AN INVESTIGATION OF THE SEMANTICS OF
ACTIVE AND INVERSE SYSTEMS

DISSERTATION

Presented to the Graduate Council of the
University of North Texas in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Lixin Yang, B.A., M.A.
Denton, Texas
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This study surveys pronominal reference marking in active and inverse languages. Active and inverse languages have in common that they distinguish two sets of reference marking, which are referred to as Actor and Undergoer. The choice of one series of marking over another is shown to be semantically and pragmatically determined.

The reference marking in active languages primarily encodes the semantics of Verbal Aspect, Agency, that is Control, Volition, Affectedness, and Animacy. The relevant semantic categories are language specific, and the interaction of more than one category may determine the active vs. inactive marking in some languages. Moreover, instead of appearing as two extremes the semantic correlates usually comprise several interrelated continua. The active vs. inactive marking varies along the continua depending on context.

The relative position of Actor and Undergoer on the animacy hierarchy is the primary determiner of the direct vs. inverse marking in inverse languages. In cases in which both participants of a clause are of equal or comparable
rank, other semantic correlates such as true agentivity of the Actor, involvement of the Undergoer in the realization of the event and Topic continuity, will act as the determiners.

The semantic and pragmatic contents that determine the reference marking in active and inverse languages correlate with the hierarchies of Topicality (Givon 1976) and Attention Flow (DeLancey 1981). The Topic qualities are often related to Actor rather than Undergoer participants. Therefore Actors are more likely to be the Topic of an utterance and are the more natural start-point of Attention Flow. The choice of reference marking type in discourse reflects the speaker's viewpoint of the relations of participant to event and to the Proposition. This conclusion supports the claim that the phenomenon of pronominal reference marking in active and inverse languages is not merely a meaningless device that indexes grammatical relations. Therefore, no mechanical predictive rules can adequately account for the use of the reference marking in these languages.
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CHAPTER I
INTRODUCTION

1. The Topic

This dissertation addresses the semantics of active and inverse marking languages. Active and inverse systems represent a small minority among languages of the world in comparison to accusative and ergative languages and are also unusual in that the defining characteristics of the systems are semantically designated. The purpose of this study is to determine the semantic properties common to active and inverse marking, characterize their differences as well as any correlations with other typological factors, and thus present an integrated account of the nature of the systems in functional terms.

Unlike the more common accusative and ergative systems, in active and inverse systems reference marking does not index grammatical relations. Grammatical relations such as subject and object in active and inverse languages like Eastern Pomo, Acehnese, the Algonquian family and Tibeto-Burman languages are incidental to and do not account for the functions of participant reference marking. The choice of pronominal reference as well as the terms selected by the pronominal reference in active and inverse languages
directly encodes such semantics as animacy, potency, control, and volition. In general, the use of participant reference in these minority languages reflects the speaker's viewpoint of the participant relations in an utterance, and is a means of distinguishing the more salient arguments in the utterance. This dissertation will explore the exact nature of these semantics in active and inverse languages and attempt to characterize their semantic range as well as their semantic commonality.

2. Definitions

2.1. The Majority Marking Systems (Accusative and Ergative)

Accusative and ergative marking systems occur in the majority of the languages of the world. Other types of languages represent very small groups by comparison. In order to discuss different types of marking systems, we will first adopt the three semantic-syntactic primitives used by many linguists now which are $S$ (intransitive subject), $A$ (transitive subject) and $O$ (transitive object). Figure 1 illustrates the accusative and ergative marking patterns.

Figure 1 shows that accusative languages group $S$ and $A$ together as opposed to $O$, whereas ergative languages group $S$ and $O$ together as opposed to $A$. 
In accusative languages, the subject of an intransitive verb is marked the same way as the subject of a transitive verb, while the object of a transitive verb is marked differently. In ergative languages, the subject of an intransitive verb is marked the same as the object of a transitive verb, while the subject of a transitive verb is marked differently. These different treatments of A, O and S can be reflected either by case marking or cross-reference marking, or in some languages, both.

Swahili is a language with accusative marking: the same agreement markers attached to the verbs are used for S and A, and a different set for O. (Examples are from Comrie 1978:338.)

(1) Hamisi a- li- mw-on Juma
    he-past-him-see
    'Hamisi saw Juma.'

(2) Hamisi a- li- fika
    he-past-arrive
    'Hamisi arrived.'
The A in 1 has the same agreement marker a- as the S in 2 while the O in 1 is in a different form mw-.

Avar, a northeast Caucasian language, displays an ergative marking pattern. In this language, the transitive subject A is marked with the ergative case marker, and the transitive object O and intransitive subject S are unmarked. Verbs agree in class with the S and O (Comrie 1978:338).

(3) vas v- ekerula
    boy-abs. sg.masc.abs.- run
    'The boy runs.'

(4) jas j- ekerula
    girl-abs. sg.fem.abs.- run
    'The girl runs.'

(5) vas-as jas j- ec:udla
    boy-erg girl-abs. sg.fem.abs.-praise
    'The boy praises the girl.'

Active and inverse marking systems differ in interesting ways from accusative and ergative marking systems, and we will discuss their definitions and patterns in the following sections.

2.2. Active Systems

Many linguists have offered definitions of the active languages. Edward Sapir described the active pattern in 1917 as he presented types of pronominal classification (Sapir 1917:86):
Figure 2: Active Marking Pattern

Figure 2 shows that subjects of the intransitive verbs split into two groups, one is in the same form as the object of transitive verbs (as A in Figure 2), and the other is in the same form as the subject of transitive verbs (as B in Figure 2).

Scott DeLancey explains the standard Sapirian definition of the active structure as follows: 'Active languages are those which distinguish transitive subjects and active (roughly agentive or volitional) intransitive subjects as a class from transitive objects and inactive intransitive subjects' (1985:48).

The definition of the active system provided by Mallinson and Blake is that 'an agent/patient distinction is made with intransitive verbs so that the subject of a verb like run will be marked the same way as the A of a verb like kill and the subject of a verb like be_stuck will be marked like the 0 of kill' (1981:52).

Mark Durie further describes the active system as follows: 'Some intransitive verbs take arguments with the properties of "transitive subjects" and others take
arguments with the properties of "transitive objects"' (1981:1).

In all these definitions, the S is split into two sets: those which perform as Actors are treated the same way as A (both are Agents), and those which undergo an action are grouped with O (both are Patients), as is shown in Figure 3.

a. or b.  

\[ \text{Sa} \quad \text{So} \]

Figure 3: Split S Marking Pattern

The following examples from Eastern Pomo (McLendon 1978:37) and Acehnese (Mark Durie 1987:366) clearly illustrate the active structure.

Eastern Pomo

(6) a. ha: wa-clu:lya  b. mi:p kaluhuya
    'I'm going.'        'He went home.'
(7) a. wi ?eckiya  b. mi:pal xa:ba:ku:ma
    'I sneezed.'        'He fell in the water.'
(8) ha: mi:pal sa:k'a
    I him killed
    'I killed him.'

In Eastern Pomo examples 6, 7, and 8, we can see the variations in the intransitive subjects in 6 and 7. In comparing 6 and 7 with 8, we note that the intransitive
subject in 6a is in the same form as the transitive subject in 8, but is different from the intransitive subject in 7a. The subject of 7b is in the same form as the object of 8, but differs from the subject of 6b. The semantic explanation is that the intransitive subjects in 6 are Agents, and so is the transitive subject in 8. The intransitive subjects of 7, on the other hand, are Experiencers, just as the transitive object of 8. So, Eastern Pomo has two sets of pronouns representing Actors and Undergoers, respectively. The choice between the 'actor pronouns' in 6 and the 'undergoer sets' in 7 is determined by whether the verbs 'express... volitional, active experiences...[or whether they] relate...to involuntary, passive experiences' (Van Valin 1977:45). It is obvious that 'going' is a prototypically volitional action while 'fall in water' is usually an involuntary and unintentional event.

Acehnese

(9) a. gopnyan geu-mat lon '(S)he holds me.'
   [(s)he,p=A 3p-hold I=U]

b. geu-jak gopnyan '(S)he goes.'
   [3p go (s)he,p=A]

c. gopnyan rhet-(geuh) '(S)he falls.'
   [(s)he=U fall-(3p)]

(p=polite, A=Actor, U=Undergoer)
Acehnese differs from Eastern Pomo in that the active pattern does not occur in direct marking (on nouns or independent pronouns). Rather, it is marked as pronominal affixes on the verb. In this language, the Actor argument is obligatorily cross-referenced on the verb by a pronominal proclitic as in 9a and 9b, whereas the Undergoer is optionally cross-referenced on the verb by a pronominal enclitic as in 9c. 9b contrasts with 9c in that the only participant here is an Actor which is cross-referenced in the same form as the Actor of 9a, by the pronominal proclitic *geu*. The only participant in 9c, on the other hand, is optionally cross-referenced by an enclitic, thus it is grouped with the Undergoer in 9a.

A common property of the definitions of active marking presented above is that the active/inactive distinction appears only in intransitive sentences. In her typology of voice systems, M.H. Klaiman states this point clearly: 'Only the intransitive verbs, however, of an active language exhibit the active/inactive distinction--transitive verbs (in nonderived sentences) do not show the opposition, as all are active' (Klaiman 1988:66). However, Hardy (1990) argues that this is not true of the Alabama language. In Chapter III of this dissertation, I will show that in fact in many languages, the active/inactive distinction is not determined only by transitivity, even in the broad (e.g. Hopper and
Thompson 1982) sense, rather it is determined by different semantic properties in various languages.

2.3. Inverse Systems

In the inverse system, the pronominal forms used in a transitive clause operate with respect to a hierarchy which ranks the first and second persons (Speech Act Participants) higher than the third person. Mallinson and Blake define the inverse system of the Algonquian family in the following way: 'If a higher person acts on a lower person, one series of compound forms is used. If a lower person acts on a higher, another series is used' (1981:58). The example they cite from Cree (1981:59) shows that when the higher entity acts on the lower entity, direct pronominal complex forms are used; otherwise, inverse combinations are used.

\[
\begin{array}{ccc}
\text{(10)} & \text{direct} & \text{inverse} \\
1-3 & aw & 3-1 \quad ik \\
1-3p & awak & 3p-1 \quad ikwak \\
1p-3 & anan & 3p-1p \quad ikonan \\
1p-3p & anank & 3p-1p \quad ikonanak \\
3-3' & ew & 3'-3 \quad ik \\
\end{array}
\]

In 10, 1-3 means a 1st person acting on a 3rd person, and 3-1 means a 3rd person acting on a 1st person. (lp and 3p represent 1st person and 3rd person plural, respectively.) In some Algonquian languages, 3rd person is further divided into 3rd person proximate and 3rd person obviative (3'). 3rd
person obviative is a noun subordinated to a 3rd person, for instance 'the dog's eye.'

3. Survey of the Literature

Active and inverse languages have been identified by linguists for a long time. However—probably because these types of languages are in the minority and considered unusual cases—the works concerning the active and inverse marking systems are comparatively few, and especially rare are theoretical studies concerning these systems. In this section, I will review both theoretical and descriptive studies of active and inverse marking.

As examples of the theoretically-oriented studies I will review Mallinson and Blake (1981), DeLancey (1981, 1985), and Givon (1984). Mallinson and Blake (1981) have touched on this topic in their study of grammatical relations of NPs in general; but compared with other types of NP markings, active and inverse systems are only very briefly discussed. In spite of the brevity of their discussion, Mallinson and Blake have noted the correlations of some semantic properties with active and inverse markings. They mention the connections between the person hierarchy and inverse markings in Algonquian languages, and the relevance of semantic Role relations to active marking in Dakota. However, Mallinson and Blake seem to think that semantics is not always the basis of active and inverse
marking. They claim that 'in most active languages there seems to be some arbitrariness about which verbs take the agent pronominal forms and which the patient forms' (Mallinson and Blake 1981:58). This claim of the 'arbitrariness' of the semantics of active languages will not pass unexamined in this thesis.

Mallinson and Blake claim that the choice of Agent or Patient pronominal marking of the verb is at least to some degree 'arbitrary' because 'in most active languages there are some unexpected assignments of "agent" and "patient" pronouns with intransitive verbs' (1981:58). The question here is to whom the assignments of Agent and Patient for certain verbs are 'unexpected'. They may be unexpected to the linguists who try to predict what can be said in a language following certain 'rules'. If a certain linguistic phenomenon does not then meet these expectations it is 'unexpected', and thus must be 'arbitrary'. I disagree with Mallinson and Blake's assumption here. The choice of Agent and Patient assignments with certain verbs in a language will depend on the context of the utterance as well as on the speaker's viewpoint of the participant's relation to that particular event in that language. For instance, in some active languages, the marking of the subject of certain verbs is 'fluid'; that is, verbs can take either 'Agent' or 'Patient' marking depending on whether the action is
performed purposefully or unintentionally. Such variation reveals the semantic motivation of the formal contrast.

Even in active languages lacking fluidity, where Agent is fixed for each verb, the 'arbitrariness' of the choice of 'Agent' or 'Patient' marking with certain verbs in a particular language is no less 'arbitrary' than which verbs in a given language are assigned to be grammatically transitive or intransitive—and Transitivity itself, of course, has been convincingly shown by Hopper and Thompson 1982 to be determined by the demands of discourse. My assumption in this dissertation is that active and inverse marking is in fact semantically based as it is most often described, but the semantic categories encoded by reference marking in active languages vary from language to language.

Others have called for studies such as this. For instance, Scott DeLancey thinks that 'most current typological work pays far too little attention to the semantics of the systems being classified' (1985:47). He has taken an explicitly semantic and pragmatic approach in his study of active and inverse markings in particular languages.

DeLancey points out, 'Nominative/absolutive case and verb agreement are, in many languages, indicators of a category which is here called VIEWPOINT: the perspective from which the speaker describes the event' (1981:626).
According to DeLancey, the order of NPs in a sentence reflects ATTENTION FLOW, which the speaker wants the hearer to attend to. The first NP in a sentence is called the linguistic starting point. However, languages also have devices to distinguish those elements which, in the speaker's viewpoint, are more important or salient in nature. DeLancey calls this the 'natural viewpoint' (1981:626). For instance, the natural viewpoint of the rank of NPs in some Tibeto-Burman languages exhibits a hierarchy of Topicality:

\[(11) \text{1st} > \text{2nd} > \text{3rd} > \text{nonhuman animate} > \text{inanimate}\]

In these languages, as in most languages, the first and second persons (Speech Act Participants) outrank human third persons, which outrank non-human animates, which in turn outrank inanimates. Cross-linguistically, it is more 'natural' for the NPs higher on the hierarchy to occupy the left-most position in a sentence which is usually the position for the subject/Topic. In such a case, the linguistic starting point of the Attention Flow and Natural Viewpoint are the same. In a transitive sentence, it is more natural for a NP of higher rank to act on a NP of lower rank. In other words, it is more natural to have a higher ranking NP as an Agent and a lower ranking NP as a Patient. However, sometimes the Patient is a 1st or 2nd person (SAP) but Agent is not. When this happens, the linguistic starting
point and Natural Viewpoint do not coincide. Some languages, for instance Algonquian languages and some Tibeto-Burman languages, use the inverse configuration, when the more natural viewpoint is not at the same time also the starting point of the Attention Flow, to indicate this relationship of a lower ranking Agent acting on a higher ranking Patient.

DeLancey (1985) also discusses the semantics of the active pattern in the Lhasa Tibetan language. Although his discussion in this paper concentrates on specific data, it leads to a suggestion about the definition of Agent as a universal case role, and a related suggestion concerning the place of the notions "ergative" and "active" in universal typology' (DeLancey 1985:47).

Lhasa Tibetan has often been identified as an ergative or split ergative language, but DeLancey finds that it is in fact an active type. He gives the following examples to show the active pattern of this language (1985:51):

(12) na-s stag bsad- pa -yin
    I-ERG tiger kill-PERF/VOL
    'I killed a tiger.'

(13) na-s nus- pa -yin
    I-ERG cry-PERF/VOL
    'I cried.'
The absence of a direct object in 13 shows that ergative case in this language is not dependent on syntactic transitivity. Rather, the function of ergative marking in this active language is 'to mark Source with respect to another vectoral representation' --the control vector (DeLancey 1985:52). In 13, the subject has control over his action, he can cry if he wants, or not cry if he doesn't. In other words, the subject in 13 is an Agent marked the same way as the Agent in 12. In contrast to 13, the subject in 14 does not have any control over his death, and is not an Agent of the Event. Instead, it is the Undergoer which is unmarked. The following examples with a non-first person subject further show the alternation of ergative and nominative case (unmarked) which indicates control/noncontrol. (Examples are from DeLancey 1985:54.)

(15) k'o-s  nal -ba- red
    he-ERG sleep-PERF/INFER
    'He went to sleep (inferential).'

(16) k'o  gnid=k'ug -pa- red
    he sleep=get-PERF/INFER
    'He fell asleep (inferential).'

The subject of 15 has control over the action in that he can
decide whether or not to go to sleep, but in 16, the subject has no control over his falling asleep.

From the above examples, it is clear that the semantic content of the notion 'active' in Lhasa Tibetan is control. DeLancey also points out that other languages with similar case marking patterns may have volition as the determining dimension, as for instance Eastern Pomo. Actually, in Lhasa Tibetan the semantic category of volition is also overtly marked: the alternation of auxiliaries on verbs indicates whether the first person subject (vol./nonvol.auxiliaries only occur with first person subject) is participating in a volitional or nonvolitional event. The choice of -pa-yin in 13 indicates that the first person subject performs the action volitionally, and byun in 14 shows the nonvolition of the first person subject. In fact, the nonvolition marker also occurs in transitive clauses with a first person object, which makes the verb appear in the same form as taking the nonvolitional subject in intransitive clauses (17). (Examples are from DeLancey 1985:52.)

(17) T'ub=bstan-gyis na-la nes-byun

Thubten -ERG I-DAT hit PERF/INVOL

'Thubten hit me.'

In this sentence, the Perfect/Involition marker is determined by the first person object, indicating that the action occurs irrespective of his intention, and the
ergative case marking shows the subject 'Thubten' has control over the action.

The fact that both control and volition—the two components of Agentivity—are overtly marked by separate morphosyntactic mechanisms in Lhasa Tibetan leads DeLancey to the conclusion that a universal definition of Agentivity will have to be a multi-factor definition which includes at least the components of the volitional Actor, and the controlling Actor. He further claims that ergative and active types may not be sharply distinguished as has been the practice in current typological schemes since 'both patterns serve to distinguish underlying Source and Goal.' Instead, 'a subtle and more fluid classification of case-marking strategies' may be needed (DeLancey 1985:58).

Although Givon does not mention inverse marking in his book *Syntax*, he does discuss the active marking system. Givon points out that active and nonactive marking codes the semantic Role of the subject regardless of whether the verb is intransitive or transitive. An Agent subject of an active verb is marked one way morphologically and a non-Agent subject is marked another way. In addition, the object of the transitive verb is marked the same way as the non-Agent subject. Further, he suggests that this system 'is reminiscent of' the ergative marking type (Givon 1984:149). Apart from his statement on active marking, Givon's
universal Hierarchy of Topicality is also relevant and important to the concerns of this dissertation. The topic hierarchies Givon presents illustrate his functional approach toward the account of pronominal agreement (Givon 1976:153):

(18) a. Human > Non-human (the tendency to speak more about humans)
   b. Definite > Indefinite (old-new information)
   c. More Involved Participants > Less Involved Participants (Agt > Dat > Acc)
   d. 1st person > 2nd person > 3rd person

In Givon's view, those participants which are human, definite, more involved in the Event, and 1st and 2nd person (SAP) are more likely to act as the Topic in an utterance than those that are nonhuman, indefinite, less involved or 3rd person, and therefore they control the agreement. My study will show that participant reference markings in active and inverse languages dramatically demonstrate the relevance of Givon's topic hierarchy to reference marking.

Besides these largely theoretical studies, there are also various descriptions of active or inverse systems of particular languages. In the following section, I briefly review some descriptive studies on active and inverse marking of some languages. In most of these descriptions,
linguists seem to agree that active and inverse markings are semantically based.

In his articles on Acehnese, Mark Durie (1985, 1987, 1988) argues that instead of the subject and object, the two principal grammatical relations in this language are Actor and Undergoer. An Actor is cross-referenced on its verb by an obligatory compulsory pronominal proclitic, and an Undergoer is cross-referenced by an optional pronominal enclitic. Acehnese is an active language which has a split S, that is: 'some intransitive verbs take arguments with the properties of "transitive subject", and others take arguments with the properties of "transitive object"' (Durie 1988:1). The split of the intransitive verbs is based on the semantics of volitional situation vs. nonvolitional situation. Durie finds a correlation between Actor and Animacy and Theme. Since Actors are almost always volitional in Acehnese, they are likely to be animate and play a protagonist role. On the basis of his study, Durie argues that the interaction of the three separate domains—semantics, syntax and discourse—and not their independent structures is the ultimate object of linguistic description (Durie 1988:1).

Eastern Pomo, a Hokan language spoken in Northern California, has been described as a split ergative language in that common nouns have ergative case marking and pronouns
are marked as accusative (Kroeber 1911, deAngulo and Freeland 1935, McLendon 1975). Sally McLendon (1978) argues that the pronominal system of Eastern Pomo cannot properly fit into either the accusative or ergative pattern, because it marks the subjects of some intransitive verbs the same way as the subjects of some transitive verbs, but some other intransitive subjects the same way as the objects of transitive verbs. McLendon suggests that the semantic notions of Agent and Patient are more revealing than syntactic notions of subject and object in Eastern Pomo. In this language, pronouns together with kinship terms and proper names are set off from common nouns and personal nouns. Pronouns, kinship terms and proper names are inherently referential, specific, and animate, and thus, are prime candidates for Agentive Roles. Common nouns are mostly likely candidates for Patients, for they are not inherently human and often nonspecific. Personal nouns are in between the two groups due to their inherent human property but not inherently specific features. Verbs in Eastern Pomo are also described as different from the conventional binary classification of transitive vs. intransitive. Instead, McLendon groups them into five classes characterized by the degree of control. Although McLendon does not explicitly mention it, her description of the Eastern Pomo pronominal system which interacts with a feature of protagonist control
characterizing verbs suggests that it follows an active pattern.

Western Muskogean languages have also been described as active languages, for the person markings are claimed to be (at least, to some degree) semantically determined by the identification of the NPs in the sentences as active Agents or Patients or Datives. In their discussion of Chickasaw and Choctaw, Munro and Gordon (1982) refer to the three pronominal sets of person markings on verbs as agreement types I, II, and III. The three types of agreement have been taken by other linguists to encode semantic Roles (Payne 1982, Heath 1977, Nicklas 1972), that is, Agent, Patient, and Dative respectively. However, Munro and Gordon find some cases that the semantics of Role cannot account for. This leads them to the conclusion that Chickasaw/Choctaw agreement is 'syntactically determined: the agreement pattern for many verbs is lexically marked, that is, agreement is either idiosyncratic (lexical) or determined through reference to certain syntactic restrictions' (Munro and Gordon 1982:87).

Munro and Gordon's discussion of agreement in Western Muskogean languages seems at some times contradictory. In spite of their repeated claim that the agreement system in Western Muskogean is lexicosyntactically determined, in many places they appear to deconstruct their own argument by
acknowledging the relevance of the semantics of volition and human vs. nonhuman as well as the notion of pragmatic 'prominence'. However, they do not further pursue the relevancy of these or other semantic categories to agreement. Instead, they confine themselves to the traditional semantic category which has been taken as fundamental to agreement in Western Muskogean, which is that of Role. When the semantics of Role do not seem to fit the data, that is where they see semantics as failing as an explanation, and they would turn to an explanation in terms of syntax or appeal to lexical idiosyncracy. Because of its importance as a counter claim to my assertion that active (and inverse) systems are generally described as semantically based, I will discuss Munro and Gordon 1982 in detail in Chapter II\textsuperscript{2}. In contrast to Munro and Gordon's view, the descriptions of other Muskogean languages by a number of other linguists suggest that pronominal markings are semantically based.

Besides the above mentioned languages, there are numerous other descriptions of various active languages including Chickasaw (D. Payne 1982), Batsbi (Holisky 1987), Lakhota (Van Valin 1974), Chichewa (Bresnan and Mchombo 1987), Yagua (T. Payne 1987), and Yucatec (DeLancey 1985). Because of the space limit, I will not review all of them here, but they will be considered in my thesis.
The inverse languages have also been fairly well described. The most frequently mentioned is the Algonquian family. Hockett (1966 on Algonquian in general), Frantz (1966 on Blackfoot), Ellis (1971 on Cree) and Rogers (1975 on Ojibwa) describe the inverse markings of various Algonquian languages. A common feature that these languages share is a pronominal marking system based on the semantic content of animacy. There are at least two series of pronominal markers in each of these languages: the direct markings are used for a person higher on the animacy hierarchy acting on a person lower on the hierarchy, and the inverse markings are used for the opposite situation.

The Algonquian family does not have a monopoly on the inverse marking system. As was mentioned above, some Tibeto-Burman languages also have this type of marking (DeLancy 1981). In her dissertation on Cherokee grammatical relations and verb agreement, Janine Scancarelli (1987) has discussed in detail the direct and inverse pronominal prefixes in this Iroquoian language. Other inverse languages mentioned by linguists include Rembarnga (a northern Australian language), Dargwa (Caucasian), Sahaptin (Penutian) (by Mallinson and Blake 1981); Mapudungun (Chile, by Grimes 1985); Nocte and Juarong (DeLancy 1981); and Navajo and Western Apache (Shayne 1982) etc.
This brief review of the literature gives us some idea about what has been done concerning active and inverse marking patterns. In both theoretical and descriptive studies, linguists have commented on the semantic contents of active and inverse markings. The active marking is usually described as encoding the semantics of control or volition in various active languages. The Animacy hierarchy (hierarchy of topicality) seems to be the most relevant parameter in inverse languages. However, as I have mentioned above, the studies of active and inverse marking systems are comparatively rare, especially general or theoretical discussions. Mallinson and Blake's typology of direct and indirect markings does not clearly demonstrate the thorough-going semantic nature of the active and inverse marking system. Most of the descriptive studies are focussed on one particular language, and therefore not directed at establishing the typology of active and inverse marking.

In this dissertation, I will agree with the majority of linguists in their assumption that active and inverse marking systems are semantically designated. However, I will take a broader view than most previous studies in that through the descriptions of active and inverse marking in various languages, I will survey the semantic characterizations common to the active and inverse languages, their differences, and the correlations of these
semantic properties with Givon's Hierarchy of Topicality for
pronominal agreement so as to determine the functional
nature of active and inverse marking.

I will also discuss in some detail these inherent
semantic properties encoded by participant reference marking
in active and inverse languages—volition, control,
agentivity and the person hierarchy. Furthermore, I will
investigate the choice of different pronominal sets which
index the semantic properties in active and inverse
languages and show that these semantic properties often
correlate with Givon's hierarchy of Topicality for
pronominal agreement. Participants that are human, more
definite, more involved in the event, and reference persons
higher on the hierarchy are marked as more salient
participants (center of interest from the speaker's point of
view in that language), that is, 'Agent' in active language
as opposed to 'Patient', and a person of higher rank in
inverse language.

Finally, a few linguists have hinted at the
similarities between split ergative and active markings
(DeLancey 1985, Givon 1984, Dixon 1979). In this
dissertation I want to pursue this connection further to
show that one of the split patterns in split ergative
languages, which is the split of common nouns and pronouns,
also happens in active languages.
4. Organization of the Dissertation

This dissertation contains five chapters. The introductory chapter introduces the topic, states the thesis, provides a brief review of the literature and justifies the study. Chapter II discusses some theoretical preliminaries to a description of active and inverse systems, including the notion of pronominal reference, grammatical relations and 'subject' in particular, and by contrast the apparent semantic basis of active and inverse systems. Chapter III explores the semantic characterizations of the active system in terms of the semantic properties of Agentivity, Volition, and Control. In this chapter I also compare the active languages with so-called split ergative languages to demonstrate that split ergative languages parallel active languages in terms of the semantic properties of the reference marking. These two patterns confirm the assumption that pronouns, which rank higher on the Referentiality Hierarchy, are more agentive, capable of control and volition than common NPs. Chapter IV is devoted to the semantic characterization of the inverse system. The discussion in this chapter will show that the choice between direct and inverse marking reflects the viewpoint of the speaker with respect to the relations of the participants in an utterance and will elaborate on its semantic effects. Chapter V presents the conclusion in which I establish the
semantic properties common to these two systems to show that
the choice of reference marking and arguments selected by
pronominal devices reflect the participant relations to the
event and index the more salient arguments in the clause.
The differences between the two marking systems and other
typological factors related to active and inverse marking
are also discussed.
Notes to Chapter I

1. Personal nouns form one of the three noun classes in Eastern Pomo. These are 'a small, closed set of nouns referring to age grades and status of people' (McLendon 1978:5). Examples are 'boy', 'girl', 'man', 'woman', 'old woman', and 'young man'. These nouns or noun phrases are inherently animate and human, like pronouns, kinship terms, and proper names. On the other hand, they are also like common nouns in that they are not inherently specific.

2. Another counter-semantic claim of the agreement in Western Muskogean is by Davies (1986). His syntactic analysis of Choctaw agreement will be discussed in Chapter II.
CHAPTER II

SOME PRELIMINARIES

This chapter introduces some necessary preliminaries relating to the active and inverse marking systems. Section 1 covers the definition of participant reference marking and participant reference marking in active and inverse languages in particular. Section 2 discusses the matter of grammatical relations in active and inverse languages, focusing on the notion of subject. Section 3 elaborates on the semantic basis of active and inverse systems.

1. Participant Reference Marking

1.1. Direct and Indirect Marking

There are two basic types of morphological marking to distinguish NP status in a sentence, that is, as bearing the grammatical relations of subject or object, or in some languages, agent and patient 'since it appears that not all languages are organized in terms of the grammatical relations subject and object' (Mallinson and Blake 1981:39). Mallinson and Blake use the terms direct and indirect marking for these two morphological types. Direct marking is marking on the noun phrase itself (usually called 'case-marking'), and indirect marking refers to the situation in which forms appear not on the noun phrases whose
relationship they signal but in some other position in the clause. These forms are usually clitics or affixes and in most instances they appear on the verb (Mallinson and Blake 1981:42). The attached affixes on verbs are usually pronominal elements indicating person and number, which cross-reference the NPs in the clause, and thus they are also called cross-referencing agreement.

Mallinson and Blake (1981) characterize the various morphological marking systems that languages employ to mark the grammatical status of NPs. They present the following types of direct and indirect systems:

<table>
<thead>
<tr>
<th>Direct</th>
<th>Indirect</th>
</tr>
</thead>
<tbody>
<tr>
<td>(on NPs)</td>
<td>(usually on V)</td>
</tr>
<tr>
<td>1. accusative</td>
<td>1. accusative agreement</td>
</tr>
<tr>
<td>2. ergative</td>
<td>2. ergative cross-referencing</td>
</tr>
<tr>
<td>3. 3-way</td>
<td>3. 3-way cross-referencing</td>
</tr>
<tr>
<td>4. active</td>
<td>4. active cross-referencing</td>
</tr>
<tr>
<td>5. Philippines-type</td>
<td>5. inverse cross-referencing</td>
</tr>
</tbody>
</table>

Table 1: Various Morphological Marking Systems

As noted in Chapter I, among these types of direct and indirect marking, the accusative and ergative marking systems occur in the majority of the languages in the world. The rest of the marking systems represent a small minority
of languages. Active and inverse marking languages are among this small minority of the world's languages.

Note that in Mallinson and Blake's typology in Table 1, active systems occur in both direct and indirect marking, while inverse systems occur only in indirect marking—that is, pronominal cross-referencing marking.

1.2. Free and Bound Reference Marking

The term 'participant referent marking' refers to the pronominal NPs, which include both free and bound forms. By free forms I refer to independent pronouns and by bound forms I mean unstressed/clitic pronouns as well as pronominal affixes attached to verbs (also called cross-referencing agreement). Both independent pronouns and pronominal bound forms attached to verbs usually show semantic features of person, number, and gender.

Some languages such as Lhasa Tibetan and Eastern Pomo only have independent pronouns, others have both free and bound pronominal forms (e.g. Dakota, Acehnese). For languages that have both independent pronouns and bound pronominal forms of agreement, usually the bound form itself can suffice to form a complete clause. The presence of the independent pronouns is often 'optional', being used contrastively or emphatically. The following Lakhota sentences show the function of independent pronouns in this language. (Examples are from Van Valin 1987:376)
(1) a. matho ki  O-wa-kte
    bear the 3sgU-1sgA-kill
    'I killed the bear.'

b. miye matho ki  O-wa-kte
    1sg bear the 3sgU-1sgA-kill
    'I killed the bear.'

1b is exactly the same as 1a except for one thing: there is an independent 1st person pronoun miye. The presence of the independent pronoun miye in 1b indicates the contrastive meaning suggested by the underlining in the English gloss.

This dissertation is mainly concerned with the functions of participant reference in the typologically rare active and inverse marking languages. Since the forms of the participant reference can be either independent pronouns which bear case marking (i.e. direct marking) as in Eastern Pomo, or pronominal agreement on verbs cross-referencing certain participants in the same clause (i.e. indirect marking) as in Muskogean languages, I will be considering here both direct and indirect marking of pronominal forms.

1.3. Referentiality Hierarchy

There is a universal hierarchy of NPs in which pronominals rank higher than nonpronominal NPs. Linguists use various terms for this hierarchy with little difference insofar as content. It is often called the Animacy Hierarchy or Lexical Hierarchy (Silverstein 1977, Dixon 1979). Foley
and Van Valin name it the Referentiality Hierarchy (1977:294), which is displayed as follows:

(2) speaker > hearer > human proper > human common > animate > inanimate

On the left of this hierarchy are pronouns and on the right inanimate common nouns. For the pronouns, the first and second persons, which refer to the speaker and hearer, rank higher than the third person pronoun.

In Chapter I, (example 18) I cited Givon's hierarchy of Topicality, which represents a semantic approach to an account of pronominal agreement. It is clear that Foley and Van Valin's Referentiality Hierarchy parallels Givon's hierarchy of Topicality. In this hierarchy, the speaker ranks higher than the hearer, which parallels 18d (Chapter I) of Givon's Hierarchy of Topicality: the first person ranks higher than the second person, which in turn ranks higher than the third person. A human noun is in a higher position than an animate or inanimate noun in Foley and Van Valin's hierarchy. Likewise, a human noun is higher than a nonhuman noun in Givon's hierarchy (18a). The parallelism of the two hierarchies reminds us that nouns that are more highly referential are more likely to be Topics.

1.4. Topicality Hierarchy and Active and Inverse Languages

The Topicality Hierarchy and Referentiality Hierarchy appear to be highly relevant to an understanding of active
and inverse systems. A survey of data from active and inverse languages will show that the active and inverse pattern occurs mainly with pronominal forms, either bound or free, rather than common nouns. That is, active and inverse marking occurs with the terms on the left part of the hierarchy, which are more highly referential, topical, and animate.

The Referential Hierarchy, and especially the person hierarchy (with respect to pronouns) seems most relevant to inverse marking. In a sentence that has a NP to the left (higher) on the hierarchy acting on a NP to the right (lower) on the hierarchy, direct pronominal forms are used. On the other hand, when a NP lower on the hierarchy is acting on a NP higher on the hierarchy, an inverse pronominal form is used as explained in Chapter I.

Active marking also conforms closely to the Referentiality Hierarchy. NPs higher on the hierarchy are more animate, human, and highly referential, and thus more likely to be volitional, have potential control, and be agentive than NPs lower on the hierarchy. These semantic properties of active and inverse marking will be discussed in detail in Chapters III and IV.

2. Grammatical Relations

Grammatical relations in terms of subject and object have long been taken as necessary notions for the account of
the relationship of NPs to VPs in a sentence. The participant reference markings—case marking or cross-reference agreement—have been described as encoding the grammatical relations that NPs bear. However, in active and inverse languages, we find that participant reference markings do not encode grammatical relations such as subject and object, as in traditional accounts of, for example, accusative languages. Instead, they more directly index semantic categories, such as, for instance, the semantic Roles that NPs perform in a sentence, generally Actor and Undergoer.

2.1 Subject

The notion of subject has been taken as the most fundamental category in traditional grammar. However, in the linguistic studies of the last twenty years or so, the definition of subject has been a problematic issue. Some Relational Grammar adherents take subject as a primitive (Postal and Permutter 1974). Others also argue that notions like subject, direct object, and indirect object are necessary to account for cross-linguistic generalizations (Keenan and Comrie 1972).

In an article specifically about subject, Keenan provides more than thirty properties to identify subject NPs, none of which is alone sufficient to define subject. Therefore, Keenan concludes that subject is a universal
notion that can be defined as 'a multi-factor concept' and 'the subjecthood of a NP (in a sentence) is a matter of degree' (Keenan 1976:307). In other words, the more subject properties a NP has, the more subject-like it is. Most of Keenan's subject properties are syntactic criteria such as indispensibility, undergoing coreferential deletion, relativization, imperative addressee, controller of reflexivization, leftmost NP and controller of floating quantifiers, and so on. Keenan does mention one typical semantic Role of subject, that of Agent.

After examining the distribution of some of Keenan's subject properties in three languages (Tagalog, Navajo and Lakhota), Foley and Van Valin argue that 'subject is not a valid theoretical construct (Universal) in linguistic theory' (1977:319), because data from the three examined languages show that 'only extremely weak and in some cases vacuous generalizations can be stated about subjects on any level' (319). The three languages show discrepancies in the above mentioned subject properties given by Keenan. In other words, the above-mentioned subject properties do not single out the same NP as the subject in the three languages.

The discussion of the definition of subject by Keenan, and Foley and Van Valin refers both to morphological and syntactic properties. Since my concern in this dissertation is the morphological marking of participant reference—case
marking and cross-reference agreement in active and inverse languages—my discussion of the relevance of the notion of subject in active and inverse languages will refer only to the morphological level.

Dixon suggests that A, O, and S are the universal syntactic-semantic primitives. Subject is a universal category, but 'not the most fundamental category' because subject 'involves a grouping of A and S' (1979:60). Dixon also points out that 'any attempt to establish true universals must be semantically based' (102). 'Subject', if defined as a universal category, is no exception in that semantic criteria override the syntactic criteria. The semantic criterion for subject, according to Dixon, is Subject-as-Agent. The A noun phrase in a transitive sentence is distinguished from the O noun phrase as the potential Agent that can initiate or control the activity. The only participant of an intransitive verb (S) can be an Agent that controls or initiates the activity (Sa), or it may not have control over the activity (So). But the split functions that S may perform is exhibited only in the morphological marking. Languages typically treat Sa and So the same way in the syntactic operations of coordination and subordination. In other words, there is no split S at the syntactic level and therefore no syntactic ergativity presumably. Therefore, Dixon's final definition of subject is 'the class
\( \{A, S\} \): thus every sentence will have a subject' (Dixon 1979:111). Dixon's definition of subject seems to work well in accusative and ergative languages. The notion of subject in active and inverse languages will be discussed in 2.2 and 2.3.

2.2 The Notion of Subject in Active languages

As was mentioned in Chapter I, accusative languages group S and A together as opposed to O, and ergative languages group S and O as opposed to A. That is, the morphological marking of S is the same as that of A in an accusative language, and the morphological marking of S is the same as that of O in an ergative language. In section 2.1, we noted Dixon's definition of subject as a universal category which serves to group A and S in one class. According to Dixon, subject is the set containing S and A in both accusative and ergative languages. Now, let us look at the subject NP in active languages.

In an active language, as in other types of languages, the two participants of a transitive verb are usually distinctively marked as A and O. A then is the 'subject' and O is the 'object'. For an intransitive verb there is only one participant, S. However, in active languages, the morphological marking of S, either case marking or cross-reference (but perhaps not both, in some languages), splits into two groups. Some S's are marked the same way as an A,
others are marked the same as an 0. Dixon uses Sa and So to identify the split S. Since Sa and So are treated the same way at the syntactic level, so the S as a whole class, together with A, form the category of 'subject'.

Let us assume at this point that in active languages there are two classes of verbs: active verbs and inactive verbs. Both classes of verbs can be transitive or intransitive (as in, say, Alabama). So we have transitive active, transitive inactive, intransitive active and intransitive inactive verbs. For intransitive active verbs, the participant is an Agent (Sa). An intransitive inactive verb has an So participant which encodes an Experiencer. A transitive active verb has two participants, an A as the controlling and initiating Agent, and an O as the Experiencer. A problem may arise in transitive inactive verbs. As will be shown in Chapter III, some active languages mark both participants of a transitive inactive verb as Experiencers (e.g. Alabama, Dakota, Eastern Pomo). Therefore, morphological marking of some active languages displays the following marking pattern.

