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The Formal Syntax of Alignment Change

John Whitman and Yuko Yanagida

1 Introduction

Syntactic alignment refers to the patterning of morphosyntactic devices in a language (e.g. agreement, case marking, word order) that distinguish internal and external arguments. Such devices are used by linguistic typologists to define the systems known as accusative, ergative, or active alignment. Change in syntactic alignment has been a favorite topic among historical linguists for over thirty years, roughly since Anderson's (1976) paper and Chung's (1976) dissertation, both of which examined syntactic changes related to ergativity. Within non-generative approaches to syntactic change, changes in alignment have often been described in terms of reanalyses of a specific construction or morphological marker. For example, it has been claimed that reanalysis of the passive in an accusative system can result in ergative alighment, or that genitive or instrumental case markers can be reanalyzed as ergative markers. A generative (specifically, a minimalist) analysis of alignment change requires a different approach. Rather than focusing on individual constructions or morphemes, it investigates the formal properties of the grammatical system, particularly the feature specifications of functional heads, and the surface manifestations of those specifications that lead language learners to initiate the change. This paper builds on recent work on non-accusative alignment in a minimalist framework to attempt such an investigation.

In what follows we first define what we think is an emerging consensus about the formal analysis of non-accusative alignment. We use this synchronic baseline analysis to study the change from a non-nominative subject construction to Tense-conditioned split ergativity in Iranian, and changes in alignment centered around nominalized clauses in premodern Japanese. These examples involve changes that are relatively well attested. The Indo-Iranian case is among the most thoroughly discussed in the alignment change literature. The Old Japanese system has been identified as split active only recently (Yanagida 2005, 2007a, b), but the facts are well studied.

The central argument of this paper is that non-accusative alignment is fixed by a small number of specific parameter settings. Changes to or from non-accusative alignment result from changes in these settings. Non-accusative alignment occurs when *v* assigns inherent case to the external argument in its specifier. This property can be identified with a feature in *v* that we label for convenience [$Spec_{CASE}$]. We assume that [$Spec_{CASE}$] is incompatible with the presence of uninterpretable case features on *v*. The consequence that *v* is unable to check the case feature of the object, so that the object must check its case feature by some other means.

In the non-accusative alignment exemplified in Indo-Iranian languages such as Hindi and Kurmanji (northern Kurdish), the object enters into an Agree relation with T. Change to a system of this type occurs when language learners encounter primary linguistic data where there is a detectable Agree relation between the object and T, but no evidence that the object checks the EPP feature of T. As we show in section 2, this kind of configuration arises in fairly specific set of circumstances.

In the active pattern exemplified by Old Japanese, the object checks its case feature by raising to a functional projection immediately to the left of *v*P, resulting in OSV order. The change to accusative alignment in this language occurred when inherent case in Spec, *v*P was attrited, largely due to changes in the pronominal system. The eventual result of these changes is loss of the [$Spec_{CASE}$] feature in *v*. Old Japanese also raises the issue of the source for such an alignment system in earlier stages of the language. Yanagida and Whitman (2009) suggest, in conjunction with proposals by Gildea (1998, 2000), that the system results from reanalyis of a predicate nominal system involving an object nominalization.

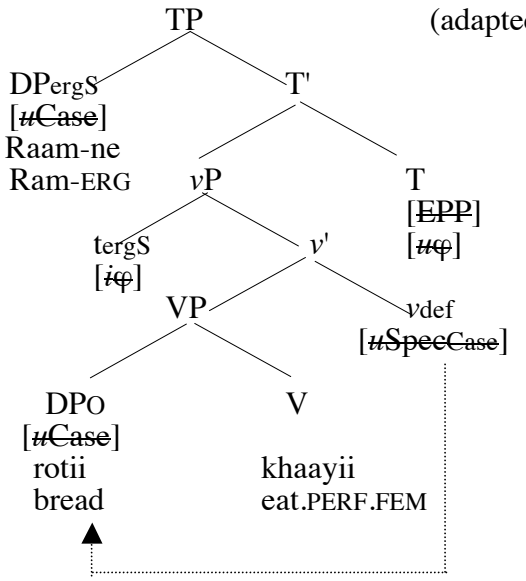
The paper is organized as follows. In 10.2 we establish what we suggest is a consensus theory of ergative alignment. In section 10.3 we examine the case of Iranian. In this section we also discuss a problem with the widespread hypothesis that ergative alignment can originate from passive constructions. In section 10.4 we discuss the changes in alignment of premodern Japanese.

2 A baseline theory of ergativity

A formal account of alignment change requires a precise synchronic account of ergativity. While research over the past 20 years has made clear the heterogeneity of non-accusative alignment systems, we adopt as a baseline approach the treatment of Hindi alignment in Anand and Nevins (2006). Under this approach, agents receive

inherent ergative case in their base position Spec, *v*, but raise to the surface subject position in Spec, T to check the EPP feature of T. T enters into an Agree relation with the direct object, checking its own uninterpretable φ features and the φ features of the object, including case. Anand and Nevins take the view that traces are ignored by the Minimal Link Condition and *v* in Hindi is defective; therefore T is able to establish an Agree relation with the object.

(1) (adapted from Anand and Nevins 2006: 17)



'Ram ate bread.'

