestion cannot be maintained.

Just like adjectives, Lezgian participles can be turned into nouns by substantivization:

(299) a. *q̃acu* 'green'

b. *q̃acu-di* 'green one'

(300) a. *k'el-aj* aorist participle of 'read'

b. *k'el-aj-di* 'whoever read', 'the one who read'

An adjective, participle or a genitive NP must be substantivized in this way to serve as the head of a noun phrase. However, even this process of substantivization does not select a certain argument role of the predicate as the referential index of the noun. Thus a future participle is the actor in (301a) and the undergoer in (301b).

(301) a. Gzaf q'in q'a-da'j-da gzaf tab-ni iji-da
[much oath.ABS take-FUT-PART-SBST.SG.ERG] much lie.ABS-also do-FUT
'He who swears a lot also lies a lot.'

b. Ne-da-j-di-ni aluk'-da-j-di bes
[eat-FUT-PART-SBST.SG]-and [put.on-FUT-PART-SBST.SG] enough
že-zwa-č-ir
be-IMPF-NEG-PAST
'There was not enough to eat and to put on.'

Thus a limitation on which roles can be relativized on (as in Inuit) cannot be attributed to the relativization strategy being to use participial nominalizations, since Lezgian participial nominalizations show no constraints on which role is relativized on. Lezgian is thus quite problematic for an account such as Johns (1992).

3.3.3.2 Semantic scope and Definiteness/Specificity

A noun phrase in either the ergative or absolutive (and I presume other cases) can be either specific or nonspecific. This is illustrated for A, S and O in (302–304):

(302) a. Či xür-e *sa itim.di* däwe.di-laj güğüniz wiči-q^{h} galaz
we.GEN village-INESS *one man*.ERG war-SREL after self-POESS with
nems-er.i-n dišehli xka-na-j
German-PL-GEN woman.ABS bring.back-AOR-PAST

'*A man* in our village (had) brought a German wife with him after the war.'

b. *Jarği Ali.di* ada-waj pul q̃aču-na
tall Ali.ERG he-ADEL money.ABS take-AOR

'*The tall Ali* took the money from him.'

(303) a. Sa xür-äj masa xür.ü-z *swas* tuxu-n patal ilči-jar
one village other village-DAT *bride*.ABS bring-MSD for matchmaker-PL
q̃we-da
come-FUT

'Matchmakers come to bring *a bride* from one village to another village.'

b. Bažanax-ar *ülkwe* t'urfan.di-kaj xü-z front.di-z
brother.in.law-PL *country*.ABS storm-SBEL preserve-INF front-DAT
fe-na
go-AOR

'The brothers-in-law went to the front to protect *the country* against the storm.'

(304) a. Inal abur.u-n wilik *četin čarčar* aq̃at-nawa
here they-GEN in.front *difficult waterfall*.ABS appear-PRF

'Here in front of them *a difficult waterfall* has appeared.'

b. *Peq^h-er* wac'.u-n q̃erex.di-w acuq'-na
crow-PL.ABS river-GEN bank-ADESS sit-AOR
'*The crows* alighted on the bank of the river.'

Given the lack of passive/antipassive type operations in Lezgian, this is hardly surprising. There is not an English-like system of articles, but indefiniteness can be explicitly marked by the addition of *sa* 'one' (however, this is not required, cf. (303a), (304a) (Haspelmath 1993:230)). This use of *sa* as an indefinite marker is quite grammaticized: *sa* is also used as an indefinite pronoun as part of a general demonstrative/interrogative/indefinite pronoun system including such forms as *sana* 'somewhere' and *sanra* 'in some places'. The presence of *sa* can be treated as a diagnostic for an indefinite reading.

It is definitely not the case that the absolutive must take scope over VP-level operators, as Bittner (1987) reports for Greenlandic.[13] Examples of the sort shown in (305) with absolutives inside the scope of negation are very common.[14]

(305) a. Za či muq'wara-bur.u-kaj sad.a-z-ni sa xabar-ni
I.ERG we.GEN relative-SBST.PL-SBEL one-DAT-even one news-even
ga-na-č-ir
give-AOR-NEG-PAST
'I didn't give any information to any of my relatives.'
$\neg(\exists x, y$ information(x) & relative(y) & give(I, x, y))

b. Žuwa laha-na k'an-da, čara awa-č
self.ERG say-AOC must-FUT choice be-NEG
'I have to say it myself, there is no choice.'
... $\neg(\exists x$ choice$(x))$

Not unexpectedly, other NPs can also take scope over an absolutive NP. In (306a) an ergative has scope over an absolutive (in the embedded clause); (306b) shows a

[13]This is not a problem for Bittner, as she allows the option of 'transparent' ergative languages where the absolutive does not raise at S-structure – indeed she suggests that they are more common than raising ergative languages. See, for instance, the discussion of Warlpiri in Bittner and Hale (forthcoming a).

[14]The scopal judgements here are based on my interpretation of the translations of sentences in Haspelmath (1993). Haspelmath does not address questions of scope himself. Nevertheless, since these examples, and most of the examples in this section, are from texts, which allows contextualized translation, I consider them quite reliable evidence.

subelative taking scope over an absolutive.[15]

(306) a. Za har-da q'we tar ak'ur-un teklif-zawa
I.ERG every-SBST.SG.ERG two tree.ABS plant-MSD propose-IMPF
'I propose that everyone plant two trees.'

b. Har-da-kaj k'wal.i-n=jiq̃.a-n ijesi x̂a-nwa
every-SBST.SG-SBEL house-GEN=day-GEN owner.ABS become-PRF
'Each one has become the owner of a house and family.'

Thus, in Lezgian, one cannot support a high position for the absolutive at S-structure on the basis of S-structure being the default LF as Bittner (1994) suggests for Inuit. Indeed, if anything, the examples in Haspelmath (1993) suggests that the absolutive prefers narrow scope.

3.3.3.3 Quantifier float

There are two forms of quantifier float (one in existential sentences and another restricted to universal quantifiers), but they are not restricted to certain grammatical relations in a way that would indicate a pivot.

3.3.4 The evidence for a (weak) S/A pivot

3.3.4.1 Coordination

There are two forms of clausal coordinate conjunction in Lezgian, the native particle *-ni* which suffixes to the first word of the last conjunct clause,[16] and the borrowed particle *wa*. Joining clauses and other constituents with the conjunction *wa* 'and' is

[15] I have replaced the apparent typo *ttar* with *tar* in example (306a). Note also that numerals cooccur with singular nouns in Lezgian.

[16] Haspelmath (1993:920) has "the first constituent of the last conjunct clause". I am unsure if or how he intended "constituent" to differ in interpretation from "word", but it is certainly not the case that *-ni* appears after the end of the first top level constituent, for example, it appears after the first word of a relative clause in (i):

(i) Zi pab azarlu ja, ajal-r.i-z-*ni* kilig-da-j kas awa-č
I.GEN wife sick COP [child-PL-DAT-*and* look-FUT-PART] person be-NEG
'My wife is sick and there is no one to look after the children.'

an innovation in Lezgian: *wa* was borrowed apparently in this century from Turkic and still rarely occurs in the spoken language, where sequential event chaining is regularly achieved by using aorist converbs (Haspelmath 1993:329, 336).

Haspelmath (also Mel′čuk (1988)) cites Gadžiev's reports from the 1950s that omission of a shared 'actor' in coordination is only possible if the clauses are all transitive or all intransitive. However, Gadžiev noted that this 'rule' was not always followed in the 1950s, and Haspelmath reports that the rule certainly no longer applies. Today, omission under coordination is possible with 'subjects'. The shared NP stands in the case required by the first conjunct. (307a) shows coordination of an ABS S NP and an ERG A NP, (307b) shows the reverse. Kiparsky (lecture notes, 1993) suggests that the fact that this sentence is unambiguous shows that there cannot be coreferential omission of an absolutive non-a-subject. (307c) shows coreferential deletion between a dative experiencer and an ergative argument (it's unclear whether it should be termed an A or an S – *minetun* 'ask, beg' takes the frame ERG DAT).[17]

[17]Regarding (307c), Haspelmath (1993:359) maintains that the main verb of the second conjunction takes no subject but only a clausal argument: "The verb *bašlamišun* 'begin' takes complements where the complement subject is overtly expressed. Thus, a literal translation of [(i)] would be 'It began that the children were playing.' That this is the correct syntactic structure can be seen from the fact that the case-marking of the NP that expresses the beginner varies according to the valence pattern of the complement verb, cf. the Ergative beginner in [(ii)]." However, the behavior of this verb under coordination, as shown in the text (and also Haspelmath (1993:336, (922a))), makes it seem unlikely that Haspelmath's analysis is correct. Rather, it seems more likely that *bašlamišun* must be analyzed as a raising verb (or some form of complex predicate forming verb) that preserves the case of its complement's subject. This behavior is known from phenomena like quirky case in Icelandic (Andrews 1982).

(i) Ajal-ar q̃uǧwa-z bašlamiš-na
child-PL.ABS play-INF begin-AOR

'The children began to play.'

(ii) Nabisat.a wiči-n ktab k'el-iz bašlamiš-na
Nabisat.ERG self-GEN book read-INF start-AOR

'Nabisat started to read her book.'

If Haspelmath's analysis were correct, the account of coordination being discussed in the text would be greatly complicated. Further evidence for a raising analysis comes from examples (1049b–c) in Haspelmath (1993:376) where the meaning suggests that the beginning event only scopes over the infinitive verb, and not the aorist converb clauses as Haspelmath's bracketing implies.

(307) a. Gada xta-na wa ktab q̃ač̣u-na
boy.ABS return-AOR and book.ABS take-AOR
'The boy returned and took the book.'

b. Buba.di Ahmed gata-na wa q^{h}fe-na
father.ERG Ahmed.ABS beat-AOR and go.away-AOR
'Father beat Ahmed and [father] went away.'

c. Č'ulaw nük'.re-z kič'e x̂a-na wa minet-iz bašlamiš-na
black bird-DAT afraid become-AOR and beg-INF begin-AOR
'The black bird became afraid and began to beg.'

While the older pattern allowed conjunction only in cases of case matching, the modern pattern appears to support the recognition of a 'subject' relation. Given that coreferential omission in coordination has generally been held to work off surface pivots (Dixon 1979, Kroeger 1993) rather than off semantic classes, this suggests that ergative A NPs, absolutive S NPs and dative experiencers act as the grammatical subject of sentences (i.e, that the language is syntactically accusative). However, there are some reasons to be cautious. Haspelmath (1991:11) cautions that because "the coordination construction is a non-native device used mainly in translations and bookish Lezgian, it is clear that syntactic arguments based on it cannot be very strong." In particular, it needs to be established that this is a syntactic clause reduction rule and not just contextually licensed pro-drop (compare the distinction motivated by Kroeger (1993:33–34) and my own discussions of Tagalog and Inuit coordination). If all examples like (307b) are unambiguous, this suggests a syntactic constraint, but on the other hand Haspelmath (email, Apr 1994) emphasizes that coreferential deletion in Lezgian shows little syntacticization and seem to be largely pragmatically controlled. A little evidence for this position comes from (308) where both the A and O arguments of the second clause are gapped:

(308) Küne kü rik' ala-j igit.di-n šikil
[you.all.ERG [you.all.GEN heart.ABS be.on-PART] hero.GEN picture.ABS
č'ugu wa či žurnal.di-z raq̃ur-a
draw.IMPV] and [we.GEN journal-DAT send-IMPV]
'Draw a picture of your favorite hero and send it to our journal.'

In summary, coordination is suggestive of an S/A pivot in Lezgian, but further research is required.

3.3.4.2 Evidence from complementation for an S/A pivot

Haspelmath (1991, 1993) suggests one other subjecthood test which picks out the class of ergative A NPs, absolutive S NPs and dative experiencers. For this subsection let me call those NPs subjects, assuming that the language is accusative. This test is 'switch-reference' with *k'an* 'want' complements. Earlier I showed that *k'an* can take a controlled infinitival complement with control of the a-subject (272b–c). Another example is in (309).

(309) Nabisat.a-z __ ktab k'el-iz k'an-zawa
Nabisat-DAT [ERG book.ABS read-INF] want-IMPF
'Nabisat wants to read a book.'

Haspelmath suggests that the controllee in this infinitive construction must be a subject. Not only can there not be control of the absolutive NP of a transitive or dative experiencer verb (310a–b), but there cannot even be control of other a-subjects (310c). Rather in such cases, and in cases when there is no coreference whatsoever, the complement must be expressed using an aorist converb form (310d–e).[18]

(310) a. *Musa.di-z dide.di šehier.di-z raq̃ur-iz k'an-zawa
Musa-DAT [mother.ERG town-DAT send-INF] want-IMPF
*'Musa wants to be sent to town by his mother.'

b. *Nabisat.a-z (wič) ğül.ü-z akwa-z k'an-zawa
Nabisat-DAT [self.ABS husband-DAT see-INF] want-IMPF
*'Nabisat wants to be seen by her husband.'

c. *Nabisat.a-z wilikan ğül wič.i-n rik'-elaj alat-iz
Nabisat-DAT [former husband.ABS self-GEN heart-SREL fall.off-INF]
k'an-zawa
want-IMPF
*'Nabisat wants to forget her former husband.'

[18]Incidentally, a similar 'switch-reference' pattern in complementation also occurs in Basque with the roughly corresponding verb, *nahi* 'desire' (Ortiz de Urbina 1989:28–29).

d. Nabisat.a-z wilikan ğül wič.i-n rik'-elaj alat-un
Nabisat-DAT [former husband.ABS self-GEN heart-SREL fall.off-AOC]
k'an-zawa
want-IMPF

'Nabisat wants to forget her former husband.'
lit. 'Nabisat wants her former husband to disappear from her heart.'

e. Nabisat.a-z ruš.a ktab k'el-na k'an-zawa
Nabisat-DAT [girl.ERG book.ABS read-AOC] want-IMPF

'Nabisat wants her daughter to read a book.'

However, there are two possible objections to this as a grammatical subjecthood test. Firstly, (310c) is the only example that Haspelmath gives to argue that there cannot be control of other a-subjects in infinitival complements. This example seems to me somewhat unconvincing since *rik'elaj alatun* means something like 'to accidentally forget' and is thus uncontrolled and nonvolitional. It may just be that an infinitival complement of *k'an* needs to be an event over which the wanter has some control. Secondly, even if the constraint as stated is correct, these facts could be captured by simply saying that the controllee must be an a-subject and a term. This is more consistent with my general theoretical position that the controllee is principally determined by a-subjecthood. The result would be motivation for the term/non-term distinction in Lezgian but no motivation for a grammatical relation of subject.

