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Syntactic Ergativity: Analysis and Identification

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Abstract

Some languages showing morphological ergativity in case and/or agreement also show ergative patterns in core syntactic domains—syntactic ergativity. The most-studied type of syntactic ergativity is a ban on the \bar{A} movement of ergative subjects; an additional type concerns the distribution of absolutes in nonfinite clauses. This article first presents the standard view of syntactic ergativity, which is closely connected to the treatment of ergative as an inherent case. Evidence from Shipibo suggests that a ban on ergative \bar{A} extraction does not require inherent ergative. This points to a view of syntactic ergativity centered around morphological case discrimination. One consequence is that pure head-marking languages cannot feature a true ban on ergative extraction, because ergative morphological case is not in use. This conclusion highlights the challenging tasks of diagnosing extraction restrictions in pure head-marking languages, as in the Mayan and Salish families, and of distinguishing extraction restrictions from instances where extraction merely interacts with agreement. A variety of crosslinguistic evidence suggests that agreement/extraction interactions are fully possible in morphologically ergative languages, and not only for ergative arguments. Special morphology in the context of transitive subject extraction is therefore not necessarily evidence of syntactic ergativity.

Ergative extraction restriction: a ban on relativization, focalization, and/or *wh*-questioning of ergatives

1. INTRODUCTION

An ergative pattern of case or agreement contains a special form to mark or index the transitive subject (ergative), often in opposition to a form used for both the object and the intransitive subject (absolutive). Examples 1 and 2 illustrate this pattern in West Greenlandic.

- (1) Arna-t mirsur-p-u-t.
 woman-PL.ABS sew-IND-INTR-3PL
 The women are sewing.
 (Bittner & Hale 1996)
- (2) Juuna-p miiqqa-t paar(i-v)-a-i.
 Juuna-ERG child-PL.ABS look.after-IND-TR-3SG.3PL
 Juuna is looking after the children.
 (Bittner & Hale 1996)

One of the oldest and most important questions raised by such systems concerns the relationship between morphology and syntax. We know that in nominative–accusative languages, the case morphology of a nominal often correlates in central ways with its syntactic behavior. Nominative arguments contrast with accusative ones both in case and/or agreement morphology and in syntactic properties such as susceptibility to raising or the ability to antecede a coargument reflexive. Should we expect this type of correlation to remain in place in a language with an ergative morphological alignment? In West Greenlandic, the patient argument of the transitive verb in example 2 shows the same type of case morphology as the single argument of the intransitive verb in example 1. Is this indicative of a syntactic property shared between these arguments, in contrast to the agent argument of the transitive verb in example 2? In more general terms, are ergative languages syntactically structured in a way different from accusative languages, in keeping with the differences in their morphology?

The interest of this family of questions is deepened by two sorts of facts that constrain the possible answers. On one hand, as Anderson (1976) influentially showed, a number of central syntactic phenomena seem largely impervious to the distinction between languages with accusative and ergative morphology. Ergative case marking or agreement generally has no effect, for instance, on patterns of raising or reflexive binding. Morphological ergativity therefore cannot entail special syntactic patterns of too pervasive or fundamental a type. On the other hand, as Dixon (1972, 1979) noted, there are ways that ergative languages do sometimes behave distinctively for core syntactic phenomena. The best studied of these phenomena is \bar{A} extraction (or *wh*-movement; Chomsky 1977). In a number of languages, ergative arguments contrast with absolutive arguments in that they cannot be extracted. We see this pattern in the West Greenlandic relative clauses shown in examples 3 through 5. Extraction sites are marked with an underscore, annotated for the case that the missing element would bear in an ordinary declarative clause. Note that the subject cannot be extracted in the formally transitive relative clause in example 5; that is, the relative clause cannot contain an ergative \bar{A} gap.