Thus in (1), the agent argument *Raam* recieves inherent ergative case in Spec, *v*P and raises to check the EPP feature of T. The uninterpretable φ–features of T are checked under Agree with the internal argument *rotii* 'bread'. The main empirical evidence that Anand and Nevins provide for this analysis comes from scope reconstruction facts: while ergative subjects take unambiguous wide scope over objects, nominative subjects (found outside the perfective paradigm) allow both wide and narrow scope relative to an object. This difference is important, as most previous treatments have claimed that ergative and nominative subjects in "morphologically ergative" languages are syntactically indistinguishable. Anand and Nevins account for the scopal difference by deriving scope ambiguity from reconstruction, and postulating that only items in an Agree relationship may be reconstructed.

The analysis of ergative as inherent case assigned at the base position of the subject converges with many recent treatments (Woolford 1997; Legate 2002, 2006, 2008; Aldridge 2004) and is, we believe the core element of a consensus analysis of ergative

(and active) alignment.[1] Movement of the ergative subject to Spec, TP, in Hindi and similar ergative languages, further explains some shared properties of ergative subjects and nominative subjects. The Agree relation between T and the object explains the object-triggered agreement pattern in Hindi and other Indo-Iranian languages.

However this baseline analysis also allows room for parametric variation. First, whether or not lexical ergative is assigned to all external arguments in Spec, *v*P accounts for the difference between ergative languages in the strict sense, where ergative subjects are restricted to transitive clauses, and so-called active languages (Sapir 1911), where lexical 'active' case occurs on agentive subjects in all clause types, including intransitive unergatives. This can be handled by parametric variation in the features associated with inherent case assigned to Spec, *v*. Inherent 'ergative' is assigned to the specifier of [transitive] *v*, while inherent 'active' has no such restriction (Legate 2008).[2] Second, there is parametric variation in the locus of EPP features. While in Hindi an EPP feature appears to atract the inherently case marked (ergative) external argument to Spec, TP, this does not occur in Old Japanese active clauses, as we see in section 3. In contrast, in Old Japanese active clauses, a functional head immediately above *v*P bears an EPP and uninterpretable case feature. This head attracts the object, deriving surface OSV order, and checks its case feature. Summarizing, assignment of inherent case to the external argument by *v* is the core feature of non-accusative alignment.

3 Iranian: non-nominative subject with participial predicate to ergative

The syntactic changes resulting in the ergative pattern in Indo-Iranian have often been analyzed as resulting from reanalysis of passive to ergative (Matthews 1952, Estival and Myhill 1988, Harris and Campbell 1995). In this section, we dispute this

[11]Anand and Nevins describe Hindi ergative case as lexical case. We adopt the view of Woolford (2006) on the distinction between lexical and inherent case: lexical case is idiosyncratic, associated with particular lexical items, while inherent case is associated with particular thematic roles or argument positions, such as the position of external arguments.

[2]Note that, strictly speaking, the label of Hindi as 'ergative' is incorrect: Hindi is an active system, as it allows ergative intransitives (unergatives). This in fact simplifies the characterization of Hindi *ne*: it is assigned to all external arguments, while ergative marking in the strict sense is restricted to external arguments in [transitive] clauses.

analysis, adopting instead the hypothesis of Benveniste (1952/1966) (see also Anderson 1976) that ergative in Iranian results from reanalysis of a non-nominative subject pattern, described by Benvensite as a possessive construction. We then consider the broader theoretical reasons why passive > ergative reanalysis is problematic.

3.1 Iranian

The Iranian ergative pattern originates from constructions involving perfective participles in *–ta* (< pIE **-to*). In transitives, these show gender and number agreement with the object, and do not assign accusative case. In a highly influential proposal, Benveniste (1952/1966) argues that the source of the Old Iranian pattern is a periphrastic possessive construction. We assign this construction the structure shown for the Old Persian example in (2):

(2) ima [$_{CP}$ tya [$_{TP}$ manā [$_{VP}$ $t_{manā}$ [$_{PrtP}$ PRO_{mana} krtam t_{tya}] [$_{exist}$ e]]]]

this.NEU what.NEU 1S.GEN do.PTCPL.NOM.S.NEU
'This (is) what I have done since.' (Kent 1953: DB I, 28-29, cited from Haig 2008: 26)

In (2), *manā* (1S.GEN) is an argument of the null higher existential verb, following the analysis of Benveniste, who assimilates the pattern to the genitive possessor + 'be' construction in Old Persian shown in (3):[3]

(3) utā=taiy tauhmā vasiy biyā
and=2S.GEN seed much be.can
'And may you have much seed.' (Benveniste 1966: 179)

The genitive possessor is generated in the matrix VP and controls PRO in the external argument position of the participial phrase. We take take no position on whether genitive at the stage of (2-3) is an inherent case or is assigned structurally within the matrix VP, but diachronically, the genitive on the matrix posessor is the result of the merger of genitive and dative in Old Persian. In (2) we show the matrix genitive possessor as raised to Spec, TP, based on the arguments of Haig (2008: 52-53). Haig shows that the genitive in this pattern controls null subjects across coordinate clauses and into clausal adjuncts. On this analysis, which essentially formalizes Benveniste's (1952/1966) proposal, the construction in (2) is a quirky or non-nominative subject

[3] In both Old and Middle Persian, as illustrated in (2) and (4) respectively, the matrix copula was frequently null, especially with 3rd person singular nominative (object) arguments.

pattern. The possessor argument in VP – perhaps analyzable as an experiencer or location argument – receives case within VP but raises to check the EPP feature of matrix T. This possessor argument also controls PRO in the external argument position of the participial phrase.