3.3.4.3 Conclusion

The choices are: to say that Lezgian has no pivot (as Foley and Van Valin (1984) argue for certain languages), to say that there is an absolutive pivot (evidenced solely by case marking), or to say that the language has an accusative pivot (based on the arguments presented above, even though they are more suggestive than conclusive). At the moment, I think it is most reasonable to suggest that Lezgian traditionally had no pivot (just a term/non-term distinction), but for speakers who use coreferential omission in coordination as outlined above, a weak S/A pivot has developed through contact with Russian and other accusative languages.

Regardless of the correct analysis of Lezgian, this latter situation – where a language has morphological ergativity but an accusative S/A pivot, is one that must be countenanced in any crosslinguistic study. While the Inverse Grammatical Relations analysis that I have illustrated for Inuit seems appropriate for certain language families, there are other languages with ergative morphology for which there is no reason to establish an S/O pivot (cf. Ortiz de Urbina's (1989) arguments for the accusativity of Basque, even though some of them are based on language features that I would deem sensitive to argument structure, or Walmatjari, which was briefly mentioned in Chapter 1).

While such a state of affairs is problematic for certain frameworks,[19] there is no difficulty in simultaneously providing for ergative case marking and accusative grammatical relations in a framework such as LFG or HPSG. It can simply be specified that the sort of *transitive-verb* takes an ERG ABS case marking pattern while the sort of *intransitive-verb* takes an ABS pattern (and the sort of *experiencer-verb* takes a DAT ABS pattern). In most cases (as perhaps in Lezgian) such phenomena arise for essentially diachronic reasons and we should not expect a synchronic structural account of such case marking patterns. This issue is discussed further in Chapter 4.

[19]For instance, the minimalist framework of Chomsky (1992) appears to postulate a very close connection between syntactic position and case assignment, although see Bobaljik (1993) for one attempt at how to capture ergative case marking at the same time as an accusative notion of subject.

CHAPTER 4

Concluding discussion

THIS CHAPTER briefly considers the treatment of Dyirbal within the framework I have been developing, and then ends with some general concluding remarks.

4.1 Dyirbal

So far I have said rather little about Dyirbal, which has been, especially in the generative literature, the paradigm case of a syntactically ergative language. How well does it (and related Queensland languages) fit in with the class of so-called syntactically ergative languages that I have been exploring?[1]

4.1.1 Evidence compatible with an S/O pivot

The most commonly cited evidence for the syntactic ergativity of Dyirbal is coordination ('clause chaining'). A series of clauses can be coordinated only if each clause shares the S/O NP.[2] The coreferent NP in the second and subsequent clauses can, but need not be, gapped. A couple of examples are given in (311); exhaustive exemplification appears in Dixon (1994:160–165). This data is what I would expect if the

[1] I will confine my remarks to Dyirbal, but (sometimes more limited) syntactically ergative features, of a kind compatible with my proposal, are also found in a number of other languages of the Queensland area, including Yidin^{y}, Kalkatungu, Warrgamay, Bandjalang (north New South Wales), and perhaps Warungu. See Dixon (1994:178–180).

[2] Like many languages, Dyirbal has no overt word for 'and', but coordination is shown by prosody, as well as through the freedom of gapping normally required absolutive arguments from clauses.

S/O NPs are the surface pivot.

(311) a. bayi yara yanu baŋgun yibi-ŋgu bura-n
[I.ABS.TH man.ABS go.NFUT] [II.ERG.TH woman-ERG see-NFUT]
'The man went and the woman saw him.'

b. bayi yara baŋgul gubi-ŋgu munda-n (bayi) (yara)
[I.ABS.TH man.ABS I.ERG.TH gubi-ERG bring-NFUT] [I.ABS.TH man.ABS
baŋgun jugumbi-ru balga-n
II.ERG.TH woman-ERG hit-NFUT]
'The man was brought here by the gubi [shaman] and (he) was hit by the woman.'[3]

Similarly, an S/O pivot is used for relativization. The role of the head noun in the relative clause must be S (312) or O (313):

(312) a. bayi yara miyanda-ŋu yanu
[I.ABS.TH man.ABS [laugh-REL]] go.NFUT
'The man who was laughing went.'

b. balan yibi baŋgul yara-ŋgu miyanda-ŋu-ru bura-n
[II.ABS.TH woman.ABS] [I.ERG.TH man-ERG [laugh-REL-ERG]] see-NFUT
'The man who was laughing saw the woman.'

(313) baŋgu yugu-ŋgu gunba-ŋu-ru baŋgul yara-ŋgu ŋaygu-na
[IV.ERG.TH tree-ERG [cut-REL-ERG I.ERG.TH man-ERG]] I-ACC
birri-ju balga-n
almost-EMPH hit-NFUT
'The tree which the man had cut nearly fell on me.'

One cannot directly relativize on an NP that is not the pivot of the relative clause. In order for a relative clause to be formed relativizing on the NP in A function, antipassivization must be used so that it becomes a surface pivot, as in (314):

(314) bayi yara jilwal-ŋa-ŋu bagun guda-gu yanu
[I.ABS.TH man.ABS [kick-ANTIP-REL II.DAT.TH dog-DAT]] go.NFUT
'The man who kicked the dog went.'

[3] Although a passive translation is used, both clauses are in the unmarked active voice.

There are some other more minor phenomena in Dyirbal that are sensitive to the pivot. For example, the particle *warra* indicates that an event concerned the wrong person or thing and Dixon (1972:118) states that it always qualifies a pivot argument:

(315) a. bala yugu warra nudi-n
IV.ABS.TH tree wrong cut-NFUT
'(They) cut down the wrong tree.'

b. bayi warra miyanda-nyu
I.ABS.TH wrong laugh-NFUT
'He's the wrong person to laugh.'

Such phenomena are not predicted from anything I have said, but within my analysis seem quite consistent with an S/O pivot.

4.1.2 An apparent problem

However, an apparent problem for my theory is the existence of sentences such as those in (316–317):

(316) a. bayi yara walŋgarra-nyu ŋaba-ygu
I.ABS.TH man.ABS want-NFUT [bathe-PURP]
'The man wanted to bathe.'

b. bayi yara walŋgarra-nyu bural-ŋa-ygu bagun
I.ABS.TH man.ABS want-NFUT [see-ANTIP-PURP II.DAT.TH
yibi-gu
woman-DAT]
'The man wanted to see the woman.'

c. bayi yara walŋgarra-nyu baŋgun yibi-ŋgu bura-li
I.ABS.TH man.ABS want-NFUT [II.ERG.TH woman-ERG see-PURP]
'The man wanted the woman to see him.'

(317) a. yabu ŋuma-ŋgu giga-n banaga-ygu
mother.ABS father-ERG tell-NFUT [return-PURP]
'Father told mother to return.'

b. ŋaygu-na baŋgul gubi-ŋgu giga-n bagul waŋal-gu
I-ACC I.ERG.TH gubi-ERG tell-NFUT [I.DAT.TH boomerang-DAT
baŋul-jin-gu yara-ŋuny-jin-gu wugal-ŋa-ygu
I.GEN.TH-OGEN-DAT man-GEN-OGEN-DAT give-ANTIP-PURP

'The gubi told me to give the man's boomerangs (to him).'

c. ŋaja bayi yara giga-n gubi-ŋgu mawa-li
I.NOM I.ABS.TH man.ABS tell-NFUT gubi-ERG examine-PURP

'I told the man to be examined by the gubi [doctor].'

Dyirbal constructions such as these have been analyzed in the generative literature as cases of complementation with equi-NP deletion, or a controlled PRO (Anderson 1976:17, Levin 1983:259–267, Bok-Bennema 1991:11). Under such an analysis *walŋgarra-nyu* 'want' in (316) is similar to (logical) subject control verbs from European languages, while *giga-n* 'tell' in (317) is similar to (logical) object control verbs. Note now the behavior of the supposed complements: they display an apparently ergative pattern: in (316a) and (317a), the pivot S is controlled, in (316b) and (317b) antipassivization has occurred so that the logical subject has become an S and again the pivot is controlled. Examples (316c) and (317c) show that if the purposive verb form is not antipassivized, then it is the pivot O that is controlled, not the A (Dixon 1994:169). It is impossible for this construction to occur with control of the A position.

This is an apparent exception to my general theory where control should always work off argument structure, which results universally in an accusative pattern of control, regardless of a language's choice of pivot. It appears that Dyirbal deviates by being too ergative, in that even control works on an ergative basis.

Now it is possible that I may have to accept that the controllee is sometimes the pivot. As noted in Chapter 1, there are some minor patterns of control in Tagalog where this seems to be the case, and I left unresolved similar facts in Toba Batak. However, I believe that I can maintain the strongest version of my theory in the light of these Dyirbal facts, because here we are actually not dealing with controlled complements at all.

This different behavior of what are semantically complements (at least in an English speaker's mind!) is probably a consequence of some more general features of Australian languages. In many Australian languages clause embedding is avoided, and instead subordinate clauses are adjoined (Hale 1976).[4] Dixon (1991) notes for example that there are no clausal nominalizations in Dyirbal. He also states the view (implicit in Dixon (1972)) that Dyirbal has no complement clause constructions.

The grammar of Dixon (1972) does not distinguish the above 'complement clause' use. Rather it provides a unified treatment of the ending *-li/-ygu* (the choice of form depending on the conjugation class of the verb). This ending is referred to by Dixon, and glossed by me as the 'purposive inflection'. The above use of it appears not particularly common. It is used much more frequently to explain the goals of a previous action, for example in (318):

(318) anyja bayi yanu yuri-gu barrgan-gu jurrga-nay-gu
PTCL I.ABS.TH go.NFUT kangaroo-DAT wallaby-DAT spear-ANTIP-PURP
'Then he went out to spear kangaroos and wallabies.'

In all uses of this construction, there must be coreference between the S/O of the main clause and the S/O of the *-li/-ygu* clause.

But I think it would also be completely mistaken to regard all *-li/-ygu* clauses as equivalent to the infinitives of purpose of various European languages (reinterpreting the previous examples as 'Father spoke to mother in order that she would return', etc.). A clear demonstration that something different is going on appears in the following text example. In the text, the 'first man' had hidden sharp pieces of quartz where two women used to sit, and then this sentence follows:

(319) baŋum balagarra ŋurba-nyu nyina-yarra-nyu gunba-li baŋgu
TH.ABL two.people.ABS return-NFUT sit-start-NFUT [cut-PURP IV.ERG.TH]
'The two [women] returned from there, and started to sit down, only for them [the sharp quartz pieces] to cut [the women].'

Clearly in this example, the *-li* 'PURP' form is in no sense serving as head of a purpose clause. Rather, I think that this form should be analyzed more as a clause chaining

[4] I intend 'adjoined' here in a nontechnical sense.

construction. Dixon (1972:67) refers to this ending as occurring on "implicated verb complexes" and this seems much nearer the mark. The so-called purposive ending can be employed on any clause providing it refers back to a previous event that set the stage for it. Dixon (1972:68):

> The action referred to by an implicated VC is only possible by virtue of an event, referred to by a previous sentence of the discourse having taken place: EITHER the event has been performed as a necessary preliminary to the intended 'implicated' action; OR the implicated action is a natural (but perhaps unplanned) consequence of the event. ...
>
> It is in fact possible for the FIRST sentence in a topic chain to have an implicated VC, although this happens relatively infrequently. In such a case the necessary 'implicating' earlier event has taken place but has not been referred to in the discourse.

Among other evidence, the sheer textual frequency of this verb form suggests that it is not appropriate to compare it with purpose clauses from European languages. For example, in Text XV (Dixon 1972:368–382) subordinate clauses with the purposive inflection occur in 22 of the 82 pivot chains (loosely, sentences) (27%), sometimes more than once. In another 5 of the sentences, the main verb is in the purposive form.

Secondly, it is not the case that the S/O NP of the purpose clause is necessarily gapped (although it usually is – Dixon 1972:67).[5] All that is required is coreference: (320a) is a dramatic example of this from a creation myth where the boil is the child; (320b) is a plainer example where a noun marker is repeated in the purposive clause.[6]

[5] Pace Levin (1983:260–261, 266, 279) who describes them as "structures of obligatory control."

[6] Dyirbal noun markers indicate noun class and regularly accompany nouns, as in many of the examples above (they can also indicate demonstrative-like contrasts, but the THere series, which appears in all the examples in this section can be used without any demonstrative sense). They can also be used by themselves, functioning like a pronoun, as here.

(320) a. anyja baŋgul burrubay julma-n bayi nyalŋga
PTCL I.ERG.TH boil.ABS squeeze-NFUT [I.ABS.TH child.ABS
mayi-yarra-ygu
come.out-begin-PURP]
'He squeezed the boil, with the result that a male child came out.'

b. bayi yara walma-nyu bayi bagun jugumbil-gu
I.ABS.TH man.ABS get.up-NFUT [I.ABS.TH II.DAT.TH woman-DAT
balgal-ŋa-ygu
hit-ANTIP-PURP]
'The man got up to hit the woman.'

Thirdly, if we take a verb of the *promise*-class of Sag and Pollard (1991), then on a semantically based theory of controller selection, the controller or determinant of the complement event should be the COMMITTOR which is the a-subject of the main clause, for example in English (321), where it is Sandy who will leave.

(321) Sandy promised Tracy to leave the party early.

However, if a purposive clause is attached to a clause with such a verb in Dyirbal the necessary coreference relationship is still between the S/O NPs of both clauses, and not with the logical subject COMMITTOR. A sentence like (322a), where the agent is not expressed in the complement clause, could be used to convey 'The woman threatened to spear the man' (where the A of the main sentence is interpreted as coreferent with the A of the purpose clause, as well as the O NPs of the two clauses being coreferent), but this is not a control relationship: another actor can be explicitly mentioned, as in (322b):

(322) a. bayi yara baŋgun yibi-ŋgu yajijarra-n baga-li
[I.ABS.TH man.ABS II.ERG.TH woman-ERG threaten-NFUT] [spear-PURP]
'The woman threatened the man that he would be speared.'

b. bayi yara baŋgun yibi-ŋgu yajijarra-n baŋgul
[I.ABS.TH man.ABS II.ERG.TH woman-ERG threaten-NFUT] [I.ERG.TH
gubi-ŋgu baga-li
gubi-ERG spear-PURP]
'The woman threatened the man that the gubi would spear him.'

Thus I would like to conclude that we are dealing with a form of clause serialization construction, and that is the reason why it is sensitive to the pivot (as in coordination) rather than sensitive to a-structure relations.[7]

Dyirbal does have some other phenomena that reveal the nature of its argument structure and suggest that it uses the same notions of a-structure prominence as all other languages. The addressee of an imperative is the maximal a-subject (including in cases of antipassivization):

(323) a. (ŋinda) bayi yara balga
you.NOM I.ABS.TH man.ABS hit.IMPV
'Hit the man!'

b. (ŋinda) bagul yara-gu balgal-ŋa
you.NOM I.DAT.TH man-DAT hit-ANTIP.IMPV
'Hit the man!'