<table>
<thead>
<tr>
<th>(active)</th>
<th>(inactive)</th>
</tr>
</thead>
<tbody>
<tr>
<td>transitive</td>
<td>A--V--(O)</td>
</tr>
<tr>
<td>intransitive</td>
<td>Sa--V</td>
</tr>
</tbody>
</table>

Figure 4: Active/Inactive Marking in Transitive and Intransitive Clause
Figure 4 shows that for an active verb the 'subject' is either A or Sa. This coincides with Dixon's semantic criterion: subject=Agent. For an inactive verb, there is no Agent to initiate or control the activity. Therefore, in the 'subject' position, we find either 0 or So, and both are Experiencers. Subject=Agent does not apply here. Instead, we have another criterial property: subject=Topic. DeLancey calls the Experiencer subject 'Patient-case subject' (the Goal of the event) to distinguish it from 'Agent-case subject' (the Source of the event as inadvertent actors) (1981:652).

Figure 4 also shows that in some active languages, not only does the S have a split, the A also splits into two groups. The majority of the participants that are in the A position are initiating and controlling Agents, but sometimes a small group of A's (of stative emotion verbs and nonvolitional action verbs) are marked the same way as O's.

Alabama (Hardy and Davis 1988, Hardy 1990)

(3) a. batatli -li  b. ci-ca- banna
   (3sII=0) hit-1sI  2sII-1sII-want
   'I hit him.'  'I want you.'

Alabama, like other Muskogean languages, has a three-way pronominal agreement system, referred to as Types I, II, and III following Munro and Gordon 1982. According to Hardy and Davis 1988, the three types of agreement marking exhibit the
semantics of control. Type I agreement encodes the participants that have full control over the event (the typical Agent); Type III encodes the participants which have limited control; and Type II represents noncontrol participants. In 3a, the transitive verb 'hit' takes two participants, a first person pronoun A and an unmarked third person 0. A is marked for type I agreement which means that the participant has full control over the event 'hit'. The transitive verb in 3b also has two participants A and 0. Unlike 3a, both participants here are marked with type II agreement which encodes noncontrol. In other words, A in this sentence is marked the same way as 0. The Roles of Agent and Experiencer in 3b are indicated by the ordering of the pronominal markers.

From Figure 4, we see that the presumed semantic-syntactic primitives A, 0, and S are actually marked in two ways. That is, there are usually two kinds of agreement markings no matter whether the verb is transitive or intransitive. 0 is always marked as 0, but both A and S can split into two groups. One group is marked the same as A (Sa), the usual marker for 'subject'. The other group is marked as 0 (So), the usual marker for the grammatical relation 'object'. Consequently, in the position where there is usually 'subject' marking, we find not only A and Sa, but
also 0 and So. Figure 5 shows the two types of participant reference marking in active languages.

Both A and S in active languages can be marked either as an initiating and controlling participant, which can be called an Actor, or a noninitiating and noncontrolling participant, called Undergoer. The terms of Actor and Undergoer are semantic notions which will be further defined in 1.1 of Chapter III. The split of A and S into Actor and Undergoer in pronominal reference is independent of grammatical relations. It is directly determined by the inherent semantics of the verb and may be (in some languages) affected by the context of the utterance. So, the split is semantically based. So far, I have been talking about pronominal reference marking, that is, agreement markers.

What about the so called 'case markers' on independent nouns? Let us look at Alabama 'case markers', which have often been taken as morphological indicators of syntactic relations.

Note that 'case markers' and pronominal reference do not always single out the same NP. Some active languages, such as Muskogean languages, have both direct and indirect
marking. The two types of morphology have different functions. Conventional analysis of these two types of morphological marking is that the pronominal agreement is semantically based and case marking codes grammatical relations of the NPs— that is, the nominative as subject and oblique as nonsubject. Take Alabama as an example. Like other Muskogean languages, Alabama has both direct and indirect marking. The direct marking is signalled by three morphemes, -t, -k, and -n, suffixed to nouns and verbs (or clauses). The indirect marking is shown by three sets of pronominal agreement affixes as described earlier.

Traditional analysis of Alabama morphology describes the direct marking as case markers which mark grammatical relations. The morpheme -k is the 'nominative', indexing 'subject', and -n is the 'oblique' indexing the nonsubject NP. The morphemes -t, -k, and -n on verbs function as switch-reference markers, with -t and -k marking same subject and -n marking different subject. Lupardus, for instance, claims that there are 'two distinct levels in the relationship of nouns (arguments) to verbs: the surface case relationship and the semantic pronominal agreement relationship' (1982:205). She calls this 'mixed system' 'a split-ergative or split-stative system' (1982:205).

In Davis and Hardy's studies (1984, 1988) of Alabama direct marking, they point out that the generalization
that -k marks 'subject' and -n 'oblique' does not account for the full range of data. For one thing, the suffix -t often appears in place of the -k, but also where one might expect the -n. Secondly, they also find cases where -k appears on non-subject NPs where we might expect an -n, and -n appears on 'subject' NPs where we would expect a -k (for instance, on conjoined 'subject' NPs). Therefore, the suffixes seem 'quite clearly not to be a simple matter of syntactic marking' (Davis and Hardy 1984). By examining Alabama data in context, Davis and Hardy argue that -t, -k, and -n are not marks of 'nominative' or 'oblique'; 'they have nothing to do with the relationship between the Nouns they determine and the Verb' (1984). Instead, when -t, -k, and -n occur on nominals, -t indexes the NP that is most likely to be identifiable (e.g. Topic), and -n marks the NP that is the least identifiable. The morpheme -k is somewhere in between. In the sentential use of the three morphemes (verb or clause finally in complex sentences), -t marks the clause that is the most integrated into the larger Proposition, and -n marks the clause least integrated into the Proposition. Again, -k marks the status in between. The use of the two sets of -t's, -k's and -n's seem to be identical semantically. They both index the relationship of a part to a whole; that is, the relations of each participant to the Proposition as a whole or degree of
integration among Propositions in complex sentences. Thus, Davis and Hardy summarize the use of \(-t\), \(-k\), and \(-n\) on a semantic scale of CENTRAL-PERIPHERAL (1984:13).

\[
\text{CENTRAL} \quad \text{-} \quad \text{PERIPHERAL}
\]

\[\begin{array}{ccc}
-t & -k & -n
\end{array}\]

Figure 6: Scale of Central-Peripheral

As is seen from Figure 6, the morphemes \(-t\) and \(-k\) are more central than \(-n\) which means that NPs marked by \(-t\) and \(-k\) are more prominent or salient in the Proposition than NPs marked by \(-n\). Therefore, \(-t\) and \(-k\) are much more likely to be compatible with the Topic/Subject nouns than is \(-n\).

However, the direct marking in Alabama does not directly index grammatical relations such as 'subject' and 'oblique'. The following examples given by Davis and Hardy (1984) demonstrate this:

(4) a. filip \(-ka-\ k\) mobil-k-o-n choopa-ti
   [Philip-For- car-For- buy-Prox]
   'Philip bought a car.'

   b. filip \(-ka-\ k\) alan \(-ka-\ n\) mobil-k-o-n
   [Philip-For- Alan-For- car-For- in-choopa-ti
    him-buy-Prox]
   'Philip bought a car from Alan.'
The sentences in 4 may give the reader an impression that \( k \) marks the subject and \( n \) marks the oblique. However, this assumption is soon overruled.

(5) a. filip-ka-\( t \) ...alan-ka-\( t \) naksi-faa-ka-aal-o-\( k \)
   [Philip-For- Alan-For- IndfPro-Loc-Dem-Modf-o
    ipa-\( t \) -ool-o
    eat-Prox-Evid -Acm]
   'Either philip or Alan ate it.'

b. am -ifa-ha-ya chokf-oo-\( t \) o-ibi-hch-oo-ti
   [my-dog-Pl-Top rabbit-o-they-kill-Act-Evid-Prox]
   'My dogs sometimes kill rabbits.'

b. am-ifa-ha-ya chokf-o-\( n \) o-ibi-hch-oo-ti
   [my-dog-Pl-Top rabbit- -they-kill-Act-Evid-Prox]
   'My dogs killed a rabbit.'

5a and b show that \( t \) may appear in place of either \( k \) or \( n \). The comparison of 6 with 5b in which the objects are marked by \( n \) and \( t \) respectively tells us that the morphological marking is semantically rather than syntactically based. According to Davis and Hardy (1984), 5b indicates that 'the speaker's dogs are known to have been killing animals when they have the opportunity' and the sentence 'identifies the victim from a range of known choices' (8). In other words, \( t \) marks a participant that is more specific than the participant marked by \( n \).
(7) a. piano-y-o-k pasli-li-ti

[piano-Top- - wipe-I-Prox]

'I dusted the piano.' (Answer to 'What did you wipe?')

b. piano-y-o-n pasli-li-ti

[piano-Top- - wipe-I-Prox]

'I dusted the piano.' (Answer to 'Where did you dust?')

The semantic contrast is also displayed in 7a and b. The intent of the question for 7a, in which the object is marked with -k, 'is to find the specific item wiped' while the intent of the question for 7b, in which the object is marked with -n, is more generalized' (8).

As has been mentioned in Chapter I, the three sets of pronominal agreement marking (indirect marking) in Alabama signal the semantics of Control. Davis and Hardy's analysis of Alabama direct marking also shows that these three suffixes are not merely formal markers of syntactic relations. According to Davis and Hardy then, it is not the case that the 'syntactic suffixes mark the surface structure relationships somewhat independently of the semantic relationships' (Lupardus 1982:205). Instead both direct and indirect marking in Alabama are semantically based, although they serve different functions. The former signals the NP/Participant (or clause/Proposition) relation to the main
Proposition as some value of Centrality/Peripherality, and the latter signals the relationship between a Participant and the Event in terms of Control. Neither type of morphology indexes the grammatical relation of 'subject'.

The contrast between the morphemes -t/-k and n on verbs has been described as marking 'switch reference' with -t and -k indicating same subject and -n indicating different subject (Booker 1980:167). The following examples seem to support this claim.

(8) a. hela-k alan-ka-n batatl-o-k yahka-ti
   [Heather- Alan-For- hit- cry-Prox]
   'Heather hit Alan and she cried.'

b. hela-k alan-ka-n batatl-ti yahka-ti
   [Heather- Alan-For- hit- cry-Prox]
   'Heather hit Alan and she cried.' (crying right after the hitting)

c. hela-k alan-ka-n batatl-n yahka-ti
   [Heather- Alan-For- hit- cry-Prox]
   'Heather hit Alan and he cried.'

   (Davis and Hardy 1984:3-4)

If we isolate these sentences from context and other data, it seems sensible to say that the morphemes -k and -t on the verbs of 8a and b mark the same subjects of the second clauses while -n on the verb of c marks the different subject. However, this claim leaves a problem as Booker
realizes: 'The distinction between t and k is not clear at the moment' (Booker 1980:167). In their study of the use of the three morphemes in context, it is explained by Davis and Hardy that the 'switch reference' indicated by these morphemes is not the basis of t/k/n on verbs. Rather, they mark the degree of integration of one clause to the whole Proposition. In this group of sentences, b means that Heather cries right after she hit Alan. 8a differs from b in the absence of this tight temporal sequence. In c, the link between the two clauses is more remote when the subject (Topic) does not persist as the expectation of the Topic continuity. The semantic contrast in the sentential use of the three morphemes is shown in the following sentences (Davis and Hardy 1984:3).

(9) a. kolkohka-y-o-k oyba-hch-oomo
   [thunder-Top- - rain-Act-Asp]
   'It thundered and then it rained.'
   (sequential)

b. kolkohka-t mahli-t oyba-hch-oomo
   [thunder- blow- rain-Act-Asp]
   'It's thundering, storming and raining.'
   (simultaneous)
c. am-anihtaasi-n ittafolooka-li
[I-young- marry-I]
'I'm still young yet, but I got married.'
(interrupting expected continuity)

That 'switch reference' is not the basis of t/k/n on verbs can be seen in the sentences of (9). The semantic content of the three morphemes in sentential use is summarized by Davis and Hardy, 'If -t marks simultaneity or close conjunction, then -k seems to indicate a somewhat looser sequencing, and -n then loosens this semantic bond between propositions still further by interrupting some expected continuity. (A link is broken, and -n related clauses are not so tightly interdependent)' (5).

From the above discussion, we may conclude that grammatical relations such as 'subject' may not always be the most revealing way of talking about participant relations in active languages. A description of the Participant-Event (and/or Participant-to-Proposition) relation stated directly in terms of semantics may more accurately capture the relationship between NPs and VPs in at least some active languages. Dixon's ideal definition of subject=(A, Sa) which is based on syntax/semantics also does not seem totally appropriate to active languages such as Alabama.

2.3 Subject in Inverse Languages
As was described in Chapter I, participant reference marking in inverse languages displays two sets of pronominals. The choice of which set to use in a sentence is determined by the person hierarchy. One set of participant reference marking is used when participants higher on the hierarchy act on those lower on the hierarchy (direct marking). Another set indicates lower ranking participants acting on higher ranking participants (inverse marking). In some languages (e.g. the Tibeto-Burman languages Nocte and Jyarong), the direct and inverse markings are not encoded directly on participant NPs. Instead, special relators signalled by affixes on verbs indicate whether the event is a direct one or an inverse one. If there is cross-reference marking, the agreement usually goes with the Speech Act Participant (SAP) in preference to a third person because SAP participants rank higher than third person in the hierarchy. The following examples from Jyarong (a Tibeto-Burman language of Szechuan) show that the agreement goes with the higher ranking person, regardless of grammatical relations (DeLancey 1981:642):

(13) a. nga mə nasno-ng 'I will scold him.'
    I he scold-1st

b. mə-k nga u-nasno-ng 'He will scold me.'
    he-ERG I INV-scold-1st
In 13a, the first person affix on the verb agrees with the Actor 'I'. In 13b, despite the fact that 'I' is not an Actor, but an Undergoer, it still controls the verb agreement. However, since the Actor in 13b is third person, which ranks lower on the person hierarchy, an inverse marker y is affixed to the verb. Note that the ergative case marking occurs together with the inverse marking. The morphological marking in this language—case marking and cross-reference marking—distinguishes the position that the Actor has in the hierarchy rather than the subject.

The inverse marking system reflects the speaker's point of view that it is more natural for the speaker and addressee to act on a third party. As DeLancey points out: 'Each NP type is a more natural agent than any NP lower on the hierarchy, and a less natural agent than any higher' (1981:645). Dixon also generalizes this point, 'It is plainly most natural and economical to "mark" a participant when it is in an unaccustomed role' (1979:86). Dixon explains the 'unaccustomed role' as 'an NP from the right-hand side of the hierarchy when it is in A function, and of an NP from the leftmost end when in O function' (86). Thus, direct marking reflects the view that the SAP is a natural Actor, and third person is a natural Undergoer. The inverse marking marks the less expected situation: the Actor is a third person acting on the first and second person.
Participant reference marking in inverse languages also does not seem to encode grammatical subject and object.

2.4 Grammatical Relations in Active and Inverse Languages

We have examined grammatical relations, especially subject, in both active and inverse languages, and found some common qualities.

First of all, the marking of Participant-Event relations in both types of languages are arguably semantically based rather than syntactically determined. In active languages, the choice of the participant reference marking is typically determined by whether the participant has control over the event or has undergone the event nonvolitionally. In inverse languages, the choice of the participant reference marking is typically determined by the person hierarchy.

Secondly, in both active and inverse languages, there are characteristically two sets of participant reference markings. One indicates the Actor, another the Undergoer. In active languages, the NP participants that can be seen to initiate or control the activity are marked as Actors, and those that are affected by or undergo (nonvolitionally) the activity are marked as Undergoers, regardless of their grammatical relations. In inverse languages, the direct and inverse markers distinguish whether the higher ranking person is an Actor or an Undergoer. If the higher ranking
person is an Actor, it is marked with the direct marker. On the other hand, if the higher ranking person is an Undergoer, it is marked with the inverse marker.

The participant reference marking in both types of languages show that grammatical relations such as subject may be incidental to the expression of Participant-Event relations, reflecting only the prototypical association of Agent Role and Topic. Since the participant reference marking of NPs is conditioned by semantics rather than syntactic rules, the semantic notions of Actor and Undergoer seem to be more relevant to a description of Participant-Event relations in active and inverse languages than grammatical relations. In this dissertation I will continue to use the semantic terms of Actor and Undergoer instead of the grammatical terms 'subject' and 'object'.

3. Semantic Basis of Active and Inverse Languages

Despite the fact that most linguists' studies of active languages have held that the reference marking in these languages is semantically based, we have also noted that there are opposing views, for example Mallinson and Blake 1981, Munro and Gordon 1982, and Davies 1986 on Choctaw agreement. In Chapter I, I mentioned Mallinson and Blake's claim regarding the 'arbitrariness' of the semantics in some active languages and Munro and Gordon's claim that the Chickasaw/Choctaw pronominal agreement is lexically and
'syntactically determined'. In this section, I will further discuss Munro and Gordon's 1982 article because it is one of the few arguments that is against a semantic analysis of participant reference marking in active languages, and it is also a very influential, frequently cited article. Therefore, I will consider it in some depth. In addition, I will also discuss Davies' book on Choctaw agreement and Mallinson and Blake's claim.

The title of Munro and Gordon's article 'Syntactic Relations in Western Muskogean' expresses the authors' orientation in their approach to agreement in those languages. In the article, they claim that the agreement system in Chickasaw and Choctaw (Western Muskogean) is lexicogrammatically determined because 'a purely semantic characterization of this system raises many problems' (1982:84). As has been mentioned in Chapter I, the three types of agreement have been taken by other linguists to encode semantic Roles, that is, Agent, Patient, and Dative, respectively. Munro and Gordon find that semantic Role does not explain the variation of the agreement marking in all cases. Any of the three affixes may be used to indicate the only argument of an intransitive verb as is shown in the following examples:

(14) malili-LI 'I ran.' (I)
(15) Ñá-hotolhko 'I coughed.' (II)
(16) ÑN- takho'bi 'I am lazy.' (III)

(1982:83)

The I and II agreements are also used to mark the Agent and Patient, respectively, of most transitive verbs:

(17) CHI-sso-LI 'I hit you.' (II, I)

(1982:83)

The most important use of the III affixes is to mark Datives of verbs with Type I arguments. These may include semantic Recipients, Benefactives, Goals and Ablatives.

(18) IS-SAM-a 'You give it to me.' (I, III)
(19) CHIN-talowa-LI 'I sing to/for you.' (III, I)
(20) IS-SĀ-hashaa 'You're angry with me.' (I, III)
(21) ī-lhakoffi-LI 'I escaped from him.' (I, III)

(1982:84)

Although these examples seem to show the semantic Roles encoded by different types of agreement affixes, Munro and Gordon find a number of cases that the semantics of Role apparently cannot account for. Compare 22 to 23.

(22) a. SA-nokhanglo 'I am sad/sorry.' (II)
    b. CHI-hashaa 'You're angry.' (II)
(23) a. IN-nokhanglo-LI 'I am sorry for him.' (III, I)
    b. IS-SA-hashaa 'You are angry with me.'

(I, III)

(1982:89)
The semantic Roles of the single argument in 22a and b remain the same in 23a and b, that of Experiencer. The difference is that in 23, a second argument, which takes a III affix, is added to the sentence. The result is a change of the coding of the Experiencer argument on the verb from II to I agreement. According to Munro and Gordon, the 'coding of the subject may change for syntactic reasons with no concomitant semantic change at all' (90).

The question here is whether in fact there is no semantic change in 22 and 23 when a human argument is added in the above mentioned sentences. This is related to another problem raised by Munro and Gordon concerning the Volition of the participant and the agreement. According to Munro and Gordon, 'the generalization most likely to stand is that I marks the Agent of an active verb' (85). 'Volitionality is an important factor' for the use of the Type I marker. However, they also claim 'the characterization of I cannot be purely semantic' (85) because many stative transitive verbs that seem to them to be non-volitional (Munro and Gordon also call them 'non-active verbs') also use a I affix to mark their first argument; their examples are ithaana 'know', (IS-SA-thaana 'You know me.' I, II), hanglo 'hear' and pisa 'see' (1982:85). Volitionality does not seem to them to fit here. The problem also exists in the agreement marking on single-argument, stative verbs (stative
intransitive verbs). Munro and Gordon note that 'Such agreement is most commonly marked with a II prefix, but III-marking is far from uncommon; and a semantic characterization of the II-III distinction is not easy, except where it is paradigmatically forced' (85). For example, compare 16 and 22. The stative verb in 16 takes III marking, while stative verbs in 22 take II marking. All these problems raise a question: Is the distinction of I-II-III agreement semantically based or syntactically and lexically determined? Munro and Gordon's conclusion is the latter, but their analysis is not completely convincing to me, as I will try to show here.

First, Munro and Gordon 1982 seems self-contradictory in some places. There are mainly two problems. The first is that although they make repeated assertions that the agreement system in Western Muskogean is lexicosyntactically determined, in other places they seem to hedge their own argument by suggesting broad semantic generalizations. One example of this is in the analysis of the change in morphology according to whether or not the Patient argument is a human. They point out: 'In the cases we know of, a non-human does not trigger the appearance of any overt agreement marker (and thus may be analysable as a 3rd person II), but a human argument is marked with a III prefix' (86). To illustrate this, they use the following examples.
In these examples, the choice of II vs. III agreement marking for the Experiencers is directly related to the semantic choice of human vs nonhuman, and not by any syntactic rules nor by idiosyncracy of the verbs. In other words, the II-III distinction here is clearly semantically based.

Another case where they appear to mitigate the force of their argument is in their discussion of possessor raising. In this section, they mention that 'one of the most productive subject changing rules of Chickasaw and Choctaw freely changes syntactic relations in order to increase the prominence of the original non-subject.' Compare the following two groups of sentences.

(26) a. Larry ishkin-at lakna
    
    eye-sub brown
    
    'Larry's eyes are brown; Larry has brown eyes.'
    
    b. Jan ipashi'-at tapa
    
    hair-sub be cut
    
    'Jan's hair was cut; Jan got a hair-cut.'
(27) a. Larry-at ishkin (-at) lakna
    'Larry has brown eyes.'
b. Jan-at ipashi' (-at) tapa
    'Jan got a hair cut.'

From the English glosses we can see that possessor raising in 27a and 27b puts the possessor in Focus, and thus, makes it pragmatically more important. This is done by suffixing it with -at, the 'subject case marker'. Another variant of 27b is like that in 28.

(28) Jan-at ipashi'-at IN-tapa (III)
Possessor raising can be combined with 'III-subject' agreement marking, referencing the possessor.

(29) a. AM-ofi'-at illi     'My dog died.'
    1s.III-dog-sub 1s.III-die
b. AM-ofi' -at AM-illi
    1s.III-dog-sub 1s.III-die
    'My dog died (on me): I had my dog die.'
c. ofi' -at AM-illi
    dog-sub 1s.III-die
    'My/The dog died (on me); I had my/the dog die.'

In 29b, with the III argument as subject, 'III-possessor agreement may originate as a way for the speaker to show the involvement of the possessor.' Therefore, 'Possessor Raising
makes a non-subject (indeed, a non-argument) far more salient, both semantically and syntactically' (Munro and Gordon 1982:95). This is true, but the increased salience of the possessor, either through morphological change by signalling its presence with the III agreement affix on the verb, or through 'syntactic change' by suffixing the 'subject case marker' on the possessor, thus raising it to 'subject', is motivated by a meaningful pragmatic choice, not by any meaningless syntactic rules. 29b shows it is a semantic difference (increased saliance and more involvement in the Event) that is directly expressed in the selection of the possessor to be referenced in the agreement, and this is done through the morphology—by the III agreement affix. That is, a functionally motivated morphosyntactic contrast exists in order to express this pragmatic difference.

As is shown above, when Munro and Gordon explain the Chickasaw data, they first examine the possibility of a semantic account in terms that other linguists have used for Muskogean languages. But when 'even the most delicate juggling of such semantic features as [active], [volitional], and [affected] cannot account for many occurring syntactic patterns' (Munro and Gordon 1982:105), they turn to an explanation in terms of syntactic devices such as possessor raising or resort to lexical idiosyncracy. This is the second major problem in Munro and Gordon's
article. They have limited themselves to examining the data in light of the traditional semantic categories of agreement (i.e. Role) and give short shrift to other possibly relevant semantic categories such as Control (Hardy and Davis 1988), or the interaction of Control and Affectedness (D. Hardy 1988; D. Payne 1982).

Of course, H. Hardy and Davis' particular semantic explanation of Alabama agreement may not necessarily be appropriate for Chickasaw. The main point here is that certain linguistic phenomena in a particular language should be examined on its own semantic terms. And the larger point is that semantics and pragmatics 'drives' the morphosyntax and not vice versa.

Davies' (1986) analysis of Choctaw agreement system follows a purely syntactic approach based on the theory of Relational Grammar. He definitely rejects the possibility of semantic account for Choctaw agreement, claiming that 'despite repeated attempts, I have been unable to discover any semantic or pragmatic conditions determining which agreement pattern should be used when alternative patterns are available' (1986:5). However, he also finds that surface grammatical relations cannot account for Choctaw agreement either because 'there is no apparent one-to-one correspondence between the surface grammatical relations of an argument and the type of agreement marker it triggers'
Therefore, he adopts the Unaccusative Hypothesis (Perlmutter 1978, Perlmutter and Postal 1984) as the basis for the analysis. According to the Unaccusative Hypothesis, there are two types of intransitive verbs. 'In one type the surface subject is also the underlying subject, and in the other the surface subject is the underlying direct object' (Van Valin 1991:221). Davies thus claims that Choctaw verb agreement can be accounted for 'on the notion of multiple levels of grammatical relations' (1986:6). In an unergative structure, the nominal of the intransitive heads a stratum 1-arc (1=subject), but in an unaccusative structure, the nominal heads an initial 2-arc (2=direct object), but a final 1-arc. The agreement rules are: the unergative subject (Sa) determines a nominative agreement (Type I); the unaccusative subject (So) determines an accusative agreement (Type II); and nominals that head 3-arcs (3=indirect object) determine dative agreement (Type III) (Davies 1984:175).

Although Davies' multiple levels of grammatical structures seem to account for Choctaw agreement, they do not explain the differences between the following pairs of sentences:

(30) a. Chim- ihaksi -li -tok 'I forgot you.'
   2DAT  forget  1NOM  PST
b. Chi- am- ihaksi -tok 'I forgot you.'
   2ACC  1DAT  forget  PST
(31) a. Chi- nokshö:pa -li -h
   2DAT fear 1NOM PRED
   'I am afraid of you.'

b. Chi- sa- nokshö:pa -h
   2DAT 1ACC fear PRED
   'I am afraid of you.'

(Davies 1986:5)

In 30, the same verb ihaksi can take either nominative agreement (a) or dative agreement (b) for the subject. Likewise, the same verb nokshö:pa in 31 can take either nominative agreement or accusative agreement for the subject. Using Davies' theory of multiple levels of structure, we can say that the subject nominals of 30a and 31a head 1-arcs, but the subject of 30b heads a 3-arc and 31b 2-arc. However, we still do not know why there exists variations like 30 and 31. The differences between the alternative agreement patterns can only be explained by considering the contextual meaning of the sentences as, for example, in Alabama case marking (7, 8, and 9)\(^6\).

One argument that Davies and other adherents of the Unaccusative Hypothesis use against the semantic analysis of pronominal agreement in active languages is that they cannot find a consistent semantic basis for agreement. For instance, in Choctaw, as in Chickasaw, the nominative agreement generally indexes the semantic Role of Agent, and
accusative agreement generally indexes the Role of Patient. However, there are many deviations to the generalization as Munro and Gordon find in Chickasaw. But these deviations should not be taken as the evidence for the invalidity of the semantic basis. They only reveal that pronominal agreement patterns in active languages 'are not all based on the same single feature' (Mithun 1991:538). Rather, the semantic characteristics that determine the pronominal participant marking is language specific and often complex.

Mallinson and Blakes's hesitation about a totally semantic basis of active agreement is based on the assertion that some active languages have 'unexpected assignments' of participant reference marking with intransitive verbs. In other words, whether an intransitive verb will be assigned an Agent participant or Patient participant is not always 'semantically predictable'. This is thought to be a problem particularly in languages with fixed verb classes. In languages that have fluid marking, the fluidity more clearly points to a semantic explanation. In languages that have fixed verb class, however, the semantic basis may sometimes not be obvious. Take Crow, a Siouan language as an example. (Crow data are from Martin 1991.)

Crow is an active language with two series of agreement markers on verbs to reference the participants. There is almost no fluid marking; that is, which verb takes a Type I
or II agreement marker is fixed. However, 'The choice of the series used to agree with an argument is predictable in many cases from the semantics of the predicate and the morphological structure' (Martin 1991:191). For instance, in transitive clauses, Type I agreement usually marks A and Type II marks O. A few II-II verbs also exist in Crow, but Type I is never used to reference an O. The generalization is that Type I only marks for A's while Type II can mark O's and A's. Intransitive verbs are also divided into two classes: those that take I agreement and those that take II agreement. The question here is how to decide which verb belongs to Class I and which should be Class II verb. In other word, what does the Crow agreement refer to? Is the agreement selection decided on a semantic basis or is it lexically determined? Jack Martin (1991) discusses several hypotheses that might pertain to Crow agreement selection. In each of them, he finds 'exceptions'.

The first hypothesis is that agreement selection is related to Agency: an Agent receives I agreement, or I agreement implies agency (199). Martin uses the word ichikaatta 'carefully' as the test for agency which is a 'diagnostic of agent in English' (199). The result is that all the verbs that can go with 'carefully' are Class I verbs except for the word passhi 'fall down' which is a Class II verb. On the other hand, among the Class I verbs, some are
not compatible with the word 'carefully', for instance b-jaxxo 'I'm hurt'; b-alishi 'I'm hungry'; and b-apasshe 'I'm tired'.

The second hypothesis is the relevance of agreement to the semantics of controllability: a controllable predicate uses I agreement for the subject or I agreement implies that the predicate is controllable (201). The test for this is a causative which is also diagnostics of controllability in English. In English, a controllable predicate generally is not only acceptable as an imperative, but also acceptable in the frame 'I made him __.' Martin finds that in Crow, among the three Class II verbs 'polite', 'lie', and 'tall', the first two are controllable predicates since they fit the frame 'I made him __', and the last one is noncontrollable because it does not fit the frame. Therefore, controllability also seems to fail as the criterion for the verb division.

The last hypothesis Martin considers for agreement selection concerns aspect: that non-stative verbs use I agreement for their subject, or I agreement on a verb implies that the verb is nonstative. Again, there are exceptions although most of Class I intransitive verbs are translated as nonstative in English.

The exceptions to each of these hypotheses might tend to lead one to a conclusion that the variation of I and II
verbs is 'arbitrary' or 'unexpected' and that Crow agreement must be lexically determined. Actually, observing carefully the division of the two classes of Crow verbs, we find they are not without semantic explanations for the 'exceptions'. Take agency as an example. Using the word 'carefully' as a test, the participant of the intransitive verb 'fall down' is obviously an Agent since he is responsible for performing the action. However, we all know that 'falling down' is usually an accidental action that is out of the control of the participant. (Of course one can try to land carefully even though the action is out of control at the outset.) Since Crow has fixed verb classes, it is not unnatural for Crow to assign this word II agreement because pragmatically this event is not prototypically performed by a controlling Agent. However, this does not explain why 'hurt', 'hungry', and 'tired' are assigned Type I verb. There might be more than one semantic features that determine Crow agreement.

Martin notes that aspect seems not to be a proper criterion for I and II marking in Crow because both Classes include stative verbs. Another generalization which is specially relevant to the division of verbs of states seems to be transitory (I) vs. permanent (II). Verbs of temporary states are more controllable than verbs of permanency. This can explain why the stative verbs 'hungry', 'tired', and
'impatient' belong to Class I, while verbs like 'good', 'old', and 'tall' are Class II verbs.

Controllability seems a more plausible semantic criterion for agreement selection in Crow. Type I marks controller arguments, and II marks the opposite. According to the imperative and causative tests, the verbs 'polite' and 'lie' are controllable predicates in English. However, they may be noncontrollable in Crow. For example, it is possible that the Crow world view may see 'lie' (tell falsehood) as an unnatural act, indicating one is 'out of control'; thus, it is classified as a Class II verb, and a non-controlling participant II agreement is assigned to it. Politeness may imply sincerity that is not consistent with someone making you do it. Therefore, lack of control might be a major factor in the assignment of these words to Class II verbs.

Martin concludes that 'while there is not semantic generalization that has yet been found to account for all the factors involved in the use of series I and series II in Crow, it does not follow from this fact alone that the distinction is syntactic in nature'(212). I support this conclusion and add a further note that the Crow data reminds us that it is not unusual for linguists to find 'exceptions' to generalizations about languages. The problem is how we understand the exceptions, in what sense 'exceptions'
exist, and upon finding apparent exceptions, whether we should therefore rule out semantics as a means of explanation. Exception and prediction are two sides of the same coin. When we say something is an exception, we mean it is beyond our prediction. However, prediction is not without its problems. One important problem is that our prediction of linguistic phenomena is sometimes limited by our knowledge and experience of more familiar languages, such as English. Using the semantic categories of English as a 'standard', we may find other languages semantically unpredictable. Our English bias often prevents us from discovering the different semantic categories relevant to another language.

It has long been axiomatic in linguistics that every language must be taken on its own terms, where formal matters of grammar are concerned. In linguistic studies, we often find that different languages choose to divide things up grammatically in their own ways. Whether a verb is treated as transitive or intransitive is lexical in the sense that it cannot be predicted across languages for all events. It is a lexical matter which verbs are transitive or intransitive and which are active or inactive in their prototypical values. The way languages are organized semantically is within certain parameters equally idiosyncratic. But one cannot conclude from this, for
instance, that pronominal markers are meaningless cases of grammatical concord. Zubin's description of the semantic basis of German case is a good example. (I will discuss it later in this chapter.) What cannot be predicted a priori must go in the lexicon of a language. But beyond that, we can still explain a semantic pattern that may differ from what we may expect or predict based on our English semantic categories. Let us take 'posture verbs' and 'quantifiers' as examples.

Some of the apparent irregularity in the semantics of morphology may be caused by the different assumptions linguists make in their analysis of a particular language. Take posture verbs as an example. In Choctaw the intransitive posture verbs such as itola 'lie', binili 'sit' and hikiya 'stand' act morphologically 'as though they were unergative' (Martin 1987). That is, S is not marked the same way as O with II agreement. Instead, they take type I agreement. Martin (1987) considers this an irregularity because posture verbs are taken to be stative, and the I vs. II distinction is assumed to represent active vs. stative. (Note that stative events are more often than not noncontrollable.) This assumption leads Martin to suggest an exceptional morphosemantic rule:

\[ \text{[POSTURE]} \rightarrow \text{[I]} \]
That is, all posture verbs take type I agreement in spite of the fact that they are stative. However, the (often cognate) roots of the same group of verbs in Alabama, another Muskogean language, mean 'to assume a ... position'; they are indeed activity, as well as controllable, events (H. Hardy, personal communication.). The following examples contrast the active posture verbs with their more stative forms which are all in the geminate aspectual grade, indicating a kind of imperfective.

(32) a. chokòoli 'to assume a sitting position' (sg)
   b. lokòoli 'to assume a standing position' (pl)
   c. hachàali 'to assume a standing position' (sg)
   d. balaàka 'to lie down' (sg)

(33) a. chókkòoli 'to be seated' (sg)
   b. lókkòoli 'to be standing (pl)'
   c. hátchàali 'to be standing (sg)'
   d. bálààka 'to be lying (sg)'

Whether 'posture verbs' are stative or nonstative may differ from language to language. But, if they are taken as basically controllable activities, as in Alabama, and if active vs. stative lexical aspect is not the basic semantic distinction marked by agreement in Choctaw as well, they might not even be an exception for Choctaw verb agreement?, for it would be natural for them to take I agreement. One thing is clear from these examples: we cannot measure all
languages against English translations. Neither should we seek the explanation of verb classes and agreement variations by isolating verbs from their context of course.

Jack Martin, in his study of agreement in Creek and the theory of inflection, takes the approach 'to treat irregularities either as the product of additional rules or as lexical exceptions' (1987). But he also points out that 'exceptions to semantic generalizations can be semantically based' (1987). For instance, in Western Muskogean languages, Type I agreement typically marks the reference of a volitional A or S on active verbs. However, many quantifiers which he considers noncontrollable verbs also take I affixes. Martin posits a morphosemantic rule for this:

\[
\text{[QUANTIFIER]} \rightarrow [I]
\]

This is taken as a rule of exception because, according to our English expectations, quantifiers are inherently both stative and not controllable (of course they also not especially 'eventive' either, not being expressed as verbs); thus, the fact that they take Type I agreement seems exceptional. Again, let us look at some Alabama examples. As in the case of posture verbs, quantifiers in Alabama, especially numbers, basically mean 'to achieve a certain number'. For instance, the quantifier tótchiina literally means 'to have formed a group of three'. In this sense, it is actually a verb of controllable activity, therefore,
taking I agreement. In his *Koasati Grammar*, Geoffrey Kimball (1991) actually observes fluid marking in Koasati: 'The use of active [I] versus stative [II] inflection for numerals is based on the subtle semantic distinction between being a certain number by chance (stative inflection) or being a certain number by choice (active inflection)' (358). The example of Alabama and Koasati quantifiers reminds us that languages treat their semantic categories differently.

   Exceptionality as a property of the morphology may also be caused by historical factors as is mentioned by Mithun (1991). For instance, in Western Muskogean, kinship terms are treated mostly as inalienable nouns and generally take II possessor agreement, but Munro and Gordon note 'father', as an exception here, because it takes III possessor agreement which is used to mark alienable nouns. Apparently, the alienable/inalienable distinction has undergone some reanalysis in Muskogean. In Alabama, most kinship relations require III possessor marking (what has been referred to as 'alienable' possessor marking in Muskogean):

   (34) a. am-pici 'my mother' (III)
   b. i-fósi 'his/her grand-father' (III)

A few exceptions that require II agreement refer to persons that 'have less autonomy and are typically under the control of the "possessing" individual (e.g. women and children)' (Hardy and Davis 1988:20).
In the same way, we may assume that some of the apparent semantic exceptions in the verb classes in Crow are caused by historical factors. As has been mentioned above, there is an imperfect correlation between controllable verbs and I agreement and noncontrollable verbs with II agreement. There are two possibilities to explain the exceptions to this generalization. First, we might assume that the language originally used I agreement to mark Agentive or Controller arguments with controllable verbs and II agreement to mark the non-Agentive, or non-Controllable arguments with noncontrollable verbs. As the language develops, some of the verbs have lost their original meanings and developed other meanings. At the same time, the original agreement series has not been changed. The possibility that the language originally had fluid agreement marking also exists. For some reason, the 'fluidity' has been lost later, and the prototypical agreement markings become frozen with the verbs. In either case, the generalization of verb classes with agreement selection in the Crow language today reflects its semantic basis. The controllable verbs with II agreement and noncontrollable forms with I agreement become exceptions.

The above discussion of Crow and Alabama agreement tells us that not all 'exceptions' are 'arbitrary' or unexplainable semantically. Finally, even in a case such as
Crow where there is no fluid marking and agreement marking is a lexical property of verbs, this does not necessarily mean the markers are therefore 'meaningless grammar'.

For example, many studies have shown that contextual meanings, both discourse and social context (situation), contribute to the explanation of variation of certain linguistic forms. One such study was done by Zubin(1975, 1980) on German case marking.

Traditional German grammar assumes that the Dative and Accusative cases in the form of grammatical government are automatically determined or governed by the verbs. That is, they are purely lexical--the case suffixes then have no meaning. Yet, Zubin discovers that these verb-governed cases still 'manifest optional choices made by speakers as they produce individual utterances' (1980). As some linguists, Zubin assumes that there is no meaningless form. In his study of German cases, Zubin points out, 'Since these speakers are using language to communicate, their choices presumably reflect the communicative value of the forms they choose, i.e., the meaning of the forms' (1980:20). Zubin's study on the distribution of German Dative and Accusative cases supports this assumption.

He finds that there is a correlation between the overall plot structure of a narrative and the case forms, which shows that the author can and does exploit 'a
meaningful opposition between dative and accusative in organizing discourse' (21). Zubin uses a short story 'Augustus' as data and shows that in the first part of the story, Augustus exercises control over others in the accusative case, and other people yield control to him in the dative case. On the other hand, in the second part of the story, Augustus has changed, so he relates to other people in the dative: he now benefits them and shows love to them. Other people, however, relate to him in the accusative. By analyzing the data, Zubin finds that 'if the controlling person is the low participant ('goal') in a specific event, they will be in the dative case.' On the other hand, 'if the controlled person is the low participant ('goal') in a specific event, they will be in the accusative case' (24). There is a consistent tendency for the powerful, controlling character to tend to appear in the dative, and the submissive, controlled character to tend to appear in the accusative (25). In other words, dative inflection is used for a more potent/active situation, and accusative for the opposite. Since German cases are governed by the verb, the author of the story certainly selects specific verbs which take accusative or dative cases to convey the meaning as the plot progresses.