Cardona (1970) argues contra Benveniste that the genitive pattern in Old Persian was an Iranian innovation and that the original Indo-Aryan pattern is the one attested in Sanskrit, where the agent is marked with instrumental case. The debate continues to this day, with Bynon (2005) arguing that the possessive construction is the older pattern within Indo-Iranian and that the instrumental construction an innovation. However for the purposes of determining the proximate source of ergative alignment in later varieties of Iranian, this debate is irrelevant. The source of ergative alignment in Middle Iranian and modern Iranian ergative languages is the pattern with genitive-marked subjects in (2). This can be seen in the Middle Persian example in (4), where the oblique first person singular pronoun *man* is the descendant of the Old Iranian first person singular genitive/dative pronoun *manā* in (2):

(4) dēn īg man wizīd
religion which 1S.OBL choose.PTCPL
'The religion which I choose.' (Boyce 175: a,1, cited from Haig 2008: 26)

By Middle Iranian, overt expression of case has been reduced to an opposition between oblique and nominative, and the participial construction in (4) becomes the only way to express past tense. The reflex of the participial pattern in Western Iranian languages such as Kurmanji (Northern Kurdish) is the tense-sensitive ergative pattern in (5):

(5) a. Min tu dît-î. (Matras 1997: 617)
1S.OBL 2S.NOM saw-2S
'I saw you.'
b. Ez te di-bîn-im. (Matras 1997: 617)
1S.NOM 2S.OBL PROG-saw-1S
'I see you.'

In the past (5a), the ergative subject is marked oblique; agreement is triggered by the nominative direct object. In the present (5b), the subject is marked nominative and triggers agreement. Matras (1992, 1997) shows that in past transitive clauses the ergative (oblique- marked) argument has subject properties such as being a target for control. The subject properties of ergative arguments can be explained, as in Anand and Nevins' analysis of Hindi, by assuming that both nominative and ergative subjects

raise to Spec, T. However ergative subjects also show syntactic properties distinct from nominative subjects:

(6) a. Ez çû-m hindur û t_{1S} ji xwe ra rûnişt-im. (Matras 1997: 640)
1S.NOM went-1S inside and for self P sat-1S
'I went inside and sat down.'

b. Ez hat-im hindur û *(min) got rojbaş. (Matras 1997: 624)
1S.NOM came-1S inside and 1S.OBL said goodday
'I went inside and said good day.'

The contrast in (6) can be explained by analyzing (6a) as a case of across-the board raising of the subject to matrix Spec, T. The subjects in (6a) in both conjuncts bear the same φ– (in particular, case) features. In (6b), however, the nominative and ergative (oblique) subjects bear different case features; thus ATB raising is blocked.[4]

We have seen that in a relatively well-studied modern Iranian language identified by specialists as ergative, the properties of ergative alignment are consistent with the baseline model adopted in 1.2. Not all Middle Iranian languages (e.g, Sogdian) are ergative, but for those that are, such as Middle Persian in (4), the analysis in 1.2 is consistent with the data.

In the development from Old to Middle Iranian, the main changes are the merger of the non-nominative case forms on pronouns, the loss of most case endings on nouns, and the loss of Aorist tense, with the result that the participial construction was reanalyzed as the only way to express past. We take this last change to be accompanied by reanalysis of existential 'be' in the participial construction as an

[4] The data are somewhat more complicated, in an interesting way. Contexts parallel to (6b) with a third person singular subject allow a null subject in the second conjunct (Matras 1997: 641). This can be explained by a change in progress that is is underway in Kurmanji, whereby many speakers allow in informal discourse a "double oblique" pattern also found in some Eastern Iranian languages (Payne 1980), where both subject and object surface with oblique case. In the double oblique pattern, normally neither subject nor object agrees with the verb, but some speakers also allow a pattern where the subject in this pattern triggers agreement (Dorleijn 1996). Since third person singular agreement is zero, a null third person subject in the second conjunct can be analyzed as *pro* licensed by agreement, rather than the trace of ATB raising.

auxiliary. As a consequence of this reanalyis, 'be' ceases to assign a theta role, and the pattern in (2) is reanalyzed with the oblique subject originating in Spec, *v*P:

(7) [$_{CP}$ īg [$_{TP}$ man [$_{vP}$ t_{man} wizīd $t_{īg}$] [$_{cop}$ e]]]]
which 1S.OBL choose.PTCPL.3S
'which I choose' (=4)

The pattern in (7) is fully ergative in the sense defined in 1.2. The derivation of this pattern from the possessive pattern in (2) involves a minimal step, loss of the theta position (possessor or location) originally associated with existential 'be'. After this change, the trace of the external argument in (7) must be analyzed as the foot of a chain whose head does not check case, since T checks its case with the object. Therefore, the foot of the chain, in Spec *v*P, is analyzed by learners as an inherent case position. The consequence is the introduction of the [Spec$_{CASE}$] feature into *v*.