Incorporation/idioms work as in other languages, as was discussed in Section 2.4.2. Unfortunately, there is little or no evidence from binding, since Dyirbal uses a de-transitivizing reflexive verb form.

Hence I would like to conclude that Dyirbal also fits in with the class of syntactically ergative languages that I have examined (so the name of the class was well chosen). Dyirbal has both a clear S/O pivot at the level of surface relations and evidence for an argument structure that follows universal lines.

[7] This has been but an outline of a possible treatment of Dyirbal clause structure. A complete treatment does have to recognize that there is a tighter link between a purpose clause and its host than between two coordinated ('pivot chained') clauses. Also, like most subsequent authors, I have not examined the possibility of recursive (what Dixon called iterative) purpose clauses (Dixon 1972:74–77, 160–166). Indeed, it is not clear that these have ever been given a satisfactory treatment in any generative framework (the analysis of Dixon (1972) was not kosher even by the standards of transformational grammar as it crucially relied on a counter-cyclical deletion operation (p. 162)).

4.1.3 The Oblique Analysis of Dyirbal

As an alternative to my Inverse Grammatical Relations analysis, Bok-Bennema (1991) and Kiparsky (1987) propose that the explanation for the unusual properties of Dyirbal is that the S/O (absolutive) argument is the only term, while A (ergative) arguments are actually obliques. This analysis – the Oblique Analysis I referred to in Chapter 1 – is adopted by Kroeger (1993) in an attempt to explain the purported control facts of Dyirbal that I have just discussed.[8] Kroeger's theory was that a controllee must be an Actor and a term, and the unusual properties of Dyirbal followed from the fact that Actors are not terms in that language. In this section I briefly consider, but reject, this alternative analysis.

4.1.3.1 Arguments for and against

The fact that the ergative is homophonous with the instrumental in Dyirbal has been taken as support for the Oblique Analysis. But since the ergative is also homophonous with the instrumental or another oblique case in many other languages, this argument cannot be very strong. Moreover, Dixon suggested several grounds for why ergative and instrumental must be distinguished, despite their homophony. At argument structure, A NPs and instrumentals have different constructional possibilities (Dixon 1994:170). While both may be promoted so that they become the pivot, it is via different morphemes: an A NP may become pivot through antipassivization (*-ŋa(y)/ -na(y)*) while an instrumental NP becomes the pivot through use of an applicative morpheme (*-m(b)al*). Also, Dixon (1972:94) notes a constraint where a sentence can have at most one instrumental case NP, but sentences may freely contain an ergative NP and an instrumental NP.

A second argument for the Oblique Analysis is that the ergative NP can be freely omitted in Dyirbal sentences (like other oblique case NPs), whereas a pivot NP can

[8] Kroeger (1993:105) also attributes this analysis to Mel′čuk (1988), however I believe this to be inaccurate – I would classify Mel′čuk's analysis of Dyirbal as an instance of the Inverse Analysis. While Mel′čuk balks at calling the ergative a grammatical object (calling it instead an agentive complement), he very clearly states (pp. 179–180) that he does regard regular two actant verbs in Dyirbal as transitive (in contrast with his analysis of Lezgian).

only be omitted within a context – a sentence (i.e., pivot chain) without an expressed pivot is viewed in isolation as incomplete. On the Oblique Analysis, this could be taken as showing that ergative NPs function like other obliques. On the Inverse Grammatical Relations analysis this becomes a special property of pivot NPs (related to specificity).

There are no other particularly convincing arguments for the position. The fact that with ditransitive verbs the third argument is always an oblique is consistent with the Oblique Analysis, but many languages lack double object constructions, including all ergative languages of which I am aware. I think that much of the appeal of this analysis has been a certain theoretical convenience: one does not need to recognize inverse mappings which are problematic for many theories. Things that would normally happen to 'subjects' in other languages but don't happen to the A argument in Dyirbal cease to be problems because now it is the O that is the subject (of an intransitive sentence). But using this as a criterion begs the question.

Despite the absence of verb agreement and a causative form of verbs, there are several pieces of evidence that show quite clearly that Dyirbal has transitive and intransitive verbs, and other data that are suggestive of this distinction:[9]

1. Dyirbal has one more clause chaining construction, the *-ŋurra* construction. This is similar to a switch reference marker – it shows that the pivot of the *-ŋurra* clause is (necessarily) coreferential with the A NP of the main clause (it also has a semantic component and can only be used when two events follow one upon the other):

   (324) bala yugu baŋgul yara-ŋgu mada-n waynyji-ŋurra
   [IV.ABS.TH stick.ABS I.GEN.TH man-ERG throw-NFUT] [go.uphill-IMMED]
   'The man threw the stick and then immediately went uphill.'

   If the ergative NP is a term, then this construction is consonant with switch reference systems in other languages. On the other hand, this construction would seem most unusual if the ergative NP were an oblique.

[9] A number of these arguments are proposed (independently) in Johnson (1977).

2. Verbs in Dyirbal are strictly transitive or intransitive (that is, there are not ambitransitive or labile verbs, as in Lezgian) (Dixon 1972:54). Under the oblique analysis this would have to be described by saying that some verbs disallow an agentive oblique, presumably for semantic reasons. But this seems unlikely, since Dixon (1972:296–297) notes that there are pairs of verbs which seem semantically identical except that one is transitive and the other intransitive (such as *walma-nyu* 'to wake up (intr.)', *walmbi-n* 'to wake up (tr.)' and *jana-nyu* 'to stand up (intr.)' and *jara-n* 'to stand up (tr.)').

3. Connected with the previous point is the existence of two conjugation classes – one of which has mainly transitive verbs and the other of which has mainly intransitive verbs. On the oblique analysis, these classes would have to be analyzed as being purely diachronic detritus, since all verbs are regarded as intransitive.

4. The treatment of case marking on pronouns would be completely anomalous on the oblique analysis. Dyirbal has nominative-accusative marking on pronouns (see (327–328) below). But on the oblique analysis we would have to say that subject pronouns appear in one form with verbs which license an agentive oblique and in another form with verbs that do not license an agentive oblique. Further, this second form (the nominative under other analyses) is also used when pronouns appear as agentive obliques. The nominative case is clearly the unmarked case in the pronoun system (despite certain irregularities in the singular forms), and Kiparsky (1987) predicts that the unmarked nominative (or absolutive) case should not be able to occur marking obliques, and so the pattern of pronominal case marking cannot be explained.

5. Under the Inverse Analysis the Dyirbal antipassive is an antipassive. Under the Oblique Analysis, it appears to be an otherwise unattested advancement operation, and it is not clear what distinguishes it from the applicative so that the 'antipassive' can only be used to advance certain instrumental case NPs, while the applicative can only be used to advance the rest.

6. When the Dyirbal applicative morpheme is attached to intransitive verbs, it often has a comitative meaning:

   (325) a. bayi yara nyina-nyu
   I.ABS.TH man.ABS sit-NFUT
   'The man is sitting down.'

   b. balan jugumbil baŋgul yara-ŋgu nyinay-ma-n
   II.ABS.TH woman.ABS I.ERG.TH man-ERG sit-APPLIC-NFUT
   'The man is sitting down with the woman.'

   On the assumption that Dyirbal has transitive verbs, this is an instance of the typologically common comitative construction. On the oblique analysis, affixation of *-m(b)a(l)* 'APPLIC' would be a mysterious process that introduced a new actant, the 'comitator' as the subject while making the previous subject an agentive oblique. Further, the calque for (326) on the oblique analysis seems rather unlikely: 'the woman was sat-down-with by the man'.

7. Dixon (1972:54) observes that adverbs are also transitive or intransitive and must agree in transitivity with verbs. On the oblique analysis this would again be mysterious – we would have to either find a purely semantic account or suggest that adverbs are agreeing with the possibility of the verb taking an agentive oblique.

4.1.3.2 Conclusions

I propose that the null hypothesis should be the following (Dixon 1994:6): "All languages distinguish between clauses that involve a verb and one core noun phrase (intransitive clauses) and those that involve a verb and two or more core NPs (transitive clauses, including ditransitive as a subtype)." I do not find the arguments presented above sufficient to rule out the null hypothesis (in fact, I think they strongly support it). Thus I propose to accept an analysis of Dyirbal – the Inverse Grammatical Relations analysis – that maintains that Dyirbal has transitive sentences, and to reject the Oblique Analysis that denies this.

Such a conclusion is also supported by application of Occam's razor. I have shown in Chapters 1 and 2 that there are a number of languages which are syntactically ergative and in which evidence from agreement, causatives and binding shows clearly that there are transitive verbs. Such languages cannot be treated by the Oblique Analysis (in fact Kiparsky (1987) gives as a piece of support for an Oblique Analysis of Dyirbal the prediction that syntactic ergativity can only occur in languages without verb agreement). The Inverse Grammatical Relations analysis is needed independently for these languages. It is thus clearly more economical to conclude that Dyirbal should also be analyzed via the Inverse Grammatical Relations analysis, than to once again invent a new class of which it is the only member (recall Section 1.1.3).

4.2 Observations perhaps not requiring structural explanations

There are several things that some accounts of ergativity have attempted to explain about which I have said very little. Let me briefly address several of them here.

4.2.1 Ergative case marking in syntactically accusative languages

The appearance of ergative morphological markings in a syntactically accusative language might initially seem unmotivated and strange. I would like to suggest that such markings are possible for two reasons: one diachronic and one semantic.

Morphological ergativity emerges easily diachronically. If an ergative case marking situation arises from a passive made obligatory – as has been suggested for the perfect aspect in the Indic branch of Indo-European (Anderson 1977) – but the A and S roles reassert themselves as the grammatical subject (or pivot) as well as the a-subject, then morphological ergativity results and ergative case marking will remain for essentially diachronic reasons. This case marking must then simply be stipulated in the lexical forms of verb classes (just as experiencer subjects often take dative case in various languages).

There is an important general point lurking here. Many current generative analyses attempt to explain all case marking facts by synchronic syntactic distinctions.

However, as has been observed by Givón (1971), Cole et al. (1980), and Estival and Myhill (1988), it is frequently the case that synchronic morphology reflects the syntax of earlier forms of the language, because in general syntactic change precedes morphological change. Cole et al. (1980) show how dative experiencers can move from being obliques to having subject properties, while retaining their oblique case morphology, and the same seems to happen with ergative NPs that arise from obliques. It is not insightful, but simply wrong to try to include the historical syntax of a language within its synchronic description. Thus a synchronic grammar should not seek to explain all case marking facts, since some of them will reflect the history of the language (and be arbitrary from a synchronic perspective).[10]

However, sometimes it seems that such a diachronic residue, can be reinterpreted and the choice of case can have a coherent semantic basis. This is suggested for Hindi by T. Mohanan (1990) and for Urdu (Indo-European, Pakistan) by Butt and King (1991). They argue that in these languages the ergative appears on grammatical subjects in the perfect which exhibit conscious choice, giving contrastive pairs such as the following from Urdu:[11]

(326) a. anjum royii
Anjum.NOM cry.PERF
'Anjum cried.'

b. anjum-ne royaa
Anjum-ERG cry.PERF
'Anjum cried on purpose.'

[10]For instance, I think it is incorrect for the theories of Bittner (1994) and Bittner and Hale (forthcoming b) to try to predict the case marking on displaced terms in Inuit based on phrase structural configurations of which category Case-binds the NP or which category the NP is a complement of. Such a theory cannot explain the regional, historical and semantic variation in Case marking of displaced terms in Inuit (briefly discussed in (85)). For instance, Johnson (1980) suggests that the ablative is usually used for passive agents in Central Arctic Eskimo, but that the terminalis is used with a semantically determined class of verbs. There is no reason to suggest that the phrase structure of passive sentences varies depending on the case marking of the passive agent, but suggesting different phrase structures would be the only way to fit this data into the account of Bittner and Hale.

[11]The different verb forms result from the fact that verbs only agree with nominative NPs in Hindi/Urdu.

The situation thus becomes very similar to that found in the subtype of active-stative languages where case marking on S NPs is determined semantically on a case-by-case basis, such as Acehnese, Eastern Pomo, and Tsova-Tush (Nakho-Daghestanian, Georgia, Holisky 1987) (languages which Dixon (1994:78–83) carefully distinguishes as Fluid S languages). In such cases it is important to recognize that case marking is not an arbitrary system for distinguishing terms. Cases have a meaning (a point most strongly argued by Wierzbicka (1980, 1981)). Where cases do not reflect surface grammatical roles, they reflect some other system of distinctions (generally with a semantic basis), and such cases of morphological ergativity need not be viewed as arbitrary or unexpected, any more than the existence of dative case marked experiencer subjects.

4.2.2 The absence of syntactically ergative, morphologically accusative languages

Several people have faulted Marantz' analysis (see (207), above) for predicting four types of case marking – in particular the fourth case where a language is syntactically ergative but has Type B case marking appears not to exist (Levin 1983:64,Bok-Bennema 1991:16, Kiparsky 1987). Of course, a claim of the nonexistence of Type B case marking in syntactically ergative languages should not be made too strongly. For example, languages like Dyirbal that are syntactically ergative but have NP-split ergativity *do* have Type B case marking on pronouns:

(327) a. ŋana banaga-nyu
we.PL.NOM return-NFUT
'We returned.'

b. nyurra ŋana-na bura-n
you.PL.NOM we.PL-ACC see-NFUT
'You all saw us.'

c. ŋana nyurra-na bura-n
we.PL.NOM you.PL-ACC see-NFUT
'We saw you all.'

Note that despite the difference in case morphology, the language maintains an S/O pivot, as can be seen in the following example of coordination (see Dixon (1994:162–163) for further examples):[12]

(328) nyurra ŋana-na bura-n banaga-nyu
[you.PL.NOM we.PL-ACC see-NFUT] [return-NFUT]
'You all saw us and we returned.'

Nevertheless, Type B case marking in syntactically ergative languages is not very widespread (whereas Type B, or morphologically ergative case marking is quite common in syntactically accusative languages). I suspect that the reason for this has mainly to do with the diachronic paths by which languages shift between ergativity and accusativity. As Dixon (1994: Ch. 7) argues, the paths between ergativity and accusativity and back, are not symmetrical. One of the consequences of this seems to be that morphological ergativity is quite widespread, while Type B case marking in syntactically ergative languages is quite limited.

