

On Nominal Relational Morphology in Tibeto-Burman

Randy J. LaPolla

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On Nominal Relational Morphology in Tibeto-Burman*

Randy J. LaPolla

La Trobe University

For this paper, 170 Tibeto-Burman were surveyed for nominal case marking (adpositions), in an attempt to determine if it would be possible to reconstruct any case markers to Proto-Tibeto-Burman, and in so doing learn more about the nature of the grammatical organization of Proto-Tibeto-Burman. The data were also cross-checked for patterns of isomorphy/polysemy, to see if we can learn anything about the development of the forms we do find in the languages. The results of the survey indicate that although all Tibeto-Burman languages have developed some sort of relation marking, none of the markers can be reconstructed to the oldest stage of the family. Looking at the patterns of isomorphy or polysemy, we find there are regularities to the patterns we find, and on the basis of these regularities we can make assume that the path of development most probably followed the markedness/prototypicality clines: the locative and ablative use would have arose first and then were extended to the more abstract cases.

Key words: Tibeto-Burman, relational morphology, ergative marking, object marking, primary object

1. Introduction

This paper presents part of the results of an on-going project on comparative Tibeto-Burman morphosyntax using a database of one hundred seventy languages, the goal of which is to produce a comprehensive volume that covers the synchronic state and also the historical development of Tibeto-Burman morphosyntax. For this paper the data were surveyed for nominal case marking (adpositions), in an attempt to determine if it would be possible to reconstruct any case markers to Proto-Tibeto-Burman, and in so doing learn more about the nature of the grammatical organization of Proto-Tibeto-Burman. The data were also cross-checked for patterns of isomorphy/polysemy (that is, if the same form is used for more than one category, from the point of view of the categories, it is a case of isomorphy, but from the point of view of the marking, it is a

* It is with the greatest respect, admiration, and affection that I offer this article to my former colleague, long-time friend, and respected role model, Prof. Gong Hwang-cherng. May health and happiness be his always.

case of polysemy), to see if we can learn anything about the development of the forms we do find in the languages. The results of the survey indicate that although all Tibeto-Burman languages have developed some sort of relation marking, none of the markers can be reconstructed to the oldest stage of the family. These findings support Benedict's (1972:95ff) view in his 1972 book, *Sino-Tibetan: A Conspectus*, that relational morphology of this type was not part of the grammatical system of Proto-Tibeto-Burman. Looking at the patterns of isomorphy or polysemy, we find there are regularities to the patterns we find, and on the basis of these regularities we can make some assumptions about the probable path of development of the markers.

I will first say a few things about the individual markers, and then talk about their probable paths of development.

2. Locative and allative marking

We find locative marking in all of the Tibeto-Burman languages we have data for, but we can only reconstruct forms with any degree of certainty for low-level, relatively tight groupings: Karen (**lə*), Tani (**lo*), Bodo-Garo (**aw*), Nocte-Tangsa (**nang*), Kuki-Chin (**ā*), Tamangic (**rī*), Tibetan (**la*, **na*), Tsangla-Monpa (**ga*), Eastern Kiranti (**da*), and Burmish (**ma*). It might be tempting to try to reconstruct a higher-level proto-form using the Karen, Tani, and Tibetan **l*-initial forms, but given that these languages do not form a group in anyone's view of genetic relations in Tibeto-Burman, the reconstruction would have to be to the Proto-Tibeto-Burman stage, and there simply isn't enough evidence to support such a reconstruction, particularly given the counter-evidence of non-**l*-initial forms in the other branches.

Except for in the Loloish branch, where we know some of the locative markers derive from locational verbs, we have little information on the origin of the locative markers in Tibeto-Burman. Given what we know of grammaticalization paths, we would expect locative adpositions to arise from either locative nouns in genitive constructions (all genitive constructions are pre-head in Sino-Tibetan, and so this sort of grammaticalization would produce postpositions) or locative verbs in serial verb constructions (which would produce postpositions in most Tibeto-Burman languages, but prepositions in Bai and Karen), but more work needs to be done to show what the development was in the individual languages.

In sixty-five out of ninety-five languages for which I have data on both the allative and locative marking, these two are the same. We then also have no grounds for reconstructing an allative marker to Proto-Tibeto-Burman.

3. Ablative marking

Again, as with the locative marking, although the overwhelming majority of languages in Tibeto-Burman (163 in my database) have ablative marking, forms can only be reconstructed with certainty for a few groups: Bodo-Garo (**ni*), Tangsa-Nocte (**wa*), Tani (**lo-ke*), Tamangic (**se*), Tibetan (**na/la-s*), Tsangla-Monpa (**gi*), Eastern Kiranti (**ka*), Karen (**la*), and possibly Loloish (**ne*) and Kuki-Chin (**inna*). Here the Tamangic and Tibetan forms are cognate, while Karen uses the same form as the locative. Tibetan and Tani both add the ablative to the locative, showing that the locative seems to be more basic in those languages. In many other languages the ablative does not always appear with the locative, but the ablative can be added to the locative for emphasis of 'from on' or 'from at'. There is a remote possibility we could link up the Loloish, Bodo-Garo, and Tibetan *n*-initial forms, especially as there are a few scattered languages in Qiangic and other branches that have an *n*-initial form, but we will need to be clearer on the developments in the individual languages before we could do so with even the slightest confidence.

4. Genitive marking

For the genitive we find even less commonality of forms among the 122 languages out of the 170 that have genitive marking. We can only reconstruct forms for a few tightly related groups: Bodo-Garo (**ni*; the same form as the ablative), Tani (**ke*), Tamangic (**la*), Tangsa-Monpa (**ga*), and Tibetan-Western Himalayan (**gi*). It seems that in Proto-Tibeto-Burman, as in many modern Tibeto-Burman languages, a genitive relationship was marked by no more than position immediately before the modified noun.

5. Comitative marking

The comitative marking is the least tractable of all of the markers. In four languages it is isomorphic with the locative marking, in six languages it is isomorphic with the ablative marking, and in nineteen languages it is isomorphic with the instrumental marking, while the rest are unique forms. Only in the case of Tibetan, Tsangla, and Tamangic do you get a form that is shared, all probably related to Tibetan *daŋ* 'with'.

6. Agentive marking

We find agentive marking in 125 of the languages and dialects surveyed, spread among many sub-groups within Tibeto-Burman (though generally not in Tani, Naga, Karen, and Bodo-Garo), but the forms used for agentive marking in the different languages (and sometimes even for different dialects of the same language) vary greatly. We can reconstruct forms for some lower level groupings, such as Tamangic (**se*), Tibetan (**GEN + s*), Tsangla-Monpa (**gi*), Kiranti (**a*, possibly < **ka*), and possibly Kuki-Chin (**inna*), but we have not found any form reconstructable to the Proto-Tibeto-Burman level (see LaPolla 1995 for detailed data and discussion). Bauman's (1979:429) suggestion that there is a Proto-Tibeto-Burman **ka* ergative form is supported only by the Kiranti evidence, and so is untenable. Also, all of these forms are the same as the ablative forms in those languages. We will discuss the significance of this in §8, below.