Viewed this way, the possessive structure hypothesized by Benveniste provides the crucial ingredients for an accusative to ergative reanalysis. Participles already have the property of not licensing accusative case, and agreeing with their objects. Indo-Iranian-type ergative languages further require movement of the agent argument to Spec, TP (that is, T in these languages bears an EPP feature). Here too, it is crosslinguistically common for 'quirky' possessor obliques to raise to subject position. If we assume that matrix possessors rose to Spec, TP in the source consruction (2), no change in the surface position of the subject is required in (7).

3.2 Passive origin theories

This contrasts with the hypothesis that ergatives, in Indo-Iranian in particular, derive from passives. Some problems with this hypothesis have been widely pointed out. For instance, while Indo-Iranian had a highly productive passive in *–ya* with instrumental agents, no Indic or Iranian variety has developed an ergative pattern based on *–ya* (Butt 2001, Bynon 2005, Haig 2008). In this section we focus on a theoretical problem for passive origin theories. 'Quirky case' phenomena, involving movement of a non-nominative DP into subject position, are well known crosslinguistically. Possessor datives (or in the case of Iranian, dative/genitives) are one of the best known instances of this phenomenon. But 'quirky *by*-phrases', that is, patterns where the agent phrase in a passives moves to subject position, appear not to exist.

To make this point, consider Korean case stacking as a productive diagnostic for quirky case. In Korean, the 'inner' case of the DP is assigned in its base position, and

the 'outer' case marker in its derived position (Yoon 1996). In the instance of DPs with stacked nominative case, the DP moves to Spec, TP to check the EPP feature of T. Possessor datives, along with other oblique case markers such as locative, can be 'case stacked' with nominative case (8a, b). However case stacking with agent phrases in passives is impossible, even when the agent marker is spelled out as morphological dative (8c):[5]

(8) a. Chungkuk uy puca hanthey ka ton i kacang manhta.
China GEN rich DAT NOM money NOM most plentiful
'Chinese rich people have the most money.'
b. Chungkuk eyse ka cicin i cal nanta.
China LOC NOM earthquake NOM often occur
'In China arthquakes often occur.'
c. Holangi hanthey (*ka) so ka mek-hi-ess-ta.
Tiger by NOM cow NOM eat-PASS-PAST-DEC
'The cow was eaten by the tiger.'

The generalization that agent phrases in passives cannot occupy subject position is a basic tenent of modern syntactic theories. The issue is salient in frameworks incorporating the VP-internal subject hypothesis; in such frameworks, since Fukui and Speas (1986), it has become commonplace to generate the passive *by*-phrase in the underlying external argument position. Collins (2005) and Bowers (2010) present hypotheses which explicitly account for why the *by*-phrase does not raise to subject position (and why the internal argument is able to raise over it). Regardless of which account of these facts is correct, the core fact is that agents in passives do not raise to subject position, even for EPP feature checking. Let us refer to this property as the [anti-EPP] feature of agent phrases in passives.

The [anti-EPP] feature raises a basic problem for any diachronic account that derives Indo-Iranian-type ergative alignment from a passive constructions, since in these languages the ergative case marked external argument moves to Spec, T. Thus a passive > ergative reanalysis requires that the [anti-EPP feature] of the *by*-phrase in the passive source construction somehow be lost. The absence of a clear explanation for such a development suggests casts doubt on the general plausibility of passive > ergative reanalysis. Below we review the best known cases where passive > ergative analysis has been proposed, and suggest that they are indeed dubious.

[5] We are grateful to Kyung-Ah Kim for assistance with the Korean data.

3.3 Indic

Indic is superficially a better case for passive > ergative reanalysis than Iranian, because the predominant transitive pattern in Sanskrit with *–ta* participles expresses agents in the instrumental, as in *–ya* passives. However as Butt (2001) points out, it is unlikely that the particles used to mark ergative subject in modern Indic languages, such as Hindi *–ne*, descend from the Sanskrit instrumental. Butt points out that specialists have observed since the 19th century that the Sanskrit instrumental cannot be the source for *–ne*; instead, the instrumental merged with the original dative into an oblique case ending *–e*. *–E* is used to mark the external argument in past transitive constructions in Middle Indic varieties, and modern varieties such as Assamese. But note that *–e* has a dative, as well as an instrumental source. This raises the possibility that Middle and Modern Indic ergative patterns have a source from a possessor construction, like (2). This is essentially the position of Bynon (2005).

3.4 Instrumentals

Garrett (1990) argues that instrumentals can be the diachronic source for NP split ergativity, that is, the common pattern where ergative marking applies to NPs low on Silverstein's (1976) NP hierarchy, such as inanimates. The basic idea is that in an agentless expression like *The door opened with the key*, the instrument argument can be reinterpreted as an ergative subject, and the case marking it receives (say, instrumental) reinterpreted as ergative case.

Note that Garrett's hypothesis does not say that passives can be reanalyzed as ergatives. It specifically does not claim that passive *by*-phrases phrases are reanalyzed as ergative subjects; it says that instruments can be reanalyzed this way. Garrett's claim is consistent with the view we have developed here that 'quirky case' – movement of an argument to Spec, TP is a step in the reanalysis of an oblique argument as an ergative subject, because instrument arguments, unlike agent phrases in passives, may move to subject position. Thus instrument arguments in Korean, unlike agent phrases in passives, do allow nominative case stacking, unlike the agent phrases of passives:[6]

(9) I nom uy wuwulcung ey uyhase ka ay tul i ceyil manhi cwuk-ess-ci.
that bastard gen depression by NOM kid PL NOM most many
died-PAST-SUSP

[6] Kyung-Ah Kim points out to us that instrument or cause arguments allow case stacking in Korean lexical passives as well – minimally contrasting with agents, which do not.