4.2.3 The absence of antipassive in syntactically accusative languages

Another fact that some analyses (for example Bok-Bennema (1991: Ch. 6)) attempt to capture is that antipassive is apparently restricted to ergative languages – perhaps it is even the case that antipassive is restricted to syntactically ergative languages. This is disputed by Postal (1977) who endeavors to find instances of antipassive in morphologically and syntactically accusative languages, but it seems that at most these languages have limited or construction-specific analogues of antipassive (such as Unspecified Object Deletion *John ate the burger/John ate* or the conative alternation *Mary kicked the ball/Mary kicked at the ball*) and not the general antipassive operations of some ergative languages.

However, I would like to suggest that perhaps no structural explanation of this observation is needed, since a functional explanation appears to suffice. Dixon has

[12] In contrast, coreferential omission in coordination in Yidin^{y} depends solely on morphological case (Dixon 1977). In a number of other languages (such as Hindi (Mohanan 1990) and Marathi (Joshi 1993)) coreferential omission in coordination is possible only if the NPs agree in both grammatical relation and case. So a universal theory must allow either or both case and grammatical relation to determine possibilities for coreferential omission in coordination.

observed that an antipassive is necessary in syntactically ergative languages, because of the propensity of humans to wish to talk for a while about the actions of a certain Actor.[13] Conversely, there is extremely little need for an antipassive in a syntactically accusative language: it is not needed to feed the pivot relation in such cases, and antipassive in general has no useful consequences for argument structure sensitive operations such as binding theory and derivational morphology (because the a-subject remains the a-subject). Its only role would be to background the patient, but in general more limited mechanisms, such as Unspecified Object Deletion, seem to suffice for this purpose.

With these points out of the way, let me turn to what I have done.

4.3 Conclusions

This dissertation has tried to motivate and substantiate a new typology of ergative languages. The typology maintains two classes, namely syntactically and morphologically ergative languages, but greatly expands the class of languages that are classified as syntactically ergative to include Philippine and other mixed pivot languages.

This new classification results from a proposal about levels of linguistic representation. I have argued that syntactic theory must recognize two levels, a level of surface grammatical relations and a level of syntactic argument structure. While others have argued for a level of argument structure separate from both the surface syntax and a notion of thematic roles (or theta-structure), syntactically ergative languages show most clearly that these two levels both exist and have their own prominence relationships.

I have argued that universally there are features of language that are sensitive to each of these levels. My conception of syntactic ergativity is more limited (and hence the class of languages it covers is broader) because I only expect certain processes – the ones sensitive to surface grammatical relations – to behave differently in a syntactically ergative language. Other processes like binding and control – processes

[13] "A language with thoroughgoing ergative syntax *must* have an antipassive derivation, to feed its S/O pivot, otherwise it could not operate" (Dixon 1994:174).

of construal, to use Kiparsky's term – are universally sensitive to argument structure, which has a roughly accusative nature. This captures the generalization (attributed to Ken Hale in Miller (1988)) that in a transitive construction with an agent and a theme, in a language with nominal reflexives, it is always the theme that is encoded as a reflexive pronoun coindexed with the other agent.

This claim differs markedly from previous work which has regarded a canonical syntactically ergative language as one in which everything works on an ergative-absolutive basis (e.g., Dowty 1991), leaving mixed pivot languages as something of an anomaly. Other work has emphasized the prevalence of mixed pivot languages (e.g., Van Valin 1981), but has provided no constraints on what patterns of mixed pivot behavior are possible. Kazenin (1994) suggests an implicational hierarchy allowing the cut off for features that are syntactically ergative to be placed anywhere along that hierarchy. The present theory predicts many fewer possibilities for "mixed pivot languages". If a language is syntactically ergative, all phenomena sensitive to grammatical relations should be ergative or neutral. If a language is syntactically accusative, all phenomena sensitive to grammatical relations will be accusative or neutral. Phenomena sensitive to argument structure will always have an accusative-like nature. The predictions appear to be largely confirmed, although there remain one or two problems that require further study (e.g., control in Toba Batak).

Johnson (1977) argues that all languages are syntactically accusative, so as to maintain a universal assignment of initial grammatical relations (in RG), and because processes such as causatives, inchoatives, and applicatives appear to refer to a syntactically accusative level of organization. But both these desiderata can be satisfied by adopting a level of argument structure as I have outlined, reinforcing the need for a level of argument structure that has been motivated on independent grounds by much recent work (Alsina 1993, Grimshaw 1990, Rosen 1989). Adoption of a level of argument structure allows us to recognize that ergative languages *can* be better explained by allowing an Inverse Grammatical Relations analysis. Such an analysis can explain Johnson's (1977) own observation (p. 39) that processes of relativization, topicalization, coreferential deletion and question formation regularly fail to apply to ergative NPs, whereas Johnson's (1977) proposal for dealing with these data was

self-confessedly ad hoc.

The possible alternatives seem less desirable. Recognizing no extra level, as in the work of Johnson (1977) or Marantz (1984) has been shown to be quite problematic. Trying to work in terms of thematic roles, rather than recognizing argument structure appears to be untenable. This was explicitly illustrated for the case of Toba Batak, and similar considerations would also make this approach unworkable in Inuit. The main remaining alternative is to keep two levels, but to define them differently. This is how I interpret Bittner's (1994) approach. Configurational relationships within the VP are one level of prominence, while final positions at s-structure give the other level of prominence. But this ends up predicting that what I have called grammatical subject properties are actually properties of an A′ position. This causes theoretical problems even for Inuit, since Bittner must postulate that NPs reconstruct down from this position for purposes of binding, but not for purposes of semantic interpretation. However, the larger typological problems come from consideration of other languages such as Tagalog where Kroeger (1993) has argued convincingly that the *ang*-marked NP has the properties of a grammatical subject, and not the properties of an NP in an A′ position – a position normally reserved for NPs with a particular discourse function.

Adopting a level of argument structure, at which constraints such as binding theory are defined, ends up lending support to a lexicalist theory of syntax. A clear distinction between pivots and a-subjects, as can be motivated most clearly in syntactically ergative languages, argues against a syntactic approach which tries to lump these together as properties of NPs that are 'subjects' at some level. In syntactically ergative languages it can be seen clearly that accounts of binding based on either surface phrase structure configurations or surface grammatical relations are unsatisfactory. I have shown that an argument-structure-based treatment of binding and derivational morphology becomes a necessary, and satisfactory solution. However, once argument structure is recognized as a separate level, there is then nothing to be gained by postulating operations of verb movement to generate complex derivational forms, and so the simpler lexicalist theory is to be preferred for reasons of economy.

Sources of Examples

(1)	Morin and Tiffou 1988 (1)
(2a)	Janussen 1987 p. 58
(2b)	Janussen 1987 p. 17
(3)	constructed
(5a)	Ortiz de Urbina 1989 (2.128i)
(5b)	Ortiz de Urbina 1989 (2.128ii)
(5c)	Ortiz de Urbina 1989 (2.131ii)
(6)	Anderson 1977 (15)
(7)	Anderson 1976 (18)
(8)	Anderson 1976 (19)
(9)	Anderson 1976 (20)
(10)	Hudson 1976 (15); Dixon 1979 (38)
(11)	Ortiz de Urbina 1989 (45, 46)
(12)	Dixon 1972 (468)
(13)	Kroeger 1993 (1.13a–c) adapted from Foley and Van Valin 1984 (4.46a,b,d)
(15)	Schachter 1977 (7)
(16)	Schachter 1977 (8)
(17a)	Schachter 1977 (15a)
(17b)	Schachter 1977 (15b)
(17c)	Schachter 1977 (16b)
(18a)	Kroeger 1993 (2.35c)
(18b)	Kroeger 1993 (4.35a)
(20a)	Fortescue 1984 p. 53; Bok-Bennema 1991 (3.88)
(20b)	Bittner 1992 (3.18a) (part)
(20c)	Bittner 1994 (2.19)
(21a)	Johnson 1980 (32)
(21b)	Johnson 1980 (33)
(22a)	Bittner 1994 (1.90a)
(22b)	Sadock forthcoming (64)
(22c)	Bobaljik 1993 (19b)
(23a)	Bittner 1992 (1.11)
(23b)	Bittner 1992 (1.12)
(25a)	Johns 1992 (33a)
(26a)	De Wolf 1988 (29)
(27a)	Andersen 1988 (2a); Dixon 1994 (3.23)
(27b)	Andersen 1988 (5a); Dixon 1994 (3.24)
(28a)	England 1983a (8b)
(28b)	England 1983a (7b)
(28c)	England 1983a (1.7c)
(28d)	England 1983a (1.9b)
(29a)	England 1983b (7.157); Campana 1992 (96a)
(29b)	England 1983b (7.157); Campana 1992 (96a)
(29c)	Campana 1992 (96c)
(29d)	England 1983b (8.40)
(30)	Campana 1992 (97)
(31)	England 1983a (16)
(32a)	Comrie 1979 (11)
(32b)	Comrie 1979 (12)
(33)	Comrie 1979 (19)
(34a)	Comrie 1979 (13)

(34b)	Comrie 1979 (14)
(35)	Schachter 1984 (2)
(36a)	Emmorey 1984 (1)
(36b)	Emmorey 1984 (33)
(36c)	Emmorey 1984 (47)
(37a)	Emmorey 1984 (5)
(37b)	Emmorey 1984 (6)
(39)	Sugamoto 1984 (3)
(40)	Sugamoto 1984 (4)
(42)	Schachter 1984 (25)
(43)	Tarpent 1982 (29)
(62a)	Schachter 1976 (22)
(62b)	Schachter 1976 (23)
(62c)	Schachter 1976 (25a)
(63a)	Schachter 1976 (21)
(63b)	Kroeger 1993 (33b)
(64a)	Fortescue 1984 p. 156
(64b)	Mey 1970 (30)
(66)	Bok-Bennema 1991 (4.28b); adapted from Fortescue 1984 p. 161
(67)	Bittner 1994 (4.39b)
(70a)	Bittner 1994 (4.9)
(70b)	Bittner 1994 (4.4)
(71a)	Iida et al. 1994
(71b)	Shibatani 1988 (55b)
(72)	Iida et al. 1994
(73)	Iida et al. 1994
(74a)	Perlmutter 1984 (20)
(74b)	Perlmutter 1984 (22)
(75a)	Kiparsky 1987 (244) from *Panchatantra*
(75b)	Kiparsky 1987 (245) from *Manu* 8, 36
(76a)	Marantz 1984 (7.107)
(76b)	Mohanan 1981 (39b)
(77)	myself
(79)	Dalrymple 1993 (5.55); cf. Postal 1971 (6.49)
(80)	Jackendoff 1990 (3.19); cf. Postal 1971 (16.73a–b), etc.
(81)	Jackendoff 1990 (3.20)
(82)	myself
(87)	Bittner 1994 (2.52a)
(88)	Bok-Bennema 1991 (5.61a) adapted from Fortescue 1984 p. 43
(89a)	Bok-Bennema 1991 (6.17b)
(89b)	Bok-Bennema 1991 (6.18b)
(90a)	Bittner 1994 (2.60a)
(90b)	Bittner 1994 (1.44a)
(90c)	Bittner 1994 (1.44b)
(91a)	Bittner 1992 (3.18a) (part)
(91b)	Bok-Bennema 1991 p. 138 (88) from Fortescue 1984 p. 53
(91c)	Bittner 1994 (2.17)
(92)	Kroeger 1993 (3.2)
(94)	Kroeger 1993 (1.15) (from a text recorded by Bloomfield)
(95)	Kroeger 1993 (3.3, 3.4a)
(96)	Fortescue 1984 p. 249
(97)	Edna Paneatak MacLean (consultation)
(98)	Bittner 1994 (1.3b)
(99)	Bittner 1994 (1.3c)
(100)	Bittner 1994 (1.3a)
(102)	Bittner 1987 (29)
(103a)	proverb
(103b)	Ivan Sag (p.c., 1994)
(104a)	Carden 1970b (1a)
(104b)	myself
(106a)	Bittner 1994 (4.89)
(106b)	Bittner 1994 (4.91)
(107)	myself
(108)	myself
(109)	Kleinschmidt 1851 p. 85
(110)	De Hoop 1992 (84)
(111)	Bittner 1987 (4)
(112)	Edna Paneatak MacLean

	(consultation)
(113a)	Bittner 1987 (10)
(113b)	Bittner 1987 (11)
(114)	Bittner 1987 (29)
(115)	Bittner 1987 (5)
(116)	Bittner 1994 (1.73)
(117)	Bittner 1994 (3.40)
(118)	Bittner 1994 (3.39)
(119a)	Fortescue 1984 p. 45
(119b)	Bittner 1994 (2.30a)
(120)	Sadock forthcoming (25)
(121)	Payne 1982 (16) (Hooper Bay Yup′ik)
(122)	Fortescue 1984 p. 132
(124a)	Enel 1984 p. 49
(124b)	Enel 1984 p. 58
(126a)	Bittner 1992 (2.1)
(126b)	Bok-Bennema 1991 p. 222 (52a); Fortescue 1984 p. 325
(127a)	Fortescue 1984 p. 269
(127b)	Bittner 1994 (2.21)
(127c)	Bittner 1994 (2.25a)
(128a)	Bittner 1992 (2.2)
(128b)	Bittner 1994 (2.57)
(128c)	Bittner 1994 (2.64b)
(128d)	Bittner 1994 (2.57c)
(129a)	Bittner 1994 (2.63b)
(129b)	Bittner 1994 (1.51a)
(129c)	Bittner 1994 (2.63c)
(129d)	Bittner 1994 (1.51b)
(130)	Smith 1982 p. 183
(138a)	Sadock forthcoming (57)
(139a)	adapted from a novel by Hans Anthon Lynge
(145a)	Smith 1982 p. 173 cited by Grimshaw and Mester 1985 (35), Woodbury and Sadock 1986 (14)
(145b)	Woodbury and Sadock 1986 (15)
(146a)	Woodbury and Sadock 1986 (19)
(146b)	Woodbury and Sadock 1986 (17b) (from Sadock 1980 p. 309)
(151)	Woodbury and Sadock 1986 (16b)
(155a)	Bittner 1992 (1.11)
(155b)	Bittner 1992 (1.12)
(157)	Fortescue 1984 p. 131
(159a)	Fortescue 1984 p. 150
(160a)	Bittner 1994 (4.70) (from a book)
(162a)	Bergsland 1955 p. 58. Retranscribed by me.
(162b)	Bittner 1994 (1.39b)
(163a)	Fortescue 1984 p. 156
(163b)	Thalbitzer 1911 p. 1069
(164)	Fortescue 1984 p. 155
(165)	Bittner 1994 (4.6)
(166a)	Sadock forthcoming (57)
(166b)	Sadock forthcoming (58)
(167a)	Sadock forthcoming (72)
(167b)	constructed
(168)	Bittner 1994 (4.7)
fn. 47 (i)	Fortescue 1984 p. 156
(169a)	Mey 1970 (30)
(170a)	Fortescue 1984 p. 156
(171)	Bobaljik 1993 (19b)
(173a)	Fortescue 1984 p. 157
(173b)	Fortescue 1984 p. 156
(173c)	Fortescue 1984 p. 147; Bobaljik 1993 (37b)
(174)	Sadock forthcoming (77)
(175)	constructed
(176a)	constructed
(178a)	Dalrymple 1993 (1.28) (one option)
(178b)	Dalrymple 1993 (1.31) (one option)