In later work, Benedict (1991) argued that there was a Proto-Tibeto-Burman or even Proto-Sino-Tibetan ergative **-s* marker which was lost in all but a few languages, but I reject this view on at least three grounds. First, what evidence we have of an *-s* ablative/ergative is limited only to Tamangic and Tibetan in the Bodish subgroup. If such a marker existed in Proto-Tibeto-Burman we would expect to find it in at least a few languages outside Bodish, ideally scattered geographically. Second, according to Hopper's (1991) heuristic principles for determining the degree of grammaticalization of a particular morpheme or construction, in a functional domain where there has been recurrent grammaticalization we generally find layering of grammaticalization, as when new layers emerge they coexist and interact with the pre-existing layers. Hopper gives the example of the past tense in English, where we have at least three layers (p.24): '(a) Periphrasis: *We have used it* (newest layer), (b) Affixation: *I admired it* (older layer), and (c) Ablaut: *They sang* (oldest layer)'. In Tibeto-Burman we find a similar phenomenon in terms of causative marking. The vast majority of Tibeto-Burman languages show evidence of either an **s-* prefix or at least a difference in voicing/aspiration of the initial to mark a causative verb, though in almost all of the languages this has ceased to be productive, and so an analytical causative, often formed using a verb meaning 'do', 'make', or 'cause', has developed. The older forms did not disappear, though, and can often be used together with the newer form of the causative, sometimes with variant shades of meaning (see LaPolla 2000 for the example of Rawang). My point here is that we do not see this kind of layering in the functional domain of agentive marking, and this is one more type of evidence that this is not a functional domain that involved overt marking in the proto-language. Third, there are morphemes reconstructable to Proto-Tibeto-Burman (aside from the causative **s-*

prefix I just mentioned) that are overwhelmingly present throughout Tibeto-Burman, such as the negative **ma-*, the negative imperative marker **ta-*, a **-t* transitivity suffix, and an **-n* nominalizing suffix (see LaPolla 1994a, 2003a). If these markers, the causative **s-* prefix, and the ergative marker were all part of the Proto-Tibeto-Burman morphological system, why are the former still present in 60-70% of the modern languages, while the ergative marker is limited only to Bodish?

Aside from surveying the actual form of the agentive marking used in each language that has agentive marking, the conditions on the use of the forms in each language were also surveyed. We find that in terms of age, obligatoriness, function, and degree to which the markers are part of a regular paradigm, they differ greatly. At one extreme we have forms such as in Dulong, Namuyi, Hani, Naxi, Achang, Nusu, and dialects of the Deng languages in China, where use of the form is optional, and when the form is used it functions solely to clarify which of two potential agents (human or animate referents) is the actual agent (actor). That is, its use depends on the speaker's determination of the need for emphasis or clarity, and is not part of an obligatory paradigm (cf. Dixon 1994, Ch. 2 on semantically based marking as opposed to syntactically based marking). For example, in Hani *ne*³³ is used to mark agents,¹ and *jo*⁵⁵ is used to mark animate patient arguments (goal and locative arguments are marked with *a*³³). Li & Wang (1986:78) give the following choices of word order and marking for expressing the meaning 'You(pl.) teach us' in Hani, the differences being purely pragmatic:

- | | | | | |
|--------|---|---|---|---|
| (1) a. | <i>no</i> ⁵⁵ <i>ja</i> ³³ | <i>ŋa</i> ⁵⁵ <i>ja</i> ³³ | <i>jo</i> ⁵⁵ | <i>me</i> ³¹ . |
| | 2pl | 1pl | PAT | teach |
| b. | <i>ŋa</i> ⁵⁵ <i>ja</i> ³³ | <i>jo</i> ⁵⁵ | <i>no</i> ⁵⁵ <i>ja</i> ³³ | <i>me</i> ³¹ . |
| | 1pl | PAT | 2pl | teach |
| c. | <i>no</i> ⁵⁵ <i>ja</i> ³³ | <i>ne</i> ³³ | <i>ŋa</i> ⁵⁵ <i>ja</i> ³³ | <i>jo</i> ⁵⁵ <i>me</i> ³¹ . |
| | 2pl | AGT | 1pl | PAT teach |
| d. | <i>ŋa</i> ⁵⁵ <i>ja</i> ³³ | <i>jo</i> ⁵⁵ | <i>no</i> ⁵⁵ <i>ja</i> ³³ | <i>ne</i> ³³ <i>me</i> ³¹ . |
| | 1pl | PAT | 2pl | AGT teach |
| e. | <i>no</i> ⁵⁵ <i>ja</i> ³³ | <i>ne</i> ³³ | <i>ŋa</i> ⁵⁵ <i>ja</i> ³³ | <i>me</i> ³¹ . |
| | 2pl | AGT | 1pl | teach |
| f. | <i>ŋa</i> ⁵⁵ <i>ja</i> ³³ | <i>no</i> ⁵⁵ <i>ja</i> ³³ | <i>ne</i> ³³ | <i>me</i> ³¹ . |
| | 1pl | 2pl | AGT | teach |

¹ In Hani, *ne*³³ is used to mark ablatives, instruments, adverbials, and causes, and is part of the forms for comitative (*zo*⁵⁵*ne*³³) and benefactive (*ba*⁵⁵*ne*³³)

In cases where there is no likelihood of confusion, the agentive marker need not be used (Li & Wang 1986:98). This pattern of use is quite common in Tibeto-Burman.

In some of these languages there is also either patient marking, as in Hani, or 'anti-ergative' marking (LaPolla 1992a) with the same agent-disambiguating purpose as well. We will discuss this type of marker below, but, briefly, it marks a potential agent as not an agent. The speaker then has a choice of one or the other of these markers to distinguish an agent from a non-agent. The presence of both types of markers in many of these languages is particularly interesting, as it is not what we would expect from either a typical ergative language or a typical accusative language. This might lead some linguists to assume that this is some sort of split ergative system, but it is not. As Dixon points out (1994:23), the terms 'ergative', 'nominative', 'accusative', and 'absolutive' are only applicable to syntactically based marking, not semantically based marking. Given what we know about the path of grammaticalization and the processes that occur during the development of a grammatical form (see for example Lehmann 1982, 1985, Heine & Reh 1984, Heine, Claudi & Hünnemeyer 1991, Hopper 1991), we can say that this type of system reflects an early stage in the grammaticalization of relational morphology, where the forms have not yet developed into a full obligatory paradigm, and do not mark syntactic relations, but simply semantic roles, and only when pragmatic factors make it necessary (i.e. when the roles of the referents involved are not clear from the context).² In the newest systems of this type, the agentive marker simply marks an agent, while the 'anti-ergative' marker simply marks an animate or human referent as *not* the agent of the action expressed by the sentence.

What we have found, then, is that contrary to the position of DuBois 1985, 1987, in which it is argued that the motivation for ergative marking is to distinguish 'new' from 'old' information, where the absolutive marks 'new' information and the ergative marks 'old' information, in Tibeto-Burman it appears that ergative marking arises as a simple agent disambiguating device.³ This is not to say there is no relationship between

² Very often in the history of the grammaticalization of a form it starts out being used only for emphasis or clarity, and then later comes to be used more and more often, in more and more environments, until it is fully grammaticalized. A well known example of the full cycle of this process is the history of the development of the French negative morpheme *pas* (see for example Hopper 1991); the ergative markers in those languages where it is still used only for clarity or emphasis would be at the beginning stage of that process.