Zubin's finding implies the importance of discourse study in the explanation of meaning and form, as he points
out that 'discourse cohesion is a function not just of optional choices make by the speaker, but also of the most basic obligatory syntactic encoding device of the language' (30). This also implies that 'every choice made by the writer is semantically motivated' (30).

Of course, the explanation of German case does not directly explain Crow verb classes. However, Zubin's discourse approach may give us some enlightenment about a way of understanding the relation between meaning and form. In German, case marking is fixed. The speakers cannot choose which case to use, but they can choose verbs which govern a certain case marking. And the choice they make will depend on the discourse. In the same way, by looking at isolated verbs in Crow, the choice of agreement that these verbs take may not seem to be entirely semantically motivated because there are exceptions. We do not know what a discourse-based approach to agreement selection would reveal, but such a study may shed light on the problem of agreement selection and verb classes in languages like Crow.

Based on the discussion in this section, I will assume in this dissertation that morphosyntax is not an autonomous structure but is driven and motivated by the semantics and pragmatics it exists to express. As Langacker (1987) claims, 'all facets of our general knowledge of a conceived entity contribute to the meaning of an expression which designates
this entity' (55). Language is used to communicate. The choice of different forms that languages employ is to convey different meanings. As for the active and inverse languages, the choice of the different series of participant reference marking is also meaning determined, although the semantic categories these markings encode may vary from language to language.
Notes to Chapter II

1. Unlike most of the ergative languages, Dyirbal is called a syntactically ergative language, for the language not only treats S and O in the same way at morphological level, but rules of coordination and subordination also treats S and O in the same way. That is, 'two clauses can be coordinated in Dyirbal if they involve a 'common NP' that is in surface S or O function in each clause' (Dixon 1979:62). The following sentences show that Dyirbal is an ergative language:

(i) ŋuma banaga+n'u  'Father returned.'
(ii) yabu banaga+n'u  'Mother returned.'
(iii) ŋuma yabu+ŋgu bura+n  'Mother saw father.'
(iv) yabu ŋuma+ŋgu bura+n  'Father saw mother.'

Combine 1 and 3, we can get either 5 or 6:

(v) ŋuma banaga+n'u yabu+ŋgu bura+n  (1+3)
   'Father returned and was seen by mother.'

(vi) ŋuma yabu+ŋgu bura+n banaga+n'u  (3+1)
   'Father was seen by mother and retuned.'

(Dixon 1979:63)

In v, O in the second clause is identical to S in the first clause, thus can be deleted. Likewise, S in the second clause of vi is identical to O in the first, which has also been deleted. However, it is ungrammatical to combine i and iv unless the antipassive pattern is used.

* ŋuma banaga+n'u yabu bura+n.
In spite of Dixon's analysis of Dyirbal syntax, he still claims that languages treat S the same as A syntactically, therefore, subject={A, Sa}.

2. H. Hardy has recently rethought analysis of the II vs. III agreement sets. According to her new view, Alabama has two sets of agreement markers I and II which index control and noncontrol respectively. She says that for phonological and morphological reasons, 'It is best to analyze the III markers as a combination of an "-m dative marker" and the pronominal affixes.' The morpheme im- is separated 'as a dative derivational prefix that takes II noncontrol prefixes.' 'The im- flags an added nonaffected (not directly affected) object argument, the II signals noncontrol and the combination of nonaffected and noncontrol for an object often yields the semantic impression of limited control.' The association of alienable/inalienable possession and dative is that 'something alienable comes into and out of the possessor's (as goal) sphere of influence and inalienable relations are more often like basic verbal constructions in languages (we have verbs in English such as father, mother etc.).' (H.Hardy 'Grammar of the Alabama Language' in preparation)

3. Lupardus claims that only -k and -n occur on nouns: 'Whereas -n occurs on both nouns and verbs, -k is restricted
to nouns and -at to verbs' (1982:210). In contrast to Lupardus, Davis and Hardy's study shows that all three morphemes can occur on both nouns and verbs.

4. The glosses of examples 4-7 are updated by H. Hardy.

5. Munro and Gordon claim that -at is the 'subject case marker' in Chicksaw. However, in 27a and b and 28, we find -at is assigned to two noun phrases in a clause. Munro and Gordon claim that the leftmost -at marks the subject. But there still remains a question on what the function the second -at plays if it does not mark the subject.

6. Evidently Davies has not considered naturally occurring textual data of Choctaw. An example to show this is his example of 13 in Chapter 2 which has a translation 'The man_1 sold the child_2 to himself_2.'

7. Mallinson and Blake here refer to Choctaw (Heath 1977) agreement marking, '...some stative intransitive verbs take the beneficiary or experiencer form e.g. 'feel good' (the same verb with the patient bound pronoun means 'be good'), 'be lazy', be clever or capable' ' (Mallinson and Blake 1981:116).

8. 78% of the I intransitive in Martin's (8) translate as nonstatives in English (Martin 1991).

9. Martin (1987) does not reanalyze Choctaw, but he describes Creek Agent as based on agency rather than lexical aspect (active/static).
CHAPTER III

THE SEMANTICS OF ACTIVE LANGUAGES

As has been defined in Chapter I, an active marking system differs from the marking systems of the majority of languages in the world—accusative and ergative marking—in that S is split into two groups; one is marked the same way as A, another is grouped with O. (In some active languages, A also shows a split.) The split S (as well as A) is determined by the semantics of the verb or the discourse context. In the discussion of Chapter II, I argued that active and inverse marking systems are semantically (and pragmatically) based. This chapter will discuss the semantics of the split participant reference marking in active languages. The chapter contains three sections. The first two sections discuss the semantic and pragmatic properties that determine the participant reference marking in active languages. Section 1 presents the inherent semantics of verb classes of active languages, the semantics of volition and control and also the degree of control and volition reflected in fluid marking. Section 2 is devoted to the semantic characterizations of participants, the relationship of the animacy hierarchy and the active/inactive distinction. The third section concerns the
relationship between active systems and split ergativity.

1. Participant Reference Marking Conditioned by the Semantic Content of Event

1.1 Terms of Participant Reference Marking

In active languages, there are usually at least two sets of participant reference marking. Merlan (1985) uses the terms 'subjective' and 'objective' inflections to refer to these two sets of pronominal forms 'based on the relation of inflectional pronominal forms to subject and object pronouns used in transitive clauses' (Merlan 1985:324). 'Subjective' inflection indicates the pronominal forms usually used as the subject (A) of a transitive clause, whereas 'objective' inflection means the pronominal forms used as the object (O) of a transitive clause. The intransitive subject (S) in active languages may take subjective or objective inflections. This is the split S. As noted in Chapter II, because of the semantic nature of the two types of participant reference marking in active languages, I would use the semantic terms Actor and Undergoer to distinguish the different sets of pronominal marking, and S, A and O to refer to the syntactic function of intransitive subject, transitive subject and transitive object.

The terms Actor and Undergoer are adopted from Foley and Van Valin (1984), who define them as follows:
"Provisionally we may characterize the actor as the argument of a predicate which expresses the participant which performs, effects, instigates, or controls the situation denoted by the predicate; and the undergoer as the argument which expresses the participant which does not perform, initiate or control any situation but rather is affected by it in some way."

(1984:29)

They further point out that Actor and Undergoer are not equivalent to syntactic subject and object; rather, they are 'generalized semantic relations between a predicate and its arguments' (29).

Some linguists use the terms Agent and Patient for the two sets of participant marking in active languages. However, these terms are not entirely accurate, for Actor and Undergoer as 'macroroles' are not equivalent to the semantic Roles of Agent and Patient either. Actually, either Actor or Undergoer may represent several different Roles. An Actor may be an Agent of an active verb, or it may also be an Experiencer of a verb of perception. Patient is a typical Undergoer, but other Roles such as Executor, Recipient, or Goal may also be Undergoer. Foley and Van Valin (1984), when discussing the relation between the 'macroroles' Actor/Undergoer and semantic Roles, present the following Role hierarchy:
Taking Lakhota as an example, one group of pronouns expresses Actor and Experiencer (Perceptive), and another group of pronouns will express Experiencer, Patient, Goal, Source and Beneficiary etc. (Van Valin 1977:26).

Using Foley and Van Valin's terms, I define Actor loosely as a participant that can control and initiate an event, and Undergoer as a participant that does not control or initiate an event, but is affected by the event.

1.2 Verb Classes in Active Languages

1.2.1 Active and Inactive Verbs and Participant Marking

In studies of active languages, the most frequently discussed factor that determines the split S (and A) is verb classes. Verbs in active languages are usually divided into two classes: active vs. inactive. Active verbs are typically verbs of action such as 'run', 'walk', 'talk', and 'hit',
which express activities initiated and performed by an Agent participant. The typical inactive verbs are stative verbs or descriptive predicates such as 'like', 'want', 'to be tall', 'to be fat', 'to be ill', and so on, describing the condition of an Experiencer participant. Generally, verbs of action require participants that can control and initiate the action, which are Actors. Inactive verbs such as verbs of emotion, psychological processes, bodily functions or physical or spiritual conditions, usually need non-controlling and non-initiating participants, therefore, Undergoers. Descriptive predicates are typical stative verbs which take Undergoers. However, between the two extremes of verbs of action and verbs of state, there are many other verbs which are not so distinct as active or inactive. For instance, the verb 'fall' is an action event referring to a change of state, but in almost all the active languages, it would normally take an Undergoer participant rather than an Actor because the participant of the verb 'fall' is not prototypically an Agent who initiates the activity, but an Experiencer. Van Valin (1977) uses the term 'active experiencer' to distinguish it from 'stative experiencer' which goes with stative verbs. Bodily functions such as 'sneeze', and 'cough' are also events that involve actions performed by Executors, but in many active languages, they take Undergoer participants. Therefore, although in some
languages the participant reference marking is based on active vs. stative (lexical aspect), the active/inactive distinction cannot be reduced to the semantics of active/stative for all active languages. I define active verbs in active languages as those verbs that require participants that control and initiate an action (Actors), as A and S. Inactive verbs require non-controlling and non-initiating participants (Undergoers) as A and S. The choice of which set of pronominal marking to use in an intransitive clause is thought to be affected by the inherent meaning of verbs.

The generalization that different classes of verbs may determine the choice of participant marking seems to be displayed in many active languages. Let us take Dakota and Acehnese as examples.

1.2.1.1 Dakota (Siouan)

In Dakota, the distinction of active/inactive verbs almost entirely coincides with active vs. stative classification. Boas and Deloria (1941) divide Dakota verbs into two classes: active and neutral. The two classes of verbs are differentiated by two sets of pronouns which are shown in Table 2.
Table 2: Two Sets of Pronominal Prefixes in Dakota

Note that in Table 2, the distinction of Actor and Undergoer forms exists only in first and second person singular, and second person plural. Third persons are unmarked except for a number marker in the plural form.

Active verbs in Dakota include 'actions that can be performed by or on living beings only' (Boas and Deloria 1941:23), that is animate participants. Examples of these verb are *psi'ca* 'to jump', *lawa* 'to sing', *c'e-t'i* 'to build a fire', *pa* 'to shout', *nuwa* 'to swim', *psa* 'to sneeze', *niya* 'to breathe', etc.. Apart from verbs of
action, Dakota active verbs also include emotions such as mental activities. The examples are *si-qa* 'to resent', *q-la* 'to feel, loath', and *ci* 'to desire'. These verbs, if transitive, take both an Actor and an Undergoer pronoun. Intransitive verbs of this class take Actor pronouns as the only participant.

Although Boas and Deloria do not give a clear definition of 'neutral verbs', other linguists interpret this class to mean 'stative verbs' (Miner 1980. Frajzyngier 1985). That is, they are verbs that usually denote states or conditions of the participant, because in intransitive clauses, they take Undergoer pronouns.

The neutral verbs in Dakota are mostly stative verbs. Unlike active verbs, the 'neutral' or inactive verbs in Dakota do not require the participant to be animate. The intransitive clause can have either an animate or inanimate participant. Examples of this class of verbs are descriptive predicates such as *khuza* 'to be ill', *sica* 'to be bad', *puza* 'to be dry', *sapa* 'to be black', *khdata* 'to be warm' and so on.

The following Dakota sentences demonstrate the active and inactive verbs with Actor and Undergoer sets of pronouns (Miner 1980:36).

(2) a. *wawáčhi* 'I dance.'
   b. *yawáčhi* 'You dance.'
(3) a. mazi 'I am pale.'
    b. nizí 'You are pale.'
(4) a. wakhíze 'I attacked him.'
    b. makhíze 'He attacked me.'
(5) a. yakhíze 'You attacked him.'
    b. níchíze 'He attacked you.'

Sentences 2a and 2b have active intransitive verbs 'dance', which take the first and second person Actor pronouns. 3a and 3b contain inactive verbs that express the state of the participant and thus take Undergoer pronominal participants. As is shown in Table 2, third person pronoun is unmarked. In 4 and 5, we can see that the a sentences differ from b sentences in that participants in a's are in the same form as in 2, whereas participants in b's are in the same form as those in 3. In other words, in 4a and 5a, the first person pronoun wa- and the second person pronoun ya- are Actors attacking a third person Undergoer. On the other hand, in 4b and 5b, the first and the second person pronouns ma- and ni- indicate that they are Undergoers of the action whereas the unmarked third person in both sentences is the Actor who performs the attacking. Sentences 1-5 seem to show that the choice of the two sets of pronominals used in a clause is determined by verb classes: an action verb takes an Actor participant as A and S, a state would take the Undergoer set.
1.2.1.2 Acehnese (Austronesian)

Acehnese is another active language. It has both independent pronouns and pronominal agreement on verbs cross-referencing the NPs in the same clause. Acehnese has two sets of pronominal cross-reference marking encoding Actor and Undergoer participant, respectively.

(6) a. ka lon- poh- geuh 'I hit him.'
   already 1st=A-hit- 3rd=U

b. Lon lon- jak 'I am going.'
   I 1st=A-go

c. Gopnyan carong (-geuh) 'He is clever.'
   he(p) clever -3rd=U

(Durie 1985:45)

(p=polite, A=Actor. U=Undergoer)

According to Mark Durie (1988), Acehnese transitive verbs take both an Actor and an Undergoer cross-reference marking. The intransitive verbs are divided into two types. One is an action like jak 'go' in 6b, another type is a state such as carong 'clever' in 6c. From the above sentences, we can see the use of the two sets of pronominal cross-reference. 6a has both Actor and Undergoer cross-reference. 6b contains a pronominal proclitic cross-referencing the first person independent pronoun lon which is an Actor of the active verb 'go'. 6c differs from b in that the verbal affix is a pronominal enclitic also cross-referencing the argument in
the clause. Note that the enclitic -geuh in 6c is in parentheses, meaning that it is 'optional'. Comparing 6b and c with a, it is obvious that the verbal agreement in b is in the same form with the subject of 6a; both are pronominal proclitics. Likewise, the verbal agreement in 6c is in the same form as the object of 6a; both are pronominal enclitics. Therefore, we can summarize the Acehnese pronominal agreement as follows: the Actor participant is compulsorily cross-referenced on the verb by a pronominal proclitic as in 6a and b; the Undergoer participant is 'optionally' cross-referenced on the verb by a pronominal enclitic as in 6a and c. The proclitic agreement always indexes the Actor participant regardless of word order and syntactic function of the surface subject.

(7) a. Gopnyan ka gi- com lon
she perf 3=A- kiss I
'She (already) kissed me.'

b. Lon ka gi- com le-gopnyan
I perf 3=A -kiss by-she
'I've already been kissed by her.'

(8) a. Dron ni-pajoh boh- mamplam
you 2=A- eat fruit-mango
'You eat the mango.'
In both pairs of sentences, a has normal word order with the Actor in sentence initial position; b sentences are in the passive patterns. The Actors are marked with oblique. But both in a and b of 7-8, the pronominal agreement is always with the Actors. Like in Dakota, the choice of Actor or Undergoer pronominal forms in Acehnese seems also determined by the type of verb. Active transitive verbs take both an Actor and an Undergoer participant. With intransitive verbs, the active verb requires an Actor participant that can control or initiate the event. An inactive verb needs an Undergoer participant that does not control or initiate an event, but is affected by the event.  

1.2.2 Problems of Active and Inactive Verbs and Participant Marking  

Active verbs which take Actor pronominals as the A and S, and inactive verbs which take Undergoer pronominals are not necessarily equal to verbs of action vs. verbs of state as we have seen in section 1.2.1. The semantic basis for the active and inactive verb classes is in fact not always clear-cut, nor easily defined and may vary across languages. The classification of some verbs, such as bodily functions and mental processes, is characteristically language
specific. Languages define their verb classes differently, or rather, they may view the participant/event relationship in different ways. In Dakota, active verbs (that is, verbs that take Actor participants) include not only verbs of activities that are initiated by an Agent, but also some bodily functions involving physical actions such as psa 'sneeze', opa 'snore', and ho-xpa 'cough'. In Acehnese, bodily activities are treated as nonvolitional with respect to the decontrol morphology although they are volitional in their root form; therefore, they take Undergoer participants. (This will be explained in detail in section 1.3.4.1.) These verbs in some other active languages such as Eastern Pomo and Batsbi would take Undergoer participants (McLendon 1975, Holisky 1987). Consider also mental processes and perceptive verbs. Do they involve any actions? Should they take Actor or Undergoer participants? Can they be transitive as well as intransitive? Although the active/inactive distinction is not identical to active/stative, the prototypical active verbs are actions and the prototypical inactive verbs are states. However, the simple generalization that active verbs take Actor participants and stative verbs take Undergoer participants will not stand because the semantics is not that of active vs. stative for all active languages.
Furthermore, linguists have also noticed so-called fluid marking in many active languages. There is a group of verbs, small or large depending on the particular language, that can take either Actor or Undergoer participants. The meaning of the verb or clause changes according to the selection of the participant reference marking. It is often hard to say whether these verbs 'belong' to the active or inactive class. This problem will be discussed in 1.4.

Languages such as Dakota and Acehnese have two classes of verbs, plus a group of verbs that can take either an Actor or Undergoer participant. Verb classes and their relationship to participant marking in languages such as Eastern Pomo and Batsbi, however, is more complicated. According to the pattern of participant marking, there appear to be four or even five classes of verbs. Besides verbs that take Actor participants as S, verbs that take Undergoer participants as S, and a group of verbs that can take either independently of the NP, Eastern Pomo also has a class of verbs that take the Agent form of pronouns, kinship terms, and proper names, but the Patient form of common nouns as S(a small class of verbs of location and directed motion, e.g. 'sit', 'dwell', 'go', 'walk', 'stand up', etc.) (McLendon 1978:6).

Batsbi intransitive verbs seem to form a continuum along the scale of activity to stativity. Batsbi has been
called a split ergative language, but it seems classically active. The independent pronouns of an intransitive clause may have various case forms, 'nominative marking' or 'ergative marking' according to different verb classes. On one end of the continuum is the stative verbs with the 'nominative case' pronominal marking, and on the other end is the active verbs with 'ergative case' pronominal marking. Between these two ends, there are groups of verbs with variable case marking; the choice of which case marking to use for the S does not simply depend on whether the verb is active or stative, but on the degree of control that a participant has over the event (Holisky 1987:109).

At this point, we can see that the assumption of only two classes of active vs inactive verbs based on the semantics of action vs. state cannot adequately describe the variation of participant reference marking in active languages.

1.3 Control and Volition
1.3.1 Definition

The terms control and volition, which frequently appear in the discussion of active languages, are apparently very important semantic characterizations of those languages. Linguists give different definitions of the two terms. Many times the two terms are used interchangeably to describe the
same situation (event), or one word is used to represent both.

Hopper and Thompson (1980) define the notion of volition as 'the deliberateness or spontaneity of the A' and 'the conscious will which is usually a part of the meaning of this type of verb' (264). According to Hopper and Thompson, volitionality is an inherent quality of a type of verb, to be more exact, 'a KINETIC quality' (264) which is related to transitivity. Hopper and Thompson do not seem to distinguish volition and control. In the same section about volition, they also mention that the degree of control is something an argument exercises over the activity without further defining the term control.

Jack Martin (1991) gives his definition of control as follows: 'I define a controllable predicate as a predicate describing a state or event that can be stopped or started at the whim of an agent (though the agent need not necessarily be stated in the same clause)' (201). Take the following examples.

(9) a. * be tall (noncontrol)
    b. be polite (control)

People can control themselves as to whether to be polite or not, but generally, they cannot control their height. Martin's definition that controllable predicates express an event or state controlled at the choice of an Agent is
similar to Hopper and Thompson's 'the conscious will' on the part of a participant in the event. Neither of their definitions distinguishes volition from control. They seem to take the two terms as representing one notion.

DeLancey (1985) clearly distinguishes control and volition as 'two subcomponents of the notion Cause'. The difference between the two, according to DeLancey, is that volition is 'conscious control' over an action 'carried out by a human or at least animate entity' (48). Conscious control can be understood as a willful act, or as representing the choice of an Agent. The presence of a human and animate entity seems not be an adequate criterion to distinguish volition and control because controllable actions are also usually performed by human or animate entities. DeLancey further explains in the same article: 'Control is, at least to some extent, objectively observable; volition, on the other hand, is perceptive only to its possessor, and thus can be accurately reported only with respect to the speaker' (DeLancey 1985:56). In other words, volition is a property of the verb only when it has a first person participant (the speaker), but control can be possessed by participants other than first person. This very narrow definition by DeLancey is based mainly on data from the Lhasa Tibetan language. In Lhasa Tibetan, control and volition are displayed by different grammatical devices.
Control vs noncontrol is shown by the presence vs. absence of ergative case marking, while volition or nonvolition is expressed by different forms of auxiliaries. This will be discussed in detail later in 2.2.3.

Based on the above definitions, I view control and volition as two distinct properties of an event that are closely related to Agency. The two notions are similar but different. One of the common qualities of control and volition is that both controllable and volitional events require an initiating Agent as one participant, or the event may be thought of as capable of being controlled by the Agent. Another similarity of the two notions is that both volitional and controllable events need human, or at least animate participants. Generally, only human beings can act voluntarily and intentionally. As for control, although a human participant is not a requirement, there is still a tendency for controllable events to take human or animate participants (although, according to Martin 1990, predicates like rain and seem are controllable without being agentive).

The major difference between control and volition is that volition means 'conscious control'. That is, the Agent participant acts willfully, voluntarily and even purposefully. But control does not emphasize the conscious will. It might describe activities performed by an Actor consciously or subconsciously. In other words, the action
can be performed intentionally or habitually without having to force oneself to do something special.

Not all active languages have distinct grammatical devices for volition and control. Linguists often do not distinguish the two terms in their descriptions of active languages. Sometimes, the two terms are used with the same meaning to refer to the situation where the event is initiated and controlled by an Actor participant. This is because the two notions have an overlapping dimension. That is to say, if the verb is volitional, the Agent participant must have control over the event, but a controllable verb does not necessarily mean volitional. Volition, then, is a special case of control, and control is the more general inclusive term.

In the next sections, I will discuss volition and control in active languages, but when the difference is not so obvious, I will use the two terms together.

1.3.2 Markedness of Volition and Control

Volition and control are properties of events. Verbs can be thought of as prototypically volitional and controllable or nonvolitional and noncontrollable. Active verbs such as 'run', 'walk', 'sing', 'attack', 'hit', and 'jump' are inherently volitional and controllable. These actions, under normal circumstances, are understood to be performed by an Actor at his or her will. The Actor here is
not only a performer, but also an instigator, or 'prime mover' (D. Hardy 1988). However, there might be special situations where the Actors are performing these activities involuntarily. One such case is when a participant is asked, required, made or even forced to perform an action that is not at his or her will, or may even be against the will. A grammatical device—the causative—is often used for such situations. The causative may represent the separation of the semantics of Agency. One participant (causer) has the volition, the other (causee), who 'starts or stops it', has less control over the activity s/he performs because s/he does not perform voluntarily. This is why causees show properties of both Agents and Undergoers in some languages.

There are also verbs (including some action verbs) that are inherently nonvolitional and noncontrollable. The verb 'fall' is a typical example. It is our common sense that somebody's falling down is an unfortunate, unwillful, and unexpected event that happens perhaps by the person's not being careful enough. But falling down deliberately is different. A basketball player may deliberately fall down to the ground to avoid being hurt or 'draw a foul'. Verbs of bodily functions are also nonvolitional and sometimes noncontrollable by nature, but they can be used as volitional and controllable under certain circumstances. For example, 'cough' is usually a nonvolitional event which is
also hard to control. We cough because we have a cold. But it is not unusual that we find ourselves coughing intentionally or purposefully. We cough purposefully to give a hint to somebody. We cough deliberately for a doctor in an examination. In these cases, 'cough' becomes a voluntary and controllable action, and the Actor is not only a performer, but also an instigator, a prime mover of the activity.

For the inherently volitional and controllable verbs like 'run', 'sing' and 'hit', the connotation of volition and control on the part of the Actor participant is natural, and a sense of nonvolition and noncontrol would be unnatural because it usually happens in abnormal or special circumstances, and often requires special interpretation in the translation to nonactive languages like English (if not using a grammatical device such as causative). Therefore, for these verbs, volition and control are the unmarked properties whereas nonvolition and noncontrol are the marked properties. Likewise, for inherently nonvolitional and noncontrollable verbs, nonvolition and noncontrol are the unmarked properties while volition and control are marked.

The markedness of volitionality and controllability in active languages is manifested by the variation of the participant reference marking. Languages may divide their verb classes in terms of participant marking in different ways, but by examining data of active languages, we find
that there is a rough correlation between the volitionality and controllability with a variation in participants. Generally, the prototypically volitional and controllable verbs would take Actor participants as S and A, and the prototypically nonvolitional and noncontrollable verbs would take Undergoer participants. The explanation of this is as follows. By definition, active verbs take Actor pronominal marking while inactive verbs take Undergoer pronominal marking. Since an Actor is an initiator and instigator of an event, it is usually a volitional participant and has control over the event. An Undergoer, on the other hand, does not initiate or instigate the event, but is often affected by the event; we would say it is a nonvolitional participant and has no control over the event. Therefore, a prototypically volitional and controllable verb is an active verb taking an Actor pronominal marking in unmarked cases, and a prototypically nonvolitional and noncontrollable verb is an inactive verb, taking Undergoer pronominal marking in unmarked cases. Besides the prototypically (non)volitional and (non)controllable verbs, there are verbs in the middle of the continuum that languages will categorize in different ways. A typical example is found in Batsbi intransitive verbs. In this active language, intransitive verbs are divided into three classes. One class contains the prototypically noncontrollable verbs which take pronouns
with 'nominative' case marking. Another class has prototypically controllable verbs which take pronouns with 'ergative' marking. Between these two prototypes of verbs, there are verbs that can take either 'ergative' marking (Event with Actor) or 'nominative' marking (Event with Undergoer). And these verbs are not equal in terms of taking pronominal participant marking. They can be further divided into those that are more likely to take 'nominative' marking pronouns, those that are more likely to take 'ergative' marking pronouns, and those that do not have preference for either (Holisky 1987).

When a prototypically volitional and controllable verb is used in a situation of nonvolition and noncontrol, it is in a marked condition. In this case, the participant is still a performer, but the event or activity s/he performs is not at his/her own will or under his/her control. The causee is made to do something by other people or other forces or inadvertently. In this sense, he/she may not be an initial instigator, but rather a passive Executor, such as a 'causee' or may be perceived as 'experiencing' rather than instigating, an event. Therefore an Undergoer participant may be used. Likewise, a nonvolitional and noncontrollable verb event becomes volitional and controllable when a spontaneous event or natural condition is viewed as a deliberately stimulated event under the participant's
conscious will or control. In such a situation, the participant becomes an initiator and prime mover, not only a performer but also the causer of the event. Thus, an Actor participant may be used here.

To sum up the above discussion, the unmarked case is that the prototypically volitional and controllable verbs require Actor participants, and the prototypically nonvolitional and noncontrollable verbs require Undergoer participants. When volitional and controllable verbs are contextualized as nonvolitional and noncontrollable events, an Undergoer participant is usually chosen; and when nonvolitional and noncontrollable verbs appear as volitional and controllable events, Actor participants may be selected. These are atypical, thus marked cases.

Verbs of volition and control take Actor participants, but the implication is not reversible. An event that takes an Actor participant is not necessarily volitional or controllable. As we mentioned earlier in this chapter, some languages classify bodily functions as active verbs (e.g. Dakota) which require Actor participants in the intransitive clauses, but bodily functions can also be nonvolitional and noncontrollable. In the same way, the implication that nonvolitional and noncontrollable verbs require Undergoer participants also goes in a single direction. The reverse, that with Undergoer participant there must be a
nonvolitional verb, does not stand either. This is because volition and control are continua. Between the two prototypes of verbs, there are many verbs in the middle ground which may be divided into either class in different languages, or in the case of fluid marking, in different contexts. In active languages with fluid marking, the choice of which set of pronominal marking to use in a clause expresses the exact nuance the speaker wants to convey in that situation.

1.3.3 Volition vs. Nonvolition in Active Languages

In almost every active language, we find volitional vs. nonvolitional as a relevant category. Eastern Pomo (Hokan) is an active language in which the Actor and Undergoer participant reference marking is generally determined by volitionality of the event. Like most other active languages, Eastern Pomo has two sets of pronominal markers: Agent and Patient (McLendon 1975). (I will continue to use Actor and Undergoer for the two sets.) Pronouns in Eastern Pomo are either in the nominative case which is unmarked, or in the accusative case marked with the \(-a_l\) suffix (except for 1st and 2nd person singular whose accusative case forms are different from the nominative case forms). The Actor participant is in the nominative case, and Undergoer is in the accusative case. There is no cross-reference agreement except for the number marker of plural forms of S and A on
verbs. The following examples of Eastern Pomo (from McLendon 1975:3) show the case marking of the language.

(10) ha: wa-du:kiya 'I am going.'
    I-nom go

(11) mi:p' xohe si:naqa 'He put the fire out.'
    he-nom fire put out

(12) wi:' da:sula 'I misplaced
    I-acc misplace (something).'  

(13) mi:pal' xa ba:ku:ma 'He fell in the
    he-acc water fell water.'

(14) wi:' ?eckiya 'I sneezed.'
    I-acc sneeze

In 10 and 11, the pronouns are in nominative cases, and the events are active verbs of volition which require Actor participants as A or S. So, the events in 10 and 11 are volitional. Sentences 12, 13, and 14, unlike 10 and 11, have accusative (Patient) pronouns as S (and A). They are Undergoers. We can easily see that the events are nonvolitional verbs. 'To misplace' something is obviously an unconscious action, a mistake that the participant makes accidentally. It is involuntary, thus, nonvolitional. 'Fall in water' is another accidental event that happens against the participant's will. The verb 'sneeze' expresses a bodily function which happens not under the participant's volition. All these three events are involuntary activities performed
by the participants. Although these three verbs are action verbs, they do not take Actor participants because they are nonvolitional. Compare 10 and 11 with 12, 13, and 14, we conclude that in Eastern Pomo, volitional events require Actor pronouns, and nonvolitional events take Undergoer pronouns. Other volitional verbs are like 'kill', 'burn', 'hit', 'sit' etc., nonvolitional verbs are 'forget', 'bleed', 'dream', 'be tired', 'be frightened'.

The conclusion that the variation in pronominal marking is determined by volition vs. nonvolition can be further proved by the following examples.

(15) a. ha: ce:selka 'I'm sliding.'
     (deliberately)
     b. wi: ce:selka 'I'm slipping.'
     (accidentally)

(16) a. ha: ba:tecki: 'I got bumped.'
     (on purpose)
     b. wi: ba:tecki: 'I got bumped.'
     (accidentally)

(McLendon 1975:3)

The two sentences in 15a and b have the same verb ce:selka, and 16a and b contain the same verb ba:tecki. However, we notice that in the a sentences, the pronouns are in the nominative cases, which means they are Actor participants. B sentences have accusative pronominal forms representing
Undergoer participants. This phenomenon of a single verb taking variable participants, that is, a fluid S, is quite common in active languages. The question is what determines the choice of the pronominal marking. The answer is clearly seen in the English glosses of 15a and b. The action of 'sliding' is performed by the participant deliberately, like sliding on ice for fun. 'Slipping', on the other hand, has the connotation of losing hold of oneself on a slippery surface. Therefore, 'slide' is a volitional event, but 'slip' is nonvolitional, taking an Undergoer participant. 'Sliding' and 'slipping' are two individual verbs in English. The former is inherently volitional and the latter inherently nonvolitional. However, Eastern Pomo has only one verb ce:xelka to describe the movement on a smooth surface. The meaning of volition vs. nonvolition is shown by the variation of Actor and Undergoer pronominal reference marking. The same explanation can be applied to 16a and b. The two sentences contain the same verb ba:teciki. This time, the English glosses do not make any difference either. But the two sentences differ in that a has the meaning that the participant 'got bumped' purposefully. He may have taken action deliberately to make sure that he gets bumped. So, his getting bumped can be a volitional action. If the event in b is accidental, it is nonvolitional. The participant may get bumped just because he is not careful. As in 15, the
volitional event in 16a takes an Actor participant while the nonvolitional event in 16b takes an Undergoer participant.

Dakota (also Lakhota) is another active language in which the choice of Actor and Undergoer participants is determined by the property of volitionality of the events. This can be shown in the following examples.

(17) wa-kte  'I killed him.'
    1st.Agt-kill

(18) wa-nīwā  'I swim.'
    1st.Agt-swim

(19) ma-t'a  'I die.'
    1st.Pat-die

(DeLancey 1985:50)

'Kill' and 'swim' are by nature typically volitional verbs which require Actor participants as A and S. The verb 'die' is typically nonvolitional, for it is not usual for people to die willingly or to control their death. So, an Undergoer participant is used.

Like Eastern Pomo, Dakota is also a fluid S language, and the fluidity of participant reference marking also corresponds to the volition vs. nonvolition of the event. Let us look at the following groups of verbs.

(20) a. xorxópa  'to be good looking'
    b. xóxópa  'to pose, show off'

(21) a. blebléčaha  'to be shattered'
b. blébleca  'to shake water off, as a dog.'

(22) a. blebléza  'to be sane'

b. bléblezešni  'to run about frantically' (i.e. not act sane)

According to Merlan (1985:331), the second member of each pair is derived from the first by changing the stress. Verbs in the a example of each pair require Undergoer participant marking (in Merlan's term 'objective inflection') and b require Actor participant marking ('subjective inflection').

Examining the meanings of these verbs from the English glosses, we find that the events taking Undergoers, those in a, are inactive and nonvolitional as well, whereas b verbs, which are events taking Actors, are active and volitional.

To be good looking is a natural state of a person, whether one likes it or not. Showing off, on the other hand, is an ostentatious display made by the participant voluntarily. 'To be shattered' is to be in a state which cannot be controlled by the participant. It certainly is nonvolitional and frequently used of inanimates. But to shake water off is an action a participant performs with his conscious will.

Likewise, 'to be sane' is also a natural state, but 'to run about frantically' needs an initiating (prime mover) participant. The variable meanings of these three pairs of verbs further prove that volition vs nonvolition of events
is the determining element for the choice of participant reference marking in Dakota.

1.3.4 Control in Active Languages

1.3.4.1 Acehnese (Austronesian)

We mentioned earlier in this chapter that the active language Acehnese has two sets of cross-reference pronominal markers according to verb types. Active verbs take Actor pronominal agreement and inactive verbs take Undergoer pronominal agreement. In addition to this generalization, there is also a small class of verbs that can take either Actor or Undergoer participants. Take the inactive verb galak as an example. This verb can express either a state or an event.

(23) Gopnyan galak-geuh that 'He is very happy.'
    he happy-3.Pat very

(24) Gopnyan galak-geuh that keu lon
    he like-3.Pat very to I
    'He likes me a lot.'

(Durie 1985:46)

In both sentences, we have an Undergoer participant, an enclitic pronominal agreement as S. The S participants are Experiencers who have little control over the events. 24 has an oblique as the liked individual. Compare 24 to 25.
(25) Gata bek ta- galak keu dara nyan
          you don't 2.Agt-like to girl that
          'Don't you take a fancy to that girl.'

25 contains the same verb galak, as in 24 and 23. It also
has an oblique as the liked individual. But 25 differs from
24 in that the pronominal agreement is a proclitic,
representing that the liker is an Actor. The English gloss
shows that the verb in 25 is used in an intentional sense.
As Durie points out: 'In this use of galak the liker "you"
is thought of as being able to choose to like the girl'
(1985:48). That is to say, in 25, the Actor has some control
over his likes, but in 24, the Undergoer does not have this
control.

Another word mate 'die' has a similar usage. Under
usual circumstances, 'die' would have an Undergoer
participant, for a person usually has no control over
his/her own death. But 'in the context of martyrdom in holy
battle' (Durie 1985), death can be a controllable event
which takes an Actor participant.

(26) Rila ji-mate
       ready 3.Agt-die
       'He was ready to die (to go to his death).'

In this situation, since death is the participant's own
choice, he/she should have some control over it.
Apart from the observation that some verbs like qalak and mate can take either an Actor or an Undergoer participant, 'Acehnese has a rich system for varying, for any particular verb root, the element of control expressed' (Durie 1985:47). In his article, 'Control and Decontrol in Acehnese', Durie provides various derivative verbal morphemes that can change the control of an argument over the event. These morphemes can either add an element of control to a basically noncontrol root, or reduce the element of control of a verb to some degree. One example of a morpheme that can increase control of a verb is the prefix meu-. Verbs of noncontrol become controllable when this morpheme is added.

(27) saket 'feel pain' ---- meu-saket 'suffer with endurance'
    seunang 'happy' ---- meu-seunang 'enjoy oneself'
    hek 'tire' ---- meu-hek 'tire oneself'

(Durie 1985:47)

In 27, verbs in the left column are basically (inherently) noncontrol events. One usually cannot control his feeling of pain and tiredness. Neither can he easily control the emotional state of being happy. When these non-control verbs are prefixed with the control-increasing morpheme meu-, their meanings change, which can be seen from the English
glosses in the right column. 'Endurance' itself implies the sense of not yielding, thus control of pain. 'Enjoy oneself' differs from simply 'feeling happy' because the former indicates that the participant actively finds pleasure for himself. The same explanation can be given to the last word. 'To tire oneself' means the participant deliberately makes himself tired, maybe by working too hard. Since 'Actors are always volitional,' and 'Undergoers are never volitional' (Durie 1988:6), verbs of the left column are changed to events taking an Actor in the right column.

Besides the morpheme that can increase the control of a verb, Acehnese also has morphemes that decrease the control of verbs. Durie uses the term 'decontrol' for these morphemes. One of these morphemes is teu-. When an active, volitional verb is prefixed with teu-, the element of control in that verb is reduced. For instance, the verb jak 'go, walk' is inherently active and volitional, requiring an Actor participant. But teu-jak becomes an involuntary action that diminishes the control of the performer. It then means 'walk without volition', 'wandering about'. The active verb dong 'stand' also has a derivative form teu-dong. The following examples contain the decontrol form of these two verbs.

(28) Jih teu-jak teu-dong lagee ureueng gadoh tuwah
he DC-go DC-stand manner person lost mind
'He is wandering about stopping and starting as though out of his mind.'

(29) Po timueng ka teu-dong geunireng cidue
TITLE tiger already DC-stand beside branch
'The tiger (shocked) stopped up short next to a branch.'

(Durie 1985:48)

The derived (decontrol) form teu-dong 'can also be used for erect inanimate posture, with no element of control at all' (Durie 1985:48).

(30) neu-pula batee nyan beu- teu-dong
2.Agt-plant stone that HORT5-DC-stand
'Put in that stone so it can stand upright.'

Note that in 28 and 29, there are no Actor cross-references. This might be interpreted that the participants are no longer Actors, since they have lost control over the events.

Another example of decontrol is as follows.

(31) a. Beu- neu-ingat keu lon
HORT 2.Agt-remember to I
'Remember me!'

b. Gopnyan ka h'an teu-ingat-geuh keu lon
he already not DC-remember-3.Pat to I
'He does not (cannot) remember me.'

(Durie 1985:49)

The word 'remember' in Acehnese is a controllable verb that
requires an Actor participant and the argument being remembered is in an oblique case as is shown in 31a. Comparing b to a, we can see that the decontrol morpheme prefixed on the verb changes it from a controllable to noncontrollable event. When someone does not remember, it means that the memory slips out of his mind without his consciously knowing it, so it is out of his control. It is not an effort the participant makes, so he is not the initiating participant. Therefore, 31b contrasts with 31a in that it lacks the Actor cross-reference, but instead, has an Undergoer cross-reference—the pronominal enclitic is used to indicate the lack of control of the participant over the event. Note also, that in Hopper and Thompson's (1980) components of Transitivity, negation is lower in transitivity than affirmation. In a negated clause, the activity does not carried over effectively as in an affirmative clause, and the 0 of a negated clause is less affected than the 0 in an affirmative clause. The decontrol form in 31b is consistent with the decrease of transitivity.