(179a)	Dalrymple 1993 (2.85)
(179b)	Hellan 1988 (2.25a)
(180a)	Bittner 1994 (4.4)
(180b)	Bittner 1994 (4.6)
(183a)	Bittner 1994 (4.19a)
(183b)	Bittner 1994 (4.19c)
(186)	Bittner 1994 (4.39b)
(188)	Bittner 1985 (24)
(190b)	Bittner 1994 (4.9)
(191b)	Bittner 1994 (4.4)
(192)	Fortescue 1984 p. 144
(193a)	Bittner 1994 (1.96a)
(194a)	Bittner 1994 (1.94)
(195)	Bittner 1994 (4.14)
(196)	Bittner 1994 (4.36)
(197)	Bittner 1994 (1.92b)
(199)	Bittner 1994 (4.42a-c)
(202)	Bittner 1994 (4.11)
(204)	Woodbury 1985a (12)
(205a)	Woodbury 1985a (13)
(205b)	Woodbury 1985a (14)
(206)	Woodbury 1985a (18)
(209a)	Dixon 1972 p. 89
(209b)	Joan Bresnan, lectures 1990, from Dixon (p.c.)
(209c)	Joan Bresnan, lectures 1990, from Dixon (p.c.)
(209d)	Joan Bresnan, lectures 1990, from Dixon (p.c.)
(210)	Bok-Bennema 1991 (1.17); Johnson 1980 p. 21
(212)	Marantz 1984 (6.9) from Johnson 1980 (30–31) (The free translation was altered by Marantz; it should be 'the pencil')
(213)	Bittner 1994 (42a)
(214)	Bittner 1994 (42b)
(215a)	Marantz 1984 (6.33a)
(215b)	Swadesh 1946 p. 45; Woodbury 1977a (45); Marantz 1984 (6.33b)
(216a)	Johns 1987 (5.25c)
(216b)	Johns 1987 (5.24c)
(217a)	Johns 1987 (5.35a)
(217b)	Johns 1987 (5.34a)
(218)	Marantz 1984 (6.34)
(219a)	Bok-Bennema 1991 (1.45a)
(219b)	Johnson 1980 (52); Bok-Bennema 1991 (1.45b)
(220)	Johnson 1980 (59)
(221a)	Comrie 1985 (80)
(221b)	checked with Güven Güzeldere (consultation)
(225)	Bok-Bennema 1991 (5.38); cf. Bittner 1987 (51b)
(226)	Marantz 1984 (6.30b) (from Marion Johnson (p.c.))
(227)	Johns 1992 (10)
(228)	Johns 1992 (11)
(229)	Johns 1992 (16)
(232)	Johns 1992 (33b)
(233a)	Bittner 1994 (2.36a)
(233b)	Bittner and Hale forthcoming b (7a)
(234)	Fortescue 1984 p. 51
(235)	Bittner 1994 p. 56, fn. 7
(236)	Bittner 1992 (3.18b) (part)
(238)	Bittner 1994 (2.14)
(240a)	Bittner 1992 (1.11)
(240b)	Bittner 1992 (1.12)
(242)	Bobaljik 1992 (10a)
(243a)	Bobaljik 1992 (32a)
(243b)	Bobaljik 1992 (33a)
(243c)	Bobaljik 1992 (34b) from Bergsland 1955 p. 58. Differently transcribed by me.
(244a)	Bobaljik 1992 (18a)
(244b)	Bobaljik 1992 (22b)

(245)	Sadock forthcoming (xx) drawn from Møller, ed. (1989:75)
(248)	Baker 1991 (11)
(249)	Baker 1991 (46)
(250)	myself
(251)	Edna Paneatak MacLean (consultation)
fn. 102 (i)	myself
(253)	Schachter 1976 (21)
(255a)	Bittner 1992 (2.55)
(256)	Haspelmath 1993 (839b)
(257a)	Haspelmath 1993 (1141b)
(257b)	Haspelmath 1993 (1140)
(257c)	Haspelmath 1993 (276b)
(257d)	Haspelmath 1993 (1145)
(258)	Haspelmath 1993 (995)
(260)	Haspelmath 1993 (1146)
(261)	Haspelmath 1993 (1150b)
(262)	Haspelmath 1993 (1168a)
(263)	Haspelmath 1993 (1139)
(264a)	Haspelmath 1993 (1150a)
(264b)	Haspelmath 1993 (1149b)
(265a)	Haspelmath 1993 (543b)
(265b)	Haspelmath 1993 (789a)
(266)	Haspelmath 1993 (324c)
(267)	Haspelmath 1993 (790b)
(268)	Haspelmath 1993 (324b)
(269a)	Haspelmath 1993 (1049a)
(269b)	Haspelmath 1993 (1049b)
(269c)	Haspelmath 1993 (633)
(270)	Haspelmath 1993 (1124)
(271)	Haspelmath 1993 (826)
(272a)	Haspelmath 1993 (991)
(272b)	Haspelmath 1993 (986a)
(272c)	Haspelmath 1993 (986c)
(273a)	Haspelmath 1993 (989)
(273b)	Haspelmath 1993 (804c)
(273c)	Haspelmath 1993 (990)
(274a)	Haspelmath 1993 (997)
(274b)	Haspelmath 1993 (998)
(275a)	Haspelmath 1993 (802a)
(275b)	Haspelmath 1993 (995)
(276a)	Sag and Pollard 1991 (4b)
(277)	myself
(278a)	Haspelmath 1993 (780a)
(278b)	Haspelmath 1993 (1005c)
(278c)	Haspelmath 1993 (652)
fn. 8 (ia)	Mel′čuk 1988 (5.60a)
fn. 8 (ib)	Mel′čuk 1988 (5.60b)
(279)	Mel′čuk 1988 (5.3)
(282)	Haspelmath 1993 (788)
(283)	Haspelmath 1993 (792)
(284a)	Haspelmath 1993 (793)
(284b)	Haspelmath 1993 (794)
(285a)	Haspelmath 1993 (796b)
(285b)	Haspelmath 1993 (797c)
(285c)	Haspelmath 1993 (798)
(286)	Haspelmath 1993 (780a)
(287a)	Mel′čuk 1988 (32b)
(287b)	Mel′čuk 1988 (32c)
(287c)	Mel′čuk 1988 (32g)
(287d)	Mel′čuk 1988 (32g)
(288)	Haspelmath 1993 (961); Mel′čuk 1988 (32i)
(289)	Haspelmath 1993 (961); Mel′čuk 1988 (32i)
(290a)	Haspelmath 1993 (529a)
(290b)	Haspelmath 1993 (529b)
(290c)	Haspelmath 1993 (1130)
(291)	Haspelmath 1993 (341c)
(292)	Haspelmath 1993 (962); one option of Mel′čuk 1988 (32h)
(293)	Haspelmath 1993 (973a)
(294)	Haspelmath 1993 (962); one option of Mel′čuk 1988 (32h)
(295a)	Haspelmath 1993 (848a)
(295b)	Haspelmath 1993 (850)
(296a)	Haspelmath 1993 (930a)
(296b)	Haspelmath 1993 (931)

(297)	Haspelmath 1993 (952)
(298)	Haspelmath 1993 (938)
(301a)	Haspelmath 1993 (308c)
(301b)	Haspelmath 1993 (945)
(302a)	Haspelmath 1993 (312a) (portion)
(302b)	Haspelmath 1993 (173a)
(303a)	Haspelmath 1993 (487a)
(303b)	Haspelmath 1993 (193b)
(304a)	Haspelmath 1993 (525a)
(304b)	Haspelmath 1993 (170a)
(305a)	Haspelmath 1993 (194b)
(305b)	Haspelmath 1993 (429b)
(306a)	Haspelmath 1993 (480b)
(306b)	Haspelmath 1993 (732a)
fn. 16 (i)	Haspelmath 1993 (920a)
(307a)	Haspelmath (1991) (17a)
fn. 17 (i)	Haspelmath 1993 (999)
fn. 17 (ii)	Haspelmath 1993
(307b)	Paul Kiparsky, lecture notes, 1993, from Martin Haspelmath (p.c.)
(307c)	Haspelmath 1993 (926c)
(308)	Haspelmath 1993 (927)
(309)	Haspelmath 1991 (51a)
(310a)	Haspelmath 1993 (807)
(310b)	Haspelmath 1993 (808b)
(310c)	Haspelmath 1993 (809)
(310d)	Haspelmath 1993 (809)
(310e)	Haspelmath 1993 (806a)
(311a)	Dixon 1991 (56)
(311b)	Dixon 1972 (468)
(312a)	Dixon 1991 (63)
(312b)	Dixon 1991 (65)
(313)	Dixon 1972 (290) (Mamu dialect)
(314)	Dixon 1991 (68)
(315a)	Dixon 1972 (370)
(315b)	Dixon 1972 (371)
(316a)	Dixon 1991 (70)
(316b)	Dixon 1991 (73)
(316c)	Dixon 1991 (71)
(317a)	Dixon 1994 (6.58)
(317b)	Dixon 1972 (310)
(317c)	Comrie 1981 (5.35)
(318)	Dixon 1972 p. 369 (part of Text XV:5)
(319)	Dixon 1972 p. 377 (Text XV:54)
(320a)	Dixon 1972 p. 369 (part of Text XV:4)
(320b)	Cooreman 1988 (14)
(321)	Sag and Pollard 1991 (4a)
(322a)	Dixon 1991 (79)
(322b)	Dixon 1991 (80)
(323a)	Dixon 1972 (512)
(323b)	Dixon 1972 (513)
(324)	Dixon 1972 (148)
(325a)	Dixon 1972 (257)
(325b)	Dixon 1972 (258)
(326)	Butt and King 1991 (6)
(327a)	Dixon 1994 (6.12)
(327b)	Dixon 1994 (6.15)
(327c)	Dixon 1994 (6.16)
(328)	Dixon 1994 (6.22)

Bibliography

Abusch, D. 1994. The scope of indefinites. *Natural Language Semantics* 2:83–135. [80]

Aissen, J. L., and D. M. Perlmutter. 1983. Clause reduction in Spanish. In D. M. Perlmutter (Ed.), *Studies in Relational Grammar 1*, 360–403. Chicago: University of Chicago Press. [Earlier version published in 1976]. [134]

Allen, W. S. 1964. Transitivity and possession. *Language* 40:337–343. [19]

Alsina, A. 1993. *Predicate Composition: A Theory of Syntactic Function Alternations.* PhD thesis, Stanford. [36–37, 43–44, 49–50, 57, 60, 94–95, 105, 113, 134, 243]

Alsina, A., and S. Joshi. 1991. Parameters in causative constructions. In L. M. Dobrin, L. Nichols, and R. M. Rodriguez (Eds.), *Papers from the 27th Regional Meeting of the Chicago Linguistics Society*, Vol. 1, 1–15. Chicago Linguistics Society. [44]

Andersen, T. 1988. Ergativity in Päri, a Nilotic OVS language. *Lingua* 75:289–324. [24–25, 245]

Anderson, S. R. 1976. On the notion of subject in ergative languages. In C. N. Li (Ed.), *Subject and Topic*, 1–23. New York: Academic Press. [5–7, 10, 15–16, 24, 38–40, 175, 229, 245]

Anderson, S. R. 1977. On mechanisms by which languages become ergative. In C. N. Li (Ed.), *Mechanisms of Syntactic Change*, 317–363. Austin: University of Texas Press. [22, 238, 245]

Anderson, S. R. 1982. Where's morphology? *Linguistic Inquiry* 13:571–612. [111]

Andrews, A. D. 1982. The representation of case in Modern Icelandic. In J. Bresnan (Ed.), *The Mental Representation of Grammatical Relations*, 427–503. Cambridge, MA: MIT Press. [221]

Andrews, A. D. 1985. The major functions of the noun phrase. In T. Shopen (Ed.), *Language typology and syntactic description*, Vol. 1: Clause structure, 62–154. Cambridge: Cambridge University Press. [17, 20]

Andrews, A. D., and C. D. Manning. 1993. Information spreading and levels of representation in LFG. Technical Report CSLI-93-176, CSLI, Stanford CA. [57, 94]

Austin, P. 1992. Transitivity alternations in Australian Aboriginal languages. To appear in P. Austin and B. Blake (Eds.), *Theorectical linguistics and Australian Aboriginal languages*. [44]

Austin, P. 1993. Causatives and applicatives in Australian Aboriginal languages. MS, La Trobe University and Stanford ersity. [45]

Austin, P. forthcoming. Word order in a free word order language: The case of Jiwarli. MS, La Trobe University. To appear in *Language*. [193]

Austin, P., and J. Bresnan. 1994. Non-configurationality in Australian Aboriginal languages. MS, La Trobe University and Stanford University. [182–183, 186]

Baker, M. C. 1988. *Incorporation: A Theory of Grammatical Function Changing*. Chicago, IL: University of Chicago Press. [44–45, 58, 60, 91, 133, 150, 157, 160–161, 163, 180]

Baker, M. C. 1991. On some subject/object non-asymmetries in Mohawk. *Natural Language and Linguistic Theory* 9:537–576. [177, 183, 185, 249]

Baker, M. C. 1992. Pronominal inflection and the morphology-syntax interface. In M. Ziolkowski, M. Noske, and K. Deaton (Eds.), *Papers from the 26th Regional Meeting of the Chicago Linguistics Society*, Vol. 1, 25–48. Chicago Linguistics Society. [181, 183, 185]

Beghelli, F., D. Ben-Shalom, and A. Szabolcsi. 1993. When do subjects and objects exhibit a branching reading? In *The Proceedings of the Twelfth West Coast*

Conference on Formal Linguistics, Stanford, CA. Stanford Linguistics Association. [85]

Beghelli, F., T. Stowell, and A. Szabolcsi. 1994. Predicate and distribute. Paper presented at the Third CSLI Workshop on Logic, Language and Computation. [85]

Bell, S. J. 1976. *Cebuano Subjects in Two Frameworks.* Bloomington, IN: Indiana University Linguistics Club. [31, 53, 59]

Bergsland, K. 1955. A grammatical outline of the Eskimo language of West Greenland. mimeo, Oslo. [Available from Interdocumentation Co. Ag., Zug, Switzerland]. [114, 176, 247–248]

Bittner, M. 1985. Agreement and anaphora in West Greenlandic Eskimo. MS, London. [120, 248]