'Probably because of that bastard depression kids died the most.'

3.5 Polynesian

Polynesian is often cited as an example of passive > ergative reanalysis, based on Chung's (1976) hypothesis that the passive pattern found in accusative Polynesian languages such as Maori was reanalyzed to produce the ergative pattern found in languages such as Tongan and Samoan. However this hypothesis coexists with the opposed view that the change in Polynesian was ergative to accusative. Dixon (1994: 192) concludes that in the absence of "a plausible reconstruction that is plainly superior to any competitor" "neither side in this debate has so far proved its case." A recent argument for the ergative > accusative hypothesis is Kikusawa (2002). Ball (2007) argues for the accusative > ergative position.

In sum, there is no clear case of passive to ergative reanalysis as a historically attested phenomenon. Given that passives are common in the world's languages, and ergative alignment is not uncommon, this fact would be surprising, if passive were a common source of ergativity. The approach we have developed in this section explains why passives do not seem to give rise to ergative alignment: in core cases of ergative alignment, the ergative subject occupies the surface subject position. Passives systematically disallow agent phrases from occupying subject position. This is a fundamental obstacle to reanalysis of the agent phrase in a passive as an ergative subject.

In this section we have shown that Benveniste's analysis of the Iranian *–ta* participle construction as participle + 'be', with 'be' selecting a possessor argument coreferent with the agent of the participial phrase, accounts naturally for the genesis of tense-sensitive ergativity. In the original construction, the possessor argument checks the EPP feature of T. After 'be' is reanalyzed as an auxiliary, eliminating the possessor theta position, the agent argument is reanalyzed as raising directly to check the EPP feature of T.

4 Alignment change in Japanese

Modern Japanese (all varieties) is a textbook example of a nominative-accusative language. Nominative *ga* marks the subject of both transitive and intransitive clauses. Accusative *o* marks the direct object of transitive clauses.

(10) a. Taroo **ga** odotta.
Taroo NOM danced
'Taroo swam.'

b. Hana **ga** saita.
flower NOM bloomed
'Flowers bloomed.'
c. Taroo **ga** kabin **o** kowasita.
Taroo NOM vase ACC broke
'Taroo broke the vase.'

Historically, however, ModJ *ga* descends from a genitive marker, which is used in Old Japanese (8th c.) to mark possessors of NP and the subjects of a variety of subordinate clause types. In OJ, *ga* co-exists with another genitive marker, *no*, which is the ancestor of the modern standard Japanese genitive marker. The syntactic and semantic differences between *ga* and *no* in OJ have long been debated by traditional Japanese linguists, but Yanagida (2005, 2007a, b) argues that *ga* functioned as an active case marker, in a split active system restricted to certain types of subordinate clauses. In this section, we first briefly introduce the phenomenon of active alignment, then motivate the split active analysis of OJ. We describe the change from split active to nominative alignment in Middle and Early Modern Japanese, and then suggest a possible scenario for the source of split active alignment in nominalized clauses in earlier Japanese.

4.1 *Active alignment*

In active languages, also called active-stative (Klimov 1974, 1977; Mithun 1991) or split intransitive (Dixon 1994), intransitive subjects show two distinct patterns: agentive intransitive subjects (typically unergatives) pattern with transitive subjects, while non-agentive intransitive subjects (typically unaccusatives) pattern with transitive objects. This is illustrated by the Guaraní examples in (11).[7]

(11) a. A-jerokɨ.
1SA-dance
'I dance.'

b. Che-rugwɨ.
1SP-bleed
'I bleed.'

c. A-hetũ peẽ.
1SA-kiss 2SP
'I kiss you all.'

Yanagida and Whitman (2009) argue that active is a distinct alignment type from ergative, in two respects. First, the feature [transitive] plays a crucial role in the assignment of ergative case, but it plays no role in active languages. Second, as first

[7] We are indebted to Victor Burgos for the Guaraní data.

observed by Dahlstrom (1983), active and ergative languages are sensitive to Silverstein's (1976) nominal hierarchy in different ways.

(12) **The Nominal Hierarchy** (adapted from Silverstein 1976)
pronouns > proper nouns > common nouns
1st > 2nd > 3rd person human [specific] > human > animate > inanimate

NP split ergativity applies from left to right: if ergative marking applies to some NP on the hierarchy, it applies to every NP type on its right (cf. Dixon 1994). In contrast, active marking applies from right to left: if an NP type receives active marking, every NP type to its left does too. For example, active marking may be restricted to pronouns (Koasati; Mithun 1991), or first and second person prounouns (e.g. Lakhota; Dahlstrom 1983), or to human arguments (Central Pomo; Mithun 1991). This is the exact opposite of the situation found with NP split ergativity, where for example in Warlpiri, ergative marking is restricted to full NPs, and personal pronouns follow an accusative system (cf. Legate 2002).