³ See also Givón 1980 and Klimov 1984 on seeing ergative morphology as being semantically based on the contrast of agent vs. non-agent. This phenomenon is not limited to the Tibeto-Burman side of Sino-Tibetan, but is also true for Chinese. See for example Egerod's (1982:90) summary of Humboldt's view that 'Chinese particles do not indicate grammatical forms but serve to avoid ambiguity', and also Y. R. Chao's view that since verbs in Chinese have no

ergative marking and information structure in these languages. In fact there is a relationship, but not a direct cause and effect relationship. In most of the languages with young systems the unmarked word order is Agent-(Recipient)-Patient-Verb, where the agent is the topic, and the patient is in the immediately preverbal focus position. In sentences with unmarked word order, no role marking need appear if there is only an agent and a patient; the marking is necessary only when the agent is in the focal position, or, if there is a recipient (or some other human or animate referent) represented in the sentence as well, and if the recipient is not marked as such.⁴ The relationship between the pragmatic status of a referent in the universe of discourse (whether 'new' or 'old'), information structure, and case marking is then indirect: it is non-canonical word order that necessitates the marking, and the non-canonical word order is the result of non-canonical information structure.⁵ It is particularly significant that it is when the agent is 'new' information that it takes the agentive marker, the opposite of the situation predicted by DuBois. For example, in the Qiang example in (2) (from LaPolla, 2003b), the noun phrase representing the actor (*χumtʂi*) takes the agentive marker because it is in focus position, a marked position for that argument, and another potential agent is mentioned in the clause. If it were in topic position, the actor marking would not be required.

- (2) *khumtʂi χumtʂi-wu zə-dze-u.*
khumtʂi χumtʂi-AGT DIRECTION-hit-VISUAL
 'Khumtʂi was hit by *χumtʂi*.'

inherent 'direction of action', the 'pretransitive' markers *bǎ* and *bê* can be used to disambiguate the direction of action (1968:72-75).

⁴ The importance of animacy in Tibeto-Burman languages is also reflected in the fact that a large number of Tibeto-Burman languages have independently grammaticalized an animate-inanimate distinction in their system of existential verbs (LaPolla 1994b).

⁵ This is very similar to DeLancey's (1985:51) view that 'the conditioning factor for ergative case is that the Source of the transitivity vector, i.e. the transitive agent, is not also [the] linguistic viewpoint'. That this is correct can be seen from the fact that in rGyalrong the agentive marker is never used with the 1sg pronoun (Nagano 1987), the most natural viewpoint. In some of the languages discussed here the person marking on the verb also reflects the special status of the speaker (e.g., in rGyalrong the main condition on the use of 'the inverse prefix *u-* and the ergative postposition *-k* is the same: both occur when and only when the more natural viewpoint is not the starting point' (DeLancey 1981:642-43)). There are also languages, such as Jirel (Strahl 1975), where animacy seems to be the most salient feature in terms of determining word order, though it will still interact with viewpoint (information structure) to some extent.

Further evidence that it is disambiguation and not some other factor that is involved in agentive marking in many of these languages is cases like ex. (3), from Sani Yi, where the agentive marker is used with an intransitive verb because the locative adverbial phrase includes a human referent (from Ma 1951:91):⁶

- (3) *ŋa³³ lɿ³³ p³³ yu¹¹tsz⁵⁵ yɿ⁴⁴ p³³ lɿ³³ ŋa³³ yu¹¹tsz⁵⁵ yɿ⁴⁴ dɿ³³ dzɿ³³*
 1sg AGT 2sg front walk 2sg AGT 1sg front walk COMPL debate
 ‘Debate whether I walk in front of you (or) you walk in front of me.’

At the other extreme within Tibeto-Burman are languages such as Chepang, Newari, Kham, Sunwar, and most Tibetan dialects, that have relatively stable paradigmatic ergative systems.⁷ In these languages the use of the ergative marker is obligatory, for example in Kham, after any noun phrase representing a third person referent or when a lexical noun is used to represent a first or second person referent in a transitive or ditransitive clause.⁸ Word order, information structure, agency, and volitionality are all not relevant to the use or non-use of the marker.⁹

These two extremes within Tibeto-Burman are two points on a cross-linguistic continuum from a loose, non-paradigmatic, non-obligatory system of case marking,¹⁰ to a stable paradigmatic obligatory system of case marking. Each point on the continuum reflects the degree of grammaticalization of a system at that point, and in turn reflects the relative age of the system, as we know that as grammaticalization progresses there is generally a gradual loss of phonetic and semantic integrity, an increasing degree of paradigmaticity, and an increasing degree to which the use of the

⁶ In at least twelve languages (in five different subgroups) that have agentive marking, that marking can appear on intransitives. There may be a lot more languages that allow this, but the possibility of this use is rarely discussed in published grammars.

⁷ Here we are talking about systemic morphological ergativity, a system like Basque or Tibetan, where the ergative marking plays a particular role in the overall system of grammar, and is obligatory in certain contexts, but the system does not manifest syntactic ergativity such as is found in Dyrbal.

⁸ See Hale and Watters' taxonomy of agentive marking systems in the languages of Nepal (1973:195-200). To some extent even in some of these languages pragmatic factors, such as contrastive emphasis, can be involved in whether the agentive form is or is not used, especially with intransitives (see for example Che 1992 and Tournadre 1991 on Tibetan, and Genetti 1988 on Newari).

⁹ Cf. DeLancey 1985:52: '[I]n Lhasa [Tibetan] and Newari and some other languages the category of volitionality or conscious control is overtly marked in the verb complex when the subject is first person, [though] volitionality per se does not affect case marking.'

¹⁰ Of course previous to this stage is a stage where there is no case marking at all.

form is systematically constrained and obligatory (Lehmann 1985). From this we can see that many of the languages in Tibeto-Burman are at the early stages of grammaticalization, and even those that are farther along the continuum have not reached the stage that Lehmann calls 'strong grammaticalization' (p.309).¹¹ These facts, along with our inability to find regular correspondences between the agentive forms used, leads us to the conclusion that agentive marking is a rather late phenomenon in the Tibeto-Burman family. It must have developed after the breakup of most of the major groups into branches or even sub-branches. We can even say that of the different branches within Tibeto-Burman, Bodish was probably the first to develop agentive marking, while Burmese-Lolo was relatively late in developing agentive marking, and Bodo-Garo, Naga, Tani, and Karen have yet to develop such marking.