Bittner, M. 1987. On the semantics of the Greenlandic antipassive and related constructions. *International Journal of American Linguistics* 53:194–231. [16, 66, 72–75, 77, 79–83, 181, 219, 246–248]

Bittner, M. 1988. *Canonical and Noncanonical Argument Expressions.* PhD thesis, University of Texas at Austin. [163]

Bittner, M. 1992. Ergativity, binding, and scope. MS, Rutgers University. [131, 152, 189, 245–249]

Bittner, M. 1994. *Case, Scope, and Binding.* Dordrecht: Kluwer Academic. [16, 41, 54, 57, 66–67, 69, 72, 74–75, 78, 83–85, 87, 92, 107, 120, 128, 134–135, 138, 157, 161, 163, 165–167, 182, 186, 189, 220, 239, 244–248]

Bittner, M., and K. L. Hale. forthcoming a. Ergativity: Towards a theory of a heterogeneous class. MS, Rutgers University and MIT. To appear in *Linguistic Inquiry.* [87, 219]

Bittner, M., and K. L. Hale. forthcoming b. The structural determination of case and agreement. MS, Rutgers University and MIT. To appear in *Linguistic Inquiry*. [52, 163, 171, 239, 248]

Blake, B. J. 1988. Tagalog and the Manila-Mt Isa axis. *La Trobe Working Papers in Linguistics* 1:77–90. [17, 19]

Bobaljik, J. D. 1992. Nominally absolutive is not absolutely nominative. In J. Mead (Ed.), *The Proceedings of the Eleventh West Coast Conference on Formal Linguistics*, 44–60, Stanford, CA. Stanford Linguistics Association. [39, 172–173, 176–177, 181–183, 248]

Bobaljik, J. D. 1993. On ergativity and ergative unergatives. In C. Phillips (Ed.), *Papers on Case and Agreement II*, MIT Working Papers in Linguistics, Vol. 19, 45–88. [177, 181, 183, 185, 187, 202, 225, 245, 247]

Bok-Bennema, R. 1991. *Case and Agreement in Inuit*. Berlin: Foris. [27, 39, 82, 88, 113, 117, 119, 150–152, 156, 162–163, 229, 234, 240–241, 245–248]

Bonet i Alsina, M. E. 1991. *Morphology after Syntax: Pronominal Clitics in Romance*. PhD thesis, MIT. [97]

Borsley, R. 1989. Phrase-structure grammar and the *Barriers* conception of clause structure. *Linguistics* 27:843–863. [47]

Bresnan, J. (Ed.). 1982a. *The Mental Representation of Grammatical Relations*. Cambridge, MA: MIT Press.

Bresnan, J. 1982b. The passive in lexical theory. In J. Bresnan (Ed.), *The Mental Representation of Grammatical Relations*, 3–86. Cambridge, MA: MIT Press. [7, 104]

Bresnan, J. 1987. Exercises and problem sets: Lexical functional grammar. MS, Stanford University. [100, 106]

Bresnan, J. 1994a. Category mismatches. Paper presented to the plenary session of the 25th Annual Conference on African Linguistics. [173]

Bresnan, J. 1994b. Linear order vs. syntactic rank: Evidence from weak crossover. To appear in the Proceedings of CLS 30. [182]

Bresnan, J., and J. Kanerva. 1989. Locative inversion in Chicheŵa: A case study of factorization in grammar. *Linguistic Inquiry* 20:1–50. [31, 43]

Bresnan, J., and S. A. Mchombo. 1987. Topic, pronoun, and agreement in Chicheŵa. *Language* 63:741–782. [37, 102, 180]

Bresnan, J., and S. A. Mchombo. 1993. The lexical integrity principle: Evidence from Bantu. MS, Stanford University and University of California at Berkeley. To appear in *Natural Language and Linguistic Theory*. [2, 99, 111–112]

Bresnan, J., and A. Zaenen. 1990. Deep unaccusativity in LFG. In *Proceedings of the Fifth Biennial Conference on Grammatical Relations*, 45–57. University of California, San Diego. [7, 36, 43, 45, 137]

Burzio, L. 1986. *Italian Syntax: a Government-Binding Approach.* Dordrecht: D. Reidel. [149]

Butt, M., and T. H. King. 1991. Semantic case in Urdu. In L. M. Dobrin, L. Nichols, and R. M. Rodriguez (Eds.), *Papers from the 27th Regional Meeting of the Chicago Linguistics Society*, Vol. 1, 31–45. Chicago Linguistics Society. [239, 250]

Butt, M. J. 1993. *The Structure of Complex Predicates in Urdu.* PhD thesis, Stanford. [36, 44, 57, 94, 105, 134]

Campana, M. 1992. *A Movement Theory of Ergativity.* PhD thesis, McGill. [25, 27, 245]

Carden, G. 1970a. Logical predicates and idiolect variation in English. Master's thesis, Harvard. [76]

Carden, G. 1970b. A note on conflicting idiolects. *Linguistic Inquiry* 1:281–290. [76, 246]

Cena, R. M. 1977. Patient primacy in Tagalog. Paper presented at the LSA Annual Meeting, Chicago, IL. [19]

Cho, Y. Y., and P. Sells. 1994. A lexical account of inflectional suffixes in Korean. MS, Stanford University. To appear in *Journal of East Asian Linguistics*. [100]

Chomsky, N. 1957. *Syntactic Structures*. The Hague: Mouton. [18]

Chomsky, N. 1965. *Aspects of the Theory of Syntax*. Cambridge, MA: MIT Press. [91]

Chomsky, N. 1981. *Lectures on Government and Binding*. Dordrecht: Foris. [47]

Chomsky, N. 1982. *Some Concepts and Consequences of the Theory of Government and Binding*. Cambridge, MA: MIT Press. [167]

Chomsky, N. 1986. *Barriers*. Cambridge, MA: MIT Press.

Chomsky, N. 1991. Some notes on economy of derivation and representation. In R. Freidin (Ed.), *Principles and Parameters in Comparative Grammar*, 417–454. Cambridge, MA: MIT Press. [161]

Chomsky, N. 1992. A minimalist program for linguistic theory. MIT Occasional Papers in Linguistics, Number 1. [175, 180, 225]

Chung, S. 1978. *Case Marking and Grammatical Relations in Polynesian*. Austin, TX: University of Texas Press. [8, 38]

Cole, P., W. Herbert, G. Hermon, and S. N. Sridhar. 1980. The acquisition of subjecthood. *Language* 56:719–743. [239]

Comrie, B. 1978. Ergativity. In W. P. Lehman (Ed.), *Syntactic Typology*, 329–394. Austin, TX: University of Texas Press. [1, 10]

Comrie, B. 1979. Degrees of ergativity: Some Chukchee evidence. In F. Plank (Ed.), *Ergativity: Towards a theory of grammatical relations*, 117–143. London: Academic Press. [28, 245–246]

Comrie, B. 1981. *Language Universals and Linguistic Typology.* Oxford: Basil Blackwell. [15, 250]

Comrie, B. 1985. Causative verb formation and other verb-deriving morphology. In T. Shopen (Ed.), *Language typology and syntactic description*, Vol. 3, Grammatical categories and the lexicon, 309–348. Cambridge: Cambridge University Press. [92, 153, 248]

Cook, K. W. 1991. The search for subject in Samoan. In R. Blust (Ed.), *Currents in Pacific Linguistics: papers on Austronesian languages and ethnolinguistics in honour of George W. Grace*, Pacific Linguistics, C–117, 77–98. Canberra: Reseach School of Pacific Studies, A.N.U. [8]

Cooreman, A. 1988. Ergativity in Dyirbal discourse. *Linguistics* 26:717–746. [27, 250]

Craig, C. G. 1977. *The Structure of Jacaltec.* Austin, TX: University of Texas Press. [27]

Dalrymple, M. 1993. *The Syntax of Anaphoric Binding.* Stanford, CA: CSLI. [43, 47, 60–62, 125, 127, 246–248]

Dalrymple, M., J. Lamping, and V. Saraswat. 1993. LFG semantics via constraints. In *Proceedings of the Sixth Conference of the European Chapter of the Association for Computational Linguistics*, 97–105, University of Utrecht. [97, 103]

De Guzman, V. P. 1988. Ergative analysis for Philippine languages: An analysis. In R. McGinn (Ed.), *Studies in Austronesian Linguistics*, 323–345. Athens, OH: Ohio University Center for Southeast Asia Studies. [19]

De Hoop, H. 1992. *Case Configuration and Noun Phrase Interpretation.* PhD thesis, Groningen. [74, 80, 82–84, 163, 246]

De Wolf, C. M. 1988. Voice in Austronesian lanugages of Philippine type. In M. Shibatani (Ed.), *Passive and Voice*, 143–193. Amsterdam: John Benjamins. [245]

Dixon, R. M. W. 1972. *The Dyirbal language of North Queensland.* Cambridge: Cambridge University Press. [3, 40, 166, 228, 230–231, 233–234, 236–237, 245, 248, 250]

Dixon, R. M. W. 1977. *A Grammar of Yidiny.* Cambridge: Cambridge University Press. [241]

Dixon, R. M. W. 1979. Ergativity. *Language* 55:59–138. [1–3, 5–6, 8, 10–11, 15, 18, 34, 37, 50, 91, 113, 180, 222, 245]

Dixon, R. M. W. 1991. Complement clauses and complementation strategies. MS, Australian National University. [230, 250]

Dixon, R. M. W. 1994. *Ergativity.* Cambridge: Cambridge University Press. [6–7, 11, 23–24, 33–34, 50–51, 166, 192, 226, 229, 234, 237, 240–242, 245, 250]

Dorais, L.-J. 1990. The Canadian Inuit and their language. In D. R. F. Collis (Ed.), *Arctic Languages: An Awakening*, 185–289. Paris: Unesco. [141]

Dowty, D. R. 1982. Grammatical relations and Montague Grammar. In P. Jacobson and G. Pullum (Eds.), *The nature of syntactic representation*, 79–130. Dordrecht: Reidel. [40]

Dowty, D. R. 1991. Thematic proto-roles and argument selection. *Language* 67:547–619. [21, 32, 37–38, 40, 143, 243]

Durie, M. 1985. *A Grammar of Acehnese on the basis of a dialect of North Aceh.* Dordrecht: Foris. [51, 59]

Durie, M. 1986. The grammaticization of number as a verbal category. In V. Nikiforidou and M. V. Clay (Eds.), *Proceedings of the Berkeley Linguistics Society*, Vol. 12, 355–370. [32]

Emmorey, K. 1984. The intonation system of Toba Batak. In P. Schachter (Ed.), *Studies in the Structure of Toba Batak*, 37–58. UCLA Occasional Papers in Linguistics, Number 5. [29, 246]

Enç, M. 1991. The semantics of specificity. *Linguistic Inquiry* 22:1–25. [80, 82]

Enel, C. 1984. *Eléments de Grammaire et de Vocabulaire de la Langue Ouest-Groenlandaise [Elements of the grammar and vocabulary of West Greenlandic].* Paris: Musée de l'Homme. [247]

England, N. C. 1983a. Ergativity in Mamean (Mayan) languages. *International Journal of American Linguistics* 49:1–19. [25, 245]

England, N. C. 1983b. *A Grammar of Mam, a Mayan Language.* Austin, TX: University of Texas Press. [25, 245]

Estival, D., and J. Myhill. 1988. Formal and functional aspects of the development from passive to ergative systems. In M. Shibatani (Ed.), *Passive and Voice*, 441–491. Amsterdam: John Benjamins. [239]

Farkas, D. F. 1981. Quantifier scope and syntactic islands. In R. A. Hendrick, C. S. Masek, and M. F. Miller (Eds.), *Papers from the Seventeenth Regional Meeting of the Chicago Linguistics Society*, 59–66. Chicago Linguistics Society. [80]

Finer, D. 1985. The syntax of switch-reference. *Linguistic Inquiry* 16:35–56. [167]

Fodor, J. D., and I. A. Sag. 1982. Referential and quantificational indefinites. *Linguistics and Philosophy* 5:355–398. [79–80]

Foley, W. A., and R. D. Van Valin, Jr. 1984. *Functional Syntax and Universal Grammar.* Cambridge: Cambridge University Press. [19, 51, 224, 245]

Forsberg, V. 1992. A pedagogical grammar of Tboli. *Studies in Philippine Linguistics* 9:1–110. [31]

Fortescue, M. 1984. *West Greenlandic.* London: Croom Helm. [65–68, 71, 84, 86, 88, 113, 120, 131, 147, 164, 245–248]

Fortescue, M. 1994. The historical source and typological position of ergativity in Eskimo languages. MS, University of Copenhagen. [88]

Fukui, N. 1986. *A Theory of Category Projection and Its Applications.* PhD thesis, MIT. [168]

Garrett, A. 1990. The origin of NP split ergativity. *Language* 66:261–296. [22, 181]

Gazdar, G., E. Klein, G. K. Pullum, and I. A. Sag. 1985. *Generalized phrase structure grammar: a theoretical synopsis.* Oxford: Basil Blackwell. [103]

George, L. M. 1974. Ergativity and Relational Grammar. In E. Kaisse and J. Hankamer (Eds.), *Papers from the Fifth Annual Meeting North Eastern Linguistic Society*, 265–275. [39]

Gerdts, D. B. 1988. Antipassives and causatives in Ilokano: Evidence for an ergative analysis. In R. McGinn (Ed.), *Studies in Austronesian Linguistics*, 295–321. Athens, OH: Ohio University Center for Southeast Asia Studies. [19]

Gibson, J. D., and S. Starosta. 1990. Ergativity east and west. In P. Baldi (Ed.), *Linguistic Change and Reconstruction Methodology*, 195–210. Berlin: Mouton de Gruyter. [19]

Gil, D. 1982. Quantifier scope, linguistic variation, and natural language semantics. *Linguistics and Philosophy* 5:421–472. [76–77]

Givón, T. 1971. Historical syntax and synchronic morphology: An archaeologist's field trip. In *Papers from the Seventh Regional Meeting Chicago Linguistics Society*, 394–415. [239]

Givón, T. 1984. *Syntax: A Functional-Typological Introduction.* Vol. I. Amsterdam: John Benjamins. [15, 71]

Grimshaw, J. 1981. Form, function and the language acquisition device. In C. L. Baker and J. L. McCarthy (Eds.), *The Logical Problem of Language Acquisition*, 165–182. Cambridge, MA: MIT Press. [150]

Grimshaw, J. 1990. *Argument Structure*. Cambridge, MA: MIT Press. [7, 36, 45, 47, 59, 243]

Grimshaw, J. 1991. Extended projection. MS, Brandeis University. [161]

Grimshaw, J., and R.-A. Mester. 1985. Complex verb formation in Eskimo. *Natural Language and Linguistic Theory* 3:1–19. [96–97, 104, 247]