While noting the difference above, we apply the basic analysis presented in 1.2 to active languages as well. Inherent case is assigned to the external argument in its base position regardless of whether or not *v* bears a [transitive] feature. Assignment of inherent active case may be sensitive to the φ–feature composition of the external argument, so that inherent case is licensed, for example, only for [human] or [pronominal] external arguments. We discuss the licensing of object case after introducing the basic facts of OJ alignment.

4.2 Active Alignment in Old Japanese

Through Late Middle Japanese (16th century), Japanese distinguished conclusive (root) clauses from a variety of subordinate clause types that we will refer to as nominalized.

The conclusive/nominalized distinction was marked on the predicate in some conjugations. The conclusive form of the verb (13) appears in main clauses and in complement clauses selected by verbs of utterance and cognition such as'think' and 'say'. Conclusive clauses show an accusative case marking pattern: both subject and object are bare (zero-marked).

Conclusive: Accusative

(13) a. *Wa go* opo kimi Ø kuni Ø siras-u *ras-i*. (*Man'yôshû* (MY) 933)
I GEN great lord country rule-CONC seem-CONC
'My great lord seems to rule the country.'

b. [waga yado no ume Ø saki–tar-i *to*] tuge (MY 1011)
my house GEN plum bloom-PERF-CONC COMP tell
'telling (you) that the plum has blossomed at my house'

The subordinate clause types we have labeled 'nominalized' are exemplified by the adnominal examples in (14).[8]

Adnominal: Active

(14) a. wa-ga sekwo **ga** koto Ø tor-u nape ni (MY 4135)
I-GEN husband AGT koto take- ADN when at
'As soon as my husband takes up his *koto* (to play on)'

b. Wagimokwo **ga** swode mo sipopo ni naki-si so omopayu (MY 4357)
my.wife AGT sleeves even drenched cry-PST.ADN FOC long.for
'I long for my wife who cried so her sleeves were drenchded.'

c. Kanasiki kworwo ga nino Ø pos-ar-u kamo. (MY 3351)
dear child AGT cloth drying-is-ADN EXCLAM
'My dearest maid is drying her linens!'

d. Ikuri ni so puka miru Ø op-uru. (MY 135)
Reef on FOC deep kelp grow- ADN
'It is on reefs that the deep sea kelp grows.

We see an active pattern in OJ (14). In (14a-b) the external argument, that is, the agent of the transitive (14a) and unergative (14b) verbs, is marked by the genitive particle *ga*. In (14c-d), the patient subject of the unaccusative verb behaves like the object of the transitive verb in (14a): both are zero-marked. *Ga* marks DPs higher on the Nominal Hierarchy (12). The first and second person pronouns *wa* and *na* are obligatorily marked with *ga*. [Human] DPs are marked by *ga* when specific. Non-human DPs do not appear with *ga*, except for anthropomorphized nouns such as *tazu* 'crane' and *pi* 'sun'. With third person subjects, the choice of *ga* depends not only on the semantics of the DP but on the semantics of the predicate. The contrast between *ga* and zero marked subjects is sensitive to the Nominal Hierarchy and the thematic role assigned by the verb. Table 1 shows the active case marking pattern in nominalized clauses (see Yanagida 2007a, b; Yanagida and Whitman 2009).

Table 1: The Active System in Nominalized Clauses

	active	inactive
subject	ga	Ø
object	Ø	

[8] Other nominalized clauses types are the realis (*izenkei*) and irrealis (*mizenkei*) conditional, and in Old Japanese, nominalizations in *–aku*.

4.3 Object marking in Old Japanese nominalized clauses

While bare objects occur between the subject and the verb, they are almost without exception non-branching N^0s, as in (14c). Yanagida (2007a, b) shows that objects in this position are incorporated into the verb. The restriction of bare objects to incorporated N^0s suggests that *v* in nominalized clauses is unable to check case on the object.[9] Of course this is what is expected in a language with non-accusative alignment: in our baseline account of ergative/active languages, *v* does not license object case. How, then, are phrasal objects licensed?

Yanagida (2006) shows that phrasal objects appear to the left of *ga*-marked subject in Old Japanese. In other words, for phrasal objects in nominalized clauses in OJ, constituent order is OSV, a striking difference from later varieties of Japanese. Examples are given in (15).

(15) a. pana tatibana **wo** wotomye-ra **ga** tama nuku made ni (MY 4166)
orange blossom WO maiden-PL AGT bead thread-ADN until LOC
'until the maidens thread the orange blossoms on their beads'

b. kimi **wo a ga** omopu toki (MY 4301)
lord WO 1S AGT long.for time
'the time when I long for my dearest lord.'

Some, but not all phrasal objects are marked by *wo*, the ancestor of the modern Japanese accusative marker *o*. However *wo* does not appear to be an object case marker yet at this period. It marks not just objects, but a variety of adjuncts including PPs (Motohashi 1989, Yanagida 2006):

(16) A ga koromo sita **ni wo** ki-mas-e (MY 3584)
1S AGT robe under LOC OBJ wear-HON-IMP
'Wear this robe of mine underneath.'

Yanagida and Whitman (2009) show that OJ *wo* is a marker of specificity. Thus *wo* may mark *wh*-phrases, but when it does, they receive a specific interpretation:

(17) Sipo pwi-na-ba tamamo kari tum-ye ipye no
tide recede-PERF-if seaweed cut gather-IMP house GEN
imwo ga pamaduto kop-aba **nani** wo simyesa-m-u? (MY 360)
wife AGT shore.gift want-if what OBJ proffer-CONJ-ADN
'If the tide has gone out, cut and gather the precious seaweed! If my wife at home asks for gifts from the shore, which (other) shall I offer her?'