In Alabama, the negative form of some active verbs will force II (noncontrol) agreement or the choice of I (control) vs. II (noncontrol) will signal failure to act vs. inability to act. (H. Hardy 1991 personal communication).

In Acehnese, the perceptive verb ngieng 'see', like all other transitive verbs, is treated as an active and
controllable verb taking both an Actor and an Undergoer participant.

(32) a. Ureueng nyan na ta-ngieng-geuh le gata baroe
    person that be 2.A-see-3.P by you yesterday
    'You saw that person yesterday.'

b. Na ta-ngieng ureueng nyan le gata baroe
    be 2.A-see person that by you yesterday
    'You saw that person yesterday,'

c. Na teu-ngieng-teuh ureueng nyan le gata
    be DC- see- 2.P person that by you
    baroe
    yesterday
    'You accidentally saw that person yesterday.'

In 32a and b, we have the normal use of \textit{ngieng}, both have the Actor cross-reference referring to the second person 'see-er'. Note that 32a also has an Undergoer cross-reference \textit{-geuh} referring to the one seen. This Undergoer cross-reference is absent in 32b. Note also that a and b have different word orders. Neither the word order nor the presence or absence of the Undergoer cross-reference here is relevant to the semantics of control over the event by the participant. They are related to discourse meaning (See Durie 1988). Let us compare 32c to a and b. One of the differences we find is that the verb \textit{ngieng} is prefixed with the decontrol morpheme \textit{teu}-. Corresponding to this change,
the Actor cross-reference changes to the Undergoer cross-reference. Compare to 32a, the Undergoer cross-reference in c refers to the second person 'see-er' instead of the seen. The controllable event reduces to a noncontrollable event, and the meaning of c changes to that of an accidental occurrence. Durie's explanation of 32 is that one can hold one's eyes open intentionally in order to see things, but what he sees may not be in the class of things he is holding his eyes open for (Durie 1988). He might see something unexpectedly or accidentally, as in the situation of 32c.

To summarize the usage of the decontrol morpheme, Durie gives the following conclusion: the decontrol morpheme is used (1) when a participant is not fully aware of himself, (2) for inanimate posture verbs, (3) for bodily activities (e.g. 'cough', 'smile'), and (4) for mental activity or emotional verbs (1988:49). All these can be seen as involuntary situations in which the participants have little, or relatively less, control over the events. Almost all Acehnese verbs can take this decontrol form. Decontrolled events are derivatives of basically volitional and controlled events. When these volitional and controllable verbs are used in situations of nonvolition or diminished control, the events are marked with the decontrol morpheme, and the Actor cross-references are either absent or reduced to Undergoer participants. In Acehnese, the
semantics of control has four dimensions:

(33) basically control--marked control--decontrol
    --basically noncontrol.

For a basically controlled event, the Actor cross-reference marking is used. The basically noncontrolled event takes Undergoer cross-reference marking. For marked control, the original Undergoer cross-reference marking is changed to Actor cross-reference. For decontrolled events, the original Actor cross-reference marking is omitted or reduced to the Undergoer form. Therefore, the semantics of control is the dominant element that determines the choice of cross-reference marking in Acehnese.

1.3.4.2 Batsbi (Tsova-Tush) (North Central Caucasian)

As described in Holisky 1987, Batsbi is an active language with case marking on nouns and independent pronouns. Some verbs also take prefixes that mark the gender of transitive object and intransitive subject. Case marking in Batsbi has been described as follows: 'ergative' case marks the transitive subject, and 'nominative' case marks the transitive object. The intransitive clause has a split, some verbs have an ergative marked participant, and others take 'nominative' marked participants. The following sentences show the active pattern of case marking in Batsbi.

(34) a. ax so kottov 'You're bothering me.'
    you-erg I-nom annoy
b. smiaki-ov xo  vuic'no  'The man fed you.'
    man-erg  you-nom  fed

(35) a. ax  it'ax  'You are running.'
    you-erg  run

b. xo  maisvar  'You were hungry.'
    you-nom  were hungry

(DeLancey 1981:652)

In the two transitive clauses of 34, the Actor participants are marked with ergative case and the Undergoer participants are marked with nominative case. Intransitive clauses of 35 have a split S. The single participant of 35a is marked with ergative case, the same case marking as the Actor participants of transitive clauses. On the other hand, the case marking of the single participant of 35b is identical to the Undergoer participant of 34b. Consider the intransitive verbs in 35. The event with an Actor in a is an active and controllable verb, and the event with an Undergoer in b is a stative and noncontrollable verb. So, we can say now that, like Acehnese, control of the verb in Batsbi also contributes to the Actor/Undergoer participant reference marking. Also, we conclude that 'ergative' case marking in Batsbi encodes an Actor participant, while 'nominative' case marking encodes an Undergoer participant.

The split intransitive marking of Batsbi is different from some other active languages because of its complexity.
The marking pattern of Batsbi intransitive verbs, as was mentioned in 1.3.2, is not a binary pattern with active vs. stative, or control vs. noncontrol. Instead, the use of ergative or nominative case marking is along a continuum of control.

Holisky (1987:109) summarizes the marking patterns of the first and second person of Batsbi intransitive verbs as follows:

(36) 1. Intransitive verbs with only nominative marking. (inactive)

2. Intransitive verbs with variable marking (fluid S):
   (a) Nominative is the norm, ergative is possible but unusual or rare,
   (b) Both nominative and ergative are possible, with no clear preference for either, or
   (c) ergative is the norm, nominative is possible but unusual or rare.

3. Intransitives with only ergative marking. (active)

Verbs in 1 and 3 of 36 represent the two extremes of the continuum, with those in 2 in between. The nominative marking group on one end of the continuum contains mainly stative verbs or verbs describing changes of state such as maicda 'be hungry', dah"gordar 'freeze', gerl'ar 'be
afraid', mildar 'be cold', and h'al0 dek'dar/ak'dar 'tremble'. These verbs mostly describe undesirable situations that the participant has no control over. On the other end of the continuum are the intransitive verbs with only ergative marking. Examples of these verbs are daxar/dot'ar 'leave, go', dat'ta/it'ar 'run', eg:ar/letxa 'jump', prend(d)dalar 'fly', and 'mak getar 'attack', dadar 'swear', datxar 'cry a lot' etc.. These are all verbs of motion or communication, the events that prototypically will take voluntary and controlling participants. The two groups of verbs with their compulsory participant marking show that the use of ergative marking encodes an Actor that is 'a voluntary, conscious, controlling participant in the situation named by the verb' (Holisky 1987:113); and nominative marking, on the other hand, represents an Undergoer participant who has no control over the situation he is in.

With this generalization in mind, we can examine the intransitive verbs with variable marking; that is, verbs that can take either nominative or ergative participants. 35 shows that this group is further divided into three smaller groups. In the first group, nominative is the norm, ergative is possible but unusual. Considering that nominative marking indicates that the participant has no control over the event, we can infer that verbs in this group are less
controllable or perhaps more stative than active. The examples of this group given by Holisky are dah"davar 'die(PL)', h"al0 daks'ar 'burn', g'iul dals'ar 'become poor', dah"daks'ar 'drown, suffocate', and dah" madalar 'get tired'. These verbs describe a change of state and usually convey the meaning of natural but undesirable situations. For instance, nobody wants to die or become poor, but these things may happen naturally in our life beyond our control. The alternative ergative marking is possible for these verbs but rare. This is simply because it is hard to imagine that somebody takes an action voluntarily or deliberately to die, or to become poor, or to drown. Such situations would be very unusual although it is possible to imagine such contexts.

The second group can take either nominative or ergative marking with no clear preference for either. This group includes either verbs of changing state, or motion, or locative state (posture) such as g'iul dal'ar 'lose weight', dah" daks'ar 'get drunk', ah"O ak'ar/dek'ar 'fall(PL)', and lahzar/lebzar 'be troubled, worried, sad (about)'. For this group of verbs, the nominative marking conveys the meaning that the change of state is natural, without the conscious will or control of the participant, but the ergative marking will mean a voluntary or controlled change that the participant has instigated himself. For example, to lose
weight can be a natural process without the participant's control, but an over-weight person may deliberately do something to lose weight such as going on a diet. The motion verbs have similar interpretations with the variable uses of case marking. One may fall accidentally (nominative) or deliberately (ergative). 'Slip' (nom) is an unintentional and uncontrollable action while 'slide' (erg) is intentional and controllable.

For the third group of verbs, the ergative marking is the norm, and nominative is possible but rare. These verbs can be easily identified as verbs of action, with ergative marking conveying the meaning of motion under usual circumstances, and nominative marking describing unconscious and undesirable motions on the part of the participant, or activities that are caused by external forces. Again, here we have control vs. noncontrol situations.

To summarize the semantics of case marking pattern for intransitive verbs in Batsbi, we may say that control is the dominant element for the choice of participant case marking: nominative marking indicates that the participant has no control or less control over the event, and ergative marking indicates that the participant has control or more control than the perceived norm over the event. As Holisky points out, 'none of the groups represents a discrete, closed class' (1987:11). It seems that control in Batsbi is not a
binary notion; rather, it is a continuum which can be displayed as in figure 7.

Noncontrol-----------------------------------Control

\[
\begin{array}{ccc}
    & a & b & c \\
nom,(erg) & nom,erg & (nom),erg \\
1 & 2 & 3 \\
\end{array}
\]

prototypically prototypically

nominative variable marking ergative

Figure 7: Continuum of Control-Noncontrol of Batsbi Intransitive Verbs

In figure 7, the left end with nominative marking encodes the semantics of noncontrol. As it moves to the right, the degree of control increases until it comes to the total control on the right end. In between the two ends, we have a point which is toward the noncontrol end and a point toward the control end, as well as a point in the middle. The nominative or ergative in the parentheses means that they are used only under unusual situations.

1.4 Fluid marking and Control and Volition in Context

In the previous sections, we discussed volition and control as the semantic properties of verbs which contribute to the choice of the participant reference marking in active languages. We also mentioned the prototypically (non)volitional and (non)controllable verbs and the middle area in the continuum. This also means that volition and
control are not invariable. Volition and control of verbs can change under certain circumstances. This change of volition and control of a verb is indicated by the variation of participant marking. That is where fluid marking occurs. I have shown that the choice of participant marking is determined by the perceived degree of volition or control of a verb. The variation of participant reference marking demonstrates the change of the typical perceived degree of control of a verb. But what determines the change in perception of the degree of volition and control of a verb? Examples of fluid marking in the active languages discussed above seem to tell us that what changes the perception of volition and control of a verb, and determines the choice of participant reference marking is its pragmatic context.

For instance, Holisky (1987) claims it is the meaning of the verb plus real world knowledge of the speaker that determines Batsbi verb groups, because 'some of the factors that lead a speaker to accept a verb form with nominative or ergative marking are not grammatically based, but pragmatically based, according to the speaker's view of the world' (1987:114). This is true not only in Batsbi, but also in other active languages such as the Muskogean languages. Alabama is exactly like Batsbi in terms of the continuum of control of pronominal marking. 'For some verbs all speakers accept fluidity, for other verbs some accept it in given
contexts, others can't imagine a proper scenario' (H. Hardy 1991, Personal communication). The following groups of Alabama verbs show that the prototypically controllable verbs take type I marking, the prototypically noncontrollable verbs take type II marking, and there are also verbs in the middle ground that can take either type I or type II marking.

(37) a. Prototypically controllable
   waliika 'run', chofotli 'jump',
   naaliika 'speak'

b. Prototypically noncontrollable
   kasatka 'be cold', chaaha 'be tall',
   locha 'be black'

c. Middle ground
   Less control
   yammi 'get drunk', ahoota 'vomit'

   No preference
   afaaka 'laugh', afalohka 'yawn',
   tołlohka 'cough'

   More control
   isfilanka 'take a fork in the road; swerve (accidentally)'

The fluid marking of active languages shows that it is not accurate to view participant reference marking as dependent merely on some notion of the semantic meaning of a
verb. Paradigmatic and syntagmatic contrast of the agreement markers demonstrates the meanings of the different types of participant reference marking as well as their relationships to particular events. This point is clearly shown in the Muskogean languages Alabama (H. Hardy and Davis 1988), Creek (D. Hardy 1988) and Koasati (Kimball 1991).6

1.4.1 Alabama

Alabama differs from other active languages we have discussed in this chapter in that it has three-way pronominal agreement marking sets which are called Type I, Type II and Type III following Munro and Gordon (1982). In their description of Alabama agreement, H. Hardy and Davis (1988) claim that Alabama agreement markings are semantically based, and the semantics of these markings are 'not exhausted by the semantics of Role' (H. Hardy and Davis 1988:2). Generally, Type I agreement encodes Agents of active, transitive verbs, and Agents of active intransitive verbs (A and Sa), and Type II agreement would indicate Experiencers of active transitive verbs and stative intransitive verbs (O and So), as are shown in the following examples.

(38) a. batatli-li-ti 'I hit him.'
   (3sII=∅)hit-1sI-Tns
b. cha-batatli-ti 'He hit me.'
   (3sI=∅) IsII-hit-Tns
(39) a. waliika-li-ti 'I ran.'
run-1s-Tns
b. cha-hoop a 'I'm sick.'
1sII-be:sick

(Hardy and Davis 1988:5-6)
The a sentences of 38 and 39 show the use of Type I agreement (A and Sa), and the b sentences show the use of Type II agreement (O and So). However, as H. Hardy and Davis point out, 'kinesis or degree of physical activity in the event is not the only relevant semantic factor involved in the contrast between I and II intransitive agreement' (1988:6). There are active events which are not under the control of the person who performs it taking Type II agreement.

(40) a. cha-tollohka-ti 'I coughed.'
1sII-cough-Tns
b. cha-tammi-ti 'I fell.'
1sII-fall-Tns

Compare 40 with 41.

(41) a. tolohka-li-ti 'I coughed (on purpose, meaningfully).'  
    b. tammi-li-ti 'I fell (on purpose).'</a>
The differences of the two pairs of sentences are the agreement markers. The English glosses help us understand
that the alternation between Type I agreement in (41) and Type II agreement in (40) is to signal the semantics of control. Type I agreement indicates the event as controlled and voluntary whereas Type II agreement indicates that the event is taken as noncontrolled and involuntary.

There is also a third type of agreement in Alabama—Type III agreement. The counterpart of it in Chickasaw, a Western Muskogean language, has been described as signalling the semantics of the Dative Role (Payne 1982). Hardy and Davis argue that Type III agreement in Alabama, like Types I and II agreement, can be also described in terms of control. In transitive clauses, Type III agreement is usually used to indicate an object. But unlike Type II, Type III typically indexes animate objects such as Recipients, Benefactives or Goals.

(42) ifa-n  chin-ka-li-ti
dog-N  2sIII-give-1sI-Tns
'I gave you the dog.' (Recipient)

(43) iisa-n  am-ishoo=s=pa-ti
house-N  1sIII-sell=2sI=sell-Tns
'You sold the house to/for me.' (Goal/Benefactive)

Compared with Patient objects, these Roles are less directly affected by the event, because they are 'not passively affected by the activity of the event as are Patients, but
rather exert some measure of control over their participation as might be expected from their being typically animate' (Hardy and Davis 1988:7). For example, there might be a possibility for a Recipient to accept or reject the things given to him. Hardy and Davis call this level of control the 'Limited Control', to contrast Type II agreement of noncontrol.

The distinction of Limited Control of III marking objects from the noncontrol of II marking objects can also be seen in possessive marking on nouns, which uses the opposition of II vs III pronominal sets to encode possessors. In the Western Muskogean language Chickasaw, possessed nouns are generally classified as alienable and inalienable. Inalienable nouns mainly include those that are highly involved with the possessors such as body parts and kinship terms. These nouns take the II possessor marker. Alienable nouns are 'items which can be disowned' (Payne 1982:374) and take the III possessor marker. The following examples are from Payne 1982 (356-359).

(44) a. Inalienable possession

| III-body | III-mother | III-picture |
| 'my body' | 'my mother' | 'my picture' (i.e. a picture of me) |
b. Alienable possession

im-amboha  Tom-im-ofi  ~holba
3III-house  3III-dog  1III-picture

'his house'  'Tom's dog'  'my picture' (i.e. a picture that I own)

In Alabama, the alienable/inalienable distinction of III vs. II has been reinterpreted as control/noncontrol of the possessed objects vis-a-vis their possessors. Alienable nouns are less under the control of possessors (They can be 'lost'.) and take the III marking which indicates limited control. On the other hand, inalienable nouns form two classes with respect to possessor marking. Nouns that are more under the control of their possessors take II marking. Take body parts as examples. Body parts whose functions are more under the voluntary control of possessors take II agreement, but body parts that can function by themselves to some degree, such as involuntary organs, take III marking.

(45) a. cha-lbi  'my hand' (II)
    b. chi-yyi  'your foot' (II)
    c. hissi  'his/her hair (II)

(46) a. chim-aalokha  'your brain' (III)
    b. al-lopi  'my liver' (III)
    c. in-chakaafa  'its guts' (III)

Kinship terms are as interesting. They seem to divide into two groups based on the degree of physical control and
social relationships. Most of them would take III possessor marking 'since we have little control over the individuals themselves' (Hardy and Davis 1988:18). However, some of the kinship terms take II possessor marking. Nouns referring to individuals that 'have less autonomy and are typically under the control of the "possessing" individual (e.g. women and children)' (18) take II marking. Other nouns take III marking.

(47) a. ostayki 'daughter' (II)
    b. ochoosi (sg), ochoski(pl) 'child' (II)
    c. halki 'wife' (II)
    d. ifoni 'sister (man speaker)' (II)

(48) a. lakfi 'brother (of a woman)' (III)
    b. naani 'husband' (III)

Hardy and Davis summarize the semantics of the three types of agreement in Alabama as in the following scales.

CONTROL---------LIMITED CONTROL---------NONCONTROL

I            III           II

Figure 8: Scale of Control

NONAFFECTED---------------------------AFFECTED

I            III           II

Figure 9: Scale of Affectedness

There is a strong correlation between the degree of control and affectedness. Type I agreement marks the participant that has most control over the event, and is least affected
by the event (typical Actor). Type II agreement on the other end of the scale has the least control over the event and is mostly affected by it (typical Undergoer). Type III agreement which lies in between those two extremes, indexes a participant that has limited control. This perception is the effect of the dative marker which indicates a nonaffected object and the allomorphs of noncontrol agreement which cooccur with the dative marker (H. Hardy 1991).

The limited control of III marking is not very obvious sometimes, but a paradigmatic contrast will show us clearly the meaning it conveys.

(49) a. Tim-ka-k ipiôn-n ibi-ti
Tim-For-k squirrel-N kill-Asp
'Tim killed a squirrel.'

b. Filanofa-k Mimfis-ka-n ist-im-ibi-ti
Villanova-k Memphis-For-N IST-3sIII-kill-Asp
'Villanova won over Memphis.'

c. damanoo-ka-n hompan-hili-n is-chim-ibi-
dominoes-For-N play-1pI-N IST-2sIII-kill-li-ti
1sI-Asp
'I beat you in dominoes.'

The verb ibi 'kill' is a I/II transitive verb. With the prefix ist- which indicates a peripheral argument, the
meaning of the verb changes to 'win' or 'beat' in the sense of 'beat someone in a contest or game'. Therefore, we find III Undergoers instead of II in b and c. They lose the game but they are not totally affected as the Patient who is killed in 49a. As H. Hardy (1991) points out, "'Kill', of course, REALLY has an affected object, by contrast with which the object of 'beat in a contest' can be seen to be unaffected, in a metaphorical association also found in English (The Longhorns are really going to kill them tomorrow.).' Other examples showing paradigmatic contrast include verbs like 'hear someone' (I/III) vs. 'hear about someone' (I/II), 'talk to' (I/III) vs. 'talk about someone' (I/II), and 'understand someone' (I/III) vs. 'think about/find out about someone' (I/II) (Hardy and Davis 1988:31).

(50) a. am-is-háalo-bi 'You heard me.'
    1sIII-2sI-listen(G.Grade)-Asp

b. cha-is-háalo-bi 'You heard about me.'
    1sII-2sI-listen(G.Grade)-Asp

In 50a, the hearer directly hears something from the Undergoer who says something. Type III marking indicates that the Undergoer participant has some (limited) control over the event. But 'hear about' is different. The hearer hears something concerning the person who has no control over other's talking about him.
A typical example that shows the paradigmatic contrast of Alabama agreement is in the following group of sentences.

(51) a. acha-abáhli 'I'm high up, up above.' (II)
    b. am-abáhli 'I had it (something of mine) fly up on me/It's too high for me/I finally got it to rise (e.g. bread).' (III)
    c. abahli-chi-li 'I rise up' (I) or 'raise something up' (I/II i.e. transitive)

In 51, the same verb shows a contrast between a Noncontrol (II) stative meaning of location in a, a Full Control (I) action in c, and the semantics of Limited Control signalled by III agreement in b (Hardy and Davis 1988:35).

These examples of paradigmatic contrasts of Types I, II, and III agreement show that verbs themselves do not have the inherent meanings of control or noncontrol. The semantics of Control, Limited Control and Noncontrol is manifested in the context of speech. In other words, meaning exists in the context of usage. The participant reference marking then varies according to the context. This has been pointed out by D. Hardy in his study of the semantics of Types I, II and III agreement in Creek (1988:268).

1.4.2 Creek

Like Alabama and other Muskogean languages, Creek also has three types of agreement marking. In his study of Creek
morphology, after a detailed description of the use of the three agreement markings, D. Hardy summarizes the use of the Type I paradigm (1988:234):

(52) Type I paradigm is used for
   a. Agents of transitive events,
   b. Agents of intransitive events,
   c. Causers of both transitive and intransitive verbs.

D. Hardy defines the term Agent as 'not only the executor of the event, or the one who performs the action of the event, but also the prime mover of the event, or the one with whom the action originates' (1988:209).

(53) a. aattootk-ey-s  b. yaheyk-ey-s
    work l.g-1sI-dec      sing l.g-1sI-dec
    'I'm working.'        'I'm singing.'

c. yakaap-ey-s  d. oponaay-ey-s
    walk l.g-1sI-dec      talk l.g-1sI-dec
    'I'm walking.'        'I'm talking.'

(54) a. in-fi=h=k=ey-s
    3III-pay=h.g-1sI-dec
    'I paid him.'

b. am-mahaay-ìck-is
   1sIII-teach l.g-2sI-dec
   'You're teaching me.'

c. am-aliikc-ìck-is
   1sIII-doctor l.g-2sI-dec
   'You're doctoring me.'
(55) a. ci-fik-ip-ê=h=c-ey-s 'I made you pay.'
   2sII-pay-m.p-trs=hg.-1sI-dec
b. ca-mahay-ip-eyc-îck-is
   1sII-teach-m.p-trs hg.-2sI-dec
   'You're making me teach.'
c. ac-alikc-ip-eyc-îck-is
   1sII-doctor-m.p.-trs l.g.-2sI-dec
   'You're making me doctor.'

Sentences of 53 have Type I marking as Agents of intransitive events of control while in 54, Type I marks Agents of transitive events. In 55, Type I marking indexes causers. Type I marking does not only identify the Agent Role; rather, it encodes the semantics of control. All these Agents and Causers exert a greater control over the events. I marking is never used for Undergoer.

Type II markers are used in the following situations:
(56) a. Patients of transitive verbs (obj),
    b. Executors of intransitive events of noncontrol,
    c. Causees of both transitive and intransitive verbs.

Sentences of 55 contain Type II causees. Examples of other uses are shown in 57 and 58.
(57) a. ca-naafk-is  
   1sII-hit lg.-dec  
   'He's hitting me.'
   b. ac-ota=h=k-is  
   1sII-hug=hg.-dec  
   'He just hugged me.'
   c. ci-takki=h=s-is  
   2sII-grab=hg.-dec  
   'He just grabbed you.'
   d. ac-aakk-is  
   1sII-bite lg.-dec  
   'It's biting me.'

Note that third person I agreement is unmarked.

(58) a. ac-aa-laatk-ank-s  
   1sII-dir-fall f.t.-pII-dec  
   'I fell off something.'
   b. ac-ohook-is  
   1sII-cough l.g.-dec  
   'I'm coughing.'
   c. ca-hisaak-is  
   1sII-breathe l.g.-dec  
   'I'm breathing.'
   d. ci-nooc-is  
   2sII-sleep l.g.-dec  
   'You're sleeping.'

(212)

The Type III paradigm of agreement, like II agreement, can be used to mark some types of subject and some types of object.

(59) a. ay-ita  
   am-ititaak-s  
   go Ø g.-inf 1sIII-ready l.g.-dec  
   'I'm getting ready to go.'
b. an-hayiiy-is
1sIII-hot l.g.-dec
'I'm getting hot.'

c. am-aneyc-as
1sIII-help Ø g.-imp=sg. subj
'Help me!'

d. paksankii rooy-it an-fiik-Ø-ank-s
yesterday Roy-T 1sIII-pay f.t.g.-3I-pII-dec
'Roy paid me yesterday.'

e. an-Ø-naafk-Ø-is
1sIII-3II-hit l.g.-3I-dec
'He's hitting him for me.'

f. nokosi-n in-liitk-ey-s
bear-N 3III-run l.g.-lsl-dec
'I'm running from the bear.'

Type III subject marking in 59a is rarely used. The use of object marking for Type III agreement seems hard to categorize. By the English glosses, we can see it marks indirect as well as oblique objects. The semantic Roles include Dative (c), Recipient (d) and Benefactee (e). Other uses of Type III object marking are to index reflexive, reciprocal, and indefinite objects (205).

The above Creek examples show the normal use of the three types of agreement marking. The semantics that these different agreement markings encode will be demonstrated
more clearly by the paradigmatic contrast of their usage. Let us first look at I and II subject marking. Compare 60 with 61.

(60) a. hisaak-ey-s
   breathe lg.-lsI-dec
   'I'm breathing.'
   c. nooc-ïck-is
   sleep lg.-2sI-dec

(61) a. ca-hisaak-is
   lsII-breathe lg.-dec
   'I'm breathing.'
   c. ci-nooc-is
   2sII-sleep lg.-dec

(212)
The two groups of sentences contain the same verb roots, but they differ in the agreement marking. Type I agreement is used in 60 whereas Type II is used in 61. The English glosses of 60 and 61 are exactly the same, which will not help to tell the semantic differences expressed by the two types of marking in these sentences. From the generalizations of 52 and 56, we know that Type I agreement marks Agents of intransitive events of control and Type II marks the Executors of intransitive events of noncontrol. We assume that participants in 60 with I agreement marking then are Agents. Likewise, we can also assume that participants
in 61 with II agreement marking are Experiencers. The detailed interpretation of the meanings of these sentences support the above assumptions. So, the same verbs can be either controllable or noncontrollable events depending on different types of participant marking. Creek treats these three verbs as prototypically verbs of control (just like Dakota treats bodily functions as controllable or volitional verbs). Therefore, with Type I marking, sentences in 60 do not have any special meanings. But those in 61 with II marking are marked sentences. That is to say, they imply something more than the normal meaning of the verbs. 61a means to breathe abnormally as in labored breathing. 61b implies that something just comes to the participant that makes him laugh. Finally, 61c means that the participant is sleeping when he is supposed to stay awake (D. Hardy 1988:212). A common quality that can be found from these additional meanings of 61 is that the participants in these sentences are no longer the Agents of the event. They are still Executors who perform the activities, but they do not have full control over these events. Breathing abnormally might be caused by an illness, and sleeping while you are supposed to stay awake implies that falling asleep is out of the participant's control. The difference between these two groups of sentences is control vs. noncontrol of the participants over the events. This can be further shown by
the following group of verbs with variable marking (D. Hardy 1988).

(62) a. ac-aa-laatk-agk-s  'I fell off something.'
     lSII-dir-fall f.t.g.-pII-dec
b. ca-hakliisk-is       'I'm sneezing.'
     lSII-sneeze l.g.-dec
c. ca-lintaapp-is       'I'm tripping.'
     lSII-trip l.g.-dec
d. ca-piiss-is          'I'm getting fat.'
     lSII-fat l.g.-dec

(63) a. aa-laatk-ay-agk-s  'I fell off something.'
     dir-fall f.t.g.-lS-lpII-dec
b. hakliisk-ey-s        'I'm sneezing.'
     sneeze l.g.-lS-dec
c. lintaapp-ey-s        'I'm tripping.'
     trip l.g.-lS-dec
d. apiiss-ey-s          'I'm getting fat.'
     fat l.g.-lS-dec

(212)

Here again, the English glosses of the two groups of sentences are the same. The interpretation of these sentences that D. Hardy reported from his speaker tells us that they are actually different in meaning. With these verbs, Type II marking does not have any special meanings. It is Type I marking that conveys atypical meanings. Falling
off something and tripping are usually accidents, the participants do not have control over the events. Sneezing is a bodily function that is usually noncontrollable. Getting fat is normally a natural process also out of the participant's control. According to 56, Type II marking with these noncontrollable events is normal. Type I agreement on these verbs is marked and implies additional meanings. Thus, the sentences in 63 convey the meanings of intentional, purposeful activities rather than natural events. The participants have greater control over these events when they are performing intentionally.

Verb roots that can have variable agreement marking according to the semantics of control include some active verbs such as nikiiyita 'move', liitkita 'run', oponaayita 'talk' and some stative verbs like aafaackita 'happy', likoothita 'warm', and halalaatkita 'slow' etc.. However, not all active verbs (verbs of control) that normally take Type I Agent marker can take a Type II Experiencer marker. Neither can all inactive or stative verbs (verbs of noncontrol) that normally take a Type II marker have the alternative Type I marking. D. Hardy classifies Creek verbs into four groups with respect to Type I and II marking for A and S. In Table 3 provided by D. Hardy, we see that the four groups of verbs range along the continuum of control-noncontrol.
On the control end, Group A verbs take only Type I marking,
Type II marking with the basic forms of these verbs is incorrect. This group contains active verbs of control. On the noncontrol end, Group D verbs are stative verbs of noncontrol which take Type II marking. Type I marking for this group with the basic forms is incorrect. Between these two extremes, verbs in both Group B and Group C can have variable marking without the company of other morphology, but still they are different. For Group B verbs, which are few, Type I Agent marking is normal and Type II Executor marking is unusual. That is, its usage requires special interpretation which is usually accidental action or activities of less control or unconscious will on the part of the participant. Verbs of this group are mainly active verbs of control. For Group C verbs, on the other hand, Type II Executor marking is normal while Type I Agent marking is unusual. Verbs of this group are active verbs of noncontrol, or even stative verbs which are relatively less controllable. Therefore, when Type I marking is used, special meanings of intentional and purposeful performance are implied. Both Groups A and B contain active verbs of control, but Group A has transitive verbs that require animate Patients while Group B does not. The degree of effort that an Agent exerts to control an animate Patient is obviously greater than that exerted to control an inanimate
Patient (D. Hardy 1985:224). So, verbs of Group A have a higher degree of inherent control than those in Group B.

Table 3 shows that the semantics of control is a continuum in Creek. Different classes of verbs range along this continuum according to the degree of control that is part of their inherent meanings. However, like Alabama, the degree of control in Creek is not invariable (frozen). The variation of Type I and Type II agreement marking on the same verb roots indicates this change of the degree of control in the verbs. This can be seen especially clearly from variable agreement markings of verbs in Groups B and C. Even for Groups A and D, the agreement marking can still vary with the help of increased transitivity morphology. For example, Group A verbs are supposed to take only Type I Agent marking with their basic forms, but a causative (increased transitivity) morpheme can change the Agent to a noncontrol Executor—the causee of the event, thus making it take II marking.

(64) a. ŋô-t ca-nafk-ip-eyc-is
   Joe-T lsll-hit-m.p.-trs l.g.-dec
   'Joe is making me hit him.'
   'Joe is making him hit me.'
b. Јоо̊-т ca-hocif-ip-eyc-is
   Joe-T 1sII name-m.p.-trs l.g.-dec
   'Joe is making me name him.'
   'Joe is making him name me.'

C. Јоо̊-т ac-otak-ip-eyc-is
   Joe-T 1sII-hug-m.p.-trs l.g. -dec
   'Joe is making me hug him.'
   'Joe is making him hug me.'

According to the English glosses, Type II participants in these sentences are either causee or Patient, and both are noncontrol participants.

Creek verb groups with I/II subject marking remind us of the continuum of Batsbi intransitive verb classes with the variable case marking of participant according to the degree of control. However, Creek participant reference marking is more complicated than Batsbi, for it has a third paradigm Type III marking.

Type III agreement marking, unlike Type II, cannot vary with Type I marking without also using special morphology. However, the paradigmatic contrast between Type III and Type II marking for subjects of verbs in basic form is obvious. The following examples show this contrast.

(65) a. an-nokk-ii-s  'I hurt.'
    1sIII-hurt 0 g.-st-dec
b. ca-nokk-ii-s
   1sII-sick 0 g.-st-dec
   'I'm sick.'

(236)

(66) a. am-pó=h=y-is
   1sIII-beat=h g.-dec
   'He just beat me.'
   'He just won it from me.'

b. ca-pó=h=y-is
   1sII-win=h g.-dec
   'He just won me.'

(242)

The contrast between a and b in 65 and 66 is not the degree of control (since the participants are all Experiencers that are affected by the events). But we do see the difference in the degree of effect. ‘Hurt’ in 65a reflects that the participant is partially affected while ‘sick’ indicates total affectedness. 66 a and b show the greater vs. lesser affectedness of objects. The fact that the semantic difference between Type II and Type III object marking is the greater affectedness versus lesser affectedness supports the claim of the degree of affectedness between Type II and Type III subject marking.

D. Hardy finally concludes that the semantics of Creek agreement paradigms of Types I, II and III demonstrates two continua: control and envelopment. He claims that the three
types of agreement marking 'have no inherent content themselves with respect to control or envelopment but only a relative content as they vary paradigmatically on the same verb stem, and as the paradigmatic variation on different verb stems syntagmatically creates the parameter of specific semantic roles' (1988:268).

Since verb roots are not reliable for predicting types of agreement marker, and agreement markers themselves do not have a specific, only a relative meaning, what determines the degree of control and affectedness, and thus also determines the paradigmatic variation of agreement, is the 'relative content'. Consider also H. Hardy and Davis's (1988) conclusion of their discussion of Alabama agreement marking, we see the same assumption of an important linguistic view. That is, 'language in general can only be grasped in the context of its usage and not in the abstract' (Hardy and Davis 1988:42).

The semantics of agreement in Alabama and Creek tells us that control and volition do not merely reflect the semantic qualities of verbs. The fact that the degree of volition and control of the same verb stem can vary shows that control and volition exist in a larger sphere, that is the context in which the verb is used. Paradigmatic contrast of agreement (fluid marking) demonstrates that the degree of control and volition is also determined by context.
2. Participant Reference Marking Conditioned by the Semantic Content of Participants

2.1 The Inherent Features of NPs

The semantic function of a VP in a clause is to describe an event: an action or a state. The semantic function of a NP in a clause is to represent a participant in the event, either performing an action, or being affected by the event, or somehow being involved in a situation, i.e. nonaffected objects. So, the NP, like VP, is a major element contributing the meaning of a clause.

In Chapter II, I introduced Foley and Van Valin's Referential Hierarchy, which is repeated here:

\[(67) \text{speaker} > \text{hearer} > \text{human proper} > \text{human common} > \text{animate} > \text{inanimate}\]

This hierarchy includes both pronouns as well as common nouns (all NPs). For the convenience of discussion in this section, I will use first person (1) and second person (2) pronouns to replace the speaker and hearer, and also add the third person (3) pronoun to make it clear that pronouns outrank common nouns. Thus, the hierarchy becomes as in 68.

\[(68) 1 > 2 > 3 > \text{human proper} > \text{human common} > \text{animate} > \text{inanimate}\]

I will use the term animacy hierarchy (or NP hierarchy) to refer to 68.
Although the details of the NP hierarchy provided by other linguists in their descriptions of different languages may differ slightly, as will be discussed in this section, there are two common characteristics of all languages in terms of NP ranking. They are: 1) all languages rank animate nouns higher than inanimate nouns, and 2) all languages rank pronouns higher than common nouns.

People tend to talk more about things concerning themselves or things around them. The features of pronouns determine that they are used more frequently in people's speech than other NPs. First of all, pronouns refer to the speaker, the hearer, and third persons who are immediately present, involved in the speech act, or have Given status in the discourse. Secondly, pronouns refer to people or things that are not new to the discourse, are more immediate in the context of speech and more specific (identifiable) to both the speaker and the hearer. Animate nouns include human beings which have saliency to humans (or 'topicality' as Givon calls it). Animate things are more closely related to human beings because they have more features in common with human beings (such as motility). Inanimate nouns, on the other hand, are more remote. They can be controlled by human and animate participants and are more static. These inherent features of NPs result in the NP hierarchies that are more or less the same in different languages.
2.2 Animacy Hierarchy and Participant Marking

The Actor/Undergoer distinction does not only depend on the semantic characterizations of events. NP classes may also contribute to this distinction. This section will discuss the relationship between NPs and participant reference marking in active languages.

2.2.1 Animacy and Actor/Undergoer

Animate NPs have a more natural and closer relation to Actor participants than to Undergoer participants. This relation between an animate NP and an Actor participant is shown clearly in Dakota and Acehnese.

In Dakota, the Undergoer participant marking can refer to either animate or inanimate NPs, but the Actor participant marking requires only animate NPs because "active verbs" (which include both transitive and subjectively inflecting intransitives) designate activities that can be performed by or on living beings only' (Merlan 1985:330). The semantics of animacy in Dakota is apparently more important than other semantic categories such as Role. An Actor participant must be a human or animate who has potential volition and control over an event, although it does not necessarily perform an Agent Role. This might explain why bodily functions in Dakota require an Actor instead of Undergoer participant. Dakota treats them as
controllable verbs. Since they are activities performed by human beings, they take Actor participants.

Acehnese is similar to Dakota in terms of the relationship between animate NPs and Actor participant marking. We remember that the distinction of Actor and Undergoer participant in Acehnese is displayed in the pronominal clitics. (Actor participants are cross-referenced by pronominal proclitics on their verbs while Undergoer participants are cross-referenced by pronominal enclitics.) We also noted that Actor cross-reference in Acehnese is mandatory but Undergoer cross-reference is optional depending on discourse meaning. According to Durie, 'The pronominal clitics themselves are reduced forms of the pronouns, which are all animate. Consequently enclitic cross-referencing is generally prohibited if the Undergoer is inanimate' (1988:4). This is to say, the Actor participants must be animate since they are all cross-referenced by pronominal clitics. Undergoers, on the other hand, can be either animate or inanimate. If there is an inanimate participant in a clause, it must be an Undergoer and cannot be cross-referenced.

There is also a correlation between Actor and volition in Acehnese. 'Actors are always volitional' (except for a few weather expressions), but 'Undergoers are never volitional' (Durie 1988:6). This is why the decontrolled
forms of volitional verbs would take Undergoer participants with no cross-referencing agreement. As in Dakota, Acehnese bodily activities are also classified as active verbs in their root forms, for these activities are performed by animate participants. But bodily functions may be noncontrollable and nonvolitional. To express this meaning of nonvolitional activities performed by animate participants, Acehnese provides decontrolled morphemes on volitional verbs in order to reduce the control and make it possible for them to take Undergoer participants. The correlation of animacy with participant marking and volitionality of event in Acehnese can be displayed in the following way.

(69) Actor participant: Undergoer participant:

compulsory cross-reference optional cross-reference
animate NP animate/inanimate NP
volitional Event nonvolitional Event

The correlation of animacy and Actor participant Role is also required in Eastern Pomo, as in Dakota and Acehnese. ‘Pronouns, together with kinship terms and proper names are set off from all other nonverbs..., thus constituting a super class which I call Animates’ (McLendon 1978:5). These NPs are prime candidates for agentive roles and unlike common nouns, they are unmarked as Actors but must be marked as Undergoers.
Although the relationships between participant marking and the semantics of animacy and volition in the above three languages are not exactly the same, we can see a common characteristic, which is the close correlation between the Actor Role and an animate participant NP. Undergoer participants, on the other hand, can be either animate or inanimate. It seems that the semantic feature of animacy, like volition and control, also contributes to the choice of Actor/Undergoer participant marking.

2.2.2 The Relationship of Animacy to Control and Volition

In 1.3.1, we suggested that active verbs are more likely to be volitional and controllable events; thus Actor participants have more volition and greater control over the event. In the last section we also see the correlation between animate NPs and the Actor participant. This will lead us to assume that animacy is also related to volition and control.