7. Anti-ergative (anti-agentive) marking

Looking at the 'object' marking in the Tibeto-Burman family, we find that forty-five languages have no nominal object marking, eighteen languages have nominal morphology consistently marking the patient as object, regardless of whether the clause included another non-agent argument (i.e. was either transitive or ditransitive), and ninety-two languages have a type of marking where the patient in monotransitive clauses is often or always marked with the same adposition as the goal, beneficiary, genitive, or other non-actor argument in ditransitive clauses. Following are examples of this type of marking from three Tibeto-Burman languages:

(4) Lahu (Northern Thailand; Matisoff 1973:156-7)

- | | |
|---|--|
| <p>a. <i>ŋà thà? tá dǎ?</i>
 1sg OBJ NEG.IMP hit
 'Don't hit me.'</p> | <p>b. <i>lí? chí ŋà thà? pǐ?</i>
 book that 1sg OBJ give
 'Give me that book.'</p> |
|---|--|

¹¹ Saying that a marking system is in the early stages of grammaticalization does not imply that the system must develop into a fully grammaticalized (for example) ergative system. There is also the question of at what point in the development of a system an agentive marker becomes significant to the characterization of the system of grammatical relations in a language. For example, there is an agent marker in Chinese (*yóu*) with a similar distribution to the agentive marker in many of the Tibeto-Burman languages, yet no one, as far as I know, has suggested that this marker is an ergative marker, even in those articles that claim ergative patterns exist in Chinese. The Chinese agent marker, just as in the Tibeto-Burman languages, derives from a more general marker of Source or Origin, and is used not only as an agentive marker, but also as a causal marker and an ablative marker.

(5) Kokborok (Bangladesh; Karapurkar 1976:54-5)

- a. *buruy-čhikla-rɔg-nɔ rɔhɔr-di.*
 girl-young-many-OBJ send-IMPERATIVE
 ‘Send the young girls.’
- b. *bə-ta-nɔ may ča-ru-di.*
 pron.pref.-elder.brother-OBJ rice eat-give- IMPERATIVE
 ‘Give food to your elder brother.’

(6) Kham (Nepal; Watters 1973:44, 46, 54)¹²

- a. *nga: zihm nga-jxy-ke.*
 1sg house 1sg-build-PAST
 ‘I built a house.’
- b. *no-e ka:h-lay poh-ke-o.*
 3sg-ERG dog-OBJ beat-PAST-3sg
 ‘He beat the dog.’
- c. *no-e nga-lay cyu:-na-ke-o.*
 3sg-ERG 1sg-OBJ watch-1sg-PAST-3sg
 ‘He watched me.’
- d. *no-e nga-lay bxhtanji ya-na-ke-o.*
 3sg-ERG 1sg-OBJ potato give-1sg-past-3sg
 ‘He gave a potato to me.’

To discuss just one of these examples in depth, we can see that in (6a) the marker *lay* is not used, and this is because the relevant referent (‘house’) is not animate; in (6b) *lay* marks an animate patient; in (6c) it marks a human patient; and in (6d) it marks a human recipient. I will refer to this type of marking as ‘anti-ergative’ marking, as the crucial function of this type of marking is to mark an animate argument that might otherwise be interpreted as an actor as being something other than an actor. In this way it is the opposite of the type of ergative marking we find in some of these same languages, which marks an argument as being an actor. The term ‘anti-ergative’ may be somewhat infelicitous, as, like the term ‘ergative’ itself, it may lead one to credit these

¹² In those Tibeto-Burman languages that have person marking (verb agreement) systems there may be some overlap where the person marking system and the nominal marking seem to both be marking the anti-ergative argument (as in this example, which led Dryer (1986) to claim that the person marking system also marks anti-ergative arguments as ‘primary objects’), but the person marking systems in many Tibeto-Burman languages are based on person hierarchies (1p > 2p > 3p, or 1p/2p > 3), not on semantics or grammatical relations (see LaPolla 1992b).

particles with more of a paradigmatic nature than they actually have, but the term 'anti-ergative' is already somewhat established in the literature (e.g. Comrie 1975, 1978,¹³ LaPolla 1992a), and clearer than Blansitt's (1984) term for this phenomenon, 'dehcticaetiative'. I also do not use the term 'primary object' introduced by Dryer (1986) because Dryer (1986) defines 'primary object' as a grammatical function. He attempts to establish the grammatical functions Primary Object (PO) and Secondary Object (SO) to contrast with Direct Object (DO) and Indirect Object (IO), but the use of this type of marking in most of the Tibeto-Burman languages that have it is not of the nature of a grammatical function, it is semantically based, and on an actor vs. non-actor contrast, not on an object vs. non-object contrast, and in some languages it is also not limited to marking 'objects' (e.g. in Tangut it is also used for genitives).¹⁴

In those languages that have both ergative and anti-ergative marking, it is often optional whether to use one or the other or both, but the marking is often not systemic, as it is used only to disambiguate two arguments when that becomes necessary due to the semantics of the referents, the actions involved, or the pragmatic viewpoint (see for example Matisoff 1973:155-8 on Lahu *thà?*,¹⁵ Wheatley 1982 on Burmese *kou*). It is especially common for overt marking (either ergative or anti-ergative) to be necessary when the most natural (unmarked) topic, the agent, is not the topic, and instead appears in the preverbal focus position.

Dryer's analysis is that the main function of Primary Object marking is to distinguish a more topical object from a less topical object, but this does not explain its use in monotransitive clauses, and why in many languages it can be used on a non-topical noun phrase. That it is not simply a type of topicality marking, as also suggested by Thompson (1990) for Chepang, can be seen in the fact that this marking can appear on question words and focal noun phrases, the latter as in (7) (Caughley 1982:248; *taŋ?*

¹³ Comrie's 'anti-ergative' is defined as marking used on an object only when there is also a subject in the same sentence. Comrie sees this type of marking as being functionally motivated by a need to distinguish between subject and object. He only discusses direct objects in talking about anti-ergative marking, but as I am talking about marking motivated by the need to distinguish between agent and non-agent, it does not seem improper for me to use the term 'anti-ergative' as well.

¹⁴ For detailed arguments against the existence of syntactic functions in particular Tibeto-Burman languages, see Andersen 1987 (Tibetan) and Bhat 1988 (Manipuri). See also the discussions of Lisu in Hope 1974 and Mallison & Blake 1981.

¹⁵ For example, Matisoff (1976:425-6) characterizes the anti-ergative marker in Lahu (*thà?*) as an 'efficacy depressant' which indicates that 'the accompanying noun is a receiver of the action in spite of the fact that it might well be, under other circumstances, the initiator of the action'.

functions to mark salient new information, and here follows the anti-ergative marker *kay*):¹⁶

- (7) *ʔohaŋsəykoʔ ʔal-taŋʔ-ʔaka-cə ləw ʔoʔ-nis ʔapa-caʔ-kay-taŋʔ*
 Scn go-IIF-PT-DI Excl that-DI Father-KN-GI-IIF
krus-ʔa-tha-cə
 meet-Pt-GI-DI
 ‘Then they went and they met the father and child.’