- (3) miiqqa-t [_{-ABS} sila-mi pinnguar-tu-t]
 child-PL.ABS [₋ outdoors-LOC play-REL.INTRANS-PL]
 the children who are playing outdoors
 (Bittner 1994, p. 55)

- (4) miiqqa-t [Juuna-p _{-ABS} paari-sa-i]
 child-PL.ABS [Juuna-ERG - look.after-REL.TRANS-3SG.PL]
 the children that Juuna is looking after
 (Bittner 1994, p. 55)

- (5) * angut [_{-ERG} aallaat tigu-sima-sa-a]
 man.ABS [- gun.ABS take-PRF-REL.TRANS-3SG.SG]
 Intended: the man who took the gun
 (Bittner 1994, p. 58)

To express the meaning intended for example 5, an antipassive must be used. An antipassive clause is notionally transitive, but formally intransitive; the notional object is expressed as an oblique, and the subject is expressed in absolutive case. A simple antipassive matrix clause is shown in example 6 for West Greenlandic. We see in example 7 that subjects of antipassive clauses can be \bar{A} -extracted.

- (6) Juuna miiqqa-nik paar-si-v-u-q.
 Juuna.ABS child-PL.INST look.after-AP-IND-INTR-3SG
 Juuna is looking after the children.
 (Bittner 1994, p. 23)

- (7) angut [_{-ABS} aallaam-mik tigu-si-sima-su-q]
 man.ABS [- gun-INS take-AP-PRF-REL.INTR-SG]
 the man who took the gun
 (Bittner 1994, p. 58)

The contrast between examples 5 and 7 demonstrates that the extraction restriction is specific to ergatives, rather than (say) only to external arguments. An extraction restriction notably parallel to that of West Greenlandic is found in a genetically and geographically diverse set of languages with ergative case marking: Dyirbal in Australia (Dixon 1972), Chukchi in Siberia (Comrie 1979), Tongan in the Pacific (Otsuka 2006), and Katukina in Amazonia (Queixalos 2010). Crucially, Dixon (1979) observed that languages with nominative–accusative case systems do not show the same type of extraction restrictions on transitive subjects. There must then be some fundamental syntactic difference between morphologically accusative languages and at least some morphologically ergative languages. Ergativity in morphology cannot be entirely divorced from syntax proper. The facts such as example 5 that support this conclusion are what falls under the heading of syntactic ergativity.

What exactly in the grammar is responsible for extraction restrictions as in West Greenlandic example 5? Importantly, it cannot be the very same factors that produce ergative morphology itself, because syntactic ergativity is not found in all morphologically ergative languages. In Tsez, for instance, relativization of notionally transitive subjects involves the same clause type as other relativization, suggesting that the \bar{A} gap in example 9 is indeed ergative.¹

- (8) [uʒ-ä _{-ABS} kid-be-r tāλ-ru] kayat
 [boy-ERG - girl-OS-LAT give-PAST.PTCP] letter.ABS.II
 the letter that the boy gave to the girl
 (Polinsky 2015, p. 266)

¹Note that \bar{A} movement here and in the West Greenlandic examples involves a null operator. The “head” of a relative clause (in example 7, ‘man’; in example 9, ‘boy’) typically need not match the relative operator in case. See Deal (forthcoming) for discussion.

Table 1 Morphological ergativity versus transitive subject extraction restrictions

	Transitive subject can extract	Transitive subject cannot extract
Morphologically ergative	✓	✓
Morphologically nonergative	✓	–

- (9) [_{-ERG} kayat kid-be-r tāλ-ru] uži
 [letter ABS.II girl-OS-LAT give-PAST.PTCP] boy.ABS.I
 the boy that gave a letter to the girl
 (Polinsky 2015, p. 266)

Similar to Tsez in lacking an ergative extraction restriction, despite an ergative case system, are languages such as Warlpiri (Bittner & Hale 1996), Basque (Hualde & Ortiz de Urbina 2003), and Niuean (Seiter 1980). The relationship between morphological ergativity and ergative extraction restrictions is shown in **Table 1**. The clear implication is that morphological ergativity and this type of syntactic ergativity cannot be conflated. Special properties of syntactic structure arise when universal syntactic fundamentals combine with ergative morphological systems and at least one additional ingredient. The need for this additional ingredient explains why the correlation between morphological ergativity and ergative extraction restrictions only works in one direction.