The relationship of animacy to control and volition is shown more clearly in Western Muskogean and the Muskogean languages Alabama and Creek. In Chapter II, I mentioned that Munro and Gordon (1982) note a change in Type II vs. III agreement with human objects. As Holisky points out, 'Volition and control are two characteristics often ascribed to the semantic role agent' (1984:115). Although there is no one to one relation between control or volition and any...
single Role, the close association between Agent and control is apparent. An Agent Role must be filled by a human or, at least, animate participant who can exert conscious control over an event. Inanimate participants cannot act consciously or volitionally. In both Alabama and Creek, Agent participants are indexed by Type I agreement indicating that they have the greatest control over the events. In Alabama, Creek, and Western Muskogean, 3rd person is unmarked (marked with $\emptyset$) for Type I and II agreement (H. Hardy and Davis 1988, D. Hardy 1988). Therefore, with inanimate nouns, we cannot really tell whether it is Type I or Type II marking. In Dakota, 3rd person is also unmarked for either active or inactive agreement. It may be a typological factor that control/noncontrol is relevant only to SAPs, or animate NPs.

In Alabama, in transitive clauses, the object (Undergoer) participant may be marked by either II or III agreement. Compared with Type II marking which indicates noncontrol (and by default an affected object), Dative Undergoers (Type III) are marked as less directly affected or involved in the event as well as being noncontrol. One example of this is that Recipients, Benefactives, and Goals are indexed by dative marking (III). These, of course, are the semantic Roles typically filled by animate, often human participants. Although their degree of control is considerably less than the Agent who executes the event,
these animate participants have more potential control over participation in an event than Patient participants which have no control at all. There are cases in Chickasaw which II marking indexes an inanimate Patient while III marking indexes human or animates.

(70) a. (Ø)yimmi⁸  'He believes IT.'  (II)
b. ₁-yimmi  'He believes HIM.'  (III)

(71) a. (Ø)alhtaha  'IT's ready.'  (II)
b. IM-alhtaha  'HE's ready.'  (III)

(Munro and Gordon 1982:86)

Munro and Gordon see the agreement marking of these pairs of sentences as problematic, which supports their conclusion that the agreement in the language is largely idiosyncratic. We can see that the variation of 70 and 71 is based on animacy. 70a has an inanimate object which refers to a Proposition. 70b can be understood as believing something of or from someone, for instance what he said; so it is Dative or Possessive. The variation of 71a and b also pertains to animacy. Let us compare the cognates in Alabama (H. Hardy, personal communication) which also show the relevance of animacy with II and III marking.

(72) a. am-alpiisati
    'I have been ready.'
b. oolimpa-ya alpis-o
food-Top ready-Asp
'The food is ready.'

(73) a. Jesus-ka-k God-ka ochoos-ooolii-y-o-n chi-
Jesus-Forn-Sj God-Forn son-be-Top-DET-SR II2s-
yimmi?
believe
'Do you believe Jesus is the son of God?'
b. chin-cha-yimmi
III2-III1-believe
'I believe you (i.e. what you said).'

73b uses III marking for the human dative object while II marking is used for a Propositional object in 73a.

The four groups of Creek verbs in Table 3 of section 1 also demonstrate the correlation between animacy and control. Group A verbs which rank at the control end of the scale require participants that have the greatest control over the event. Verbs of this group are transitive verbs such as 'hit', 'name', 'kick', or 'kiss', requiring animate Actors and often taking animate objects (Undergoers). Agents need to exert greater control over animate Undergoers than inanimate ones. Therefore, this group ranks higher on the control continuum than Group B which also contains active verbs but does not require objects (Undergoers).
To sum up the relationship of NPs and participant reference marking based on the above mentioned active languages, we can conclude that Actor participants typically are animate NPs, while Undergoer participants can be either. Animate participants have more potential control over an event than inanimate participants. In terms of Actor marking and control, animate NPs rank higher than inanimate. The potential for volition and control is a typical feature of animate, especially human, participant NPs. The prototypical relationship between participant marking and control and animacy can be shown as in 74.

(74) Actor------------------------Undergoer  
     Control------------------------Noncontrol  
     Animate------------------------Inanimate

2.2.3 Pronouns vs. Common Nouns

The distinction of Actor and Undergoer participant marking in some languages may also be observed in the split of pronouns vs. other nouns. Let us take Eastern Pomo as an example. Eastern Pomo distinguishes five classes of verbs characterized by the degree of control: 1) verbs that take both an Agent and Patient participant (active transitive), 2) verbs that take only one Patient (inactive intransitive); 3) verbs that take two Patients (inactive transitive); 4) verbs that take either Patient or Agent (active or inactive intransitive); and 5) a small class of intransitive verbs.
that take Agents if they are pronouns, kinship terms and proper names, but Patient if they are common nouns (cf. pp 96).

Eastern Pomo NPs seem to be classified in two groups: pronouns, kinship terms and proper names constitute one group as opposed to personal and common nouns. McLendon (1978) uses the term 'Animates' for the former group because pronouns, kinship terms and proper names are inherently animate, human, and specific, and thus also the prime candidates for Actors. Common nouns, on the other hand, are typically inherently inanimate, nonhuman, and nonspecific, thus are most likely to be candidates for Undergoers (1978:5). The active/inactive distinction is shown by the direct marking on NPs. Pronouns have nominative case markers when they are Actor participants but are marked with the accusative case when they are Undergoers. On the other hand, for common nouns, the Actor is marked by an Agent marker while the Undergoer is unmarked, because Undergoers are more likely to be lower on the animacy hierarchy. The following examples given by McLendon (1978:5) show the distinctive participant markings of the two classes of NPs.

(75) a. ka:čil bu:raqal ša:ka
    proper name bear kill
    'Kačil killed a bear.'
b. mi:p bu:raqal ša:ka
he(nom) bear kill
'He killed a bear.'

(76) a. bu:raqalla: kačiliy ša:ka
bear-Agt -Pat. kill
'A bear killed Kačil.'

b. bu:raqalla: mipal ša:ka
bear-Agt him (acc) kill
'A bear killed him.'

75 contains two sentences with a proper name (75a) and a pronoun (75b) as Actors; both are in the unmarked forms. The common noun Undergoer participants are also unmarked. These two sentences are unmarked because it is natural for human nouns to be Actors acting on non-human Undergoers. The NPs in 76a and b have reversed Roles compared to 75. The common noun 'bear', in both sentences performing an Agent Role, takes the Agent marker a, and the proper name and pronoun Undergoers are marked with Patient markers iy and al. All the NPs in the two sentences are in a marked form because it is atypical for lower ranking common nouns to be Actors acting on higher ranking pronouns and proper nouns. The active/inactive distinction is shown by the direct marking of NPs.
Eastern Pomo NPs as they relate to Actor/Undergoer participant marking can be summarized in the following hierarchy.

(77) pronoun, kinship term, proper name > common noun
NPs to the left of the arrow are more natural Actors and unmarked if they are Actor participants. Common nouns are more natural Undergoers. They will be marked with the Agent marker if they take an Actor Role.

Batsbi is another active language in which the split of NPs also contributes to the active/inactive distinction. In this language, Actors are marked with the 'ergative' case while Undergoers are marked with the 'nominative' case.

However, the language also sets off the first and second person from the third person pronoun. As was mentioned in section 1 concerning Batsbi intransitive verb classes, for the first and second person pronouns, the single argument of an intransitive verb is marked either as Actor or Undergoer according to the presence or absence of volition. For the third person, however, the single argument of an intransitive verb is usually marked as an Undergoer (except for a small classes of exceptional verbs) regardless of whether the verb is active or stative (Holisky 1987: 120). Compare 78 to 79.

(78) a. as  w- uit'a-s 'I go.'
    I-Erg Masc-go-1sg
b. so txa xile cuh 'Today I stayed inside.'
I-Nom today stayed inside

(79) a. o w- al i 'He died.'
3sg.Nom Masc- died

b. o sk' ole w-uit'a 'He goes to school.'
3sg.Nom to school Masc-go

(Merlan 1985:339)

In these two pairs of sentences, both a sentences contain active verbs but b sentences contain inactive verbs (xile is an inactive verb in Batsbi). In 78, we can see the distinction of Actor participant marking in a and Undergoer participant marking in b. Note that the active sentence in a has ergative case marking as well as first person singular cross-reference marking. The third person participant marking in 79a and b, however, is identical in spite of the fact that the two verbs differ in the semantic category of activity and control: both have a nominative Undergoer participant. Therefore, the NP split in Batsbi in terms of Actor and Undergoer participant marking is

(80) 1st and 2nd person > 3rd person

Batsbi is not the only language that sets off 1st and 2nd person pronouns from the 3rd person pronoun. We find also in Dakota and Muskogean languages that the Actor/Undergoer distinction obtains only for 1st and 2nd
person pronouns, and the 3rd person pronoun, whether Actor or Undergoer, is unmarked.

The Actor/Undergoer distinction depending on an NP split also occurs in Lhasa Tibetan, but it is different from either Eastern Porno or Batsbi. As was mentioned in Chapter I, the active pattern of this language is displayed in an 'ergative' marker which marks both A and Sa as opposed to unmarked O and So. Instead of syntactic transitivity, the 'ergative' marker indexes the semantics of control. In other words, an Actor participant that has control over the event is marked with ergative case, while the Undergoer participant is left unmarked. DeLancey (1985) notices that besides the semantics of control which displays the active pattern, the semantic category of volition is also overtly marked on the verb complex (on the auxiliary) when the subject is the first person pronoun. The following examples are repeated from Chapter I.

(81) a. na-s stag bsad- pa-yin
   I-Erg tiger kill- PERF/VOL
   'I killed a tiger.'

b. na-s nus- pa-yin
   I-ERG cry-PERF/VOL
   'I cried.'
The choice of the auxiliary form pa-yin in a and b indicates that the first person subject perform the actions volitionally, and pa-byun in c shows the nonvolition of the first person subject. In fact the nonvolition marker also occurs in transitive clauses with a first person object, which makes the verb appear in the same form as taking the nonvolitional subject in intransitive clauses.

(82) T'ub=bstan-gyis na-la nes-byun
Thubten-ERG I-DAT hit-PERF/INVOL
'Thubten hit me.'

In this sentence, the perfect/involution marker is determined by the first person object, indicating that the action occurs irrespective of his intention, and the ergative case marking shows the subject Thubten has control over the action. Comparing 82 to 81, we can see an interesting variation of the active pattern: the choice of auxiliary distinguishes the class of nonvolitional subjects (byun) from the class of volitional subjects (pa-yin).

The alternation of volitional and nonvolitional auxiliaries applies only to the first person pronoun. In the following two sentences with the third person subject, the volition/nonvolition variation on auxiliaries is absent.
Compare 81 to the following sentences.

(84) a. na-s gon gcag-pa-yin
   I-ERG price lower-PERF/VOL
   'I lowered the price.'

b. na-s gcag-pa-red.
   I-ERG lower-PERF
   'I lowered it.'

84b implies that the seller does not have complete control over the action. His lowering the price is under the pressure of the buyer. Note that b lacks the first person nonvolitional auxiliary byun; instead we have pa-red, the auxiliary that usually occurs only with non-first persons. This indicates reduced volition rather than the complete absence of it.

The above examples of Lhasa Tibetan show that the active pattern is exhibited by both semantic categories of control and volition, which can be illustrated in Figure 10.
The volition/nonvolition variation of auxiliaries occurs only in the first person. In other words, the split of the pronouns, first person vs. other persons, determines that part of the active/inactive distinction indicated by the variation of the auxiliaries, volition.

The three languages discussed in this section all display a NP split which relates to the Actor/Undergoer (or active/inactive) variation. In Eastern Pomo, this NP split includes the pronouns, kinship terms and proper names as opposed to common nouns. In both Batsbi and Lhasa Tibetan, the NP split is within the pronouns themselves. Batsbi sets off the first and second person from the third person, and Lhasa Tibetan sets off the first person from other persons. Table 4 illustrates the correlation of NP split and active/inactive variation of these languages.
Although the NP split pattern in each of the above languages is different, the NP splits in Table 4 seem to fall into a hierarchy.

(85) 1 > 2 > 3 > kinship term (human) > proper name (human) > common noun

This hierarchy is similar to the animacy hierarchy in 68. The kinship terms and proper names are human nouns. Common nouns include both animate and inanimate nouns. If there is a split at any place on the hierarchy in terms of Actor/Undergoer (active/inactive) variation, those on the left would be marked as Actor and those on the right Undergoer. Animate nouns are more likely to be marked as Actor participants than inanimates. Pronouns are more likely to be marked as Actor participants than any other NPs, including inanimates and animates.

DeLancey (1981:645) explains the NP split pattern, which he calls the EH-split (Empathy Hierarchy) in terms of a notion of natural agentivity. Each NP is a more natural Agent than any other NP lower on the hierarchy, and a less
natural Agent than any NP higher on the hierarchy. So, Agent is naturally an Actor.

2.3 Summary: The Active/Inactive Distinction

So far in this Chapter, I have discussed the semantic contents of Actor (active) and Undergoer (inactive) participant marking conditioned by event and context (control and volition) and participant (animacy hierarchy). This section will sum up the semantic characterizations of active languages in terms of the active/inactive distinction.

Klaiman (1988) divides verbs in active languages into two classes. She states that "an active language has two classes of verbs "inactive" (non-controller subject) verbs, all of which are intransitive; and "active" (controller subject) verbs, which are both transitive and intransitive" (65). This can be illustrated by the following.

\[
\begin{array}{c c c}
\text{Active} & \text{Inactive} \\
\text{transitive} & \text{intransitive} & \text{intransitive}
\end{array}
\]

Figure 11: Klaiman's Classes of Verbs in Active Languages

We have already shown in this Chapter that not all active languages display just two verb classes for the active/inactive distinction. In some languages, verb classes are more complicated in terms of participant marking. For instance, Eastern Pomo has five classes of verbs and Batsbi
divides its intransitive verbs into four classes. Alabama also has at least four if not five classes. These verb classes are ranged along the continuum of control and volition. Further, Klaiman’s claim that ‘transitive verbs (in non-derived sentences) do not show the opposition, as all are active’ (1988:66) is not accurate in all active languages. Therefore, the active/inactive distinction is more complicated than what Figure 11 shows.

Let us look at some Eastern Pomo examples first. Contrary to Klaiman’s generalization, not all inactive verbs in Eastern Pomo are intransitive. Class (2) verbs in this language are inactive transitive verbs that can take two Undergoer participants. The following sentences show that transitive verbs, like intransitive verbs, also display the active/inactive distinction.

\[(86)\] a. be:kal' wi phi:lê:mka 'I miss them.'
\[
\text{them(Pat) I(Pat) miss}
\]
b. ha: mí:pal' šá:k'a 'I killed him.'
\[
\text{I(Agt) him(Pat) kill}
\]
(McLendon 1978:3)

Both sentences in 86 are transitive, but b has an active verb that takes both an Actor and an Undergoer participant. 84a contains an inactive transitive verb that takes two Undergoer participants. Comparing the meanings of the two sentences, the Actor in 84b has control over his action of
killing. But the Undergoer participant \textit{\textbf{wi 'I'}} in 84a has no control over his mental and emotional process; thus, the sentence is inactive in spite of its being transitive.

Inactive transitive verbs also exist in Dakota.

\begin{tabular}{ll}
\textbf{(87)} & a. intransitive active \quad b. intransitive inactive \\
& \textit{\textbf{wawachi 'I dance.'}} \quad \textit{\textbf{mazi 'I'm pale.'}} \\
& c. transitive active \quad d. transitive inactive \\
& \textit{\textbf{wakhize}} \quad \textit{\textbf{iyemacheca}} \\
& \textit{\textbf{I attacked him.'}} \quad \textit{\textbf{I resemble him.'}} \\
\end{tabular}

(Miner 1980:36)

The underlined morphemes are pronominal bound forms: \textit{\textbf{wa-}} is the first person Agent pronoun, and \textit{\textbf{ma-}} is the first person Patient pronoun. The third person pronouns (Agent and Patient) are unmarked. In 87, both a and b have intransitive verbs which take only one participant. The active verb 'dance' takes an Agent pronoun while the stative verb 'pale' has a Patient pronoun. 87c and d have transitive verbs which take two participants: a first person pronoun as the subject and an unmarked but understood third person pronoun as the object. Despite the fact that both verbs are transitive, c has an Agent first person pronoun as the subject while d has a Patient first person pronoun as the subject. Comparing c and d to a and b, we can see that the active/inactive distinction does not only exist with the intransitive verbs, but also with the transitive verbs.
In Alabama, a few transitive verbs of mental and emotional events take Type II pronominal marking for both participants, which encodes Noncontrol Experiencers.

\[(88)\] cha- chi- banna 'Do you want me?'
1sII- 2sII want

\[(89)\] chi- cha- (i)malosti 'I love you.'
2sII- 1sII love

(Hardy and Davis 1988:13)

The above examples of Eastern Pomo, Dakota, and Alabama (as well as Creek) illustrate that it is not the case that inactive verbs, or verbs with noncontroller subjects, are all intransitive. Therefore, Figure 11 can be changed to Figure 12.

\[
\begin{array}{c}
\text{active} \\
\text{transitive} \quad \text{intransitive} \\
\end{array}
\quad \begin{array}{c}
\text{inactive} \\
\text{transitive} \quad \text{intransitive} \\
\end{array}
\]

Figure 12: Active/Inactive Distinction and Transitivity

Figure 12 shows that the active/inactive distinction may be independent of syntactic transitivity. Transitive sentences, like intransitive sentences, can be both active and inactive. Of course, inactive transitive verbs are much rarer than inactive intransitive verbs. It is rarely the case that an event can be transferred to affect another participant without being under the control of an Agent. Such cases are probably all verbs of emotion or sense
experience that take Undergoer A's. However, although the active/inactive distinction can be independent of transitivity, transitivity is not without connection to the active/inactive distinction in terms of participant marking. This can be shown in Munro and Gordon's (1982:89) examples of Chickasaw which are repeated here (=Chapter II 22 and 23).

(90) a. SA-nokhanglo 'I am sad/sorry.' (II)
    b. CHI-hashaa 'You 're angry.' (II)

(91) a. IN-nokhanglo-LI 'I am sorry for him.' (III,I)
    b. IS-Š̄-hashaa 'You are angry with me.'(I,III)

Here we can see that the presence of an object boosts the status of the Executor from II marking in 90 to I marking in 91. Transitivity, according to Hopper and Thompson (1980), is also a continuum rather than a binary notion. High transitivity can be constituted by, among other components, a volitional event, an A that is high in potency (Agent), and an affected O. These components also correlate with active, rather than inactive marking. D. Payne, in fact, discusses the relationship between Chickasaw agreement and Transitivity and concludes that the agreement affixes fall into a hierarchy in terms of the degree of transitivity: Agent (I) > Patient (II) >Dative (III) (1982:360).

What determines the active/inactive distinction, as I have discussed in this chapter, are the semantics of the
events and their participants, as well as pragmatic factors of context. In active languages, verbs are arranged along a continuum whose main feature is control. Whether a verb is controllable and volitional or noncontrollable and nonvolitional may limit the Actor or Undergoer participant marking. In some languages, such as Dakota, there also exists a subordinate continuum which is active–stative. However, the active/inactive variation which is distinguished by the Actor/Undergoer participant reference marking does not merely depend on the prototypical (non)control and (non)volition of the verbs since volitionality and controllability vary in the context of discourse. Also languages make distinctive cuts in different places on the continuum. As with transitivity, other properties of the proposition such as participants also contribute to the active/inactive variation. There exists an animacy hierarchy in which pronouns rank higher than animate nouns, which in turn, rank higher than inanimate common nouns. Pronouns are more likely to be marked as active (Actor participant) and inanimate common nouns are more likely to be marked as inactive (Undergoer participant). A particular language may emphasize one of these factors over the other, but the semantics of verbs (events) and nouns (participants), as well as the speaker's knowledge of the real world as reflected in prototypes, combine together to
determine the active/inactive distinction, and therefore also constitute the semantic characterizations of the participant reference marking in active languages.

The Active/inactive distinction is not absolute but relative to context. Even disregarding languages such as Muskogean languages that have three types of agreement marking, Actor and Undergoer participant reference markings are not merely two opposite ends representing active and inactive, respectively. The variation of participant reference marking in active languages is conditioned by two scales: the degree of control and volition and an animacy hierarchy, as shown in Figure 13.

```
Control-------------------------------------Noncontrol
Volition  Nonvolition

Scale of event and context
Pronoun------------------------Inanimate common
(1 > 2 > 3 > human > animate > inanimate)
Scale of participant
More active ---------------------->
<---------------------- More inactive
More likely to be Actor-------More likely to be Undergoer
```

Figure 13: Reference Marking and Scales of Control (Volition) and Animacy
3. Split Ergativity and Active Languages

This section concerns participant reference marking of split ergative and active languages. The similarity of these two types of marking systems is seen not only in the reference marking pattern, but more interestingly, they display similar semantic characterizations.

3.1 Reference Marking Pattern of Split Ergative and Active Languages

In Figure 1 of Chapter I, I presented the participant reference marking patterns of ergative and accusative languages. In ergative languages, the S of an intransitive clause is marked the same way as the O of a transitive clause (absolutive), but differently from A of a transitive clause (ergative). Accusative languages, on the other hand, mark the S of an intransitive clause the same way as the A of a transitive clause (nominative), but different from the O of a transitive clause (accusative). A split ergative language has both an ergative-absolutive pattern of marking and a nominative-accusative pattern of marking. In other words, some sentences have an ergative-absolutive marking pattern (which is S=O), and other sentences have a nominative-accusative pattern (S=A).

Active languages resemble split ergative languages in that they also have a split S. Sometimes, S is marked the same as A, other times, the same as O. The active marking
pattern may be similar to accusative marking: S=A. Inactive marking resembles the ergative-absolutive marking pattern with S being marked the same as O. Note here that active languages also show a split A (by A we mean transitive subject) as was mentioned in Chapter II. Some active languages may have overtly marked Actors and unmarked Undergoers, which is reminiscent of ergative languages. This may be why some active languages have been referred to as 'ergative' languages (Eastern Pomo, McLendon 1978, Lhasa Tibetan, DeLancey 1985). Also, some linguists use 'ergative' and 'nominative' (and 'accusative') as labels of case marking for participants in active languages. For instance, In Eastern Pomo, as described by McLendon (1985), pronouns have a 'nominative' case marker for A and Sa (Actor) and an 'accusative' case marker for O and So (Undergoer). Common nouns do not have a 'nominative' or 'accusative' case marker, but will take an 'agentive' marker if they are Agents of active verbs. In Batsbi, the split S reflects the degree of control that the participant of an intransitive clause has over the event. With more controllable, normally active verbs, S is marked with an 'ergative' case marker as is called by Holisky (1987). Another case marker, which is referred to as the 'nominative' (absolutive) case marker by Holiskey, is used for S of less controllable or even noncontrollable, normally inactive verbs. Lhasa Tibetan is
another active language that has been described as a split ergative language. In this language, the so-called 'ergative' case marker is irrelevant to syntactic transitivity; it is used on A or S when the event is a controllable active verb. These case labels, especially the term 'ergative' case marker, can be confusing, because active marking really follows the nominative-accusative marking pattern in spite of the fact that the A or S of an active verb is marked with a so-called 'ergative' case marker. A more accurate and clearer term may be 'agentive', since the A or S of active verbs is usually an Agent. Actually, in both Batsbi and Lhasa, the so-called 'ergative' case marker really encodes Actor participants and the semantics of control of the event. The inactive marking pattern, although resembling the ergative marking pattern in the sense that S=0, is not classically ergative because there is no ergative A. The 'experiencer subject' A in those languages that do have transitive inactive verbs are marked identically to 0 (or So). In Batsbi and Lhasa, S or A of inactive verbs are marked with a 'nominative' (absolutive) case marker which encodes less control or noncontrol participant; that is, Undergoers. Therefore, the case markers in these languages, although labeled 'ergative' and 'nominative', really reflect the active/inactive distinction.
Observing some similarities of participant reference marking between active languages and ergative languages, Givon (1984) suspects that active marking 'may be historically derived from the ergative case marking type' (149). It is not my purpose to prove or disprove this conjecture here. What interests me is not only the similar case marking pattern of active languages to either ergative or accusative languages, but also the common semantic characterizations that seem to determine the active/inactive distinction and split ergative marking. The semantic characterizations of the reference marking of these two types of 'split' marking languages further support the importance of a topic hierarchy of reference marking in languages.

3.2 Semantics of Split Ergativity

Many ergative languages have a split case marking pattern. Studies of these languages show that the split marking pattern is determined by semantic rather than syntactic factors.

3.2.1 Split Ergativity Conditioned by NP Hierarchy

In studying the split ergative languages, Silverstein (1976) finds that this "split" of case marking is not random' (113), but it defines a NP hierarchy which Silverstein calls a hierarchy of 'inherent lexical content' (113). This hierarchy is actually the same as the reference
hierarchy discussed in Section 2 in which first and second persons rank higher than third persons, which in turn rank higher than animate and inanimate NPs. As Silverstein points out, the NP hierarchy 'expresses the semantic naturalness for a lexically specified noun phrase to function as Agent of a true transitive verb, and inversely the naturalness of functioning as patient of such' (1976:113). According to him, in a split ergative language, if the split is conditioned by NPs, a NP higher on the hierarchy will manifest nominative-accusative case marking. Alternatively, the NP lower on the hierarchy will manifest ergative-absolutive case marking. Silverstein provides a chart for split of accusative vs. ergative systems in split ergative languages.

(90)  

\[ \begin{array}{c|c|c|c} 
\text{Acc} & \text{Erg} & \text{pronouns} \\
+tu & -tu' & \\
+ego & -ego & \text{prons}' \\
+proper & -proper & 'nouns' \\
+human & -human & \\
+animate & -animate & \\
\end{array} \]

(122)  

Silverstein notes that generally if a language has accusative marking pattern at a certain point of 90, then accusative marking applies to all the NPs above that point.
Likewise, if it has an ergative marking pattern at a certain level, then ergative marking applies to all the NPs below that on the hierarchy.

The split ergative marking that is conditioned by a hierarchy of NP features occurs in many ergative languages. Dyirbal is one such example of a split ergative language. Common nouns and third person pronouns inflect in an ergative/absolutive case marking pattern, but first and second person pronouns have a nominative/accusative paradigm. Table 5 that is presented by Dixon (1979:63) shows this split of NP marking.

<table>
<thead>
<tr>
<th>Root</th>
<th>yabu 'mother' numa 'father'</th>
<th>nana 'we all' nyura 'you all'</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A: yabu+ngu numa+ngu</td>
<td>nana</td>
</tr>
<tr>
<td></td>
<td>S: yabu numa</td>
<td>nana+na</td>
</tr>
<tr>
<td></td>
<td>O</td>
<td>nyura+na</td>
</tr>
</tbody>
</table>

Table 5: Split Ergative Marking in Dyirbal

In the first two columns of Table 5, the common nouns yabu and numa are marked with ergative case +ngu for A of a transitive clause. S and O have zero marking for absolutive case. The pronouns in the right two columns show a nominative/accusative case marking pattern, with A and S unmarked for nominative case and O marked with the
accusative marking ±na. Compare the following two pairs of sentences (Dixon 1979:61-64).

(93) a. ngama yabu+ggu bura+n ‘Mother saw father.'
   father mother-Erg saw
b. yabu banaga+n'yu ‘Mother returned.'

(94) a. gama n'ura+ga bura+n ‘We saw you.'
   we you-Acc saw
b. gama banaga+n'yu ‘We returned.'

Another example of split ergative marking conditioned by NP features is from Guugu Yimidhir provided by Mallinson and Blake (1981:33). This language differs slightly from Dyirbal in that 'all personal pronouns operate in a nominative/accusative system' (63) as opposed to common nouns.

(95) a. gangurru dhada-a ‘The kangaroo goes.'
   kangaroo go-nonpast
b. biiba-ngun gangurru gunda-y
   father-erg kangaroo kill-past
   ‘Father killed the kangaroo.'

(96) a. ngayu dhada-a ‘I go.'
   I go-nonpast
b. ngayu gangurru gunda-y
   I kangaroo kill-past
   ‘I killed the kangaroo.'
c. biiba-ngun nganhi gunda-y
father-erg me:acc hit-past
'Father hit me.'

95a and b show that common nouns are marked with ergative/absolutive case. 96a and b demonstrate that pronouns are marked with nominative/accusative case. 96c contains a common noun A in the ergative and a pronoun O in the accusative case. Other examples of split ergative systems conditioned by NP features presented by Silverstein (1976) and DeLancey (1981) are Chinookan, Badjalog (New South Wales-Queensland border) and Kham (a Tibeto-Burman language of Nepal), etc.

These languages all differ slightly in the split point on the NP hierarchy, but a general rule is that the higher the NP on the hierarchy, the more likely it is to have an accusative case marking pattern, and the lower the NP on the hierarchy, the more likely it is to have an ergative case marking pattern. Therefore, in the NP split, the tendency is for nouns to have an ergative inflectional pattern while pronouns have an accusative inflectional pattern.

3.2.2 Split Ergativity Conditioned by Tense, Aspect, and Modality

Apart from the NP split discussed in 3.2.1, split ergativity in some languages may also be conditioned by VPs and the tense, aspect, and modality of the sentence.
Georgian is a language with a split marking pattern that is governed by verb tense.

(97) a. Glexi tesavs marcvlebs
    farmer(NOM) he sows it(PRES) seeds(DAT)
    'The farmer is sowing seeds.'

b. Glexma datesa marcvlebi
    farmer(ERG) he sowed it(AOR) seeds(NOM)
    'The farmer sowed seeds.'

(Hopper and Thompson 1980:272)

(98) a. kaceb-i cerien ceril-s
    men-NOM write letter-DAT
    'The men are writing a letter.' (imperfect)

b. kaceb-ma da-cer-es ceril-i
    men-ERG A0R-write-3pl letter-NOM
    'The men wrote a letter.' (aorist)

(DeLancey 1981:648)

In sentences of the present tense, 97a and 98a, Georgian has a nominative/accusative case marking pattern. S is marked the same as A with a nominative marker -i. The O is marked differently with an accusative marker -s. Sentences in the past tense have an ergative-absolutive marking pattern, 97b and 98b, with S marked the same as O (absolutive); and A is marked with the ergative marker -ma.

Nepali is another split ergative language similar to Georgian in terms of case marking governed by verb tense.
(99) a. ma hari-lai kitap din-chu
   I Hari-obj book give-nonpast/1st
   'I give Hari a book.'

   b. mai-le hari-lai kitap di-e
   I-erg Hari-obj book give-past/1st
   'I gave Hari a book.'

(DeLancey 1981:631)

99a is in present tense; A in this sentence is not marked. But like Georgian, the A in the past tense sentence 99b is marked with ergative case.

Aspect, like tense, is another factor that can determine the split case marking of an ergative language. Take Newari, a Tibetan language of Nepal, as an example. In this language, Aspect works together with transitivity, determining the case marking.

(100) a. wo manu-na me ha-la
   the man-erg song sing-perf
   'The man sang' (lit...'sang a song')

   b. wo manu me ha-yi co-gu du
   The man(abs) song sing-imperf be-nom be
   'The man is singing.'

   c. wo manu(na) me ha-yi
   the man-erg/(abs) song sing-imperf
   'The man will sing.'

(Givon 1984:155)
Comparing the above three sentences, the A in 100a takes an obligatory ergative case in the perfective, but A in 100b takes an absolutive case in the imperfective (progressive), and in 100c an optional ergative or absolutive case in the future. Givon notices that the O ('song') of these three sentences is a cognate object. With a more concrete, visible, distinct object, the ergative pattern is obligatory in the perfective and optional in both the progressive and future.

(101) a. wo manu-na wo la to-na
   the man-erg the water drink-perf
   'The man drank the water.'

b. wo manu(na) wo la to-ni
   the man-erg(abs) the water drink-imperf
   co-gu du
   be-nom be
   'The man is drinking the water.'

c. wo manu(na) wo la to-i
   the man-erg(abs) the water drink-imperf
   'The man will drink the water.'

   (Givon 1984:156)

Water will disappear by people drinking it. Thus, the object of 101a–c is more completely affected than the object of 100a–c, and it is more acceptable to use ergative marking.
Another example of aspectual split is from Sherpa (Tibetan).

(102) a. ti mi-ti-gi cenyi caag-sung
    the man-def-erg cup break-perf
    'The man broke the cup.'

b. ti mi-ti cenyi caag-ki-wi
    the man-def(abs) cup break-aux-imperf
    'The man is breaking the cup.'

(Givon 1984:157)

The activity that has already been finished requires an ergative marked A, while the activity that is in the process of occurring has an unmarked A.

Chamorro is a language that distinguishes realis from irrealis. The irrealis refers to the events that will occur in the future (or have failed to occur), and the realis is used for events that happened in the past or present. The distinction of realis and irrealis 'constitutes an ergative split: the ergative-absolutive distinction is upheld only in realis clauses' (Coorman 1982:348).

(103) hu- sakke i gwiham.
    e.ls-steal the fish
    'I steal/stole the fish.'
The reference marking of Chamorro is affixed on verbs. 103-104 show that realis clauses take 'ergative agreement'. Irrealis clauses, however, can never take ergative agreement. Instead, they would take 'subject agreement' which can combine with the plural 'number agreement' (Coorman 1982).

(105) i serena u-fan-gaigi gi tasi
    the mermaid iee,3pl-pl-be c.n.- sea
    'The mermaid will be in the sea.'

(106) ha- tagu' dzu' si Pedro na bai-hu-hanao
e.3s-tell abs.1s p.n.-unm Peter compl. irr.1s-go
    'Peter told me to go.'

(107) antisdi un- hanao para un-tso'gwi
    before irr.2s-go fur. irr-2s-do
    'Before you go to do something.'

    (Coorman 1982:349)

To sum up the examples of tense, aspect and modality split presented in 97-107, we can see a pattern that Tasaku mentions: 'the ergative marking occurs in past, perfective, realis etc., and elsewhere (i.e. present/future,
imperfective, irrealis etc.) we have some other, non-ergative pattern, e.g. accusative, neutral' (Tasaku 1981:391). This can be seen more clearly in Table 6.

<table>
<thead>
<tr>
<th></th>
<th>ergative</th>
<th>non-ergative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tense</td>
<td>past</td>
<td>present/future</td>
</tr>
<tr>
<td>Aspect</td>
<td>perfective</td>
<td>imperfective</td>
</tr>
<tr>
<td>Modality</td>
<td>realis</td>
<td>irrealis</td>
</tr>
</tbody>
</table>

Table 6: Split Ergativity Conditioned by TAM

Note that the ergative-nonergative parameters are part of the Transitivity parameters discussed by Hopper and Thompson (1980). The ergative pattern is higher in transitivity than the non-ergative pattern.

3.3. Split Ergative and Active Languages

In a split ergative system, there is a split between an ergative and nonergative marking pattern. In an active system, the split is between active and inactive marking, which can be viewed as nominative-accusative vs. a kind of ergative-absolutive marking pattern. By comparing the split ergative languages and active languages, we notice some similarities and differences between the two marking systems.

Apart from the resemblance of having split marking patterns, we will see that the NP hierarchy is relevant to both active and split ergative marking languages. As was shown in 92, in split ergative languages, NPs higher on the
hierarchy usually take a nominative/accusative marking pattern while those lower on the hierarchy will take an ergative/absolutive marking pattern (e.g. Diyrbal). To apply the markedness theory, we can explain this split ergative marking pattern semantically. Consider that in a nominative/accusative system, accusative (0) is the marked case, nominative (A, S) typically has zero marking. In ergative/absolutive system, it is the ergative (A) that is marked, absolutive case (S, O) are usually unmarked. As Tasaku points out: 'NPs are distinctly case-marked when they are in an unusual/marked function, i.e. A function for inanimate nouns and 0 function for 1st and 2nd person pronouns' (1981:392). Pronouns, being usually human and animate, are natural Actors, and common nouns are natural Undergoers. Therefore, pronouns functioning as A tend to have unmarked nominative case, and when functioning as 0, they are likely to have marked accusative case. Likewise, common nouns tend to have marked ergative marking when they function as A in a clause, and unmarked absolutive marking will be used when they function as 0. This generalization can be seen clearly in 108 taken from Tasaku (1981:392). There is no clear-cut demarcation between the accusative and ergative marking system. Each language has its own division, and there is sometimes an overlapping area.
(108) Pronouns Nouns

1st, 2nd 3rd, kin, proper, human, animate, inanimate

A unmarked nom ergative marked
S unmarked absolutive unmarked
O marked acc

A≠S=O  A=S≠O

accusative marking

----------------------------------------

<--------------------------------------

ergative marking

The NP hierarchy is also relevant to the active/inactive marking. As I mentioned in 2.2.3, the higher a NP is on the NP hierarchy, the more likely it will be marked as an Actor; the lower a NP is on the hierarchy, the more likely it will be marked as an Undergoer. Therefore, pronouns and animate NPs tend to be marked as Actors while inanimate common nouns tend to be marked as Undergoers. With pronouns, some active languages such as Batsbi, Dakota and the Muskogean languages set off 1st and 2nd person from 3rd person. The 1st and 2nd person pronouns are overtly marked as Actor or Undergoer, but 3rd person is left unmarked whether it is an Actor or an Undergoer.
In spite of the fact that both kinds of split marking systems are semantically motivated, the causes for the split are different. As was shown in 3.2.2. and also the first part of this section, for the split ergative marking system, the main split is caused either by the position of a NP on the NP hierarchy or by tense, aspect and modality of the verb. For TAM split ergative languages, verbs of past tense, perfective and realis usually take an ergative marked A, while verbs of nonpast tense, imperfective and realis would take a nonergative (often nominative) A. To explain this split marking, Tasaku presents thirteen semantic parameters which he calls the 'Effectiveness Condition' (Tasaku 1981:393). They include the parameters in 109. When the Effectiveness Condition is met—that is, the clause is active, the action is completed, reals, with totally affected and definite O etc.—ergative-absolutive marking pattern will occur. But when the Effectiveness Condition is not met—with stative, incomplete, irrealis event and partially affected and indefinite O etc.—other types of marking patterns may occur.

(109) Effectiveness Conditions

A. action--state
B. impingement--nonimpingement on O
C. O attained--not attained
D. totally--partially affected
E. Completed--uncompleted, in progress
F. punctual--durative
G. telic--atelic
H. resultive-nonresultive
I. specific or single activity/situation--
customary/general/habitual activity/situation
J. definite/specific/referential--
indefinite/nonspecific/nonreferential
K. actual/realized--potential/unrealized
L. realis--irrealis
M. affirmative--negative

The active/inactive marking pattern is, to a large degree, caused by verbal semantics and context. Control and volition are the most important factors that determine the split marking in active languages. An active verb (and in some languages, verbs that 'could be viewed as performed, effected, instigated, or controlled by the participant' [Mithun 1991:516]) requires a more agentive A or S that has more control over the event. Active marking occurs with this type of verbs. An inactive verb has a non-agentive A or S, which does not have control (or has less control) over the event. The degree of control also varies in context, as does the active/inactive marking.
Although control (/volition) is the primary import of the markers in active languages, the active/inactive marking also seems to covary with other transitivity factors. The following are the Transitivity parameters presented by Hopper and Thompson 1980.

(110) A. PARTICIPANTS
B. KINESIS
C. ASPECT
D. PUCTUATION
E. VOLITIONALITY
F. AFFIRMATION
G. MODE
H. AGENCY
I. AFFECTEDNESS of О
J. INDIVIDUATION of О

(252) The association of these parameters with the active/inactive marking can be seen more clearly if we classify them into event-associated parameters and participant-associated parameters. In 110, Б, С, D, F and G pertain to events. According to Hopper and Thompson's definition of transitivity, which allows clauses to be 'characterized as MORE or LESS transitive' (1980:253), an action that is punctual, finished, or has actually occurred is transferred more effectively and intensely (from one participant to
another). A participant (A or S) of this type of event exerts more control over the event. Parameters A, E, H, I and J concern participants. Among them, E and H are properties of A or S (Agent). A clause is viewed as more transitive if the Agent is high in potency or acts purposefully. These properties enable him to have more control over the event. Parameters I and J pertain to the O participant. An Agent has more control over the event when an O is more affected and highly referential. Consider active/inactive marking. In an active marking clause, the A or S participant has greater control over the event (and O). The inactive marked A or S has less or no control over the event (and thus O). Therefore, active marking clause is more transitive and inactive marking clause is less so or not transitive at all.

I have discussed the different causes of split marking in split ergative languages and active languages and their association with the Effectiveness Condition and Transitivity parameters. By examining the two sets of parameters, we may find some resemblance. Ill compares the Effectiveness Condition with Transitivity components. (The letter on the left of each parameter is copied from the original papers.)
A participant (A or S) of this type of event exerts more control over the event. Parameters A, E, H, I and J concern participants. Among them, E and H are properties of A or S (Agent). A clause is viewed as more transitive if the Agent is high in potency or acts purposefully. These properties enable him to have more control over the event. Parameters I and J pertain to the 0 participant. An Agent has more control over the event when an 0 is more affected and highly referential. Consider active/inactive marking. In an active marking clause, the A or S participant has greater control over the event (and 0). The inactive marked A or S has less or no control over the event (and thus 0). Therefore, active marking clause is more transitive and inactive marking clause is less so or not transitive at all.