Caughley also points out that the anti-ergative marking ‘has no necessary connection with definiteness’ (p.70), a corollary of topicality. Anti-ergative marking is related to the topicality and ‘object’ status of the noun phrase only indirectly. It is the animacy or overall saliency of the argument that is important: in the vast majority of the languages with this type of marking, the anti-ergative marking only occurs with animate or human participants, and then only when necessary for disambiguation, such as in marked word order constructions. That is, generally only noun phrases representing non-actor referents that might be misconstrued as actors will be marked with the anti-ergative marker. Dryer (p.818) argues that ‘[t]he PO/DO parameter is independent of the ergative/accusative parameter, and they combine to form four language types’. That is, a language can be ergative and Primary Object, ergative and Direct Object, accusative and Primary Object, or accusative and Direct Object. I am suggesting that, at least in these Tibeto-Burman languages, ergative and Primary Object marking systems are not so independent, in the sense that both follow from a single motivation: the disambiguation of semantic role (‘case recoverability’ Givón 1984). In many of these languages there is overt actor (ergative) marking as well as the anti-ergative marking, and the distribution of these two types of marking is the same; in transitive sentences either ergative or anti-ergative marking, or both, can be used.¹⁷

In a number of languages the patient argument is generally unmarked, but the dative or dative/locative marker can sometimes be, or is often, used for human patient

¹⁶ Caughley’s abbreviations: Scn: Sequential Conjunction; IIF: Indirect Information Flow/Reportative; DI: Dual Number; KN: Kin (Related person); GI: Goal; PT: Past.

¹⁷ A type of anti-ergative marking can also appear in the verbal morphology, as in Dulong (Sun 1982), where there is a verbal prefix *nu-* which occurs only and in every case where a speech act participant is involved (as an argument, oblique, or possessor), but the speaker is *not* the agent of the clause. This same pattern occurs in several other languages as well, such as Dumi Rai (though with an *a-* prefix) and Rawang (a language closely related to Dulong, but which has an *e-* prefix).

arguments, as in Balti, Bodo (Standard Plains Kachari), Bunan, Dhimal, Gurung, Magari, and Tamang.

As mentioned above, out of 170 languages and dialects, ninety-nine showed some evidence of the anti-ergative pattern (92 plus the seven that sometimes show it), eighteen with nominal morphology (postpositions) did not show the anti-ergative marking pattern, and thirty-one had no postpositional 'object' marking. Out of the 117 languages that have some type of 'object' marking, then, eighty-five percent show the anti-ergative pattern of marking. We find this type of postpositional anti-ergative marking in the Burmish, Loloish, Jingpo, Nungish, Tibetan, West Himalayan, Tani, Mishmi, Qiangic, East Himalayan, Barish, and Naga branches of Tibeto-Burman, covering almost the entire Tibeto-Burman geographic area, yet most of these languages have grammaticalized different morphemes to mark the anti-ergative arguments (see LaPolla 1992a for the forms), so we can assume that this marking (at least as we find it synchronically attested in these languages) is not of great time depth. That the marking is very recent can be seen in the fact that while it is possible to reconstruct forms for some low-level groupings such as Tani or Tibetan, in other branches even closely related languages have different anti-ergative markers (e.g. Lahu (*thàʔ*), Akha (*ánj*)), or differ in terms of having anti-ergative marking or not (e.g. Akha, which has anti-ergative marking, and Hani, which does not). On the other hand, the fact that so many languages grammaticalized the same type of function suggests that either anti-ergative marking was a fact of an earlier stage of this family and all or most of the original markers have been lost or renewed, or there was something about the proto-language or culture that caused the daughter languages to grammaticalize the same type of function (see LaPolla 2003c on the relationship between language and culture). A third possibility is that this feature is an areal trait, and is not constrained by genetic boundaries. We have no evidence that there was anti-ergative marking at some earlier stage that was lost, and I have not found evidence of non-Tibeto-Burman influence in terms of this marking on Tibeto-Burman languages inside China. There is evidence that at least some of the languages in Nepal may have been influenced by Nepali, a Primary Object-marking Indo-European language. For example, Allen (1975:92) says that the Thulung patient/dative form *lāi* is a loan from Nepali, and says 'There can be no doubt at all that traditionally both the direct and indirect objects have been unmarked.' The anti-ergative markers in Kham and Gurung were also at least influenced by Nepali, if they were not direct loans.

Those languages that have postpositions, but do not have the anti-ergative marking pattern (e.g. Tujia, Hani) generally mark noun phrases by strictly semantic principles. That is, a locative/goal (when marked) will always be marked the same way, and a patient/theme (when marked) will always be marked the same way, and there are no

relation changing (or 'promotion') rules (e.g. passive, dative, antitive). We then have two types of marking in Tibeto-Burman. Both are semantically based, but one (ergative and patient marking) is based on what semantic role a referent has, and the other (anti-ergative marking) on what semantic role a referent does not have. Both types of marking can be said to have evolved for semantic disambiguation.

Just as with ergative marking, in a few of the Tibeto-Burman languages we find anti-ergative marking that is much more grammaticalized and so might be considered true Primary Object marking. Dryer mentions (1986:842) that a language in which the coding is used only for humans is not a Primary Object language, though it may look like one because Primary Objects are generally human; the coding refers to human arguments, not Primary Objects per se. Dryer discounts the possibility that this is the case in Tibeto-Burman, but bases his objections mainly on the non-Tibeto-Burman languages Ojibwa and Huichol, and only mentions the fact that one Tibeto-Burman language, Kokborok, has Primary Object marking on inanimate Indirect Objects as evidence that in Tibeto-Burman it is not simply human marking. Dryer's conclusion is that 'even though something along the lines of a human/non-human distinction is a likely diachronic source for primary objectivity, that distinction has apparently often been grammaticalized and reanalyzed as a PO/SO distinction' (p. 842). I would argue that Dryer is correct both in pointing out the source of Primary Object marking (though I would see it as an actor/non-actor contrast related to humanness rather than a direct human/non-human contrast), and in asserting that some Tibeto-Burman languages have grammaticalized this marking into true Primary Object marking or a type of more general 'salient argument' marking (marking subordinate clauses as well as nouns), but he is wrong in not acknowledging that there are many other languages that have not fully grammaticalized such marking.

8. The development of the marking

We have seen that none of the case marking we find in the Tibeto-Burman languages can confidently be reconstructed to the Proto-Tibeto-Burman level. When we find marking of some time depth, it is generally a locative or ablative case at the earliest stages. In the data surveyed, there is a very large number of languages where the same form is used for marking what are generally considered different semantic roles. For example, in many languages the same form is used for the agentive and the ablative, or the agentive and the instrumental, or for the agentive, the instrumental, and the ablative. A systematic survey of twenty-two different pairings and triplings of case markers was done. The pairings and triplings examined are listed in (8):

(8)	ablative/agentive	instrumental/ablative
	ablative/dative	instrumental/agentive
	allative/dative	instrumental/comitative
	allative/patient	locative/ablative
	benefactive/dative	locative/agentive
	genitive/ablative	locative/allative
	genitive/agentive	locative/dative
	genitive/dative	locative/instrumental
	genitive/instrumental	locative/patient
	genitive/locative	locative/patient/dative
	genitive/patient/dative	patient/dative

Among these pairings, eight showed significant isomorphy. These are given in (9), along with the number of languages out of the total number of languages for which I have enough relevant data to ascertain a pattern:

- (9) patient and dative marking (92 out of 117 languages)
 locative and allative marking (65 out of 95 languages)
 patient/dative and locative marking (27 out of 115 languages)
 allative and dative (33 out of 88 languages)
 agentive and instrumental marking (72 out of 101 languages)
 ablative and instrumental marking (45 out of 107 languages)
 agentive, instrumental, and adverbial marking (8 out of 17 languages)
 agentive and ablative marking (23 out of 92 languages)
 agentive and genitive marking (16 out of 100 languages)
 comitative and instrumental (19 out of 101 languages)

The isomorphisms found in these languages can be roughly divided into an agentive-instrumental-ablative type, a patient-dative-allative-locative type,¹⁸ and an instrumental-comitative type.¹⁹ The cases of agentive-genitive isomorphy are generally of a different nature than the other patterns of isomorphy. Many of the cases of

¹⁸ In more than a few languages the agentive, instrumental, and/or ablative forms are morphologically derived from the locative forms, e.g. Zaiwa locative *ma*, ablative/instrumental *mai*. This is a somewhat different relationship than that shown by complete isomorphy, so will not be treated here.