The same conclusion emerges even more strongly when we turn from ergative extraction restrictions to other types of syntactic ergativity. Beginning with Dixon's (1972) study of Dyirbal, a small handful of languages have been reported to distinguish ergatives from absolutes for patterns of licensing and control in nonfinite clauses. One strand of this research argues that controlled PRO can only be absolute in certain ergative languages;² another argues that absolute case is not licensed in nonfinite clauses in certain ergative languages. (See Deal 2015 for examples from Dyirbal, Sediq, and Sama Southern, representing the first strand; for the second, see Ordóñez 1995 and Coon et al. 2015 on Mayan.) Like the ergative extraction restriction, these are patterns of a syntactic nature found only in morphologically ergative languages. Yet this type of syntactic ergativity is even more tightly restricted than its \bar{A} counterpart. In West Greenlandic, for instance, there seems to be no interaction between finiteness and the case system, despite syntactic ergativity in relativization. Putatively nonfinite clauses may host overt objects in the absolute case, whereas the PRO subject is presumably ergative:³

- (10) Angutip [PRO qajak atur] uma-vaa.
 man-ERG [PRO.ERG kayak.ABS borrow] want-IND.3SG.3SG
 The man wants to borrow the kayak.
 (Bok-Bennema 1991, p. 28)

²See Landau (2006) for evidence that PRO receives case as other nominals do.

³These examples presumably involve two separate types of embedded clauses in West Greenlandic, given the difference in verbal morphology internal to the bracketed clause as well as the case and agreement differences in the matrix clause. Each has been identified by the cited source as nonfinite. Differences in glossing follow the sources cited.

- (11) Miiqqat [PRO Juuna iku-ssa-llu-gu] niriursui-pp-u-t.
 children.ABS [PRO.ERG Juuna.ABS help-FUT-INF-3SG] promise-IND-INTR-3PL
 The children promised to help Juuna.
 (Manning 1994, p. 113)

Such data support a further articulation of the link between syntactic and morphological ergativity. The implicational relationship is plausibly as follows:^{4,5}

- (12) Restrictions on absolutes in nonfinite clauses → Restrictions on \bar{A} extraction of ergatives → Ergativity in case/agreement

At least *two* related grammatical ingredients need to be recognized, then, beyond ergative morphology, to explain the contrast between Dyirbal (with ergative behavior both in \bar{A} extraction and in nonfinite clauses) and West Greenlandic (with ergative behavior only in \bar{A} extraction). Further conclusions of this type may be necessary for other reported instances of syntactic ergativity, such as coreference in coordinated clauses (Dixon 1979, Otsuka 2010).

The first parts of this article are devoted to the analysis of this range of facts. Given that syntactic ergativity is found only in morphologically ergative languages, the standard theory of syntactic ergativity is closely connected to the dominant approach to morphological ergativity (the inherent ergative view: see Legate 2002, 2008, 2012; Aldridge 2004, 2008, 2012; many papers in Johns et al. 2006; and discussion in Deal 2015). The most distinctive aspect of this approach is the treatment of ergative as an inherent case, assigned in Spec,*v*P in connection with the assignment of a θ -role to the external argument. On the standard theory, syntactic ergativity arises when the object systematically inverts with the subject, prohibiting the subject from entering into syntactic relationships with higher heads. Given the inherent nature of ergative case, this is unproblematic when the subject remains in situ. It makes it impossible, however, for a transitive subject to enter into a relationship with an \bar{A} attracting head, leading to a restriction on ergative extraction. One factor that may drive inversion is the need for the object to be case-licensed by T; this makes the connection to a restriction on absolutes in nonfinite clauses. The standard theory of syntactic ergativity is reviewed in Section 2.

Sections 3 and 4 explore a series of challenges to the standard theory, along with a potential alternative. One of the most serious challenges comes from the existence of syntactically ergative patterns in languages where ergative does not behave as an inherent case. This is the situation, for instance, in the Peruvian language Shipibo (Panoan) (Valenzuela 2002, Baker 2014). In Section 4, drawing on ideas from Otsuka (2006, 2010), Bobaljik (2008), and Preminger (2014), I present an alternative view of syntactic ergativity in \bar{A} extraction that can account for the Shipibo facts without requiring that ergative be an inherent case. One consequence of this view is that a ban on

Inherent case:
 a case assigned to an argument in situ by its θ -assigner

Inherent ergative view: ergative case is an inherent case assigned to the external argument by *v*

⁴This formulation expands on Deal (2015); Polinsky (forthcoming) reports that a closely related proposal is made by Kazenin (1994).