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<table>
<thead>
<tr>
<th>Transitivity</th>
<th>EF Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. participant</td>
<td>A. action-state</td>
</tr>
<tr>
<td>B. kinesis</td>
<td>G. telic-atelic</td>
</tr>
<tr>
<td>C. aspect</td>
<td>F. punctual-durative</td>
</tr>
<tr>
<td>D. punctuality</td>
<td>E. volitionality</td>
</tr>
<tr>
<td>E. Affirmation</td>
<td>M. affirmative-negative</td>
</tr>
<tr>
<td>G. mode</td>
<td>L. realis-irrealis</td>
</tr>
<tr>
<td>H. agency</td>
<td></td>
</tr>
<tr>
<td>I. affectedness of O</td>
<td>D. O totally-partially affected</td>
</tr>
<tr>
<td>J. individuation</td>
<td>J. O definite/specific/referential--</td>
</tr>
<tr>
<td></td>
<td>indefinite/</td>
</tr>
<tr>
<td></td>
<td>nonspecific/non-referential</td>
</tr>
<tr>
<td></td>
<td>B. impingement--</td>
</tr>
<tr>
<td></td>
<td>nonimpingement on O</td>
</tr>
<tr>
<td></td>
<td>C. O attained--not attained</td>
</tr>
<tr>
<td></td>
<td>E. Completed--uncompleted, in progress</td>
</tr>
<tr>
<td></td>
<td>H. resultive--nonresultive</td>
</tr>
</tbody>
</table>
I. specific or single activity/situation--- 
customary/general/habitual activity/situation

K. actual/realized--- potential/
unrealized

Note that some of the parameters in EF condition seem redundant or repetitive (e.g. B=D, C=H, E=G, and K=L). If we take out the repetitions, it will leave only 9 parameters. Out of these 9 parameters, 7 can find their close match in the transitivity parameters. Comparing the two sets of parameters, we find that the Effectiveness Condition lays more stress on the affectedness of O, while transitivity parameters correlate more closely with the semantics of control. The three parameters that are not mentioned in the Effectiveness Condition—number of participants, volitionality and agency—together with other transitivity parameters, all covary with control. Therefore, the split ergative marking seems to place an emphasis on whether the result of an activity has been achieved, which is typically demonstrated in tense, aspect, and modality. With ergative marking pattern, action is focussed on the Agent, which is marked with the ergative case. Since the past tense, perfective aspect and realis mode refer to activities that
have already happened, or are completed, who did them and the result seem more important. For activities of nonpast tense, imperfective aspect and irrealis mode, the focus is away from the Agent. The process of the action is emphasized. Whether the action can be finished or the result will be reached is unknown.

In active languages, active marking indicates that A or S is an Actor who usually performs as an Agent and often acts volitionally. An Agent participant has more control over an event than a non-agent. An Agent would exert greater control over an event that has actually occurred or finished than an event that is still in the process of occurring or will occur in the future. An Agent also exerts more control when the O (Undergoer) participant of the clause is totally affected rather than partially affected. Inactive marking, on the other hand, indicates that the S (or A) participant has less or even no control over the event. The participant is low in agency and does not act volitionally. Inactive marking usually occurs with inactive verbs which are low in transitivity because they tend to be less kinetic (often stative). Compare with the split ergative marking, the active/inactive distinction stresses on the degree of control that A or S has over the event and the O participant.
There is another difference between the split ergative languages and active languages pertaining to the reference marking pattern. In split ergative languages, the ergative-absolutive marking pattern indexes higher transitivity (meets the EF condition) as opposed to the nominative-accusative marking pattern which indexes lower transitivity. In active languages, however, it is the active-marking, which resembles nominative-accusative marking pattern, that is high in transitivity; but inactive marking which can be viewed as a sort of ergative-absolutive marking pattern is low in transitivity.

In an important article concerning the discourse basis of ergativity, Du Bois (1987) analyzes some narratives of Sacapultec Maya, an ergative marking language, and notes that there is a preferred argument structure (PAS) in which New information preferentially appear in S and O, while A is constrained to comprise Given information. Du Bois points out: 'Information distribution among argument position is not random, but grammatically skewed toward an ergative pattern' (805). Therefore, it is the pragmatics, in other words, the distribution of Given/New information in discourse, that forms the basis for surface syntax of ergativity.

As for split ergative languages, Du Bois' hypothesis is that since pronouns, especially SAPs are always Given, there
is no Given/New contrast. Therefore, the ergative/absolutive alignment more likely exhibits in common nouns which shows high information pressure. This is the cause for the split marking.

Whether Du Bois' explanation of Given/New is more suitable than Silverstein's explanation of 'agency potential' (as Du Bois claims) for split ergativity needs further study. However, Du Bois' claim that "split" grammar corresponds to "split" discourse (845) is also appropriate for the explanation of fluid marking in active languages such as Alabama and Creek. My study of the semantics and pragmatics of active languages also proves another claim made by Du Bois, namely 'Grammar codes best what speakers do most' (851).

3.4. Conclusion

In this section, I have compared the participant reference marking of active and split ergative languages. The two systems are similar in the marking pattern except that inactive marking does not have an ergative marked A. The discussion of the causes of the split marking in the two types of languages supports Silverstein's claim that the split is not random.

Both active languages and split ergative languages follow the same NP hierarchy in which pronouns rank higher than common nouns, and human or animate nouns rank higher
than inanimate nouns. In split ergative languages, wherever the split occurs at a certain point of the hierarchy in a particular language, those NPs higher on the hierarchy take nominative-accusative marking pattern while those lower on the hierarchy would have ergative-absolutive marking pattern. Ergative case, then, marks the lower ranked NP as A (Agent). The NP split in active languages reflects an active/inactive distinction. Like in split ergative languages, pronouns in active languages, especially speech act participants, are more natural Actors while inanimate common nouns are more natural Undergoers. Therefore, pronouns as Actor are unmarked, while (inanimate) common nouns are marked (e.g. in 'agentive' case) Actors.

Although the two types of split marking systems differ in the main causes of the split—the split ergative marking is sensitive to the NP hierarchy and T/A/M, and the active marking system is motivated by control—we still find a common semantic parameter, which is Transitivity. The association of the causes of the split in both systems with the Transitivity parameters is easily seen. The ergative-absolutive marking pattern in split ergative languages and the active marking pattern in active languages represent high transitivity while the non-ergative marking pattern and the inactive marking pattern represent low transitivity. The difference is that languages place importance on
different aspects of transitivity. The split marking in the split ergative languages stresses the result of the activity, and the split marking in active languages reflects a motile-inert distinction with the emphasis on the semantics of control (as well as context). The ergative case in the split ergative languages encodes a more agentive A, while in active languages, the active marked participant is more agentive. Both ergative marked and active marked participants are more focussed, more central to the Proposition, therefore, more salient participants.

The comparison of split ergative marking and active marking further demonstrates that forms of participant reference marking are not simply meaningless grammatical mechanisms involving A, S, and O, but reflect the meanings that speakers want to communicate and their view towards the real world.
Notes to Chapter III

1. Verbs with initial y form the first and second person subject with b and l as 'I', and l as 'thou' (Boas and Deloria 1941:76). Verbs beginning with an initial vowel have, for the first person dual-plural, the form 'uk instead of 'u; those with initial nasalized vowel have 'uk'- provided the pronoun precedes the nasalized vowel (77).

2. Most neutral verbs in Dakota are intransitive and take one 'object' (Undergoer). A small group of transitive neutral verbs includes verbs of comparison and stative verbs such as 'resemble' and 'to be proud of'. According to Boas and Deloria (1941:77), such verbs take 'two objective pronouns'. The following are some examples from Boas and Deloria (1941:77).

'iye nimac'eca I resemble you.
'iye (ma)c'eca I resemble him.
'iye nimahakeca I am as tall as you.
'iyo nimakip'i I find you congenial.

3. In his study of Acehnese, Mark Durie (1988) mentions that the optional Undergoer pronominal marking is determined by the discourse.

4. I have not found transitive inactive verbs in Acehnese that take two Undergoer participants (enclitics).
It seems that besides the semantic Role Agent (or Actor as Durie calls it), transitivity is another factor that governs pronominal agreement. Participants and kinesis are the two factors that determine the presence of pronominal agreement in Acehnese. Compare the following sentences:

(i) Gopnyan gi-ja' u-pikan 'He goes to the market.'
(ii) Jih ji-mi-langu 'He swims.'

3rd(young)

(iii) Gopnyan (*gi) tingit 'He is asleep.'
(iv) Gopnyan (*gi) guru lon 'He is my teacher.'
(v) Gopnyan gi-ning ani' agam nyan

see child male that

'He sees the boy.'

Verbs of action such as 'go' and 'swim' in i and ii take the proclitics which agree with Agents. In v, the NP 'Gopnyan' is not an Agent, because instead of initiating an action, it receives sensory experiences. However, since the verb 'see' inherently take two arguments, the Acehnese treat the Experiencer of 'see' the same as the initiator of an action; thus the verb takes the proclitic that agrees with the first participant. In iii and iv, the proclitics are prohibited.

One reason is that, instead of action verbs, iii and iv have stative verbs and a non-verbal predicate, which do not take Agent participants. Moreover, there is only one participant
in each of them. v is lower in transitivity than i and ii, but higher than iii and iv.

5. An exhortative clitic means 'may it be so', or 'I want it to be so' (Durie 1985:48).

6. See also D. Payne 1982 on Chickasaw.

7. In D. Hardy's original table, verbs atotkita 'to work', vaheykita 'to sing', litkita 'to run' and yakapita 'to walk' were also included in Type B. However, D. Hardy now considers these verbs questionable because at least some of the speakers he has worked with reject the variation of the agreement on these verbs. D. Hardy (personal communication) suggests that I delete those verbs from Table 3.

8. (Ø) yimmi is the correction of the original (Ø) iyimmi cited by Munro and Gordon (1982).

9. Silverstein thinks that the 2nd person is higher on the hierarchy than the 1st person. The signs + and - represent certain values of the semantic features of NPs.
CHAPTER IV

THE SEMANTICS OF INVERSE MARKING

This chapter addresses the semantics of inverse marking in inverse languages. Like active languages, inverse languages constitute a small number of the world's languages, and the reference marking of inverse languages is also semantically or pragmatically based.

Section 1 of this chapter will give the definition of inverse language and introduce different types of inverse marking, including subject and object pronominal complexes and the variation of relators to index direct and inverse marking in some languages. Sections 2 and 3 discuss the semantic features of inverse marking, such as the animacy hierarchy, which is one of the most important semantic factors that determine the use of inverse marking. This is shown in the most widely quoted and discussed inverse languages, the Algonquian languages. However, data from other inverse languages show that the animacy hierarchy is not the only factor that determines reference marking in inverse languages. Other semantic features such as control and agentivity are also relevant factors for inverse marking in languages such as Western Apache. Moreover, the analysis of inverse marking in languages such as Cherokee and Nootkan
demonstrates that pragmatic meaning also plays an important role in the choice of direct vs. inverse marking in these languages. Therefore, reference marking in inverse languages, like active languages, also indexes the semantic and pragmatic meanings rather than appearing as 'meaningless' grammatical mechanisms. In other words, semantics, together with the speaker's knowledge of the world and viewpoint, contribute to the use of the inverse marking system.

1. A Definition of Inverse Marking

1.1 Animacy Hierarchy and Inverse Marking

In Chapter I, I gave a brief definition of the inverse marking system. The participant reference marking (in pronominal forms) of a transitive clause operates with respect to an animacy hierarchy such as that mentioned many times in Chapter III. When a person higher on this hierarchy acts on a person lower on the hierarchy, a direct marking form is used. Conversely, when a person lower on the hierarchy acts on a person higher on the hierarchy, the inverse marking pattern is used. DeLancey (1981) calls this type of participant reference marking the 'direction-marking system', and defines the inverse configuration as that in which 'the verb in a transitive sentence is morphologically marked when P is a SAP and A is not' (641). The animacy
hierarchy is the major determinant of direct and inverse marking.

1.2 Two Series of Pronominal Forms and Direction Relators

As in active languages, there are often two series of participant reference marking in inverse languages. One series is used for direct marking, which refers to the case of a higher ranked person acting on a lower ranked person. The other is used for inverse marking, indicating that a lower ranked person is acting on a higher ranked person.

The two series of participant reference marking may be manifested in subject/object pronominal complex forms like in the Algonquian language Cree. Example 10 of Chapter I provided the two series of subject/object compound pronominal forms of Cree (repeated here).

(1)

<table>
<thead>
<tr>
<th></th>
<th>direct</th>
<th>inverse</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>aw</td>
<td>3-1</td>
</tr>
<tr>
<td>1-3p</td>
<td>awak</td>
<td>3p-1</td>
</tr>
<tr>
<td>1p-3</td>
<td>anan</td>
<td>3-1p</td>
</tr>
<tr>
<td>1p-3p</td>
<td>anank</td>
<td>3p-1p</td>
</tr>
<tr>
<td>3-3'</td>
<td>ew</td>
<td>3'-3</td>
</tr>
</tbody>
</table>

(p=plural)

Under the column of direct marking forms, which in this case are the first person Actors acting on the third person Undergoers, this series of the pronominal markers has an a- prefix. The inverse marking forms of the third person as
Actor acting on the first person Undergoer are pronominal complexes with an ik- prefix. The two prefixes are called 'direction markers' (DeLancey 1981:643) or 'relators' (Frantz 1966:53). In the case of Cree, the prefix a- is the direct marker while ik- is the inverse marker.

In some inverse languages, direct vs. inverse marking is not expressed by two different sets of pronominal complexes. Hockett (1966) provides examples in Potawatomi, another Algonquian language. The pronominal marking in this language is in the form of person agreement prefixed on verbs. First person agreement is the prefix n-, and second person agreement has the prefix form of k-. Third person agreement is left unmarked. These prefixes do not change when they function as Actors or Undergoers ('subject' or 'object'). Whether the pronominal agreement form represents the Actor or the Undergoer is indicated by two morphemes that are suffixed to the verb: -a is the direct marker indicating the higher ranked participant is an Actor and the lower ranked participant is an Undergoer; -uk is the inverse marker for the case of a lower ranked Actor acting on a higher ranked Undergoer. The following Potawatomi examples illustrate the direct and inverse marking of this language.

(2) a. /n- wapm- a/  'I see him.'
   b. /k- wapm- a/  'Thou seest him.'
   c. /n- wapm- a-mun/  'We (not thou) see him.'
1.3 Markedness of the Inverse Form

We know that the animacy hierarchy is the principal determinant of direct vs. inverse marking. DeLancey (1981) explains this connection with the theory of Attention Flow and Viewpoint. He asserts that 'The NP's in a sentence are presented in the order in which the speaker wishes the hearer to attend to them' (632), and an unmarked linguistic attention flow for a transitive clause 'is from agent to patient' (633). As Silverstein (1976) and Dixon's (1979) studies show, a NP higher on the animacy hierarchy is a more natural Agent than a NP lower on the animacy hierarchy. Thus, the natural attention flow is for a higher ranked participant, (usually a SAP) to act on a lower ranked participant. That is, the direct marking construction reflects the natural attention flow or natural viewpoint in language. The inverse marking represents the marked or non-natural attention flow of a lower ranked participant as the Agent acting on a higher ranked person. Therefore, inverse marking is the marked form in terms of participant reference.

(3) a. /n- wapm- uk/  'He sees me.'
b. /k- wapm- uk/  'He sees thee.'
c. /n- wapm- uk-nan/  'He sees us (not thee).'</d. /k- wapm- uk-nan/  'He sees us (and thee).'</(Hockett 1966:65-66)
marking. This helps to explain why some languages have an overt direction-marker only in the inverse construction. An example of the marked inverse pattern is shown in Nocte, a Tibeto-Burman language. In this language, the agreement on the verb is always with the SAP in the sentence. If there are two SAP's, the agreement is with the highest ranked participant.

   (4) a. nga-ma nang hetho-e 'I will teach you.'
       I-Erg you teach-lpl [sic]
   b. nang-ma nga hetho-h-ang 'You will teach me.'
       you-Erg I teach-Inv-1st

   (5) a. nga-ma ate hetho-ang 'I will teach him.'
       I-Erg he teach-1st
   b. ate-ma nga-nang hetho-h-ang 'He will teach me.'
       he-Erg I-Acc teach-Inv-1st

(DeLancey 1981:641)

The a sentences in both pairs have a first person Agent which is higher on the hierarchy than a second or a third person Patient. Thus, these two sentences are unmarked, direct sentences. In the b sentences, however, the Agent participants are lower in rank than the Patient participants. For these sentences of non-natural attention flow, an inverse marker -h is used. Note that in 5b, the first person Patient is also marked with accusative case, another device to show that Patient is marked, but in 4b the
Patient does not have case marking. Note also that the agreement in 4a is a first person plural although the Actor is a first person singular. Compare 4a with 5a, we can see that in a sentence with a SAP Agent and a non-SAP Patient, the pronominal agreement is with the SAP Agent. However, in cases that both Agent and Patient are SAPs, and the Agent is higher in rank than the Patient (1st-2nd), the agreement is with the 1st person Agent in person but with both Agent and Patient in number. This shows that there is a greater gap in rank between SAPs and non-SAPs than between 1st and 2nd person pronoun.

Using a kind of accusative marking to mark a higher ranked Patient participant also occurs in Rembarnga, an Australian language. In this language, when the Actor is higher on the hierarchy than the Undergoer, no overt marker is used. But in the case of a lower Actor acting on a higher Undergoer, an 'accusative' suffix -n is marked within the cross-referencing system (Mallinson and Blake 1982:66).

(6) a. pa-ga-na        b. na-n-pa-na
    they-me-saw       me-acc-they-saw
    'I saw them.'      'They saw me.'

(Mallinson and Blake 1982:66)

Although Mallinson and Blake call the morpheme -n an 'accusative' suffix, in this example it looks exactly like a regular inverse marker.
The inverse marking in Fore (a Northeast Caucasian language) is on the NPs. Unlike Rembarnga which has an 'accusative' marking (=inverse) on the verb to signal a higher ranked Undergoer, Fore has an Agent marker on the Actor NP if it is lower ranked than the Undergoer. In cases in which that the Actor is higher than or equal to the Undergoer, no Agent marker is used.

(7) a. wa masi agaye [a- ka- y- e]
   man boy him-see-he-indicative
   'The man sees the boy.'

b. yaga: wa aeguye [a-egu-y-e]
   pig man him-hit-he-indicative
   'The man kills the pig.'

c. yaga:-wama wa aeguye
   pig-Agt man him-hit-he-indicative
   'The pig attacks the man.'

(Mallinson and Blake:1982:68)

Some languages, such as the Algonquian languages Potawatomi (Hockett 1966), Blackfoot (Frantz 1966), and Eastern Ojibwa (Rogers 1975), and a Tibeto-Burman language Jyarong (DeLancey 1981), mark both direct and inverse clauses using two different relators, but an inverse form is always considered 'marked' compared to the direct form because it reflects a non-natural attention flow in language.
2. Animacy Hierarchy in Inverse Languages

There is no doubt that an animacy hierarchy is the most important semantic element that determines the participant reference marking in inverse languages. The following animacy hierarchy that is repeated here from 68 of Chapter III represents the general hierarchy in human languages.

(8) $1 > 2 > 3 > \text{human} > \text{animate} > \text{inanimate}$

However, if we examine each inverse language carefully, we may find that the hierarchy differs slightly across languages. This slight difference is usually found with respect to the ranking of pronouns (person hierarchy).

2.1 The Hierarchy of $1 > 2 > 3$ Person

In many languages, the first person pronoun—the speaker—ranks the highest on the hierarchy, with the second person as the second highest ranking pronoun. Rembarnga (Australian) has such a hierarchy as is shown in 9 (Mallinson and Blake 1981:67)

(9) $1 > 2 > 3 \text{ plural} > 3 \text{ singular}$

The Algonquian language Blackfoot also ranks the first person as the highest on the hierarchy, but the hierarchy in Blackfoot is more complicated and subtle. Frantz (1966:53) gives the person hierarchy of Blackfoot as:

(10) $1 > 2 > 12 > x > 3 > 4 > 5$

The figure 12 in 10 refers to the first person inclusive, and x refers to the indefinite person. The figures 3, 4, and
5 all represent what we generally call 3rd person in other languages—the party mentioned in the speech act that is neither the speaker nor the addressee. The further division of the 3rd person depends on the topicality of a clause. 3rd person is used to refer to the primary topic. The 4th person represents the secondary topic that is subordinate to the 3rd person, for instance the possessed NP as in 'the dog's eye'. The 5th person is in turn topically subordinate to 4th person. There are two sets of relators in this language. One set of morphemes -a, -i or -o is used when a higher ranked person is an Actor. Another set of morphemes -ok or -oksi occurs when a person of lower rank is an Actor (Frantz 1966:53). The following two sentences demonstrate an inverse marked clause of a 4th person acting on a 3rd person in 11, and a direct marked clause of a 3rd person acting on a 4th person in 12.

(11) otsitanikk omi pitai
[ot- it
4. at a certain place or time
anit-k ø pitaø-4]
v-tell (<-) 3 eagle-4
'The eagle told him.' (3<---4)

(12) itanistsioa omi otomitaam
'She was talking to her dog.' (3-----4)

(Frantz 1966:56)
In Jyarong (Tibeto-Burman), while the SAP strongly outranks the 3rd person, the first person only slightly outranks the 2nd person. The language has an inverse marker \( u- \) which occurs when a lower ranked person is an Actor in the clause but a higher ranked person is an Undergoer. The cross-reference generally agrees with the higher ranked person.

(13) a. nga ma nasno-ng
    I he scold-1st
    'I will scold him.'

b. ma-ka nga \( u- \) nasno-ng
   he-erg I INV-scold-1st
   'He will scold me.'

c. ma-ka no ta-\( u- \)-nasno-n
   he-erg you T-INV-scold-2nd
   'He will scold you.'

(DeLancey 1981:642)

The direct vs inverse marking pattern here is quite obvious. 13b and 13c not only contain inverse markers on their verbs, but the lower ranked Actors also take the ergative case marking. Both serve to indicate that the starting point of these sentences is not the more natural viewpoint. This is further proven by the cross-reference agreement which always goes with the higher person in the sentence; the agreement in 13a cross-references the Actor, but in 13b and 13c, it cross-references the Undergoer. The direct vs. inverse distinction is not so clear-cut in sentences with two SAP participants.
(14) a. no-ka nga ka-u-nasno-ng 'You will scold me.'
   you-Erg I T-Inv-scold-1st

14a is clearly an inverse sentence with an inverse marker on the verb, an ergative case marking on the Actor and the agreement cross-referencing the higher ranked Undergoer. This shows that the 1st person ranks higher than the 2nd person. One might expect, accordingly, that in a clause in which a 1st person acts on a 2nd person, there will be no case marking, no inverse marker, and the agreement cross-references the 1st person Actor. But 14b is not exactly as one expects.

(14b) nga no ta-a-nasno-n 'I will scold you.'
   I you T-A-scold-2nd

Like other direct marking sentences (13a for instance), the Actor does not take the ergative case marking, but the other two conditions of the noninverse marking pattern are not met in 14b. First, the agreement in 14b cross-references the 2nd person Undergoer in spite of the fact that it is a lower ranked participant in comparison with the 1st person Actor. Secondly, although the inverse marker u- does not occur in this sentence, there is another direction marker a- in its place, one that does not occur in other sentences with a lower ranked Undergoer and a higher ranked Actor. Actually, the a- prefix 'occurs only with 1st-2nd configurations' (DeLancey 1981:642). The 1st->2nd configuration as in 14b
cannot be considered an inverse construction because the
2nd-->1st in 14a is shown to be the inverse. Therefore, the
prefix a-, which is, in DeLancey's words 'another direction
marker' (643) not an inverse marker. My explanation is that
a- is a special direct marker indicating that the 2nd
person, unlike the 3rd person, ranks only slightly lower
than the 1st person. The cross-reference agreement in 14b
might be explained in that in an ergative language like
this, the absolutive is the Topic by default and thus gets
cross-referenced if the ranking of participants is close, as
when both are SAPs.

2.2 Conjoined Pronominals

That the 1st person pronoun ranks the highest on the
hierarchy can be shown also from the agreement marking of
conjoined pronouns. For instance, when the subject or object
of a clause consists of a conjoined 1st person singular
pronoun and a 2nd or 3rd person pronoun, the person marking
on the verb may be in the form of the 1st person plural,
thus agreeing with the highest ranked member in person and
the conjunction of the two in plural number. This occurs in
Lushootseed, a Coast Salish language.
(15) la- ?alad calap (cax*)
progressive-eat you.pl (sg)
?a?ita
inter.comitative.art.
?ad-sya?ya ?a ta sx*usab
your(sg)-friend obl. art soap-berry
‘Are you and your friend going to eat the soap-berry dessert?’

(16) tu- sudx* but (bs) caxw
remote-see us (me) you(sg)
?u ?i ci d-suq*a?
inter.comitative.art my-younger-sibling
‘Did you see my kid sister and me?’

(17) nem? ct sk‘am? ?i? t0a na sqe?eq
go we swim comi. art. my younger-sibling
‘My younger brother and I are going swimming.’
(Hukari 1976:315-6)

Sentences 15 and 16 contain subjects of a 1st person
conjoined with a 3rd person, and 17 has a conjoined object.
The pronominal clitics in these sentences agree with the
highest ranked participant in person: 2nd person in 15, and
1st in 16 and 17; but they agree with the conjoined subject
or object in number by being in the plural form.

Nocte also has this marking pattern. Example 4a in
section 1.3 shows that 1sg-2sg configurations take the 1st
person plural agreement. Compared with 4b (2sg-1sg), and 5b (1sg-3sg), both with the first person singular agreement, the 1st plural agreement in 4a indicates that the 1st person is only slightly higher in rank than the 2nd person.

2.3 The Person Hierarchy 2 > 1 > 3

The 2nd > 1st > 3rd hierarchy is also found in some Algonquian languages. The Potawatomi transitive animate paradigm may be taken as an example (DeLancey 1981:643).

(18) 2--1 k-V 3--2 k-V-uk
     1--2 k-V-un 1--3 n-V-a
     2--3 k-V-a 3--1 n-V-uk

The personal agreement prefixes can be seen to index the 2nd person if there is one, otherwise the 1st person. From the distribution of agreement prefixes, we may say that in Potawatomi, the 2nd person ranks higher than the 1st person. Both SAP's rank higher than the third person. The direction-markers also demonstrate this person hierarchy. When the 2nd or the 1st person act on the 3rd person, a direct marker -a is suffixed to the verb. On the other hand, when the 3rd person acts on the 1st or 2nd person, the inverse suffix -uk is used. But in an action between two SAP's, neither -a nor -uk is used. The 2nd-1st configuration is unmarked and takes no direction marker at all. With 1st-2nd, however, a distinct suffix -un is used. As in Jyarong (see 14b), Potawatomi marks the case of 1st and 2nd participants.
interacting in one event in a special way. The difference is that -un in Potawatomi is more like an inverse marker, while in contrast, a in Jyarong appears to be a direct marker. However, the use of the morpheme -un instead of a regular inverse marker -uk for the 1st-2nd configuration in Potawatomi indicates that 1st person is only slightly lower than 2nd person, and it also suggests the importance of a subhierarchy distinguishing SAP's from non-SAP's, and further, that the ranking of 1st vs. 2nd varies from language to language.

No matter whether a language has 1 > 2 > 3 hierarchy or 2 > 1 > 3 hierarchy, we can conclude that the SAP always ranks higher than the third person. So, the hierarchy actually can be written as SAP > 3rd. That is why many languages set off SAP from the 3rd person. Hockett (1966) uses the term 'local' to refer to the SAP in opposition to 3rd person pronominals and other NPs. Besides the above mentioned languages, many other languages set off SAP's from 3rd person, for instance, Navajo and Cherokee. The inverse marking system occurs when the Undergoer is a SAP but the Actor is not.

Based on the generalization that SAP's are always higher than 3rd person on the hierarchy, and pronouns are always higher than common nouns, DeLancey (1981:644) provides the full statement of the hierarchy:
This hierarchy applies to all languages with only slight differences in detail, and it is this hierarchy that determines the direct/inverse marking system in inverse marking languages.

3. Other Semantic Characteristics of Inverse Languages

Sections I and II discuss the animacy hierarchy, which is the major determiner of direct vs. inverse marking in inverse marking languages. However, there are other semantic and pragmatic factors that work together with the animacy hierarchy to determine the choice of direct vs. inverse marking. In this section, I will use data from Navajo, Western Apache, Cherokee, Nootkan and Mapudungun to show that semantic and pragmatic factors other than the animacy hierarchy also contribute to the use of inverse marking patterns.

3.1 Navajo

The Apachean language Navajo has both independent pronouns and pronominal prefixes on verbs, and 'there is no variation between the subject and object forms of independent pronouns' (Shayne 1982:380). As for the pronominal prefixes, there is a distinction between the subject prefix and direct object prefix. What is unique in this language (and also in other Apachean languages) is that
'if the subject is other than third person, the object prefix position (position 4) is filled by 0' (Shayne 1982:381).

(20) a. $\emptyset$- di- s-o- teeh
   him-incept-I-class-carry
   'I begin to carry him.'

b. $\emptyset$- di- l- teeh
   him-incept(you)-class-carry
   'You begin to carry him.'

(Shayne 1982:381)

But when both subject and object are third persons, the object is marked by one of the two sets of markers: vi- or bi-.

(21) a. vi- di- $\emptyset$- l- teeh
   him-incept-he-class-carry
   'He (A) begins to carry him (B).' 

b. bi- di- $\emptyset$- l- teeh
   him-incept-he-class-carry
   'He (B) begins to carry him (A)._'

(Shayne 1982:381)

Linguists have argued about the use of vi- vs. bi- in Navajo. Different explanations and suggestions have been given for the variation of the two third person pronominal markers. Sapir and Hoijer (1967) offer an explanation for
the use of the two third person markers in terms of word order and syntactic relations. In a clause where yi- occurs, the noun immediately before the verb is the object/Undergoer (SOV), but where bi- occurs, the noun immediately before the verb is the subject/Actor (OSV). The following sentences exemplify this account.

(22) a. dine askii yi- di- ø- l- teeh (SO yi)
   man   boy   him-incept-he-class-carry
   'The man begins to carry the boy.'

   b. dine askii bi- di- ø- l- teeh (OS bi)
   man   boy   him-incept-he-class-carry
   'The boy begins to carry the man.'

In 22a, the noun immediately before the verb is the object of the sentence and yi- is prefixed on the verb. In 22b, however, the prefix bi- indicates that the noun 'boy' immediately preceding the verb is the subject, which is shown by the English gloss. Whether a single full noun in a sentence is interpreted as the subject or the object depends on the marker yi- or bi-.

(23) a. ?askii yi- di- ø- l- teeh
   boy   him-incept-he-class-carry
   'He begins to carry the boy.'

   b. ?askii bi- di- ø- l- teeh
   boy   him-incept-he-class-carry
   'The boy begins to carry him.'
In 23a, the full NP immediately preceding the verb is interpreted as the object and the verb takes the yi- marker. 23b has a bi- marker on the verb, and the only full NP before it is the subject. Although Sapir and Hoijer's analysis of yi- and bi- accounts for data like 22 and 23, it cannot explain why 25b and 26a are unacceptable.

(24) a. lii dzaaaneez yi-a-ø-ø-tal (SOV yi) horse mule him-perf-he-class-kick 'The horse kicked the mule.'

b. dzaaaneez lii bi-z-ø-ø-tal (OSV bi) mule horse him-perf-he-class-kick 'The mule was kicked by the horse.'

(25) a. leechaa'i leets aa' yi- ø- 1- naad (SOV yi) dog plate it-he-class-lick 'The dog is licking the plate.'

*b. leets aa' leechaa'i bi- ø- 1- naad (OSV bi) 'The dog is licking the plate.'

(26)*a. yas leechaa'i yi- s- ø- ø- tin (SOV yi) snow dog him-perf-it-class-freeze 'The snow froze the dog.'

b. leechaa'i yas bi- s- ø- ø- tin (OSV bi) dog snow him-perf-it-class-freeze 'The snow froze the dog.'

(Shayne 1982:383)
Kenneth Hale (1972) uses a different analysis for 24-26. According to him, the basic word order of Navajo is SOV. In cases of this normal word order, yi- is prefixed on the verb. OSV word order also occurs under some conditions, and bi- would be prefixed on the verb for this inverse order. This is illustrated by 24. Bi- represents the inverted subject-object order. However, word order, together with the yi- and bi- markers, is not without restriction in Navajo. 25b and 26a are ungrammatical although they have OSbi- and SOyi- forms respectively. Hale's hypothesis is that there exists, in Navajo, a NP hierarchy displayed as in 27.

(27) human > animate > inanimate

When the two participants of a transitive clause are equal in rank, both SOyi- and OSbi- are possible. Both sentences in 24 have two animate participants of equal rank. But when the two participants are not of equal rank, the restriction is that a NP of lower rank may not precede a higher ranked NP. Leetsaa' 'plate' and yas 'snow' are inanimate nouns; they cannot precede the higher ranked animate noun leechaa'i 'dog', no matter whether they are subject (26a) or object (25b) of the sentence.

This hypothesis of the relationship between the animacy hierarchy and the word order together with the third person markers also suggests that Navajo has the configuration of an inverse language. The pattern, according to Hale, is that
when the two participants of a transitive clause (subject and object, as in Sapir and Hoijer) are of equal rank, inversion is optional. That is to say, the clause can have either SOyi- or OSbi- order. When the subject (Actor) is a higher ranked noun than the object (Undergoer), inversion is blocked as in 25b. On the other hand, when the object (Undergoer) is a higher ranked noun than the subject (Actor) in the same clause, inversion is obligatory as in 26b. Hale does not say so explicitly, but it can be argued that under this analysis, the prefixes yi- and bi- have the function of direct and inverse markers. Yi- occurs in direct clauses while bi- occurs in inverted clauses.

Hale's analysis can be summarized as in 28, in which I use Actor and Undergoer to replace his S and O. Note that for the clause to be acceptable, the first NP is always the higher one on the animacy hierarchy. Because Hale claims that SOV word order is 'basic' (and thus, we presume, reflects the natural attention flow), we can say that clauses with yi are direct constructions and clauses with bi are inverse constructions.
Although Hale's semantic analysis applies generally to Navajo data, it still does not explain the semantic difference between 24a and 24b. In other words, why and under what conditions do Navajo speakers choose the SOyi- or OSbi- pattern when the two participants are of equal rank? And why does a higher ranked NP usually precede a lower ranked NP?

Other linguists have touched on or discussed these questions with varying approaches. Foley and Van Valin (1977) discuss the Navajo third person markers within the theory of referential structures, which represent 'the basic organization of the clause in terms of the referentiality of the NPs therein' (294). There are two factors that interact to result in the referential structure: a discourse-controlled factor, which may be Definiteness or Givenness, and an inherent referential hierarchy. The referential structure of each clause consists of one referential peak.
(RP) 'which is defined as the pragmatically most salient NP due to either of the referentiality factors' (295).

Applying this theory to Navajo data, Foley and Van Valin find the RP in Navajo occurs in the clause initial position. This NP is decided to be the 'most salient NP' (RP) of a clause according to one of the referentiality factors, specifically 'the inherent referentiality of the NP in terms of the Referential Hierarchy', which is an animacy hierarchy (297). This is why the NP in the clause initial position must be the highest ranked one regardless of its semantic Role. The third person markers mark the different Roles this RP participant plays in the clause. Vi- indicates the RP is an Actor and bi- indicates it is an Undergoer. The referential hierarchy explanation for Navajo word order and third person prefixes is based on clause internal considerations, and is similar to Hale's analysis. However, the salience of the RP participant is not determined by the inherent referential hierarchy alone. Let us look at the following examples:

(29) a. 'ashkii 'at'eed viztal
   boy(A) girl(U) kick
   'The boy kicked the girl.'

b. 'at'eed ashkii biztal
   'The boy kicked the girl.'

   (Foley and Van Valin 1971:301)
Each of the two sentences in 29 has two full nouns. With the first noun as RP, yi- in 29a indicates it is an Actor, and bi- in 29b marks it as the Undergoer. Therefore, although the two sentences have reversed word order, they have the same English translation. Compare 29 with 30.

(30) a. 'at’eed yiztal
girl(U) kick
'He kicked the girl.'
b. 'at’eed biztal
girl(A) kick
'The girl kicked him.'

(Foley and Van Valin 1977:301)

30 contains sentences with only one full noun. The third person markers tell us that the full noun in both sentences cannot be the RP (given these glosses) since yi- indicates the RP is the Actor and bi- indicates it is an Undergoer. Thus, the RPs in both 30a and 30b are omitted. This omission of the sentence initial noun (RP) is determined by the other factor of the referential structure, specifically, the discourse factor, which, in the case of Navajo is Givenness or presence in the immediate context of discourse. The fact that the coreferential deletion across coordinate conjunctions applies preferentially to RPs proves this.
(31) a. 'ashkii ch'enadzid doo 'ateed yizts'os  
    boy(A) woke up and girl(U) kissed  
    'The boy woke up and kissed the girl.'  

    b. 'ashkii che'enadzid doo 'at'eed bizts'os  
    boy(A) woke up and girl(A) kissed  
    'The boy woke up and the girl kissed him.'  

(Foley and Van Valin 1977:302)

In these two sentences, both nouns that are omitted in the second clauses are the RPs that are coreferential with the RP ashkii 'boy' in the first clause. The discourse status Given allows them to be omitted. Vi- in 31a indicates the omitted noun is an Actor. So, the clause cannot mean 'the girl kissed him'. Bi- in 31b indicates the omitted RP in the second clause is an Undergoer. It cannot mean 'the boy kissed the girl'. When both nouns in the second clauses are omitted, the vi- and bi- marker serve in effect as switch reference markers indicating whether the RP in the second clause has the same or different Roles as RP in the first clause.

Foley and Van Valin's analysis shows that in Navajo, the NP in the clause initial position is the most salient NP in the clause; the salience of the RP is determined by its being the highest ranked NP of the clause as well as its being a Given NP in the discourse. The choice of the third
person markers *yi*- and *bi*-indicate the change of Roles of the RP: RP as Actor or Undergoer.

Based on Foley and Van Valin's analysis of the Navajo data, Davis (1983) uses the semantic categories of Topic and Focus instead of Referential Peak for an alternative explanation. He hypothesizes that Navajo is a language in which Topic=Focus. Topic and Focus are mutually implicated; i.e. a Topic NP is always focussed and only Focus nouns can be Topic. The initial NP has greater potency and is more motile than the other NP of the clause because of its being higher on the animacy hierarchy. The third person markers, keyed to the initial position, identify that participant as either Executor (*yi-*) or Experiencer (*bi-*) (Davis 1983:185). Both Roles are more Nuclear to the Proposition than other Roles. The association of the sentence initial NP with greater potency is not arbitrary. The initial NP of a clause in Navajo also signals the discourse status of Topic which is never New nor Unknown in the discourse. It is always Given, or present in immediate discourse context, as shown by the omission of the clause initial NP in single NP sentences and conjoined sentences. According to Davis, 'the Topic of the first conjoined utterance must be maintained throughout' (1983:185), and the omission of the Topic which is the Given NP does not cause ambiguity. Both Foley and Van Valin (1977) and Davis's analyses of the Navajo data show
the association of the clause initial NP with greater potency as well as Givenness. When the participants of a clause are equally ranked, the speaker has the choice of using either SOyi- or OSbi- pattern. But the choice is not 'free'. Rather it is guided by the principle of Topic Continuity (Givon 1984) and is made in order to maintain the same participant as Topic. These analyses in terms of the semantic and pragmatic factors affecting Navajo help explain the 'optional inversion' of sentences such as 24.