¹⁹ See Croft 1991:184-198 on the naturalness of these groupings and their commonness cross-linguistically; see also Blake 1977:60-61 on the commonness of these groupings in Australian languages.

agentive-genitive isomorphy are not due to metaphorical extensions, but are syncretisms where cases that were originally different fell together because of sound changes, such as in some Modern Spoken Tibetan dialects, where the loss of the *-s* final on the agentive marker resulted in a form which is the same as the genitive marker.²⁰ Compare, for example, the Written Tibetan and Spoken Tibetan given in (10):²¹

(10)	Genitive	Agentive-Instrumental
Written Tibetan:	gyi	gyis
Spoken Lhasa Tibetan:	ki	ki/ke

The agentive-instrumental form was originally formed from the genitive form plus the *-s* morpheme, which DeLancey characterizes as 'indicating abstract Source, subsuming both agent and starting point of motion' (1985:57). This morpheme also appears in the ablative forms *nas* and *las*, which are complex forms consisting of the locative *na* and *la* respectively plus the *-s* morpheme. Rather than being exceptions to the agentive-instrumental-ablative isomorphic pattern, then, the Tibetan forms are prime examples.

The agentive-instrumental-ablative type of isomorphism also shows frequent isomorphy with (manner) adverbial markers as well as anterior and causal clause subordinators; the locative-allative-patient-dative type of isomorphism also shows frequent isomorphy with purposive, temporal, and conditional clausal subordinators (cf. Genetti 1986, 1991; Ebert 1993).

We can assume that the forms for the more abstract cases, such as the agentive, were derived from the local (here including ablative) cases, for a number of reasons. First, a number of cross-linguistic studies on grammaticalization (e.g. Heine & Reh 1984, Hopper & Traugott 1993, Lehmann 1982, 1985, *inter alia*) have shown this pattern to be a general feature of the development of case marking systems. For example, Heine, Claudi & Hünemeyer (1991b:156) state in their principles for establishing the relative degrees of grammaticalization within a case marking system, which generally correspond directly to the relative ages of the markers, that 'If two case functions differ from one another only in the fact that one has a spatial function

²⁰ Luraghi (1987:355) distinguishes between functional syncretism, the merging (of function but not necessarily form) of two or more cases due to functional similarity, and morphological syncretism, the homophony of two or more cases due to phonological erosion of the original forms. The Tibetan case then is one of morphological syncretism.

²¹ The genitive marker has a number of allomorphs in Written Tibetan depending on the final of the preceding syllable (*-gyi*, *-gi*, *-kyi*, *-i*). As the agentive-instrumental marker consists of the genitive plus the ablative, the agentive-instrumental marker also follows the same pattern of allomorphs.

whereas the other has not, then the latter is more grammaticalized.' Dirven (1993) discusses the extensions of locative prepositions in English from marking only spatial location to marking location in time, to marking other adverbials, and to marking causes. She states that 'The extensions of the meanings of a preposition from physical space via time into more abstract domains do not occur in any haphazard way but follow a path of gradually increasing abstractions' (p.76).

Second, in some Tibeto-Burman languages the historical or derivational development from locatives is relatively clear, such as when several languages share a particular form with only a locative meaning, or locative plus instrumental, but only one language uses that form for an agentive marker. This is the case, for example in the Konyak group, where quite a few languages have *ma* as an ablative and/or instrumental marker, yet only one language, Nocte, uses that form as an agentive marker (see LaPolla 1995a). We also see this sort of situation in Bola, where the form *jaj*³¹ is used for both instruments and agents, contrasting with the closely related Langsu, which uses that form for instruments, but not agents.²²

Third, looking at the patterns of isomorphy we find in Tibeto-Burman from the point of view of markedness, we find that the abstract cases are more marked than the local cases, and that there is a cline of markedness within each of the two major isomorphic types mentioned above.

The concept of markedness was first developed by the Prague School of linguistics in the late 1930's, beginning with Trubetzkoy's observation that given two mutually opposite phonetic categories, one category will be 'marked' vis-à-vis the other because of the presence (either positive or negative) of a particular property, though in some contexts the contrast between the two categories is neutralized.²³ That is, in some contexts only the unmarked form can appear, and in those contexts the form will represent either the marked category or the opposite of the marked category. Because of this, use of the marked category entails the presence of the particular property, while use of the unmarked category is neutral as to the presence or absence of the property. A well-known example from phonology is the neutralization of the voicing contrast of obstruents in word-final position in German. Voiceless obstruents are unmarked vis-à-vis the voiced obstruents, as they lack the feature 'voiced'. In word-final position only voiceless obstruents can appear, the voiceless obstruents then representing both voiced

²² Cf. also the following quote from DeLancey (1984:63), talking about the development of the case markers in Tibeto-Burman: 'It is clear from those instances where the historical process can be reconstructed that the direction of change is always from the more concrete local to the more abstract grammatical sense.'

²³ This is of course in the case of privative oppositions; Trubetzkoy also recognized the existence of equipollent oppositions.

and voiceless obstruents in that context. Jakobson extended this concept to the understanding of the coding of grammatical categories, using the example of the categories of the Russian verb to talk about markedness contrasts. For example, feminine marking signals that the participant is definitely female, while masculine marking does not specify the sex of the participant. Feminine marking is then marked vis-à-vis masculine marking in Russian.²⁴

Markedness later developed a number of other different senses or criteria used to define markedness (Greenberg 1966), so that now the concept of markedness can be broken down into a number of types (Zwicky 1978), three of which are relevant here. The first is implicational or typological markedness. The definition of this type of markedness is given in (11) (Forner et al. 1992:78):

- (11) For any pair of minimally different linguistic structures or characteristics A and B, A is typologically marked relative to B (and B is typologically unmarked relative to A) if and only if every language that has A also has B but not every language that has B also has A.