Guilfoyle, E., H. Hung, and L. Travis. 1992. Spec of IP and Spec of VP: Two subjects in Austronesian languages. *Natural Language and Linguistic Theory* 10:375–414. [134, 171]

Gunji, T. 1987. *Japanese Phrase Structure Grammar: A Unification-Based Approach*. Dordrecht: Reidel. [197]

Hale, K. L. 1970. The passive and ergative in language change: The Australian case. In S. A. Wurm and D. C. Laycock (Eds.), *Pacific Linguistic Studies in Honour of Arthur Capell*, 757–781. Canberra: Linguistics Circle of Canberra. [39, 166]

Hale, K. L. 1976. The adjoined relative clause in Australia. In R. M. W. Dixon (Ed.), *Grammatical Categories in Australian Languages*, 78–105. Canberra: Australian Institute of Aboriginal Studies. [230]

Hale, K. L., and S. J. Keyser. 1986. Some transitivity alternations in English. Technical Report #7, MIT Center for Cognitive Science: Lexicon Project Working Papers, Boston, MA. [178]

Harris, A. C. 1981. *Georgian Syntax: A Study in Relational Grammar*. Cambridge: Cambridge University Press. [51]

Hasegawa, K. 1968. The passive construction in English. *Language* 44:230–243. [45]

Haspelmath, M. 1991. On the question of deep ergativity: the evidence from Lezgian. *Papiere zur Linguistik* 44/45:5–27. [205, 222–223, 250]

Haspelmath, M. 1993. *A Grammar of Lezgian*. Berlin: Mouton de Gruyter. [191, 193–194, 196–197, 199–201, 204–205, 207–209, 212–215, 219–221, 223, 249–250]

Hellan, L. 1988. *Anaphora in Norwegian and the Theory of Grammar.* Dordrecht: Foris. [43, 47, 62, 248]

Hewitt, B. G. 1987. Georgian: Ergative or active? *Lingua* 71:319–340. [51]

Hindley, J. R., and J. P. Seldin. 1986. *Introduction to combinators and λ-calculus.* Cambridge: Cambridge University Press. [46]

Hirschbühler, P. 1982. VP deletion and across-the-board quantifier scope. In J. Pustejovsky and P. Sells (Eds.), *Proceedings of the Twelfth Annual Meeting of the North Eastern Linguistic Society*, 132–139. Graduate Linguistics Students Association, University of Massachusetts, Amherst. [80]

Holisky, D. A. 1987. The case of the intransitive subject in Tsova-Tush (Batsbi). *Lingua* 71:103–132. [240]

Hudson, J. 1976. Walmatjari: Nominative-ergative or nominative-accusative? In *Papers in Australian Linguistics, No. 9*, 1–30. Canberra: Department of Linguistics, Research School of Pacific Studies. [245]

Iida, M. 1992. *Context and Binding in Japanese.* PhD thesis, Stanford University. [198]

Iida, M. 1994. A unified theory of zibun-binding. MS, CSLI, Stanford. [198]

Iida, M., C. D. Manning, P. O'Neill, and I. A. Sag. 1994. The lexical integrity of Japanese causatives. MS, Stanford University. Paper presented at the 68th meeting of the Linguistic Society of America. [48, 57–58, 94, 100, 103–104, 134, 246]

Inman, M. V. 1993. *Semantics and Pragmatics of Colloquial Sinhala Involitive Verbs.* PhD thesis, Stanford. [190]

Ioup, G. 1978. Some universals for quantifier scope. In J. P. Kimball (Ed.), *Syntax and Semantics*, Vol. 4, 37–58. New York: Academic Press. [70]

Ishikawa, A. 1985. *Complex Predicates and Lexical Operations in Japanese.* PhD thesis, Stanford. [100, 134]

Jackendoff, R. 1972. *Semantic Interpretation in Generative Grammar.* Cambridge, MA: MIT Press. [47, 61]

Jackendoff, R. 1990. *Semantic Structures.* Cambridge, MA: MIT Press. [246]

Jake, J. 1978. Why Dyirbal isn't ergative at all. *Studies in the Linguistic Sciences* 8:97–110. [39]

Janussen, E. 1987. *Håndbog i grønlandsk grammatik [Handbook of Greenlandic grammar].* Nuuk: Pilersuiffik. [245]

Jelinek, E. 1984. Empty categories, case, and configurationality. *Natural Language and Linguistic Theory* 2:39–76. [87, 177, 181, 183–184]

Jensen, J. T., and A. Johns. 1989. The morphosyntax of Eskimo causatives. In D. B. Gerdts and K. Michelson (Eds.), *Theoretical Perspectives on Native American Languages*, 209–229. Albany: State University of New York Press. [94]

Jespersen, O. 1924. *Philosophy of Grammar.* London: George Allen and Unwin. [7]

Job, M. 1985. Ergativity in Lezgian. In F. Plank (Ed.), *Relational Typology*, 159–173. Berlin: Mouton. [205]

Johns, A. 1984. Grammatical relations and case assignment in Eskimo. *Cahiers linguistiques d'Ottawa* 12:49–87. [10]

Johns, A. 1987. *Transitivity and Grammatical Relations in Inuktitut.* PhD thesis, University of Ottawa. [21, 148–150, 158, 162–164, 248]

Johns, A. 1992. Deriving ergativity. *Linguistic Inquiry* 23:57–87. [21, 87, 141, 158, 164, 175, 182, 218, 245, 248]

Johnson, D. E. 1977. Ergativity in universal grammar. MS, IBM T. J. Watson Research Center. [11, 38, 235, 243–244]

Johnson, M. R. 1980. *Ergativity in Inuktitut (Eskimo), in Montague Grammar and in Relational Grammar.* Bloomington, IN: Indiana University Linguistics Club. [15, 17, 66, 73–74, 81, 94, 140–141, 145–147, 239, 245, 248]

Joshi, S. 1993. *Selection of Grammatical and Logical Functions in Marathi.* PhD thesis, Stanford. [47, 49, 60, 241]

Kalmár, I. 1979. The antipassive and grammatical relations in Eskimo. In F. Plank (Ed.), *Ergativity: Towards a theory of grammatical relations*, 117–143. London: Academic Press. [15, 73, 80–81]

Kaplan, R. M., and A. Zaenen. 1989a. Functional precedence and constituent structure. In C. Huang and K. Chen (Eds.), *Proceedings of ROCLING II*, 19–40, Taipei, Republic of China. [101]

Kaplan, R. M., and A. Zaenen. 1989b. Long-distance dependencies, constituent structure, and functional uncertainty. In M. Baltin and A. Kroch (Eds.), *Alternative Conceptions of Phrase Structure.* Chicago University Press. [122]

Katada, F. 1991. The LF representation of anaphors. *Linguistic Inquiry* 22:287–313. [197]

Kathol, A. 1994. On agreement in HPSG. MS, Ohio State University. [196]

Kayne, R. S. 1975. *French syntax: The transformational cycle.* Cambridge, MA: MIT Press. [153]

Kazenin, K. I. 1994. Split syntactic ergativity: toward an implicational hierarchy. *Sprachtypologie und Universalienforschung* 47:78–98. [35, 243]

Keenan, E. L. 1976a. Remarkable subjects in Malagasy. In C. N. Li (Ed.), *Subject and Topic*, 247–301. New York: Academic Press. [23]

Keenan, E. L. 1976b. Towards a universal definition of "subject". In C. N. Li (Ed.), *Subject and Topic*, 303–333. New York: Academic Press. [12, 14, 18, 37, 70]

Keenan, E. L. 1991. Anaphora invariants and language universals. In D. Bates (Ed.), *The Proceedings of the Tenth West Coast Conference on Formal Linguistics*, 257–267, Stanford, CA. Stanford Linguistics Association. [177]

Keenan, E. L., and B. Comrie. 1977. Noun phrase accessibility and universal grammar. *Linguistic Inquiry* 8:63–99. [69]

Kibrik, A. E. 1979. Canonical ergativity and Daghestan languages. In F. Plank (Ed.), *Ergativity: Towards a theory of grammatical relations*, 61–77. London: Academic Press. [51]

Kibrik, A. E. 1985. Towards a typology of ergativity. In J. Nichols and A. C. Woodbury (Eds.), *Grammar inside and outside the clause: Some approaches to theory from the field*, 268–323. Cambridge: Cambridge University Press. [192–193, 198]

Kibrik, A. E. 1987. Constructions with clause actants in Daghestanian languages. *Lingua* 71:133–178. [192]

Kiparsky, P. 1987. Morphology and grammatical relations. MS, Stanford University. [31, 39, 45, 48, 60, 234, 236, 238, 240, 246]

Kitagawa, Y. 1986. *Subjects in Japanese and English.* PhD thesis, University of Massachusetts, Amherst. [58]

Kleinschmidt, S. P. 1851. *Grammatik der grönländischen sprache mit theilweisem einschluss des Labradordialects.* Berlin: G. Reimer. [55, 64, 71–72, 91, 150, 246]

Koopman, H., and D. Sportiche. 1991. The position of subjects. *Lingua* 85:211–258. [77]

Krieger, H.-U., and J. Nerbonne. 1993. Feature-based inheritance networks for computational lexicons. In E. J. Briscoe, A. Copestake, and V. D. Paiva (Eds.), *Inheritance, Defaults and the Lexicon*, 90–136. Cambridge: Cambridge University Press. [100]

Kroeger, P. 1993. *Phrase Structure and Grammatical Relations in Tagalog.* Stanford, CA: CSLI Publications. [11, 13–14, 17, 19, 29, 32, 35, 42, 54, 71, 121, 188, 222, 234, 244–246]

Kuryłowicz, J. 1946. Ergativnost′ i stadial′nost′ v jazyke [Ergativity and the stadial theory of language]. *Bulletin of the Academy of Sciences of the USSR* 387–393. Also published as La construction ergative et le développement 'stadial' du langage, *Annali della Scuola Normale Superiore di Pisa* 18:84–92, 1949, reprinted in Kuryłowicz, J. *Esquisses Linguistiques I*, Deuxième édition, Muenchen: W. Fink, 1973. [180]

Labov, W. 1972. *Sociolinguistic Patterns.* Philadelphia, PA: University of Pennsylvania Press. [77]

Laka, I. 1993. Unergatives that assign ergative, unaccusatives that assign accusative. In J. D. Bobaljik and C. Phillips (Eds.), *Papers on Case and Agreement I*, MIT Working Papers in Linguistics, Vol. 18, 149–172. [207]

Lamontagne, G., and L. Travis. 1987. The syntax of adjacency. In M. Crowhurst (Ed.), *Proceedings of the West Coast Conference on Formal Linguistics*, Vol. 6, 173–186, Stanford, CA. Stanford Linguistics Association. [169]

Larsen, T. W. 1981. Functional correlates of ergativity in Aguacatec. In *Proceedings of the Seventh Annual Meeting of the Berkeley Linguistics Society*, 136–153. [35]

Larsen, T. W. 1987. The syntactic status of ergativity in Quiché. *Lingua* 71:33–59. [27, 39]

Larsen, T. W., and W. M. Norman. 1979. Correlates of ergativity in Mayan grammar. In F. Plank (Ed.), *Ergativity: Towards a theory of grammatical relations*, 347–370. London: Academic Press. [27]

Legendre, G., W. Raymond, and P. Smolensky. 1994. An optimality-theoretic typology of case and grammatical voice systems. In *Proceedings of the Berkeley Linguistics Society*, Vol. 20. [39]

Levin, B. C. 1983. *On the Nature of Ergativity.* PhD thesis, Department of Electrical Engineering and Computer Science, MIT. [10, 51, 141, 144–146, 149, 229, 231, 240]

Levin, J., and D. Massam. 1985. Surface ergativity: Case/theta relations reexamined. In S. Berman (Ed.), *Proceedings of North Eastern Linguistics Society XV*, 286–301. [172]

Lewis, D. 1979. Scorekeeping in a language game. *Journal of Philosophical Language* 8:339–359. [71]

Ludlow, P., and S. Neale. 1991. Indefinite descriptions: In defense of Russell. *Linguistics and Philosophy* 14:171–202. [80, 85]

Manning, C. D. 1991. Imbabura Quechua relative clauses and other nominalizations. MS, Stanford University. [173]

Manning, C. D. 1992. Romance is so complex. Technical Report CSLI-92-168, Stanford University, Stanford CA. [94, 134]

Manning, C. D. 1993. LFG, HPSG and CG: Acronyms and logics. MS, Stanford University. Paper presented at the Second CSLI Workshop on Logic, Language and Computation. [97]

Marantz, A. P. 1984. *On the Nature of Grammatical Relations*. Cambridge, MA: MIT Press. [10, 15, 38, 40–41, 46, 60, 141–142, 145–146, 149, 162, 204, 244, 246, 248]

McClendon, S. 1978. Ergativity, case and transitivity in Eastern Pomo. *International Journal of American Linguistics* 44:1–9. [51]

McCloskey, J. 1991. Clause structure, ellipsis and proper government in Irish. *Lingua* 85:259–302. [77]

Mel′čuk, I. A. 1981. Grammatical subject and the problem of the ergative construction in Lezgian. In C. Bernard (Ed.), *Studies in the Languages of the USSR*, 229–276. Carbondale, IL: Linguistic Research. [205]

Mel′čuk, I. A. 1988. *Dependency Syntax: theory and practice*. Albany: State University of New York. [39–40, 191, 205–212, 215, 221, 234, 249]

Merlan, F. 1985. Split intransitivity: functional oppositions in intransitive inflection. In A. Woodbury and J. Nichols (Eds.), *Grammar Inside and Outside the Clause*, 324–362. New York: Cambridge University Press. [179]

Merrifield, W. R., C. M. Naish, C. R. Rensch, and G. Story. 1974. *Laboratory Manual for Morphology and Syntax*. Huntington Beach, CA: Summer Institute of Linguistics. Fifth edition. [180]

Mey, J. 1970. The cyclic character of Eskimo reflexivization. *Acta Linguistica Hafniensia* 13:1–32. [246–247]

Miller, B. W. 1988. *Non-configurationality in Tagalog*. PhD thesis, University of Michigan. [53, 243]

Miller, P. H. 1991. *Clitics and Constituents in Phrase Structure Grammar*. PhD thesis, Utrecht. To appear with Garland (New York), 1992. [101]

Mithun, M. 1984. The evolution of noun incorporation. *Language* 60:847–893. [163]

Mithun, M. 1994. Implications of ergativity for a Philippine voice system. In B. Fox and P. J. Hopper (Eds.), *Voice, Form and Function*, 247–277. Amsterdam: John Benjamins. [19]

Mohanan, K. P. 1981. Grammatical relations and anaphora in Malayalam. Master's thesis, MIT. [60, 120, 246]