Although most data from Navajo show that sentences with a lower ranked noun preceding a higher ranked noun are ungrammatical, DeLancey finds that 'many Navajo speakers will accept a sentence like "The man was riding a horse" in the bi- form with "horse" preceding "man", if it is understood that the man was drunk and thus not in control of the event' (1981:651). In this case, we have an OSbi- inverse pattern but with the lower ranked Undergoer preceding the higher ranked Actor. This case violates Hale's rule for Navajo direct and inverse word order stated solely in terms of an animacy hierarchy, which is that in sentences with a higher Actor and a lower Undergoer, inversion is blocked as it is in 28. And since the sentence is given out of context, we cannot explain it in terms of Givenness or Topic. However, this 'violation' of the rule is not without explanation. It actually implies some special meaning, which
is the lack of control on the part of the higher ranked Actor over the lower ranked Undergoer. Note that the Role does not change, but the correlation between Agent and Control does. Cross-linguistically, the prototypical Agent has the semantic feature of +control and -affectedness, and the semantic feature for a prototypical Undergoer is just the reverse: with -control and +affectedness. However, we know that +control and +affectedness are two continua. The semantic value of the prototypical Roles may vary along these continua. It may be the case that any deviance in the grammar of agency can be interpreted as a change of one of these values. This is the case in DeLancey's problematic example. In this sentence, although the Actor is a 'doer', he could not control his action due to the fact that he was drunk. Therefore, the degree of control on the part of the Actor diminishes. This idea is expressed by fronting the Undergoer to the sentence initial position in spite of its lower rank on the animacy hierarchy. Here, we can see that the animacy hierarchy per se is not the only element that determines which NP should be in the sentence initial position. The potential for control seems to be an aspect of animacy or agency and thus is relevant, too.

Gary Witherspoon's (1977:65-68) explanation may cast further light on this problem. He finds that the first NP in a Navajo sentence either controls the other NP (SOyi-) or
allows the other NP to act upon it (OSbi-). The assumption is that the higher ranked noun in Navajo has greater intelligence or power that allows him/her (or it) to control the lower ranked noun. This is why the higher ranked Actor precedes the lower ranked Undergoer. As for the lower Actor acting upon a higher Undergoer, Witherspoon thinks that it is not ungrammatical, but only culturally unacceptable.

(32) a. *lii hastiin yi-ztal (SOyi-)
   horse man 3rd-kicked him
   'The horse kicked the man.'

b. hastiin lii bi-ztal (OSbi-)
   man horse 3rd-kicked him
   'The man was kicked by the horse.'

According to Witherspoon, 32a is not acceptable because the horse should not have the intelligence and power to dominate the man by deciding to kick him and then accomplish the feat. On the other hand, although 32b is both grammatical and acceptable, it should be translated as 'The man let the horse kick him', because with the man as the higher ranked and also the first NP in the sentence, he should have the power to control the horse, preventing it from kicking him. His being kicked by the horse, therefore, can be explained as being due to his consent to let it happen. Using the same assumption to explain DeLancey's example, we may say that the man, being drunk, has lost his natural power to control
the horse, and the horse is put in the sentence initial position to show its relatively increased control due to the man's loss of it. The implication is that it allows the man to act upon it.

DeLancey and Witherspoon's explanations, although somewhat different from the others, also support the generalization that sentence initial position is occupied by the most salient NP of the clause, with \( \text{vi-} \) and \( \text{bi-} \) indicating the direct or inverse order of the Actor and Undergoer. The only difference is that this salience is determined not only by the animacy hierarchy, but perhaps also by the semantics of relative control.

3.2 Western Apache

Like Navajo, Western Apache is also an Apachean language. One phenomenon that Western Apache has in common with Navajo and other Apachean languages is the occurrence of the verbal prefixes \( \text{vi-} \) and \( \text{bi-} \) in transitive clauses with two third person participants. In spite of the identical form of the third person prefixes \( \text{vi-} \) and \( \text{bi-} \) in the two languages, a study of the use of \( \text{vi-} \) and \( \text{bi-} \) in Western Apache by Shayne (1982) shows that 'the hypothesis put forth by the investigators of Navajo do not account for the Apache phenomenon' (Shayne 1982:379), and she proposes an alternative approach. However, as in Navajo, the use of
**vi-** and **bi-** prefixes in Western Apache is also semantically based.

Shayne divides her Apache data into two groups. Group I contains the sentences that follow. (Shayne 1982:386-387)

(33) a. Istsaan me yi-Ø- l- chi (SOyi-)
woman baby him-she-perf-give birth  hum-hum
'The woman gave birth to a baby.'

b. Me istsaan bi- Ø- l- chi (OSbi-)
baby woman him-she-perf-give birth  hum-hum
'The baby was given birth to by the woman.'
'The woman gave birth to the baby.'

(34) a. Tli dzaneezi yi- s- Ø- Ø- tal (SOyi-)
horse mule it-perf-it-class-kick anim-anim
'The horse kicked the mule.'

b. Dzaneezi tli bi- s- Ø- Ø- tal (OSbi-)
mule horse it-perf-it-class-kick anim-anim
'The mule was kicked by the horse.'
'The horse kicked the mule.'

(35) a. Tu sol yi- ye- s- Ø-Ø-hi (SOyi-)
water plants them-adverb-perf-it-class-kill
'Water killed the plants.'  inan-inan

*b. Sol tul bi- ye- s- Ø- Ø- hi (OSbi-)
plants water them-adverb-perf-it-class-kill
'The plants were killed by water.'  inan-inan
'Water killed the plants.'
(36) a. Ishkiin gah yi- za- na- z- (SOyi-) 
boy rabbit him-move-around-imperf-
Ø- Ø- ni hum-anim 
he-class-squeeze
'The boy is hugging the rabbit.'
b. Gah ishkiin bi- za- na- z- (OSbi-) 
rabbit boy him-move-aound-imperf-
Ø- Ø- ni anim-hum 
he-class-squeeze
'The rabbit is being hugged by the boy.'
'The boy is hugging the rabbit.'

(37) a. Izee ncho'i itide yi- ye- s- (SOyi-) 
medicine bad girl her-adverb-perf-
Ø- Ø- hi inan-hum 
it-class-kill
'Poison killed the girl.'
b. Itide izee ncho'i bi- ye- s- (OSbi-) 
girl medicine bad her-adverb-perf-
Ø- Ø- hi hum-inan 
it-class-kill
'The girl was killed by poison.'
'Poison killed the girl.'

(Shayne 1982:386-387)

Note first that the (b) sentences in 33-37 have both passive and active translations. Shayne thinks that these sentences
just express a feeling of passivity because the NP in the subject position is a Goal rather than an Agent. (I will further discuss the passivity vs. inversion analysis in Section 4 of this chapter.) Secondly, Hale's rules governing the restrictions on inversion do not seem to apply to Western Apache except for the sentences in 33 and 34 with optional inversion for NPs of equal rank. In 36b, although the animate Undergoer 'rabbit' is lower than the human Agent 'boy', inversion is not blocked. Likewise, in 37, in spite of the fact that the Agent NP 'poison' is lower than the Undergoer noun 'girl', inversion is still optional rather than obligatory. The third thing that we notice is the two sentences in 35 in which the two participants in each are of equal rank. According to Hale's inversion restriction in Navajo, inversion in such cases is optional. That is, both S0yi- and O0bi- forms are acceptable. However, we find 35b is ungrammatical. This further demonstrates that an animacy hierarchy is not the determining factor for the word order and the choice of yi- and bi- markers in Western Apache as it is in Navajo. To understand the semantic factors that determine the use of yi- and bi- as well as the word order, we have to compare Group I sentences with Group II sentences. The following are some Group II sentences.
(38) a. * Me istsaan yi- ni-  Ø-  l- ha  (SOyi-)  
   baby woman her-perf-he-class-worry  hum-hum  
   'The baby worried the woman.'  
   b. Istsaan me bi- ni-  Ø-  l- ha  (OSbi-)  
   woman  baby her-perf-he-class-worry  hum-hum  
   'The baby worried the woman.'  
   'The woman was worried by the baby.'  

(39) a. * Kosnih me  tsi- yi- ni-  Ø-  l- hiiz  (SOyi-)  
   bee  child adverb-him-perf-it-class-surprise  
   'The bee surprised the child.'  
   anim-hum  
   b. Me hosnih  tsi- bi- ni-  Ø-  l- hizz  (OSbi-)  
   child  bee adverb-him-perf-it-class-surprise  
   'The bee surprised the child.'  
   hum-anim  
   'The child was surprised by the bee.'  

(40) a. * Kabas itidi yi-du-  Ø-  Ø-  liit  (SOyi-)  
   potato  girl her-perf-it-class-burn  inan-hum  
   'The potato burned the girl.'  
   b. Itide kabas bi- du-  Ø-  Ø-  liit  (OSbi-)  
   girl  potato her-perf-it-class-burn  hum-inan  
   'The potato burned the girl.'  
   'The girl was burned by the potato.'  

(41) a. * Hastin  tli  yi- ye- s-  Ø-  Ø-  hi  (SOyi-)  
   old age  horse it-adverb-perf-it-class-kill  
   'Old age killed the horse.'  
   inan-anim
In these pairs of sentences, none of the (a) sentences are acceptable. Although they have SOyi- pattern, except for 38a, all others have a lower ranked Actor preceding a higher ranked Undergoer. On the other hand, all the (b) sentences with the OSbi- inversion pattern are acceptable. In these sentences, the first NPs which are the Undergoers are higher on the hierarchy than the second NPs (Actors). However, we already know from Group I sentences, as well as the (a) sentences of 38-41 that the animacy hierarchy is not the major semantic factor that determines the NP inversion and the choice of yi- and bi- markers. Shayne observes that the sentence initial NPs of (b) sentences of 38-41 are all animate Undergoers. An inanimate Undergoer in the initial position with OSbi- inversion pattern is unacceptable. Compare 42 to 41b.

(42) * Ch'el hastin bi- ye- s- ø- ø- hi (OSbi-)
  tree old age it-adverb-perf-it-class-kill
  'Old age killed the tree.' inan-inan
  'The tree was killed by old age.'
The only difference between 42 and 41b lies in the first noun. 'Horse' in 41b is an animate noun, but 'tree' in 42 is inanimate. Therefore, the only restriction is that inversion may not occur when the Undergoer in sentence initial position is inanimate.

Group II also has another form that Group I does not have.

(38) c. Me istsaan bi- ni- Ø- 1- ha (SObi-)
   baby woman her-perf-he-class-worry hum-hum
   'The baby worried the woman.'

(39) c. Kosnih me tsi- bi- ni- Ø- 1- hiiz (SObi-)
   bee child adverb-him-perf-it-class-surprise
   'The bee surprised the child.' anim-hum

(40) c. Kabas itide bi- du- Ø- Ø- liit (SObi-)
   potato girl her-perf-it-class-burn inan-hum
   'The potato burned the girl.'

(41) c. Hastin tli bi- ye- s- Ø- Ø- hi (SObi-)
   old age horse him-adverb-perf-it-class-kill
   'Old age killed the horse.' inan-ani

These sentences do not have NP inversion, but the pronominal prefix on the verbs is bi-. Comparing these sentences with 33-37, we can see that Group II sentences allow either the OSbi- or SObi- pattern, but not SOyi- pattern that is permitted in Group I. Given all these facts, what determines
the choice of yi- and bi- markers and the inversion of NPs in Western Apache?

By carefully examining the meanings of Group I and II sentences, Shayne explains that the Agents in Group I sentences have full control over the events. They alone achieve the event by their intrinsic power. The Goals (Undergoers) in this group are only passively involved in the realization of the events. For instance, the Agents of 33 and 36 are human. They are fully aware of what they are doing. The Agent of 34 is an animate participant who is acting on another animate less powerful than it. 37 contains an inanimate Agent and a human Undergoer, but the Agent 'poison' has the inherent ability to kill. Shayne calls the Agents in Group I the 'potent Agent' (1981:395). However, in Group II sentences, the Agents do not have full control over the events for the verbs are experiential events. The Undergoers here, which are human or animates, are not just passively involved in the achievement of the events. To some degree, they also participate in the events and contribute to the realization of the events. For instance, in 38, although the baby causes the mother to worry, it is the mother who actually worries. The same happens in 39, where it is the child who experiences the feeling of surprise. In 40, the potato has the power to burn the girl only when she allows herself to come in contact with the Agent. Unlike
'poison', 'old age' in 41 is 'an inherent characteristic of the horse itself' (Shayne 1981:397). The horse is not killed by some outside force. This reminds us of the distinction between II and III marking on the Undergoer participants in Alabama and Creek (cf. 2.2.2 and 1.4.2 in Chapter III). In Alabama, for example, the Roles of Recipient, Beneficiary and Goal which are human participants are indexed by Type III marking. These Undergoer participants, unlike Patients which take Type II marking, are not totally under the control of the Agents and are unaffected by the event. They do, however, participate in the event. Therefore, they take the Dative marker which indicates nonaffectedness and perceived limited control.

So far, we know that the distinction of the Group I and Group II sentences lies in the semantics of Control on the part of the Agent and the degree of participation of the Undergoer. Group I sentences contain 'potent' Agents which alone control the events. In Group II, the Undergoers, participating in the events to some degree, also contribute to the achievement of the events. In other words, the agentivity is split between the Agent and Undergoer. Now, let us look at the use of vi- and bi- markers. In Navajo, bi- functions as an inverse marker indicating that the Undergoer, being a higher noun on the animacy hierarchy, precedes the Agent. In Apache, we know that the animacy
hierarchy does not determine the yi- and bi- marker. In Group I, both SOyi- and OSbi- can occur except for the inanimate Undergoer in sentence initial position. On the other hand, SOyi- is blocked in Group II. Considering the semantic distinction of the two groups of sentences, we can see that yi- signals a 'potent' or true Agent which Group II lacks. The yi- marker also indicates that the NP in the sentence initial position is this potent Agent. While analyzing the choice of yi- and bi-, Shayne mentions that her Apache consultants think that NPs in sentence initial position are what is being talked about and thus important. We can assume that bi- in the OSbi- pattern indicates that the Undergoer is the more important NP in that sentence. The importance of the Undergoer is shown both by its foregrounding and the fact that the passive translation in English is preferred. In Group II sentences, however, we have both OSbi- and SObi- patterns. With either word order, the bi- prefix is connected with the Undergoers. We know that the Undergoers in Group II sentences, participating in the events to some degree, also contribute to the achievement of the events. Because of this active involvement of the Undergoers, the control of the Agents is weakened. This meaning of the split agentivity of Undergoers is expressed by the presence of the pronominal prefix bi-.
The fact that the SOyi- pattern is blocked in this group helps to prove this function of the bi- marker.

Shayne concludes that the two functions of the bi- marker—indicating the foregounding of the Undergoer and the involvement of the Undergoer in the events with a weak Agent—can be understood essentially as one. That is, bi- marks the Undergoer as being especially significant in comparison to a weak Agent. In this sense, I think bi- can also be taken as the inverse marker.

We understand that in most languages (except languages like Dyirbal), the Agent is usually the most important participant, either in the realization of the event or in the whole sentence. This is the reason that the semantics of Potency, Control, higher ranking on the animacy hierarchy and Topic are more naturally connected with Agent rather than any other Role in a clause. On the other hand, the semantics of affectedness is primarily associated with Patient. So, as long as the Agent is the prominent participant, the sentence is usually unmarked, or marked with direct marker as in many inverse languages. However, as important as Agent is, sometimes, speakers find it is necessary to emphasize the Undergoer to satisfy the purpose of the discourse. Under such circumstances, Undergoers are given special attention through syntactic and morphological devices. Foregrounding of the Undergoer in SO languages and
morphological markings such as inverse markers on verbs are such devices to distinguish the Undergoers. The inverse marking system is to mark the special prominence of the Undergoer, which is not usually prominent in comparison with Agent. In Western Apache, we have a group of verbs with diminished control of Agents and/or diminished affectedness of Undergoers. With these events, the inverse marker bi- is used to emphasize the salience of the Undergoer either in the realization of events (SObi-) or in the whole sentence (OSbi-). In the former case, bi- indicates the increased relative control and diminished affectedness on the part of the Undergoer. In the latter case, bi- indicates that the NP in the sentence initial position is an Undergoer rather than an Actor.

3.3 Cherokee

Cherokee, an Iroquoian language, also has some of the characteristics of inverse marking languages in its transitive clauses. Cherokee has a complex verbal system and pronominal prefixes. Janine Scancarelli (1987) labels the prefixes A and B to refer to the active (Scancarelli's term for direct marking in Cherokee) and inverse pronominal marking on transitive verbs. Like many other inverse marking languages, the most notable factor that determines the direct vs. inverse marking is the animacy hierarchy. The
Cherokee animacy hierarchy is summarized as in 43 (Scancarelli 1987:126).

(43) 1st and 2nd person > 3 human > 3 non-human animate > 3 inanimate

According to Scancarelli, 'the position of a verb's arguments on the animacy hierarchy determines whether the verb appears with an active or inverse prefix' (1987:126). A transitive clause with a higher Actor and a lower Undergoer requires the active prefix (A) on the verb, constituting an active construction. A transitive clause with a lower Actor and a higher Undergoer, on the other hand, requires the inverse prefix (B), forming an inverse construction. Table 7, which is taken from Scancarelli 1987 (127) illustrates the relationship of the animacy hierarchy and the active/inverse construction in Cherokee. In Table 7, I retain her terms 'subject' and 'object' for the arguments.
Table 7: Relationship of Animacy with Active/Inactive Marking in Cherokee

Table 7 shows that the combinations of 1st and 2nd person subject with 1st and 2nd person objects and 3rd person human and animate objects will take transitive prefixes, which are neither active nor inverse prefixes. The combination of 1st or 2nd person subject with 3rd person inanimate object takes an active prefix while combinations of 3rd person subject and 1st or 2nd person object will take inverse prefixes. A clause with a 3rd person inanimate object will take an active pronominal prefix regardless of where the subject NP is on the hierarchy because a 3rd person inanimate is the lowest on the hierarchy. When both (third person) subject and object are of comparable rank, that is, both are 3rd person human or animate, it is possible to choose between the active and inverse marking depending on other semantic or pragmatic factors. The following are some Cherokee examples (from Scancarelli 1987) to show the active vs. inverse marking based on the animacy hierarchy.

<table>
<thead>
<tr>
<th>subj</th>
<th>obj</th>
<th>1,2</th>
<th>3hum</th>
<th>3anim</th>
<th>3inan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2</td>
<td>trans</td>
<td>trans</td>
<td>trans</td>
<td>act</td>
<td></td>
</tr>
<tr>
<td>3hum</td>
<td>inv</td>
<td>act/inv</td>
<td>act/(inv)</td>
<td>act</td>
<td></td>
</tr>
<tr>
<td>3ani</td>
<td>inv</td>
<td>(act)/inv</td>
<td>act/inv</td>
<td>act</td>
<td></td>
</tr>
<tr>
<td>3ina</td>
<td>inv</td>
<td>inv</td>
<td>inv</td>
<td>act</td>
<td></td>
</tr>
</tbody>
</table>
(44) 3 hum/ 3 hum

a. (Active)
   Ca:n Me:l a:ko:hwthiha 'John sees Mary.'
   John Mary 3sgA=sees=PRES

b. (Inverse)
   Ca:n Me:l u:ko:hwthiha 'John is seen by Mary.'
   John Mary 3sgB=sees=PRES

(45) a. 3 hum / 3 anim. non-hum (Active)
   Ani:ke:hy so:kwil ta:nahyathe:?a
   woman horse DIST=3plA=kick=PRES
   'The women are kicking the horse.'

b. 3 anim. non-hum / 3 hum (Inverse)
   so:kwil kv:wanahyvthe:?a ani:ke:hy
   horse 3pl/3pl inv=kick=PRES woman
   'The horses are kicking the woman.'

(46) a. 3 hum / 3 inan (Active)
   Ca:n kalo:histi:?i kv:hniha
   John door 3sgA=hit=PRES
   'John is knocking on the door.'

b. 3 inan / 3 hum (Inverse)
   Kalo:sti u:wy: hnika Ca:n
   door 3sgB=hit=PUNCT John
   'The door hit John.'

(128)
Examples in 44-46 show that the combinations of higher Actors with lower Undergoers (45a, 46a) have active constructions, while the combinations of lower Actors with higher Undergoers (45b, 46b) require the inverse constructions. Sentences in 44 have Actor and Undergoer participants of equal rank, so both active and inverse constructions are acceptable.

So far, we see no problem in the generalization that the choice of active and inverse marking with participants of noncomparable animacy in transitive clauses is based on an animacy hierarchy. However, since in cases where the Actor and the Undergoer are of equal animacy both active and inverse marking can be used, the explanation for the determining factor for the variable marking is beyond the semantics of the animacy hierarchy. One such example is in question-word (Q-word) questions. In such clauses, the animacy hierarchy still functions when the two participants are not of equal or comparable rank; that is, a verb with a higher ranked Actor and a lower ranked Undergoer will take an active prefix (47a,b), otherwise it will take an inverse prefix, irrespective of whether the Actor or the Undergoer is questioned.

(47) a. kakw a:hyvthe kalo:sti?a?
   who 3sg.A-kick=PRES door (Act)
   'Who's kicking the door?'
b. kato:st aiko:hwthi Ca:ni?
   what 3sg.A-see=PRES John (Act)
   'What does John see?'

(48) a. kato:st u: wahi Ca:ni?
   what 3sg.B-hit=PRES John (Inv)
   'What's hitting John?'

b. ka:kw u: wansta kalo:sti?
   who 3sg.B-hit=PRES door (Inv)
   'Who is the door hitting?'

In 47a, the Actor is questioned. The Q-word 'who' indicates that it is a human NP, which is higher in rank than the inanimate Undergoer 'door'. In 47b, it is the Undergoer that is questioned. The Q-word 'what' tells us that the Undergoer participant may be an animate or inanimate NP, but it is not human. The Actor in this clause is again higher in rank than the Undergoer. We see that both questions have active pronominal prefixes. Both 48a and 48b, on the other hand, take inverse pronominal prefixes. In 48a, the NP being questioned is an Actor, but it is lower in rank than the human Undergoer. 48b has a questioned human Undergoer which is higher in rank than the inanimate Actor.

Let us look at some Q-word questions with Actor and Undergoer participants of comparable animacy.
In this pair of sentences, the Actor and Undergoer participants, that is the 'see-ers' and the 'seens', are of comparable rank: all are human nouns. However, in 49a, the verb takes an inverse prefix while in 49b, it takes an active prefix. Here, the animacy hierarchy does not explain the variation of the pronominal prefixes. By examining the Q-words in both sentences, we can see that in 49a, the Actor is questioned, but in 49b, it is the Undergoer that is questioned. Comparing the Q-word questions, Scancarelli (1987:135) concludes that in Q-word questions, when the two participants are of comparable animacy, if the Actor is questioned, the inverse prefix is used; if the Undergoer is questioned, the active prefix would be used. She also mentions the pragmatic factor that triggers the use of the active vs. inverse prefixes on the Q-word question, claiming: 'The proper generalization appears to be that inverse prefixes may be used when objects are given or identifiable' (140). Given her generalization, we may say...
that the relationship between the Q-word and the proposition is that the Q-word represents that part of the information which is Unknown to the speaker. In 49a, the Actor is questioned; the identity of the participant filling that Role is Unknown. In 49b, the Undergoer is the Unknown information.

Similar to the case of Q-word questions are the answers to such questions.

(50) a. Ca:n kv:hniha
   John 3sg.A=hit=PRES (Act)
   'She is hitting John.' (An appropriate answer to 'what is Mary doing?)

b. Me:li-tv u:wa:hniha
   Mary-EMPH 3sg.B=hit=PRES (Inv)
   'Mary's hitting him.' ('Who's hitting John?')

c. Ca:n u:wa:hniha
   John 3sg.B=hit=PRES (Inv)
   'John's hitting her.' ('What's happening to Mary?')

(140)

In 50, (a) contrasts (b) and (c) in that it has an active prefix on the verb, while (b) and (c) both have inverse prefixes. To put these sentences into context, that is to provide both questions and answers together, we can see the cause of the variation of pronominal prefixes in 50. In 50a,
the Actor is mentioned in the question, so it is the Given information. On the other hand, the Undergoer participant, being not mentioned in the question, is the New information in the answer. In contrast to 50a, in 50b and 50c, the Undergoers are Given while the Actors are New. The conclusion at which Scancarelli arrives is that in the answers to Q-word questions, when the Actor is Given and the Undergoer is New, active marking is used; in the opposite situation when the Undergoer is Given and the Actor is New, inverse marking is used. Here I sum up her analysis of active/inverse marking in Cherokee Q-word questions and answers to such questions (133-141) in figure 14.

<table>
<thead>
<tr>
<th>Active marking</th>
<th>Inverse marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q   Known------Unknown</td>
<td>Q   Known------Unknown</td>
</tr>
<tr>
<td>A   Given--------New</td>
<td>A   Given--------New</td>
</tr>
</tbody>
</table>

Actor        Undergoer    Undergoer        Actor

Figure 14: Active/Inverse Marking and Information Flow in Cherokee Q-word Questions and Answers

The left part of Figure 14 illustrates the active marking in Q-word questions and answers. When the Actor participant is Known or Given, and the Undergoer is Unknown or New, the verb takes the active prefix. The right part of Figure 14 demonstrates a reversed situation: when the Actor is Unknown or New and the Undergoer is Known or Given, the inverse marking is used.
The relationships of Actor with Given and Known status, and Undergoer with New and Unknown status show that discourse rather than the semantics of a single word or an isolated clause determine verb marking in these cases. As we know, Given and Known represent more familiar and specific information that has either been mentioned in the immediate context or is understood by both the speaker and the hearer. According to Givon's (1976) hierarchies of topicality, there is a tendency for speakers to talk more about people and things around them. An Actor, being usually human or animate and often the Agent, is more likely to be the Topic of a sentence which contains more familiar and specific information. Therefore, it is natural for Actors to be Known or Given. Undergoers, on the other hand, are often Unknown and New, being less likely to be the Topic of a sentence.

In response to this association between Actor and Undergoer role with discourse status, Cherokee provides the active construction for the unmarked situation where the Actor is Given or Known. A less natural situation where the Actor is New or Unknown would have a marked construction: inverse pronominal marking on the verb. The use of inverse marking in Q-word questions and answers, in which the Undergoer is Given or Known, also makes the Undergoer more prominent in the discourse; as Scancarelli notes, 0 of an inverse clause
is 'prominently indexed on the verb' and has the 'pragmatic property of being topical' (362-363).

Discourse pragmatics as the factor that determines the choice of active or inverse verbal prefixes can also be found in complex sentences. Scancarelli describes Cherokee as having either referentially explicit clauses or referentially inexplicit clauses. 'A referentially explicit clause has full NP's representing any third person arguments' (Scancarelli 1987:141). A referentially inexplicit clause has 'at least one of the arguments of the verb missing' (Scancarelli 1987:143), which can be inferred from the context. A referentially explicit clause with two 3rd person NPs of equal rank usually has an active verbal prefix.

(51) skaya awenuca kanvskiske?e ake:hya
    man young 3sg.A=went:to:steal girl
    'A young man once went to abduct a girl.'

(144) However, under special circumstances, that is, when the Undergoer of the clause has special discourse prominence, an inverse prefix is used.

(52) Ani:chu:ca kywthayo:se:1v Me:li
    boys 3pl/sg.INV-ask=PERF(inv) Mary
    cu:thawe:to:ti:?i
    DIST-3sg.B-kiss=INFIN (act)
The first clause of 52 contains an inverse prefix because of the special prominence of the Undergoer 'Mary'. The prominence of this Undergoer is due to its being the Actor of the next clause.

The same situation appears with referentially inexplicit clauses. In complex sentences, when the Actor and the Undergoer of a referentially inexplicit clause correspond to the Actor and Undergoer of a referentially explicit clause, the verb of the referentially inexplicit clause takes an active prefix.

(53) Me:l Ca:n kv:hniha a:hyvthe:-
   Mary John 3sg.A=hit=PRES(act) 3sg.A=kick=PRES-hno
   and (active)
   'Mary is hitting John and kicking him.'

(54) Ca:n Me:l kv:hniha Sa:li-hno
   John Mary 3sg.A=hit=PRES(act) Sally-and
   a:hyvth:?a
   3sg.A=kick=PRES (act)
   'John is hitting Mary and kicking Sally.'

In 53, both the Actor and the Undergoer of the referentially inexplicit clause (the second clause) correspond to the
Actor and the Undergoer of the referentially explicit clause (the first clause). Therefore, the verb of the referentially inexplicit clause takes an active prefix. In 54, the Actor of the referentially inexplicit clause also corresponds to the Actor of the referentially explicit clause, and the Undergoer of the referentially inexplicit clause is New. We can see that in this case, the active prefix is still used in the referentially inexplicit clause.

Unlike 53 and 54, the verb of the referentially inexplicit clause in 55 takes an inverse prefix.

    John  3sg.A=hit=PRES(act) Mary Mary-and
    3sg.B=kick=PRES(inv)
    'John is hitting Mary and she is kicking him.'

In 55, the Actor and the Undergoer of the referentially inexplicit clause do not correspond to the Actor and the Undergoer of the referentially explicit clause. Instead, the Roles are reversed. The Undergoer of the first clause becomes the Actor of the second clause and the Actor of the first clause changes to the Undergoer of the first clause. Scancarelli also examines word order in Cherokee and concludes that word order in this language is determined by
a pragmatic feature, namely newsworthiness, 'and the most newsworthy elements come earliest in the sentence' (193). In the second clause of 55, 'Mary' is newsworthy by being changed from an Undergoer to an Actor. This reverse of the Roles results in the inverse marking on the verb of the second clause.

Comparing 55 to 52, we can see a similar phenomenon. In both sentences, the Undergoer of the first clause becomes the Actor of the second clause. As we know, the usual case in languages is 'for the subject to be the more prominent, more topical, more empathetic argument; the object is proximate only if the subject NP is understood (identifiable) in terms of the object, or if the object has had (or will have) some association with the role of the subject' (Scancarelli 1987:159). In 55 and 52, the objects (Undergoer) of the first clauses are associated with the role of the subject (Actor) in the immediate context, being the subjects (Actor) of the following clauses. The change from the object (Undergoer) to the subject (Actor) brings that argument into special discourse prominence. This function of inverse marking to make the object more prominent reminds us of the functions of the inverse marking in Western Apache in which the inverse marking bi- indicates either the fronting of the Undergoer or the Undergoer's sharing of the Actor's role by its participation in the
event. The difference is that in Western Apache, the prominence of the Undergoer indicated by the inverse marking is locally shown within a single Proposition whereas in Cherokee, this prominence of the Undergoer is displayed in the larger discourse context.

The Cherokee data discussed above show that the variation of the active/inverse pronominal marking is determined by both the semantics of an animacy hierarchy and discourse pragmatics. When the two participants of a transitive clause are not equal in animacy, the animacy hierarchy determines the active/inverse marking. The combinations of a higher ranked Actor with a lower ranked Undergoer would have an active prefix on the verb, while the combinations of a lower ranked Actor with a higher ranked Undergoer have an inverse prefix on the verb. In cases where the two participants are of equal or comparable animacy, active/inverse marking is determined by the discourse status of the participants. When the Actor is Given or Known, the verb takes an active prefix; otherwise it will take an inverse prefix. The inverse construction in Cherokee also functions to bring the Undergoer participant into special discourse prominence. For instance, in complex sentences it indicates that the Undergoer of a referentially explicit clause becomes the Actor of a referentially inexplicit clause.
3.4 Nootkan and Mapudungun

The Nootkan languages are spoken on Vancouver Island and the North Olympic Peninsula of Washington State (Whistler 1985). In his study of Nootkan, Kenneth Whistler (1985) discusses in detail the 'at type constructions in the three Nootkan languages: Nootkan, Nitinat and Makah. The 'at type construction in Nootkan languages has been labeled 'passive', but Whistler argues that Nootkan 'passive' constructions are different from the passive constructions of some more familiar languages such as English. Instead of a voice opposition, Nootkan 'passive' should be considered an inversion opposition. This will be further discussed in Section 4. Here I will follow Whistler and take the 'at construction to be the inverse marking and discuss its usage in comparison with the direct marking.

The 'at construction is marked by a suffix on the predicate that is cognate in each of the Nootkan languages. The following are the forms of the 'at suffix (Whistler 1985:228).

(56) Nk Nt M
    'at '-it '-'it
    -?i:t

The use of the 'at construction, like in most other inverse marking languages, is first of all sensitive to the semantics of an animacy hierarchy. As Whistler mentions,
'Whenever the ACTOR (or "initial subject") in a transitive clause is third person and the GOAL is first or second person, the '-at marking is obligatory. Whenever the reverse situation obtains—first or second person ACTOR and third person GOAL—the '-at marking is prohibited' (Whistler 1985:239)\(^5\) The following examples illustrate this claim (Whistler 1985:239-240).

**Makah**

(57) a. da:sa-s  'ti'q'asiq
   see-1sg.sit/on ground/the (1--> 3)
   'I see the one sitting on the ground.'
   b. da:s-?it-s  'tiq'asiq  (3--> 1)
   'The one sitting on the ground sees me.'

**Nootka**

(58) a. wa:-ma:h  b. wame:?ic
    say-1sg.  say-2sg
    'I said....'  'You said....'

(59) a. wa: -?at-ah  ?a e-?i
    say- '-at-1sg  two-the  (3--> 1)
    'The two told me....'
    b. wa: -?a  -'at -e?ic
    say-now- '-at-2sg  (3--> 2)
    'He now says to you....'

In the above sentences, we see that when the Actor is a 1st or a 2nd person NP (acting on a 3rd person), the predicate
is not marked (57a, 58a, b); but when the Actor is a 3rd person acting on a 1st or 2nd person, the predicate is marked with \(-\text{at}\) suffix (57b, 59a, b,). The unmarked clause is taken as the direct construction while the marked is the inverse construction. Therefore, the unmarked construction can also be called the direct construction indicating that the SAP argument in the clause is the Actor. The marked construction is the inverse construction signalling that the SAP is the Undergoer and the 3rd person is the Actor. The function of \(-\text{at}\) marking used here is the same as the inverse marking in other inverse languages such as the Algonquian languages.

The above examples, as well as Whistler's claim about the usage of \(-\text{at}\) marking also show the animacy hierarchy in Nootkan languages as to be in 60.

(60) 1st or 2nd \(>\) 3rd

There is no further subdivision for 3rd person in Nootkan languages.

Whistler summarizes the correlation of the perspective of a clause and the verb morphology of Nootkan languages as in Table 8 (1985:245).
Table 8: Correlation of the Perspective of a Clause and the Verb Morphology of Nootkan Languages

Besides the direct vs. inverse constructions illustrated in 57-59, Table 8 also shows that transitive clauses with two local arguments (1st or 2nd person only) are unmarked, while transitive clauses with Narrative structure (two 3rd person arguments) can have either unmarked (direct) or marked (inverse) construction. This is shown in 61.

NK

(61) a. wa:-?at -we?in 'a:tusmit
    say-now-quot/3 Deer-Son (direct)
    'Now, they say, Deer-Son said....'

b. wa:-?a -'at 'a:tusmit
    say-now-'at Deer-Son (inverse)
    '(The chief) now said to Deer-Son....'

That the inverse marking on narrative structure is 'optional' raises a question: what determines the choice of
the direct construction versus the inverse construction? Like Cherokee, in which the choice of the inverse marking in clauses with two 3rd person arguments of equal or comparable animacy could not be determined by the semantics of the animacy hierarchy, the 'optional' direct or inverse marking of Nootkan narrative structure also needs an explanation other than the animacy hierarchy. Whistler notes that 'in narrative perspective, the appearance or non-appearance of -at becomes sensitive primarily to discourse thematic factors, rather than being a mechanical device for indexing which person is ACTOR or GOAL in a clause' (1985:246). To understand the -at marking in clauses with two 3rd person arguments, we must go beyond the clause level and examine the discourse meaning.

NK

(62) a. na:csa-?-a -'at q'a:q'a:-?ap-?-itq ?uh?at
 observe-now-'at such as/repet.-cause.rel./3 by 'athmis-?i
 sea mammals-the
 '...everything he did would be observed by the sea mammals.'

(Sapir and Swadesh 1939:114)

b. ?ana:suk"-'ap-'a -'at
 only/(leftover) on the gound/his-caus.-now-'at
qinaqal uh?at qayacli:ktaqiml
bowels by wolf-family

'...the Wolf-people are in the habit of leaving only the intestines (when they devour their kill).'

(Sapir and Swadesh 1939:24)

In each of the sentences of 62, the two participants are all 3rd person arguments. In 62b, the Actor outranks the Undergoer on the usual animacy hierarchy, for the Undergoer here is the inanimate NP. However, the verbs in both sentences are marked with the inverse suffix '-at. This shows that the direct/inverse marking in clauses with all 3rd person participants does not depend on the animacy hierarchy. Note that both sentences of 62 are only part of a longer text. By studying participants in texts rather than in separate clauses, Whistler finds out that for clauses with all 3rd person participants, 'the unmarked predicate indicates that the ACTOR NP is theme, whereas inverse marking indicates that the GOAL NP is theme' (1985:245). Whistler does not define the term 'theme', but from his analysis of Nootkan data, we can see that 'theme' here refers to 'Topic' (as in Halliday and Hasan 1985:325, 'theme/rheme'). Only, as Whistler makes very clear, 'theme' is a paragraph-level function' (246) rather than a clause level function. In other words, theme is the nominal
mentioned at the beginning of the paragraph, the person or thing that is being talked about throughout the paragraph. In the sentences of 62, the first nominals 'he' and 'bowels' must have been mentioned in the previous sentences. As the continuing Topics, they are the 'theme' now. According to the attention flow, we expect the Actor to be the thematic participant. In Nootkan languages, such clauses would have unmarked predicates, resulting in a direct construction. On the other hand, in the situation of the sentences in 62, the predicates are marked with the inverse marking, indicating that the thematic participants are Undergoers.

In Mapudungun, a language of Mapuche of South Central Chile (Grimes 1985), the direct/inverse marking appears to involve almost exactly the same situation as Nootkan languages. First of all, the 1st and 2nd person participants are treated differently from the 3rd person participant. In a clause that involves two participants of different ranks on the animacy hierarchy, when the Actor is the 1st or 2nd person which outranks the 3rd person Undergoer, a direct marker -fi is suffixed to the verb. In the opposite situation where the Actor is a 3rd person acting on the 1st or 2nd person Undergoer, the verb would take inverse marking -e...eu.
(63) a. pe-FI-ǐ
    see-NONPARTICIPANT=DIRECT-indicative=speaker=singular
    'I saw him.'

b. pe-FI-i-mi
    see-NONPARTICIPANT=DIRECT-indicative-nonspeaker=singular
    'You saw him.'

c. pe-E-n-EU
    see-NONPARTICIPANT=INVERSE-indicative-nonspeaker=singular
    'He saw me.'

(Grimes 1985:150)

Secondly, like Cherokee and the Nootkan languages, in clauses with participants of all 3rd persons, both the direct and inverse markings are possible.

(64) a. pe-FI-i
    see-NONPARTICIPANT=DIRECT-indicative
    'He saw him.'

b. pe-E-i-EU
    see-NONPARTICIPANT=INVERSE-indicative-nomnparticipan-inverse
    'He saw him.'

(Grimes, 1985:157)
In clauses like 64, the variation of the direct and inverse marking is determined by the discourse, in this case the principle of Topic continuity. This can be shown in 65.

(65) a. feimeo chi ngiri
    then the fox
    feipi-FI-i chi
    say-NONPARTICIPANT=DIRECT-indicative the
    kuse pankil... 
    old=female puma
    'Then the fox said to the old lioness, "...."'

b. feimeo feipi-E-i-EO
    then say-NONPARTICIPANT=INVERSE-indicative-
    NONPARTICIPANT=INVERSE2 
    chi kuse pankil...
    the old=female puma
    'Then the old lioness said to him, "...."'

(Grimes 1985:159)

According to Grimes, 65 'comes from a part of a text where the fox is being taken for granted as the basis for developing the rest'(1985:159). That is to say, 'fox' is the theme in this part of the text. In 65a, the thematic argument 'fox' functions as the Actor acting on the non-thematic Undergoer 'puma'; the predicate of this clause has a direct marker -fi. In 65b, however, the same thematic argument 'fox' becomes an Undergoer which is acted upon by
the nonthematic Actor 'puma'; the predicate then takes the
inverse marking ẹ..ẹu. Sentences in 65 show that Mapudungun
parallels Nootkan languages in the choice of direct and
inverse marking in clauses with all 3rd person participants:
the direct construction indicates that the Actor is the
theme (Topic), while the inverse construction indicates that
the Undergoer is the theme (Topic).

3.5 Summary

In this section, as well as in Section 2, I have
discussed the semantic and pragmatic characterizations of
the direct/inverse marking. As we can see from all the
languages mentioned in these two sections, the relative
semantic features of participants—an animacy hierarchy—is
the primary determiner for the choice of direct/inverse
marking in inverse marking languages. However, the animacy
hierarchy is not the only factor that determines the
direct/inverse marking in all the inverse marking languages,
especially in clauses with two participants of equal or
comparable rank. In such cases, other semantic factors as
well as discourse pragmatic factors will determine the
choice of direct and inverse marking. In Navajo, whether the
sentence Topic (or RP) plays an Actor or Undergoer Role
determines the choice of the third person pronominal markers
yi- and bi-. Whether the Actor participant has full control
over the event also helps to determine the variation of yi-
and bi- marking. The direct/inverse marking in Western Apache, a language closely related to Navajo, is determined by the degree of the active involvement of the Undergoer in the event. In clauses with a fronted Undergoer, the inverse marking also helps to establish the salience of the Undergoer.