This conception of markedness harks back to an early Prague school notion, that of markedness being related to what is less normal or less expected (cf. Comrie 1976, Chapter 6). For example, every language that has voiceless nasals has voiced nasals, but not vice versa. In terms of morphology, every language that has dual marking has plural marking, but not vice versa. It is implicational in that we can say, for example, that the existence of dual marking in a language implies the existence of plural marking. In terms of relational morphology, agreement marking on the verb in which the verb only agrees with human objects is less marked than marking that agrees with non-human objects, as agreement with non-human objects implies agreement with human objects (Lehmann 1989:181-2).

Looking at the relational morphology of Tibeto-Burman, we find that there is no language in my database that does not have some type of locative marking, while there are many languages that do not have any sort of ergative, anti-ergative, accusative, or instrumental marking, so the latter is more marked in this sense.

A second type of markedness is based on language-internal diversification and semantic specificity. The definition for this type of markedness is given in (12) (Lehmann 1989:176):

²⁴ The discussion of markedness began with an exchange of letters between Trubetzkoy and Jakobson in 1930 (see Jakobson and Waugh 1979:90ff, Anderson 1989:21-22). See Trubetzkoy 1939 on markedness in phonology, Jakobson 1957[1971], building on Jakobson 1932, 1939, for markedness in grammatical categories.

- (12) Let there be a binary feature $[\pm\alpha f]$ and two corresponding categories of linguistic elements, defined by $[\alpha f]$ and $[-\alpha f]$.

Then $[\alpha f]$ constitutes a 'mark' as against $[-\alpha f]$ if for any subcategory $[\beta g]$ of $[\alpha f]$, there is a corresponding subcategory $[\beta g]$ of $[-\alpha f]$, but not necessarily vice versa.

Correspondingly, an element A belonging to category $[\alpha f]$ is 'marked' as against an element B belonging to category $[-\alpha f]$.

To put this in simpler terms, we can say (if A is the marked category) that the number of distinct forms in category A will always be less than or equal to the number of distinct forms in category B. Lexically, a term that shows less diversification of subcategories, such as *piglet* 'young pig', is more marked than one that shows more diversification, such as *pig*. *Pig* is differentiated (that is, subcategorized) into *sow* and *boar*, whereas there is no such differentiation of *piglet* into male and female piglets. *Piglet* is also marked in the classical Praguian sense of being more morphologically and semantically complex, being made up of the morpheme *pig* plus a diminutive morpheme. At the same time *sow* and *boar* are also marked relative to *pig*, as they are more semantically restricted. In the grammatical realm we find greater differentiation in unmarked grammatical categories and less differentiation in marked grammatical categories. That is, a grammatical category with only one form and/or a more restricted distribution is more marked than one with a greater number of forms and a wider distribution. For example, the future tense of Latin is marked relative to the present tense, as it has only one mood, the indicative, while the present has two moods, the indicative and the subjunctive (Lehmann 1989:177). In French, the plural definite marker is more marked than the singular, as it has only one gender, while the singular has two.

Related to these two types of markedness is the third type, statistical markedness, or language-internal distribution and frequency of occurrence.²⁵ Whereas implicational or typological markedness deals with the relative frequencies of abstract categories cross-linguistically, statistical markedness is based on the frequency of language-internal tokens of forms belonging to those categories. A category whose forms appear more often in texts is less marked than one whose forms appear less frequently. Greenberg (1966) gives a number of examples from both phonetics and grammatical forms based on text counts. For example, from a count of glottalic and non-glottalic consonants in texts from Hausa, a language which contrasts these two categories, Greenberg (p.15-17) found that non-glottalic consonants (the unmarked forms)

²⁵ See Greenberg 1966, and also the discussion in Moravcsik & Wirth 1986 on the correlation between frequency, variability, and complexity.

accounted for 92.2 percent of the forms counted, while the glottalic consonants (the marked forms) accounted for only 7.8 percent of the forms counted. In terms of case marking morphology, a case marker that is obligatory and appears frequently in texts of a particular language, and in more contexts, is less marked than one that appears less frequently, and in restricted contexts, in the same texts.

As discussed by Greenberg (1966) and further supported by Gundel, Houlihan and Sanders (1986), there is a correlation between typological markedness and language-internal frequency such that the forms instantiating the typologically more frequent category will generally have a wider range of distribution and frequency of use than those of the typologically less frequent category within a particular language.

Many languages in my database have several types of locative marking, but only one language (Apatani) in my database has two conditioned variants of the ergative marker. The instrumental is somewhat more diversified, with nine languages showing two semantically conditioned variants (usually one being a locative, for the sense of 'use a container' to move liquids, etc.).²⁶ The ablative is the most common and most diversified of the types of marking within that isomorphic grouping. There is then a cline of markedness with the ergative being the most marked, the instrumental being somewhat less marked, and the ablative being the least marked.

There is also a cline of markedness within the patient-dative-locative type of isomorphy, with patient marking being the most marked, as it is the least common and least diversified, dative marking being somewhat less marked, as it is somewhat more common and diversified, and locative marking being the least marked, as it is the most common and diversified.

As discussed above, in a large number of Tibeto-Burman languages the more abstract cases, ergative and what I have been calling anti-ergative or accusative, very often do not form a tight obligatory paradigm, but are used only in cases where the speaker feels it is necessary to avoid ambiguity, such as when there are two possible agents in the sentence or when the word order is not the unmarked one.²⁷ The more familiar or unmarked situation in most Tibeto-Burman languages is for the agent to precede the object in the sentence, and in many languages no marking is used when this is the case. The ergative or anti-ergative marking is obligatory only when the word

²⁶ The nine languages are Anong, Baima, Ersu, Ladakhi, Lepcha, Singpho, Shixing, and Zaiwa.

²⁷ Cf. item (b) of Givón's Quantity Principle: 'Less predictable information will be given more coding material' (1991:87). See also Mithun 1991, especially pp.536-7, for discussion of the rise and development of agentive marking in North American languages, which parallels very closely that of Tibeto-Burman.

order varies from this order.²⁸ Here we can see how markedness is related to frequency, through Zipf's (1935) 'principle of least effort', which Haiman (1983) has redubbed 'economic motivation'. This is the tendency for the speaker to use a phonetically simpler form (in this case NOT using a case marker) in unmarked, more familiar situations, and longer more explicit forms (here using a case marker) in less familiar situations. On the other hand, locative marking is usually obligatory for true locations regardless of word order.

A fourth reason for assuming that the abstract cases derive from the more concrete cases is what we know of the development of prototype categories. The development of prototype theory began in the late 60's and early 70's with the work of Brent Berlin, Paul Kay, Eleanor Rosch, and others on lexical items such as color terms, showing that membership in semantic categories cannot be defined using the traditional Aristotelian conception of necessary and sufficient conditions; membership in a category is not a simple yes or no matter, as categories are not digital, with clear boundaries. Cognitive categories are analog, as there is a degree of vagueness to the boundaries of the categories, though the center of the categories is clear. That is, some members of a semantic category fit that category better than other members of the category, and the line where one category ends and another begins is not always clear, as a peripheral member of one category may also have characteristics that make it a peripheral member of another category.²⁹ Work on lexical semantics has been very strongly influenced by these developments (see for example Fillmore 1975, Coleman & Kay 1981, Langacker 1988).