Mohanan, T. 1988. Causativization in Malayalam. MS, Stanford University. [44, 94]

Mohanan, T. 1990. *Arguments in Hindi*. PhD thesis, Stanford University. [36, 49, 60, 94, 99, 239, 241]

Morin, Y.-C., and É. Tiffou. 1988. Passive in Burushaski. In M. Shibatani (Ed.), *Passive and Voice*, 493–524. Amsterdam: John Benjamins. [245]

Mosel, U. 1991. Transitivity and reflexivity in Samoan. *Australian Journal of Linguistics* 11:175–194. [177]

Mosel, U., and E. Hovdhaugen. 1992. *Samoan Reference Grammar*. Oslo: Scandinavian University Press. [8]

Mulder, J. 1989a. Syntactic ergativity in Coast Tsimshian (Sm'algyax). *Studies in Language* 13:405–435. [33]

Mulder, J. 1989b. The viability of the notion of subject in Coast Tsimshian. *Canadian Journal of Linguistics* 34:129–144. [33]

Murasugi, K. G. 1992. *Crossing and Nested Paths: NP Movement in Accusative and Ergative Languages*. PhD thesis, Department of Linguistics and Philosophy, MIT. [27, 180, 202]

Napoli, D. J. 1993. *Syntax: Theory and Problems*. New York: Oxford University Press. [151]

Nordlinger, R. 1993. The case of the 3rd person object in the Wambaya auxiliary. *University of Melbourne Working Papers in Linguistics* 13:105–112. [184]

Nunberg, G., I. A. Sag, and T. Wasow. 1994. Idioms. *Language* 70:491–538. [144]

Ortiz de Urbina, J. 1989. *Parameters in the Grammar of Basque*. Dordrecht: Foris. [6, 179, 182, 186, 223, 225, 245]

Payne, J. 1980. The decay of ergativity in Pamir languages. *Lingua* 51:147–186. [151]

Payne, T. E. 1982. Role and reference related subject properties and ergativity in Yup′ik Eskimo and Tagalog. *Studies in Language* 6:75–106. [17, 19, 86, 247]

Perlmutter, D. 1978. Impersonal passives and the unaccusative hypothesis. In *Proceedings of the Berkeley Linguistics Society*, Vol. 4, 157–189. [38, 51]

Perlmutter, D. M. 1971. *Deep and Surface Structure Constraints in Syntax*. New York: Holt, Rinehart and Winston. [97]

Perlmutter, D. M. (Ed.). 1983. *Studies in Relational Grammar*. Vol. 1. Chicago, IL: University of Chicago Press.

Perlmutter, D. M. 1984. The inadequacy of some monostratal theories of passive. In D. M. Perlmutter and C. G. Rosen (Eds.), *Studies in Relational Grammar*, Vol. 2, 3–37. Chicago, IL: University of Chicago Press. [59, 246]

Pinker, S. 1984. *Language Learnability and Language Development*. Cambridge, MA: Harvard University Press. [150]

Pinker, S. 1989. *Learnability and Cognition: The Acquisition of Argument Structure*. Cambridge, MA: MIT Press. [45]

Plank, F. 1979. Ergativity, syntactic typology and universal grammar: Some past and present viewpoints. In F. Plank (Ed.), *Ergativity: Towards a theory of grammatical relations*, 3–36. London: Academic Press. [39]

Pollard, C., and I. A. Sag. 1992. Anaphors in English and the scope of binding theory. *Linguistic Inquiry* 23:261–303. [61, 103]

Pollard, C., and I. A. Sag. 1994. *Head-Driven Phrase Structure Grammar*. Chicago, IL: University of Chicago Press. [14, 47, 49, 61, 196, 198, 203]

Pollock, J.-Y. 1989. Verb movement, universal grammar, and the structure of IP. *Linguistic Inquiry* 20:365–424. [161]

Postal, P. 1971. *Crossover Phenomena*. New York: Holt, Rinehart and Winston. [61, 246]

Postal, P. M. 1977. Antipassive in French. *Lingvisticæ Investigationes* 1:333–374. [38, 40, 156, 241]

Pullum, G. K. 1977. Word order universals and grammatical relations. In P. Cole and J. M. Sadock (Eds.), *Syntax and Semantics Volume 8: Grammatical Relations*, 249–277. New York: Academic Press. [10–11, 23]

Raposo, E. 1987. Case theory and Infl-to-Comp: The inflected infinitive in European Portuguese. *Linguistic Inquiry* 18:85–109. [176]

Reed, I., O. Miyaoka, S. A. Jacobson, P. Afcan, and M. Krauss. 1977. *Yup'ik Eskimo Grammar*. Fairbanks, AK: Alaska Native Language Center, University of Alaska. [88, 110]

Riehemann, S. 1993. Word formation in lexical type hierarchies: A case study of *bar*-adjectives in German. Master's thesis, Tübingen. [100]

Rigsby, B. 1975. Nass-Gitksan: An analytic ergative syntax. *International Journal of American Linguistics* 41:346–354. [33]

Rischel, J. 1971. Some characteristics of noun phrases in West Greenlandic. *Acta Linguistica Hafniensia* 12:213–245. [107]

Rischel, J. 1972. Derivation as a syntactic process in Greenlandic. In F. Kiefer (Ed.), *Derivational processes*, 60–73. Stockholm: Research Group for Quantitative Linguistics. [91]

Rosen, C., and K. Wali. 1989. Twin passives, inversion and multistratalism in Marathi. *Natural Language and Linguistic Theory* 7:1–50. [60]

Rosen, S. T. 1989. *Argument Structure and Complex Predicates*. PhD thesis, Brandeis University. [94, 113, 134, 243]

Sadock, J. M. 1980. Noun incorporation in Greenlandic: A case of syntactic word formation. *Language* 56:300–319. [91, 99, 106–107, 161, 163, 247]

Sadock, J. M. 1985. Autolexical syntax: A proposal for the treatment of noun incorporation and similar phenomena. *Natural Language and Linguistic Theory* 3:379–439. [106–107]

Sadock, J. M. 1986. Some notes on noun incorporation. *Language* 62:19–31. [106–107]

Sadock, J. M. 1991. *Autolexical Syntax: A Theory of Parallel Grammatical Representations*. Chicago: University of Chicago Press. [92, 97, 101, 103, 112]

Sadock, J. M. forthcoming. Reflexive reference in West Greenlandic. To appear in *Contemporary Linguistics, 1*, University of Chicago, Dept. of Linguistics. [54, 85, 97, 99, 101, 112–114, 125, 128, 131, 138, 157, 172, 187, 245, 247, 249]

Sag, I. A., and D. Godard. 1994. Extraction of *de*-phrases from the French NP. In M. Gonzàlez (Ed.), *Proceedings of the North Eastern Linguistics Society*, Vol. 24, 519–541. [48]

Sag, I. A., and C. Pollard. 1991. An integrated theory of complement control. *Language* 67:63–113. [7, 14, 49, 203–204, 232, 249–250]

Saiki, M. 1985. On the coordination of gapped constituents in Japanese. In *Papers from the 21st Regional Meeting of the Chicago Linguistics Society*, 371–387. Chicago Linguistics Society. [134]

Schachter, P. 1976. The subject in Philippine languages: Topic, actor, actor-topic or none of the above. In C. N. Li (Ed.), *Subject and Topic*, 491–518. New York: Academic Press. [11–12, 246, 249]

Schachter, P. 1977. Reference-related and role-related properties of subjects. In P. Cole and J. M. Sadock (Eds.), *Syntax and Semantics Volume 8: Grammatical Relations*, 279–306. New York: Academic Press. [11–13, 17, 23, 245]

Schachter, P. 1984. Semantic-role-based syntax in Toba Batak. In P. Schachter (Ed.), *Studies in the Structure of Toba Batak*, 122–149. UCLA Occasional Papers in Linguistics, Number 5. [23, 29, 31–32, 246]

Schmerling, S. F. 1979. A categorial analysis of Dyirbal ergativity. *Texas Linguistics Forum* 13:96–112. [40]

Sells, P. 1988. Thematic and grammatical hierarchies: Albanian reflexivization. In H. Borer (Ed.), *Proceedings of the Seventh West Coast Conference on Formal Linguistics*, 293–303, Stanford, CA. Stanford Linguistics Association. [47, 62]

Sells, P. 1994. Korean and Japanese morphology from a lexical perspective. MS, Stanford University. To appear in *Linguistic Inquiry*. [2, 112]

Shibatani, M. 1988. Voice in Philippine languages. In M. Shibatani (Ed.), *Passive and Voice*, 85–142. Amsterdam: John Benjamins. [246]

Silverstein, M. 1976. Hierarchy of features and ergativity. In R. M. W. Dixon (Ed.), *Grammatical Categories in Australian Languages*, 112–171. Canberra: Australian Institute of Aboriginal Studies. [10]

Simpson, J. H. 1983. *Aspects of Warlpiri morphology and syntax.* PhD thesis, MIT. [100]

Simpson, J. H. 1991. *Warlpiri Morpho-Syntax.* Dordrecht: Kluwer. [102, 106, 111]

Smith, L. R. 1982. An analysis of affixal verbal derivation and complementation in Labrador Inuttut. *Linguistic Analysis* 10:161–189. [91, 93, 99, 104–105, 247]

Speas, M. J. 1990. *Phrase Structure in Natural Language.* Dordrecht: Kluwer Academic. [181, 185]

Starosta, S., A. Pawley, and L. Reid. 1982. The evolution of focus in Austronesian. In A. Halim, L. Carrington, and S. A. Wurm (Eds.), *Papers from the Third International Conference on Austronesian Linguistics*, Pacific Linguistics, Series C – No. 75, 145–170, Canberra. Department of Linguistics, Research School of Pacific Studies. [21]

Sugamoto, N. 1984. Reflexives in Toba Batak. In P. Schachter (Ed.), *Studies in the Structure of Toba Batak*, 150–171. UCLA Occasional Papers in Linguistics, Number 5. [30–31, 246]

Swadesh, M. 1946. South Greenlandic (Eskimo). In C. Osgood (Ed.), *Linguistic Structures of Native America*, Vol. 6, 30–54. New York: Viking Fund Publications in Anthropology. [149, 248]

Tarpent, M.-L. 1982. Ergative and accusative: A single representation of gramatical relations with evidence from Nisgha. *Working Papers of the Linguistics Circle of Victoria* 1(2):50–106. [32–33, 246]

Tenny, C. L. 1987. *Grammaticalizing aspect and affectedness.* PhD thesis, MIT. [32, 143]

Thalbitzer, W. 1911. Eskimo. In F. Boas (Ed.), *Handbook of American Indian Languages*, Vol. 40, 971–1069. Smithsonian Institute Bureau of American Ethnology. [3, 247]

Trager, G. L. 1946. An outline of Taos grammar. In C. Osgood (Ed.), *Linguistic Structures of Native America*, Vol. 6 of *Viking Fund Publications in Anthropology*, 184–221. New York: Viking Fund. [39]

Trask, R. L. 1979. On the origins of ergativity. In F. Plank (Ed.), *Ergativity: Towards a theory of grammatical relations*, 385–404. London: Academic Press. [22, 24]

Trechsel, F. R. 1982. *A Categorial Fragment of Quiche.* PhD thesis, University of Texas at Austin. [40]

Trubetzkoy, N. S. 1939. Le rapport entre le déterminé, le déterminant et le défini. In *Mélanges de linguistique offerts à Charles Bally*, 45–88. Geneva: Georg et Cie. [179]

Van Valin, Jr., R. D. 1981. Grammatical relations in ergative languages. *Studies in Language* 5:361–394. [27, 190, 243]

Veláquez-Castillo, M. 1991. The semantics of Guarani agreement markers. In L. A. Sutton and C. Johnson (Eds.), *Proceedings of the Seventeenth Annual Meeting of the Berkeley Linguistics Society*, 324–335. [51]

Weir, E. M. H. 1990. Incorporation in Nadëb. In D. L. Payne (Ed.), *Amazonian Linguistics: Studies in Lowland South American Languages*, 321–363. Austin, TX: University of Texas Press. [34]

Wierzbicka, A. 1980. *The case for surface case.* Ann Arbor, MI: Karoma. [4, 240]

Wierzbicka, A. 1981. Case marking and human nature. *Australian Journal of Linguistics* 1:43–80. [4, 25, 240]

Wilkins, W. 1988. Thematic structure and reflexivization. In W. Wilkins (Ed.), *Syntax and Semantics*, Vol. 21: Thematic Relations, 191–213. San Diego: Academic Press. [47]

Williams, E. 1981. Argument structure and morphology. *The Linguistic Review* 1:81–114. [44]

Williams, E. 1994. *Thematic Structure in Syntax*. Cambridge, MA: MIT Press. [47, 61]

Woodbury, A. C. 1977a. Greenlandic Eskimo, ergativity, and Relational Grammar. In P. Cole and J. M. Sadock (Eds.), *Syntax and Semantics Volume 8: Grammatical Relations*, 307–336. New York: Academic Press. [15, 40, 65–66, 88, 91, 248]

Woodbury, A. C. 1977b. The Greenlandic verbal suffix *-ut-*: Interactions of linguistic form and grammatical function. In *Proceedings of the Third Annual Meeting of the Berkeley Linguistics Society*, 251–269. [147]

Woodbury, A. C. 1981. *Study of the Chevak Dialect of Central Yup'ik Eskimo*. PhD thesis, University of California, Berkeley. [66, 149]

Woodbury, A. C. 1985a. Marginal agent clauses in Central Alaskan Yupik Eskimo: Internal and external syntax. In W. H. Eilfort, P. D. Kroeber, and K. L. Peterson (Eds.), *Papers from the Parasession on Causatives and Agentivity at the 21st Regional Meeting of the Chicago Linguistics Society*, Vol. 2, 271–292. Chicago Linguistics Society. [54, 113, 128, 139, 248]

Woodbury, A. C. 1985b. Noun phrase, nominal sentence and clause in Central Yupik Eskimo. In A. Woodbury and J. Nichols (Eds.), *Grammar Inside and Outside the Clause*, 61–88. New York: Cambridge University Press. [21]

Woodbury, A. C., and J. M. Sadock. 1986. Affixal verbs in syntax: A reply to Grimshaw and Mester. *Natural Language and Linguistic Theory* 4:229–244. [92, 96, 99, 104–105, 110, 247]

Zaenen, A. 1993. Unaccusativity in Dutch: Integrating syntax and lexical semantics. In J. Pustejovsky (Ed.), *Semantics and the lexicon*. Dordrecht: Kluwer. [51, 162]

Zubizarreta, M. L. 1985. The relation between morphophonology and morphosyntax: The case of Romance causatives. *Linguistic Inquiry* 16:247–290. [44]

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