Discourse or textual meaning seems to be as important as the semantic factors in determining the direct/inverse marking. This is demonstrated by the relationships between Actor/Undergoer Roles and the discourse categories of Given/New, Known/Unknown (Cherokee, Navajo), and the principle of Topic continuity (Nootkan and Mapudungun). In these languages, the direct marking is used when the Actor is Given, Known, and the continuing Topic, whereas the inverse marking is selected when the Undergoer is Given, Known and the continuing Topic (theme).

By analyzing the use of the direct/inverse marking pattern in the languages mentioned in Sections 2 and 3, I summarize the functions of inverse marking as in 66.

(66) Inverse marking is used when Undergoer is
a. higher on the animacy hierarchy
b. sentence Topic (fronting, RP)
c. actively involved in event
d. greater than normal degree of control over the event
All these functions that are indexed by inverse marking represent actually one quality: the atypical attention flow pattern of selecting the Undergoer as the more salient participant. As we know, generally, the Actor participant is treated more salient either in a clause or in the discourse. This is the default generalization that applies to most (but not all) languages. According to the concept of natural attention flow, it is the Actor that usually has the properties in 66. In inverse marking languages, direct marking is used in clauses that follow the natural attention flow. In cases in which Undergoers are more prominent and need to be emphasized, inverse marking is employed to mark these non-natural situations.

4. Inverse and Passive
4.1 The Problem

In the first three sections of this chapter, I discussed the semantic and pragmatic features of inverse marking. In the discussion, we have noticed that in some inverse marking languages, the inverse marking sentences are frequently translated into English passive sentences, and the inverse constructions do resemble the English passive constructions in certain ways. This can be illustrated in
the following Western Apache examples. (The following examples are repeated here for convenience.)

(67=36) a. Ishkiin gah yi-za-na-z-Ø- (SOyi-)
boy rabbit him-move-around-imperf-he-
Ø-ni
class-squeeze
'The boy is hugging the rabbit.'
b. Gah ishiin bi-za-na-z-Ø- (OSbi-)
rabbit boy him-move-around-imperf-he-class-
Ø-ni
squeeze
'The rabbit is being hugged by the boy.'
'The boy is hugging the rabbit.'

(68=37) a. Izee ncho'i itide yi-ye-s-Ø- (SOyi-)
medicine bad girl her-adverb-perf-it-class-
Ø-hi
kill
'Poison killed the girl.'
b. Itide izee ncho'i bi-ye-s-Ø- (OSbi-)
girl medicine bad her-adverb-perf-it-class-
Ø-hi
kill
'The girl was killed by poison.'
'Poison killed the girl.'
The (b) sentences in 67 and 68 have both passive and active English translations. Shayne (1982) mentions that her consultants 'strongly prefer the passive translation', 'because it represents the closest English approximation to the real meaning of each of these sentences' (387). However, Shayne thinks that these sentences only express a 'feeling' of passivity due to the fact that the Undergoers, rather than Actors, in the (b) sentences occupy the sentence initial position which is usually the place for subject.

A similar situation occurs in Cherokee transitive sentences with two 3rd person arguments.

(69=44) a. (Active)

\[
\text{Ca:n Me:l a:ko:hwthiha} \\
\text{John Mary 3sgA=sees=pres} \\
\text{'John sees Mary.'}
\]

b. (Inverse)

\[
\text{Ca:n Me:l u:ko:hwthiha} \\
\text{John Mary 3sgB=sees=pres} \\
\text{'John is seen by Mary.'}
\]

The difference in the direction-marker in 69a and 69b results in different English translations. With the active pronominal referent marking, 69a is translated as an active sentence. The inverse marking in 69b leads to the passive translation.
The contrast between the (a) and (b) sentences in 67-69 raises a question: Does the distinction between the (a) sentences and (b) sentences reflect a voice opposition (primarily active/passive) or direction (of natural attention flow) opposition (direct/inverse)? Or we may ask whether the (b) sentences of 67-69 may be thought of as passive voice rather than inverse. To answer this question, we first need to know the differences between passivity and inversion, which will be discussed in the following sections.

4.2 Features of Passive and Inverse

Passive constructions have been discussed by many linguists both in theory and its manifestation in different languages. Bernard Comrie (1988) provides three criteria for identifying passive and ergative constructions in his article 'Passive and Voice'. Although I will not discuss the ergative construction here, I will adopt Comrie's criteria, which will be helpful for defining the passive construction and distinguishing it from the inverse construction. The concept of nuclear-peripheral used below is adopted from Davis and Huang (1989).

The traditional definition for the passive construction is that the 'underlying object' (Patient) appears as the 'surface subject' (Agent). As a result of this change of grammatical relations, a transitive clause becomes
detransitivized with only one nuclear argument. The 'underlying subject' (Agent), if present, is demoted to an oblique case (often marked with an adposition). English has a canonic passive construction. The English examples in 70 show the typical distinctive features between active and passive constructions.

(70) a. The boy hugged the girl. (Active)
    b. The girl was hugged by the boy. (Passive)

Comrie suggests three criteria for identifying passive constructions which are (1) the assignment of some subject properties to patient rather than agent, (2) less integration of the A (agent) into clause syntax, and (3) markedness (1988:9).

In an active clause, if there is an Agent, it is always the subject. In a passive clause, on the other hand, the Patient, rather than Agent is the subject, and is therefore assigned some subject properties such as conjunction reduction, the trigger and target of agreement, ability to undergo Equi and subject raising, etc... I will use English examples as canonical for the passive construction. The following English examples show the subject properties mentioned above applying to Patients.

(71) a. The girl was hugged by the boy and (the girl) ran away.
    b. The girls were hugged by their mother.
c. We persuaded the girl to be taught by the boy
   (=that the girl be taught by the boy).

d. We believe the girl to have been taught by the boy
   (=that the girl has been taught by the boy).

These subject properties of Patients show that in passive constructions the Patient is the subject of the clause.

Comrie's second criterion for a passive construction is the lesser degree of integration of the A into clause syntax. This can be manifested in three ways, two of which are mentioned by Comrie. The first way to show the lesser integration of A is manifested by A's not triggering verb agreement. As was mentioned above, in a passive construction, the Patient ('underlying object') becomes surface subject; the Agent is no longer the subject. 71b exemplifies the demotion of Agent which results in its losing the control of verb agreement. In this sentence, the verb agrees with the surface subject, which is also the Patient, in number. The Agent 'mother' does not trigger agreement. Another way in which the A displays less integration in the clause is in the 'extent to which the Agent phrase is obligatory' (Comrie 1988:18). Many languages have agentless passives. In other languages that can have Agent expressed in passive clauses, the Agent phrase is often optional and can be omitted without affecting the
clarity of the sentence. Still in some languages, the presence of the Agent phrase in some passive clauses may even cause some awkwardness; thus, it is better omitted. This often occurs when the Agent is unspecified as in the following of my English examples and also in Cherokee.

(72) a. He was wounded in the war.
   b. It was said that the Greenhouse Phenomenon will affect the earth in 40 years.

Cherokee

   that:time DIST-UNSPEC/3pl.-mark=PERF=HAB
   'It is at that time that they got their stripes.'

b. Ta:cikihi:ye:?i ahwi
   DIST-UNSPEC/3sg.-beat=PERF=REP deer
   ahtani:lat kv:hti
   cheating with
   'The deer was defeated through cheating.'

(Scancarelli 1987:349)

These Agentless constructions have the same qualities as passives with Agents: the suppression of the transitive A and the subject properties vested in the Undergoers. The Agents are suppressed either because they are Unknown or nonspecific as in 72b or not necessary to mention as in 72a.
The Undergoers in these sentences are the only arguments, and of course, are the Topics of the sentences.

The third way for a passive construction to show the lesser integration of A is mentioned by Davis and Huang (1989): to code A as a Peripheral argument (either by adposition or oblique case marking), while the Undergoer is coded as the only Nuclear argument of the clause. The English preposition 'by' in passive clauses functions to remove the Agent to a remote relation to the Proposition. The same pattern appears in Japanese. According to Davis and Huang, Japanese has three Roles. The Agent/Executor is usually marked by the postposition wa or ga, indicating it is the most Central argument in the Proposition. The proximate Experiencer (usually Patient), being the next Central argument, is marked with the postposition o. The distal Experiencer (Recipient, Location, etc.) is the least Central argument, and is marked with the postposition ni. This relationship of postpositions to Roles is demonstrated in 74.

(74) John ga Mary ni kunsyoo o atae-ta
    John Mary medal give-past
    'John gave Mary a medal.'

In 74, the Recipient 'Mary' is the most Peripheral argument in the clause compared to the Agent/Executor and the Patient. Therefore, it is marked with the postposition ni.
However, に itself does not signal a particular Role such as Recipient. It only indexes the Peripherality of an argument. In passive constructions, に marks the Agent/Executor, indicating it has a Peripheral instead of Central Role. Thus, に in the passive construction has the same function as the English preposition 'by'.

(75) a. Taroo wa hono o yomi-ta
    Taroo    book    read-past
    'Taroo read a book.'

b. Hono ga Taroo に yomi-rare-ta
    book    Taroo    read-pass-past
    'The book was read by Taroo.'

(Davis and Huang 1989:47)

The last criterion that Comrie proposes for the passive construction is its 'markedness'. In comparison with the active construction, passive is a marked construction. Its markedness is manifested in four ways: (1) the raw frequency, (2) formal complexity, (3) degree of productivity, and (4) discourse distribution (Comrie 1988:19-21). In most languages, compared with the active construction, passive clauses occur far less frequently; they are marked formally with more morphemes; many verbs may lack the marked form and cannot be passivized; and finally, passive constructions are not often used as the initial sentence of a text.
With all the features of passive constructions discussed above, we can sum up the form as well as the function of the passive construction. The possible formal characteristics of the passive construction can be summarized as in 76.

(76) Passive:
   a. Object → Subject
   b. Presence of a Passive morpheme
   c. adposition or oblique case + Agent (optionally or obligatorily deleted)

The passive construction is derived from the active construction, with the Patient becoming the surface subject; the verb in a passive clause is usually marked with a passive morpheme; and the Agent is either omitted or demoted to an oblique case marked with a preposition or postposition or case marker. Of course, not all languages have all of these features.

The most remarkable feature of the passive construction that distinguishes it from the active construction is that the Undergoer participant that was an object in the active clause is now a subject of the passive clause. In some languages, this is further manifested in a change in word order with the Undergoer in the subject position (usually clause initial cross-linguistically). The purpose of the passive construction then is to highlight the Undergoer, and
because of this, the Agent is also demoted. Therefore, the passive construction is often used in discourse when the Undergoer is highly Topical, for instance, as the Given information, or is focussed (in the sense of Davis 1983).

4.3 Similarities of Inverse Marking Clause with Passives

The inverse marking clauses are sometimes translated as passives because the two types of constructions have certain similarities both in form and function. One of the similarities between the two is that the Patient bears some subject properties. In some inverse languages, there are certain clauses in which Undergoers are fronted and occupy the clause initial position. Such cases occur in Navajo, Western Apache, some of the Cherokee inverse marking clauses and the Nootkan languages as shown in the following examples.

Navajo

(77) a. 'ashkii 'ateed yi yiilsa (SOyi-)
   boy(A) girlP) saw.

   b. 'ateed 'ashkii bi iltsa (OSbi-)
   girl(P) boy(A) saw

'The boy saw the girl.'

(Foley and Van Valin 1977:297)
Western Apache

(78) a. Hastin tli vi-ye-s-∅-∅-hi (SOyi-)
    old man horse him-adv-perf-he-class-kill
    'The old man killed the horse.'

b. Tli hastin bi-ye-s-∅-∅-hi (OSbi-)
    horse old man him-adv-perf-he-class-kill
    'The horse was killed by the old man.'
    'The old man killed the horse.'

(Shayne 1982:387)

Cherokee

    John boys DIST=3sg.A=hit=PRES
    'John is hitting the boys.'
    (active=subject focus)

    boys John 3pl.B=hit=PRES
    'The boys are being hit by John.'
    (inverse=object focus)

(Scancarelli 1987:164)

Nitinat

(80) a. (Active)
    cuqsi - ibi-∅a BILL ?:uyuq JOHN
    spear-past-indic/3 accus.
    'Bill speared John.'
b. (Inverse)

\[\text{cuqsi -?i:t-ibt-a John ?ux"i:t Bill spear-pass-past-indic/3 by} \]

'John was speared by Bill.'

(Whistler 1985:228)

Examples in 77-80 show that in these languages, the Actor in an active construction (a sentences) precedes the Undergoer. In the inverse construction (b sentences), however, the Undergoer is fronted to the position preceding the Actor. The change of the relative position of Actor and Undergoer makes (b) sentences in 77-80 shift focus to the Undergoer just as the passive in English, rendering a passive translation in English most appropriate. Note also the oblique in Nitinat which seems to be equivalent to the English preposition 'by'.

That the Undergoer bears some of the subject properties is also demonstrated by Cherokee agreement. 79b shows that the pronominal prefix indexes the Undergoer instead of the Actor as in 79a.

With these formal similarities between passives and inverses, we also see a functional similarity. The fronting of the Undergoer is accompanied by its acquiring subject properties typically associated with Agent subjects: Undergoer bears the discourse status of Topic, Theme, or Given information. Therefore, fronting indicates the
Undergoer is the Topic, and because of this, it is chosen as the focus, and thus more prominent entity in the sentence. The fact that Undergoers are Topics is against the natural attention flow. This is why both passive and inverse constructions are treated as pragmatically marked in comparison with their opposite ones, the active and direct structures.

4.4 Differences of Inverse Marking Clause from Passives

In spite of the formal and functional similarities between passives and inverses, the above four inverse languages all show some important formal and functional distinctions from typical passives like the English passive construction. One distinction between the structures of 77b-80b and the typical passive construction is demonstrated in its transitivity. With the Undergoer expressed as surface subject, and the Actor relegated to an oblique case, the English passive clause becomes detransitivized, with only one nuclear argument. The Actor is either omitted or marked as Peripheral. On the other hand, the inverse (b) sentences of 77-80 all remain transitive clauses that have two arguments. Fronting the Undergoers here does not change the grammatical relations of the participants. It only increases relatively the salience of the Undergoer. For instance, fronting the Undergoer in Western Apache which has the basic SO word order serves to distinguish the Undergoer as
relatively more important than usual in the Proposition (O still remains object and S the subject). The fact that inverse clauses remain transitive in contrast to the detransitivized passive clauses also shows the continued integration of the Actor in inverse marking clauses. Although the inversion seems to make the Undergoer a more prominent entity in the clause, and by doing so, it diminishes slightly the relative prominence of the Actor, unlike in a passive clause, the Actor in an inverse marking clause still retains its role as a nuclear argument, which is shown by its being obligatory and not being marked as Peripheral with oblique case. Passive Agents on the other hand are never obligatory.

With respect to markedness, the (b) sentences of 77-79 are not more marked than the corresponding (a) sentences; they are just differently marked with two distinct sets of markings on verbs. Only 80b (Nitinat) is more formally marked than 80a with an additional morpheme ?i:it on the verb as the inverse marker. The preposition-like element ?uxi:it, which is translated as 'by' in English, is not a oblique case marker. According to Whistler's study of its occurrence in discourse context, it 'marks a focussed subject nominal and thus incidentally also shows it is a subject' (1985:232). This can be illustrated in the contrastive use of the cognate morpheme ?uh in Nootka as shown in 81.
(81) ?u-yu?al-?a k'iscaci -
   (it)-perceive-now go off elsewither-
   ca       ?uh-?a ca?acsi:b
   quot-article it was...who-now personal name
   (it)-call name-have another whaler
   'Now it was the one bearing the name ca?acsi:b,
   another whaler, who saw the thing they call "going
   off to another place".'

The context of 81 is that the protagonist of the story fails
to see the mysterious tide called 'going off to another
place' due to his falling into a sleep. It is another whaler
who sees the tide (Whistler 1985:232). The contrastive focus
of the subject is obvious here. ?uh in Nootka marks the
focussed subject. Likewise, the cognate ?ux'i:t in Nitinat
(80b) also marks the focussed subject 'Bill'. Another
translation of 80b might be 'It was Bill who speared John'.
Thus, ?ux'i:t in 80b is different from the English
preposition 'by'. It does not index a change in grammatical
relations. Instead, it functions to mark the subject as
rHEME (or focus in Chomsky's sense). In spite of the English
translation as a passive construction, 80b is a transitive
clause with 'Bill' remaining as the subject, according to
Whistler (1985:247). This is formally different from the
passive rule which is to advance the Undergoer from direct object to subject.

A semantic restriction on the passive construction is mentioned by Bolinger (1977) and Davis and Huang (1989). Bolinger proposes a hypothesis concerning the prototypical passive which is that 'the subject in a passive construction is conceived to be a true patient, i.e., to be genuinely affected by the action of the verb. If the grammatical object in the active construction is not conceived as a true patient, there will be no corresponding passive' (67). The condition of the true Patient is total affectedness of the Undergoer by the event. The following examples by Bolinger (1977:68) show the difference between true Patients and 'purely spatial or existential relationship' (67).

(82) a. My brother has lived in Chicago.
    b. *Chicago has been lived in by my brother.

(83) a. Several famous personages have lived in the house.
    b. The house has been lived in by several famous personages.

(84) a. They arrived at the house by five o'clock.
    b. *The house was arrived at by five o'clock.

(85) a. They arrived at the conclusion by five o'clock.
    b. The conclusion was arrived at by five o'clock.
Compare 82 and 84 with 83 and 85. It is easy to see that a house can be affected by the people who have lived in it, but a big city like Chicago is not likely to be affected by a person's living in it. Likewise, a conclusion comes into existence only at its arrival, but the house in 84 is a preexisting destination. Therefore, the Undergoers of 83 and 85 are, by definition, true Patients which allow passive constructions. On the other hand, passive is not acceptable when the Undergoers have a spatial relationship as in 82 and 84.

Davis and Huang's semantics of Centrality and Peripherality has a similar restriction on the passive construction. They note that the properties that associate with the passive include 'affected direct objects, unspecified subjects, and finally, relativized objects'. These properties 'all seem to point to a greater degree of CENTRALITY of the object, while the conditions under which the "passive" is not permitted, i.e. unspecified object or relativized subject, seem, conversely to indicate the semantic PERIPHERALITY of objects' (198).

Both Bolinger's 'true Patient' and Davis and Huang's 'Centrality of the direct object' as the crucial condition for the passive subject show the semantic properties of a prototypical Undergoer which are +affected and -control. This contrasts with the inverse pattern where the Undergoers
are more often than not perceived as noncanonical. This is demonstrated by Western Apache, in which Undergoers of Group II verbs, being more actively involved in the realization of the events, have some control over the events and are less affected by them.

The most notable semantic characteristic of inversion is that it is sensitive to the animacy hierarchy. Take the four inverse languages discussed in this section as examples. In all these languages, inversion is prohibited when the Actor is higher in rank than the Undergoer; in the opposite situation when the Actor is lower than the Undergoer, inversion is obligatory; finally, inversion occurs 'optionally' when both the Actor and the Undergoer are of equal or compatible animacy. The choice of 'optional' inverse marking in clauses with two equally ranked arguments depends on the semantic or pragmatic categories in particular languages such as sentence Topic in Navajo, Topic continuity in Nootkan and Givenness in Cherokee.

4.5 Conclusion

To summarize this section, we have seen that there are syntactic and morphological similarities between passive and inverse constructions. The similarities include (1) the assignment of some subject properties to Undergoer in both types of constructions, such as fronting the Undergoers to the subject position (Navajo, Western Apache, Cherokee,
etc.) and controlling agreement as in Cherokee, and (2) the relative markedness of both types of constructions.

Functionally, both passive and the inverse are marked constructions in which Undergoers are marked, focussed Topics. So, the two types of constructions flag the salience of Undergoer participants in discourse, which is atypical in language attention flow.

However, the differences between the two constructions are also apparent. Formally, inverses differ from passives in transitivity and the degree of integration of the Agent in clause syntax. Functionally, although both passive and inverse constructions highlight the Undergoers, the constraints on inversion depend primarily on a relative (not absolute) ranking of the two participants on an animacy hierarchy. This relative ranking is further tied to the natural attention flow. The relative ranking of the participants in a clause diminishes the degree of the salience of the Actor when it is lower than the Undergoer, but not to the extent of pushing it to the periphery as the passive construction does. That is why inverse clauses remain transitive. Given the features of both passive and inverse constructions, we can conclude that examples 67-69 show a 'direction-of-flow' opposition rather than a voice opposition.
Notes to Chapter IV

1. The term 'direct marking' as used here refers to the participant reference marking of direct vs. inverse marking pattern of inverse language. It is irrelevant to Mallinson and Blake's (1982) term 'direct marking' which refers to case marking.

2. Davis' (1983) use of the term 'Focus' is different from what Chomsky and others use it, which is Focus=Rheme. He identifies Focus as 'the semantic increment that may associate with one PARTICIPANT (sometimes two, e.g. Bella Coola) that fulfills a ROLE with respect to the EVENT of the PROPOSITION' (138).

3. 3ani refers to the 3rd person nonhuman animate NPs.

4. Scancarelli mentions two criteria for inverse forms in Q-word questions when the subject and object are of comparable animacy, which are '(a) the subject is questioned and (b) the verb prefix does not distinguish subject from object (in the case of a 3sg. subject and 3sg. object or in the case of a 3pl. subject and a 3pl. object)' (135). In cases in which subject is questioned but the verb prefix does distinguish subject from object (for instance, a singular subject and a plural object), an active prefix is used. Because of this, Scancarelli's conclusion for Q-word questions is that the use of the inverse prefix is determined by 'the animacy of the arguments', 'some
pragmatic factors', as well as 'the syntax of the clause' (141). Here I only quote her examples with verb prefixes that do not distinguish subject from object. The verb prefixes of this type of sentence, according to Scancarelli, are determined by pragmatic factors.

5. One of my committee member, Dr. Timothy Montler points out that Nootkan inverse pattern seems very similar to the passive construction of Lushootseed (a Coast Slish language) which has never been analyzed as an inverse system.

6. Whistler's 'Goal' is what I call 'Undergoer'. He defines his Actor and Goal as the following: 'They are not deep-case semantic role per se, i.e. not Agent and Patient, but are rather intended to cover what has been called attention flow by DeLancey (1981:632). Various deep semantic cases (Agent, Instrument, Force, Source, and often Experiencer or Perceiver) are generally associated with initiation of the sense of a predicate; other deep cases (Patient, Recipient, Goal, Benefactive, sometimes Experiencer, etc.) are generally associated with the result or effect of a predicate' (243).

7. Grimes (1985:145) uses the term +PARTICIPANT (presumably Speech Act Participant) to single out the 1st and 2nd person arguments as opposed to -PARTICIPANT or NONPARTICIPANT which refers to the 3rd person argument.
CHAPTER V

CONCLUSION

In Chapter III and IV, I discussed the semantic factor that determine the choice of pronominal reference marking in active and inverse languages. In this chapter, I will first sum up the semantic characteristics of the choice of active vs. inactive and direct vs. inverse marking and point out some common characteristics shared by the two types of marking system. Then, I will discuss the correlation of active and inverse marking with Givon's hierarchies of Topicality and DeLancey's Attention Flow and Viewpoint to support the hypothesis that the use of the participant reference marking in these two types of languages is the means to distinguish the more salient argument in an utterance, and thus reflects the speaker's viewpoint of the participant relations in an utterance. This conclusion will further support the claim that grammatical devices such as agreement marking are not merely meaningless mechanisms, but are motivated by semantics and pragmatics.

1. Summary of Active and Inverse Marking

This section generalizes the semantic characteristics of active and inverse marking that have been illustrated by data in Chapters III and IV and summarizes the similarities
of the two types of languages in terms of participant reference marking.

1.1 Semantic Characteristics of Active and Inverse Marking Systems

1.1.1 Active Marking

As has been shown in Chapter III, in active languages, pronominal reference marking morphologically distinguishes Actor participants from Undergoer participants. This distinction is based on semantics and the context of the speech event. The semantic correlates of active vs. inactive marking can be summarized as follows:

(1) Active marking
    Actor participant
    a. on prototypically active verb
    b. (More) agentive
    c. (More) control of event
    d. Highly referential

    (pronoun)
    (human)

Inactive marking
    Undergoer participant
    a. on prototypically stative verb
    b. Non-(less) agentive
    c. Non-(less) control of event
    d. Not highly referential

    (common noun)
    (inanimate)

As was illustrated in Figure 7 of Chapter III, and also supported by data given in that chapter, these semantic
correlates of active/inactive marking do not appear as two extremes. Rather, they comprise several interrelated continua. The active marking indexes Actor participants which are generally more volitional, have more control and therefore are more agentive than Undergoer participants. The Actor participant tends to be more agentive when the verb of the clause is prototypically active instead of stative. Actor participants are also more likely to be human or animate since generally human or animate participants tend to have more control than nonhuman and inanimate participants and are capable of volition.

Crosslinguistically, there is no clear-cut point on these continua to differentiate active/inactive marking. For instance, in Eastern Pomo in which the active/inactive distinction is determined by the semantics of volition, verbs of nonvolitional action such as 'fall' and 'sneeze' are taken as inactive verbs and are marked with Undergoer agreement. The same group of verbs in Dakota, on the other hand, are marked with Actor agreement because the active/inactive distinction in Dakota is mainly based on human performance. The distinction of active vs. inactive marking is not only language specific, but even in a particular language it can vary along these continua depending on the context. Achenese provides a good example: a prototypically control verb can be marked as
'decontrolled' by affixing a decontrol morpheme, and a prototypically noncontrol verb can be marked as controlled by affixing a control morpheme. Fluid marking in languages like Alabama and Creek further supports this claim.

1.1.2 Inverse Marking

Like active languages, the pronominal reference marking in inverse languages also distinguishes Actor participants from Undergoer participants in utterances, which results in a direct vs. inverse marking system. The choice of direct vs. inverse marking is also based on semantics and pragmatic context. Number 2 shows the semantic and pragmatic contents of the direct and inverse marking.

(2) Direct marking
   a. Actor higher on the animacy hierarchy
   b. Actor as a true Agent
   c. Actor as the continuous Topic

Inverse marking
   a. Undergoer higher on the animacy hierarchy
   b. Undergoer actively involved in the event
   c. Undergoer as the continuous Topic

The schema in 2a is the primary determiner of the direct/inverse marking in inverse marking languages. The distinction of direct and inverse marking is determined by the relative position of Actor and Undergoer participants on
the animacy hierarchy. Clauses with a higher Actor participant acting on a lower Undergoer will have direct marking, while clauses with a lower Actor acting on a higher Undergoer take inverse marking. Many inverse languages set off the SAP pronouns from the 3rd person pronoun and other noun phrases. When the Actor participant is a SAP but the Undergoer participant is not, direct marking is used. In the reverse case in which the Undergoer participant is a SAP but the Actor participant is not, inverse marking is used. In cases in which both participants of a clause are of equal or comparable rank, for instance both are 3rd person pronouns, the animacy hierarchy cannot decide the choice of direct vs. inverse marking, and other determiners are needed. These determiners vary in different languages. They may include true agentivity of the Actor, involvement of the Undergoer in the realization of the event, and Topic continuity.

1.2 Common Characteristics of the Active Marking System and the Inverse Marking System

Although active marking and inverse marking are two distinct types of marking systems, they share some common characteristics as listed below:

a. In both active and inverse marking languages, there are usually at least two (some active languages have three) series of participant reference markers which do not index grammatical relations such as subject and object. Instead,
they encode semantic relations of participants which are labeled as Actor and Undergoer. Actor and Undergoer are not equivalent to the semantic Roles of Agent and Patient. Rather, they represent general semantic relations between a predicate and its arguments, which Van Valin calls 'macrorole' (1990:222). The Actor and Undergoer participant reference marking distinguishes the active vs. inactive marking in active languages and the direct vs. inverse marking in inverse languages.

b. In both active and inverse languages, the choice of one series of marking over another is determined by semantics and discourse context.

c. The semantic (pragmatic) basis for the choice of active/inactive and direct/inverse marking is not the same across all the active and inverse languages. Rather, the particular semantic (pragmatic) features that determine the participant reference marking may differ in particular languages.

The last two points have been demonstrated in Chapters III and IV, which constitute the major part of this dissertation. In both active and inverse languages, the choice of participant reference marking is based on the semantic and pragmatics of factors such as Verbal Aspects (action vs. states), Control, Volition, the Animacy hierarchy and Given or Known status in the discourse.
However, there are two related points that need to be emphasized here. First of all, the semantic parameters of Control, Volition, and the Animacy hierarchy extend beyond the clause level. As was shown in active languages such as Alabama and Creek, Control and Volition are not merely the property of prototypically classed verbs or nouns. The discourse context often determines the perceived degree of Control and Volition. Inverse languages such as Cherokee, Nootkan and Mapudungun show the relevance of Topic continuity in larger discourse contexts with the choice of direct vs. inverse marking when the two participants of a clause are of equal or compatible rank.

Secondly, the semantic factors that determine the use of participant reference marking in either active or inverse marking languages are not absolute but relative. As has been mentioned, Control, Volition and Animacy are not just categorical features of prototypically classed verbs and nouns. Rather, they comprise continua with many intermediate points between two extremes. The distinctive active/inactive marking in active languages is determined by the degree of Control and Volition of a participant, either over an event or with respect to the whole Proposition, and by the position of a participant on the animacy hierarchy. Active marking indexes an Actor participant whose role in a clause is to the left end of the continua, and inactive marking
indexes an Undergoer participant whose role in an utterance is to the right end of the continua. The perceived degree of control and volition varies according to context, as does the participant reference marking in active languages. The distinctive direct/inverse marking in inverse languages is also determined by the relative, not absolute, position of an Actor and an Undergoer participant of a clause on the animacy hierarchy. An Actor participant in one clause may be higher in rank than the Undergoer, so direct marking is used; but in the second clause, this same Actor participant may be lower in rank than the Undergoer, and inverse marking will be used. Therefore, there are no absolute demarcations on the continua for the distinction of active/inactive and direct/inverse marking because discourse context is often indispensible in the choice of participant reference marking.

2. Correlation of Active and Inverse Marking with Topicality and Attention Flow

The semantic and pragmatic contents that determine the participant reference marking in active and inverse marking languages are correlated with the hierarchies of Topicality (Givon 1976) and Attention Flow (DeLancey 1981). According to Givon's hierarchies of Topicality, participants that are human, definite, more involved in the event (Agent) and SAP pronouns are more likely to be the Topic of an utterance
than participants that are non-human, indefinite, less involved in the event and non-SAP pronouns. The relevance of these semantic features to Topicality can be explained as follows: humans are more likely to talk about themselves. Being consciously aware, humans are also likely to volitionally involve themselves in and exert more control over events. SAP pronouns are not only always human, but also represent the speakers and hearers who are present in the immediate speech act context. Definite nouns are participants that have already been introduced into the preceding discourse, so they are more familiar to the speaker and hearer, and thus more predictable/continuous. Topic, as a semantic category, is defined as 'the peg on which the message is hung' (Halliday 1970:161) or 'as the pivot throughout which the RHEME is "linked" to the context of situation' (Davis 1984:35). In other words, Topic is roughly whatever is being talked about. According to DeLancey, 'The NP's in a sentence are presented in the order in which the speaker wishes the hearer to attend to them' (1981:632). He calls this order 'Attention Flow' (632). Since Topic is something being talked about, it is the start-point of Attention Flow. As was shown in Chapters III and IV, the Topic qualities are often associated with Actor participants rather than Undergoer participants because Actor participants are often Agents, human, or animate, an
have more control and volition. Therefore, Actor participants are more likely to be the Topic of an utterance, and are the more natural starting point of Attention Flow. Actor participants as Topic and starting points of Attention Flow are unmarked. On the other hand, Undergoer participants are less likely to be the Topic of an utterance because, being often low on the animacy hierarchy and having less control and volition, they are less likely to be the starting point of Attention Flow.

3. The Function of Participant Reference Marking in Active and Inverse Languages

In his discussion of Attention Flow, DeLancey (1981) also points out:

'A sentence describes a real or imagined event by invoking the prototype scene of which it counts as an instance, and by identifying the participant roles in the prototype with entities which exist in the universe of discourse. In actual communication, not all aspects of the prototype event are of equal interest, and all languages have mechanisms for marking the relative communicative importance of the various entities and events in a sentence or discourse' (632).

Although Actor participants have the qualities of Topic and therefore are likely to be the unmarked Topic and the more natural starting point of Attention Flow, in actual
communication, we may find the discourse context needs the Undergoer participant as the starting point. However, since Undergoers generally lack the qualities associated with Topics, Undergoers as Topic and starting point of an utterance are less natural, and thus, marked. This is clearly demonstrated, for instance, in inverse marking languages when inverse marking is used if the Undergoer participant is higher on the animacy hierarchy than the Actor participant, or if they are of equal rank, when the Undergoer participant is the continuous Topic, being Given or Known in the discourse context. Inverse marking, then, indicates that the Undergoer participant is relatively more important in the utterance than is the usual situation.

Having discussed the semantic commonality of participant reference marking in active and inverse languages and its relationship with Topic and Attention Flow, we can now provide a conclusion regarding the function of participant reference marking in these two types of languages. The use of participant reference marking, especially the choice of different sets of it in discourse context, reflects the speaker's viewpoint of the relations of participant to event and within a Proposition. Speakers of active languages view the Actor participant as a more natural Agent which is more potent, and has more control and volition; thus it plays a more salient role in the
realization of the event. Inactive marking indexes the Undergoer participant who plays a less important role in the realization of the event. However, the Actor participant may be reranked to meet the need of the speech act context when its degree of control and volition is reduced. In such cases, inactive marking is selected for the marked situation. Similarly, speakers of inverse languages view the Actor participant as a more natural start-point which should be higher in rank than Undergoer participant. Direct marking is used for this natural situation. In cases in which the Undergoer participant becomes more salient by being higher on the animacy hierarchy than the Actor, or if equally ranked, the Undergoer is the continuous Topic in discourse, inverse marking is used to mark the relative salience of the Undergoer. If 'all languages have mechanisms for marking the relative communicative importance of the various entities and events in a sentence or discourse' (DeLancey 1981:632), participant reference marking in active and inverse languages can be said to fulfill this function at least in part. This function of participant reference marking also leads to another conclusion: the phenomenon of pronominal reference marking in active and inverse languages is not merely a meaningless device that indexes the grammatical relations. Rather, it reflects the particular meaning the speaker wants to convey and also the speaker's point of view
regarding the narrative situation. Therefore, no mechanical predictive rules can adequately account for the use of participant reference marking in these languages.

4. Concluding Remarks

Recent publications concerning (or relevant to) active participant reference marking systems have appeared since the major part of this dissertation was finished. Among them are two notable articles by Van Valin (1990) and Mithun (1991), which will be described briefly here for completeness and because they support the general assumptions of this dissertation.

Van Valin's article does not exclusively address participant reference marking in active languages. The phenomenon of split intransitivity in his discussion has a somewhat wider range. For this reason, I will not go into the details of his article. However, his formal attack against the purely syntactic approach of the Unaccusative Hypothesis as a satisfactory account of split intransitivity and active systems is of great significance and one with which I concur.

Mithun's article is special in that it stresses the diversity of the semantic motivations underlying the active marking system (in her words 'active/agentive case marking', but by which she also intends pronominal agreement marking, such as in Lakhota) and 'the dynamic processes that mold
Mithun also characterizes the two approaches to an account of the active/agentive case marking as I have described them here: whether it is viewed as motivated or arbitrary. By examining data in different active languages, she concludes that the active/agentive case marking systems 'reflect a coherent kind of case organization in themselves, motivated both semantically and grammatically' (512).

Mithun first mentions the two most obvious semantic motivations of the active/agentive case marking, which Van Valin (1990) refers to as 'inherent lexical aspect (Aktionsart)' and 'agentivity'. The former is the major semantic basis of the active/agentive case marking in languages such as Colloquial Guarani, and the latter is the primary semantic basis of Lakhota agreement marking. Besides these two semantic categories that Van Valin has mentioned, Mithun also notices other semantic motivations, as well as their interaction, as the basis of the active/agentive case marking in languages. For instance, semantic control takes precedence in Caddo, while case marking in Central Pomo can only be adequately accounted for by control plus affectedness.

The semantic categories that I have come up with through the analysis of data of various active languages are very similar to those of Van Valin and Mithun. Chapter III
shows that Volition is the primary semantic basis of active languages such as Eastern Pomo. While Volition also plays a role in the distinction of the active/inactive marking in Dakota, Human Performance (Mithun calls it 'agency') precedes Volition as the major semantic factor that determines Dakota agreement. Data from active languages such as Achenese and Batsbi demonstrate that the agreement marking in these languages is determined by the semantic category of Control (or more precisely, the degree of Control). However, Control alone is not adequate to account for the agreement marking in the Muskogean languages such as Creek and Alabama. The semantics of Affectedness is found to interact with Control in the determination of the agreement marking in these languages. In Section 1.2.2 of Chapter III, I also discussed the relationship between 'agency' (Control, Volition, Affectedness and Animacy) and lexical aspect (active vs. stative).

What I think is even more significant in Mithun's article is her analysis of the so called 'exceptions' in each language. Like other linguists, Mithun also observes that 'there are a few situations in which the features do not co-occur in their usual clusters' (538). This fact has been taken as the target of the anti-semantic approach to agreement and case marking and the semantic approach has been accused of having an 'inconsistent semantic basis'.
However, by examining carefully the 'exceptions' that appear to obscure the semantic motivations, Mithun finds explanations of the 'synchronic variability' in the 'diachronic stability' of the semantic distinctions. Several factors that result in the occasional semantic obscurity of agreement and case marking in active languages are mentioned by Mithun and illustrated with examples. They are grammaticalization, lexicalization, and shift of different features over time. For instance, control is the primary semantic basis of the case selection in Caddo (Caddoan family). Pronominal participants that have control over events take Agent (Actor) agreement marking, and those that do not have control over events take Patient (Undergoer) agreement marking. However, the word 'to lose', which is usually viewed as a noncontrollable event in other languages, appears with an Agent agreement marking.

(3) ci:yunih?nah I (Agent) lost (something).
   (Mithun 1991:528)

Mithun shows that this word actually derives from a verb root ?iyunik meaning 'absent' with a causative suffix -?h. The sentence literally means 'I caused it to be absent'; thus the verb takes an Agent agreement marker which indexes control. The process of grammaticalization obscures the semantic basis of the agreement selection.
Like grammaticalization, lexicalization can also obscure the semantic basis of the agreement selection. Also in Caddo, the word 'die' takes an Agent agreement marker as is shown in 4.

(4) hakihahyuysa? *We (Agent) die.*
(Mithun 1991:528)

The verb stem -hah-yun originally meant 'go home', and the literal meaning of 'die' is really 'one goes home' which is lexicalized with its agreement marker, probably as a euphemism. Note that this approach is similar to that taken by Hardy and Davis (1984, 1888) in understanding 'seeming exceptions' in Alabama (see Ch. II 29-31).

An example of shift of meaning of a word is given through Mohawk, an Iroquoian language. The word 'throw' takes a Patient agreement subject although a participant who throws things is generally highly agentive.

(5) yewakatyewa? *I (PATIENT CASE) throw it.*
(Mithun 1991:534)

However, Mithun notes that without the directional prefix ye-/ya?-, the word means 'lose'. (She also mentions that the directional prefixes do not originally affect case marking.) The meaning of the word has shifted completely, but the agreement marking remains unchanged. According to Mithun, Agency is the basic semantic feature that determines the Proto-Siouan-Caddoan-Iroquoian case marking, but later,
another major distinction is added in Iroquoian: aspect (in the sense of modality) (Mithun 1991:536).

Such examples as 3-5 can be found in almost every active language as minor exceptions to the generalizations of the semantic basis of agreement. Mithun does not take them as serious evidence against the semantic approach to the agreement/case marking in active languages. On the contrary, her examination of these minor classes reveals (as I have argued here) that prototypical Roles of Agent and Patient are not adequate to an account of the semantic basis of agreement/case marking, and that 'active/agentive case-marking systems are not all based on the same single feature' (538). Rather 'in each language a different feature is critical' (523), and from her analysis we can also see that the interaction of several features is also not uncommon. What we need to do then is to keep our minds open in both the synchronic and diachronic analysis of active (and, of course, inverse) marking systems and try to explore further the diversity of the semantic features that underlie them. This has been the fundamental assumption of this dissertation.
Notes to Chapter V

1. 'Case markers' on nouns in Muskogean languages such as Alabama also have a semantic function of marking participant salience in the discourse. The case markers t, k, and n in Alabama index the relationship between a nominal participant and the Proposition as argued by Davis and Hardy 1984, 1988. Encoding on the verb in the form of (first or second person) pronominal marking in itself confers the status of centrality to the Proposition on Speech Act Participants.
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