Application of the concept of prototypes has since been extended from the lexical realm to the grammatical realm, for example showing that the categories noun and verb are not discrete (Ross 1972, 1973; Hopper & Thompson 1984, 1985; Croft 1991), and that transitivity is not a yes or no matter, that it can be a matter of degree, with clear prototypical transitive situations and situations that are less prototypical, though arguably still transitive (Hopper and Thompson 1980).³⁰

There is abundant evidence that speakers often use existing linguistic units in new ways that are semantically related, but stretch the original category semantically,

²⁸ Cf. Clark and Carpenter's observation (1989:21) on the use of Source markers by children in the early stages of acquiring language: 'Sources are explicitly marked as such only when they are in oblique positions and are not canonical subjects or topics. It is only then that agents must be marked in some way as AGENTS' (emphasis in original).

²⁹ See Berlin & Kay 1969, Kay 1975, Kay & McDaniel 1978, Rosch 1973, 1975a, 1975b, 1977. See especially the summaries and discussions in Rosch 1977, 1978, 1981; Lakoff 1987; and Givón 1989, Chapter 2.

³⁰ For other discussions and applications of prototype theory, see Taylor 1989, Tsohatzidis 1990, and Corrigan, Eckman & Noonan 1989.

possibly encroaching on related categories. That is, the new usages often deviate to some extent from the prototype meaning of the form, and this not only gives the category its fuzzy edges, but is often also responsible for diachronic change (see in particular Brugman 1983, 1984; Sweetser 1990). Very often a form will be extended to more and more situations that are more and more at variance with the prototypical meaning of the form, possibly to the point of changing the definition of the category. Bybee & Pagliuca (1985:75) argue that this type of metaphorical extension is what drives grammaticalization, and they 'suggest that human language users have a natural propensity for making metaphorical extensions that lead to the increased use of certain items. The metaphorical extensions are cognitively based, and are similar across languages'. The increased use of an existing form for new uses is a function of economic motivation (Haiman 1983), as it is easier to use a form already in the language than to create a new one. The extension is cognitively based on connections ('family resemblances', in Wittgenstein's terminology) that the speakers perceive between the meanings of the two uses. These connections are not objective, but subjective. As argued by Lichtenberk (1991:477), 'what counts is the connections (such as similarity) that people perceive or indeed form between phenomena, not some objectively existing connections. Connections between phenomena exist only to a perceiving mind'.³¹ It is these connections that motivate the extensions of meaning, so the extensions are not arbitrary, though the connections in no way necessitate the extension.³²

Aside from the well-known example of the historical differentiation of color terms in predictable ways from the prototypes, other examples from the lexical realm of the extension of a prototype category can be found throughout the lexicon of just about any language. One example from English is the extension of *can* from the meaning 'know' to the meanings 'know how to,' 'be able to,' and 'be permitted to' (see Givón 1989:56-57). Traugott (1986, 1989) has given a number of examples of such extensions from the history of English both in the lexical realm and in the development and extension of grammatical forms. In terms of grammatical marking we can look again at the example of agreement on the verb, which when first grammaticalized will only mark prototypical subjects and/or objects, and then will often come to be used for more and more types of subjects and/or objects that differ from the prototypical meaning of the category.

I believe the cline of markedness within the agentive-instrumental-ablative type is due to the increasing semantic deviation (or abstraction) from the prototypical meaning

³¹ See also Lakoff's (1987:92ff.) interesting discussion of Dyirbal noun categories in this regard.

³² See also Claudi & Heine 1986, Sweetser 1990, and Heine, Claudi & Hünemeyer 1991a on the metaphorical motivation of grammaticalization.

of the ablative as a physical 'source' or 'origin'. The extension was from ablative to instrumental, to agentive, and to clause-connecting 'cause' marker.

There is also evidence from language acquisition studies (see Clark & Carpenter 1989) that children begin with a universal conceptual category of Source which, aside from true locative source, includes agents, causes, possessors, natural forces, standards of comparison, and prior events.³³ They mark this category using the form for locative source. For example, in English, children consistently acquire the locative use of *from* before any other use, and then extend the use of this form to agents and causes, and still further to possessors and standards of comparison (Clark & Carpenter 1989:11). They use *from* for these extended meanings even though these uses are not conventional in English. That is, they are not based on adult language behavior. We can see from this that the ablative use is more prototypical than the more abstract uses, and that the more abstract uses are extensions of the ablative use.

In the other cline, the patient is more marked than the dative, and the dative is more marked than the locative. Here again there is deviation from the prototype meaning of physical location of the action. While in some languages there may still be a locative sense in the use of the locative or allative for dative and patient marking, as this use becomes more grammaticalized the form loses more of its locative sense in those contexts.

The third type of isomorphic pattern I found, that of instrumental and comitative, is a common extension of the sense of 'accompaniment' through the metaphor AN INSTRUMENT IS A COMPANION (Lakoff & Johnson 1980:134-5).

There is a very strong correlation between degree of markedness of a category and degree of deviation from prototypicality, and in fact the type of typological unmarkedness we discussed above has been one of the key types of evidence for the existence of prototype categories. The more prototypical a category is, the more likely it will be kept formally distinct and associated with a particular morphosyntactic form, the more stable and universal marking for it will be cross-linguistically, and the more easily a language will acquire marking for it historically (Kemmer 1992:148ff). For example, the coding of prototypical transitive situations cross-linguistically generally involves a verb plus coding (noun phrases, pronouns, or agreement forms) of two participants, as in *John kissed Mary*. Intransitive situations are generally coded by a verb plus coding for one participant, as in *John burped*. Reflexive situations are not as prototypical as the basic transitive and intransitive situations, but distinct marking for reflexive situations is quite common cross-linguistically. That they are more marked than the prototypical

³³ In Tibeto-Burman, the grammaticalized category of Source evinced by the isomorphy of the agentive, instrumental, and ablative forms does not generally include possessors and standards of comparison, though there are a few languages with these isomorphic patterns as well.

transitive and intransitive situations can be seen by the extra overt marking (verb affix, pronoun, etc.) often required in the coding of reflexive situations. There is also no language that has coding of reflexives that does not have coding for prototypical transitive and intransitive situations. In fact reflexive coding is generally a marked form of the coding for prototypical transitive situations.

As discussed by Kemmer (1992:150), based on the semantic connections between prototype and related non-prototype categories, we would expect to find a diachronic relationship between them as well:

[I]t is reasonable to presume that the same cognitive factors that underlie the synchronic polysemies found recurrently in association with particular grammatical markers are also responsible for determining the potential diachronic paths of a given marker as it changes from a marker of one category to that of another, related category. The semantic connections among categories constrain both the possible synchronic formal relations among categories, and the diachronic relations among categories, i.e. the attested grammaticalization channels.

This is the situation with the development of abstract case markers from concrete, local case markers. What is key for our purposes here is that non-prototypical categories, that is, the marked, less frequently found categories, generally develop, in those languages that have them, out of prototypical categories.

9. Conclusion

No case marking can be reconstructed to Proto-Tibeto-Burman, and where it developed, the path of development most probably followed the markedness/prototypicality clines: the locative and ablative use would have arose first and then were extended to the more abstract cases.

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