We see then that OJ objects are fundamentally bare, conforming to the active case marking pattern in Table 1, but they may be marked with *wo* if specific. The most

[9] The proposal that structural case is not assigned to objects in OJ adnominal clauses was originally made by Miyagawa (1989).

striking fact about OJ nominalized transitive clauses is that their constituent order is OSV. Since placement of non-incorpprated objects to the left of the subject is obligatory, this fact would seem to be related to case licensing.[10]

4.4 Analysis

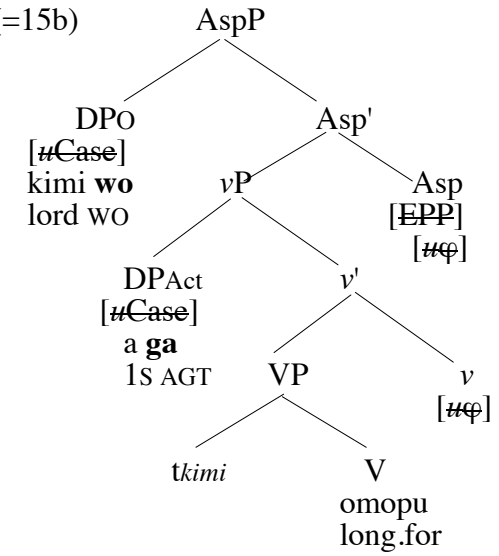
On the baseline account of non-accusative alignment that we presented in 1.2, non-accusative *v* has two properties: it assigns inherent case to the external argument, but does not license case on the object. The Hindi pattern as analyzed by Anand and Nevins represents one reponse to this situation: movement of the external argument to check the EPP feature of T enables an Agree relation between T and the object.

Old Japanese represents another response to the basic properties of non-accusative *v*. There is no evidence for an Agree relation between T and the object in OJ, but there is clear evidence for dislocation of the object. We hypothesize that the object is attracted by an EPP-bearing functional projection on the minimal phase edge. The object checks its case feature with the head of this projection. Because the inherent case of the external argument is checked off in situ, movement of the object over the subject in Spec, *v*P does not violate Shortest Move (cf. Legate 2008).

Yanagida and Whitman (2009) hypothesize that the head that attracts the object to the left of the subject is Aspect. Support for this view comes from Washio's (2004) analysis of OJ aspect selection. Washio shows that the distribution of the two OJ perfective auxiliaries, *tu* and *nu*, is sensitive to the transitivity of VP. On this analysis, OJ transitive sentences have the following structure:

[10] This order is crosslinguistically rare. Whitman (2008) observes that Haspelmath et al (2005) identify four OSV languages in their typological database. The OSV status of two of these, Warao and Tobati, is disputed. The other two, Nadëb and Wik Ngathana, are idenitifed in the literature as ergative. It is therefore possible that there is a correlation between OSV order and non-accusative alignment.

(18) (=15b)



'I long for my lord.'

It is somewhat more difficult to establish whether T bears an EPP feature at this period. If it does, the *ga*-marked subject must check the EPP feature of T in intransitive nominalized clauses, and the *wo*-marked object must check this feature in transitive clauses, to maintian OSV order.[11]

4.5 Change from active to accusative

Harris and Campbell (1995: 258) describe as a possible but hypothetical change a shift from active to accusative alignment caused by reanalyis of an active case marker as nominative. Klimov (1974, 1977) also suggests that active > accusative is a widespread development. But these suggestions are speculative: previous literature has not attested the change active > accusative within the textually documented history of a single language. However over the course of about 800 years, the shift from active to accusative is exactly what happens in Japanese. The change is not a one-step process. The steps in the development of accusative alignment by the end of Late Middle Japanese (16th century) seem to have been the following: attrition of *ga*-marked transitive subjects, expansion of *no*-marked transitive subjects, emergence

[11] As observed by Yanagida and Whitman (2009), OSV order in OJ nominalized clauses parallels what Gildea (1998: 190-6, 2000: 85-88) calls the "AV ergative" system in Cariban languages, originally referred to as "De-ergative" by Franchetto (1990). In this system, the agent remains within VP, while the object appears outside the VP. The De-ergative system in Kuikúro is sensitive to the nominal hierarchy, according to Franchetto (1990), suggesting that it is ergative. Yanagida and Whitman show that the basic properties of this structure are parallel to the active properties of OJ nominalized clauses.

of *wo* as a structural case marker, limitation of ga to intransitive clauses, and finally, establishment of nominative *ga*.

In the transition from OJ to Early Middle Japanese (9th century), the pronominal system undergoes major changes. In particular, the monosyllabic deficient personal pronouns *wa* 'I', *na* 'thou', *ta* 'who', and *si* 's/he' are lost in EMJ, except in frozen expressions where *wa* serves as a possessor. As we noted in 3.2, these pronouns are always marked with active *ga* in OJ when they serve as subjects, so their loss results in a signficant reduction in the quantity of *ga*-marked external arguments encountered by the language learner.

Already in OJ, [-human] and nonspecific subjects in nominalized clauses occur marked with genitive *no* in SOV order:

(19) a. parusame **no** *yokure-do* ware ***wo*** nuras-aku (MY 1697)
spring rain GEN avoid-although I WO drench-NOMINAL
'(that) the spring rain, however (I) try to avoid it, drenches me.'
b. Soko *mo ka* pito **no** wa ***wo*** koto nas-am-u? (MY 512, 1329,1376)
That too Q people GEN I- WO things say-will- ADN
'Will people say that of me too?'

This pattern is rare in OJ, but it becomes widespread in *kunten* glossed texts in EMJ. The following examples are taken from the *Konkômyô Saishô Ôkyô* 'The Sutra of Golden Light' (*kunten* text ca. 830; interpretations are based on Kasuga 1969).

(20) a. Yoki wotoko yoki womina **no** … sinkyau no kokoro **wo** nasamu
good men good woman GEN reverent GEN mind WO produce
'(that) good men and good women… might produce a reverent mind'
(K 3-5:46)
b. Yoki wotoko yoki womina **no** … Sanzyou dou **wo** syusemu
good man good woman GEN Triyāna way WO practice
'(that) good men and good women might master the Triyāna doctrine'
(K 3-5:50)

The combined effect of more S *no* O V data and less – ultimately no – O $S_{pronoun}$ *ga* V data was to make *ga* increasingly infrequent in transitive contexts. At the same time, not only S *no* O *wo* V but also [e] O *wo* V data occurred, where [e] was *pro* or the trace of A' extraction such as relativization. The result of these changes in the input was reanalysis of *wo* as a structural accusative case marker. Further evidence of this reanalysis is the disappearance of PP+*wo* examples like (16) during EMJ.

The reanalysis of *wo* as a structural case marker had far-reaching consequences. Under the framework outlined in 1.2, structural accusative case assigned by *v* is incompatible with the [$Spec_{CASE}$] feature in *v* responsible for assignment of inherent

active case to the external argument. The first consequence of this change seems to have been the disappearance of *ga* as marker of the external argument in transitive clauses in Late Middle Japanese. Yamada (2000) examines the increase in the frequency of *ga* by comparing the oldest manuscript versions of the *Tale of Heike*, which are believed to reflect 14th century LMJ, with the romanized text of *Heike* (the *Amakusa Heike*) published by Jesuit missionaries in 1592. Yamada observes that the frequency of *ga* increases in the *Amakusa Heike*, but that it is more frequent with the subjects of intransitive predicates. At this period, we may hypothesize that the [$Spec_{CASE}$] feature has been lost in transitive *v,* leading transitive clauses to appear with *wo* as the spellout of structural accusative case and without inherent *ga* marking on their external argument. At around the same time, the highest frequency nominalized clause type, the adnominal, supplants the conclusive pattern of OJ and EMJ in root as well as subordinate clauses. That is, the pattern that showed active alignment in earlier Japanese supplants the earlier accusative pattern, at exactly the period when *wo* (originally a marker of specificity) is reanalyzed as a structural accusative and inherent *ga* disappears.

Yamada finds *ga* in all types of intransitives in 16th century LMJ, both unergatives and unacusatives. This indicates that *ga* is no longer sensitive to the thematic role of the subject; that is *ga* has ceased to be an inherent case. By the 17th century, *ga* reappears in transitive clauses, with subjects of all types, as indicated by data like the following:

(21) ano mono **ga** orusu **wo** itas-eba (Kyôgen Busu, Toraakira-bon 1647)
that person NOM watch.house ACC do-if
'if that person watches over the house'

By this period, conclusive and adnominal clause ending have completely merged in favor of the latter; that is, the adnominal endings have been reanalyzed as matrix clause endings. As a consequence, the syntax of adnominal clauses, which has changed from active to nominative with overt structural case markers, becomes the alignment pattern of main clauses in Japanese.

We can summarize the changes outlined above as follows:

(22) **Active > accusative in Japanese**
a. Decrease in *ga*-marked pronouns, increase in *no*-marked transitive subjects.
Consequence: loss of evidence for case-checking movement of object.
b. *Wo* reanalyzed as structural accusative
Consequence: inherent *ga* restricted to intransitive clauses.

c. *Ga* licensed by T, adnominal reanalyzed as matrix.
Consequence: Accusative alignment in main clauses.

Under this analysis, the loss of active alignment in OJ nominalized clauses is triggered by independent developments, much as the reanalysis of the copula as auxiliary in Iranian participle constructions triggers the change to ergative alignment. In Middle Japanese, attrition of active subjects in transitives led to the reanalysis of *wo* as a structural case marker. This in turn led to limitation of inherent *ga* to intransitive clauses, and eventually its reanalysis as a structural nominative.

5 Conclusion

In developing the account of alignment change in this paper, we have focused on a fairly small number of parametric changes. Chief among them are changes affecting [$Spec_{CASE}$], the feature responsible for assignment of inherent case to external arguments in situ. Related parametric changes in non-accusative languages have to do with the mechanisms for case licensing on objects. In the course of our discussion, we have provided support from formal syntax for three claims made in the earlier historical/typological literature: that possessive + participle constructions can be a source for tense-sensitive ergative alignment; that passive is not a plausible source for ergative alignment; and that active alignment can be reanalyzed as accusative.

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