⁵Georgian is a language of interest here. Legate (2008) describes it as a language with a restriction on absolutes in nonfinite clauses; yet it does not restrict \bar{A} extraction of ergatives in, for instance, its relative clauses (Foley 2013). Legate's argument is based on a form of nominalization, the *masdar*, which in fact may contain neither absolute arguments nor ergative ones. Legate (2008, p. 66) explains this pattern by proposing that "the nominalized verb involves nominalization of the verb alone, which then combines with its arguments as a noun rather than a verb." If this proposal is accepted, it seems most accurate to classify Georgian as a language lacking nonfinite clauses entirely, rather than one whose nonfinite clauses cannot contain absolutes. By this line of reasoning, Georgian should be treated as a purely morphologically ergative language.

Pure head-marking language: a language with an overt morphological agreement system but not an overt morphological case system

***wb*-agreement:** a special form of agreement indexing an \bar{A} -extracted argument

Antiaffirmation: a special absence of agreement, or appearance of default agreement, found when the argument expected to control agreement has \bar{A} -extracted

ergative extraction is expected only in languages with ergative morphological case systems—not, for instance, in ergatively aligned pure head-marking languages.

This leads to the final topic of this article, which concerns how bans on ergative extraction may be identified in languages without morphological case. This task is delicate. Consider, for instance, Q'anjob'al (Mayan), a VSO head-marking language (examples 13*a* and 13*b*). In this language, one form of agreement indexes the transitive subject, contrasting with that indexing the intransitive subject and transitive object; overt arguments are not marked for case.⁶

- (13*a*) Max- \emptyset way[-i] naq winaq.
 ASP-3ABS sleep-ITV CL man
 The man slept.
 (Coon et al. 2015)
- (13*b*) Max- \emptyset y-il[-a'] naq winaq ix ix.
 ASP-3ABS 3ERG-see-TV CL man CL woman
 The man saw the woman.
 (Coon et al. 2015)

A similar setup is found across the Mayan family, as well as in the Salish family. How may we assess whether or not ergative subjects may be \bar{A} -extracted in such languages? It is not enough to simply consider extraction from a notionally transitive clause, as example 7 shows. The only way to really know whether an extracted element is or is not abstractly ergative is to consider the agreement it controls. This task poses a special challenge because \bar{A} extraction, quite independently of ergativity, may lead to a special type of agreement behavior—*wb*-agreement (Chung & Georgopoulos 1988) or antiaffirmation (Ouhalla 1993).

Supposing, then, that a pure head-marking language shows a special type of agreement behavior in contexts of subject extraction from notional transitives, there are two kinds of hypotheses that must be considered. One is that the language bans extraction of ergatives, and that the special agreement behavior indicates an alternative structure lacking an ergative, like West Greenlandic (examples 6 and 7). The other is that the language permits extraction of ergative subjects, and that the special agreement behavior arises from the independent possibility of agreement/extraction interactions. Both types of hypotheses have been defended for languages in the Mayan family. Section 5 reviews this debate and presents crosslinguistic evidence that agreement/extraction interactions are independent of ergative extraction restrictions. Section 6 concludes.

2. THE STANDARD THEORY

A long tradition in the study of ergativity takes the ergative pattern to involve systematic inversion, namely object movement past the subject (or, more generally, case assignment to the object by a head that c-commands the subject). The standard theory on syntactic ergativity takes inversion of this type to be the major factor responsible for the ban on ergative extraction. The standard theory is developed by Campana (1992), Ordóñez (1995), Bittner & Hale (1996), Aldridge (2004, 2008, 2012), Coon et al. (2015), and Assmann et al. (forthcoming), who identify a range of precise theoretical reasons why inversion prevents \bar{A} extraction of the transitive subject. The details of

⁶The bracketed morphemes in these examples are so-called status suffixes, which vary with transitivity, stem class, and aspect (Coon et al. 2015). These suffixes appear overtly in Q'anjob'al only when the verb is phrase final. They are represented here, following the convention in Coon et al. (2015), to indicate the form the verb would take were its arguments omitted.

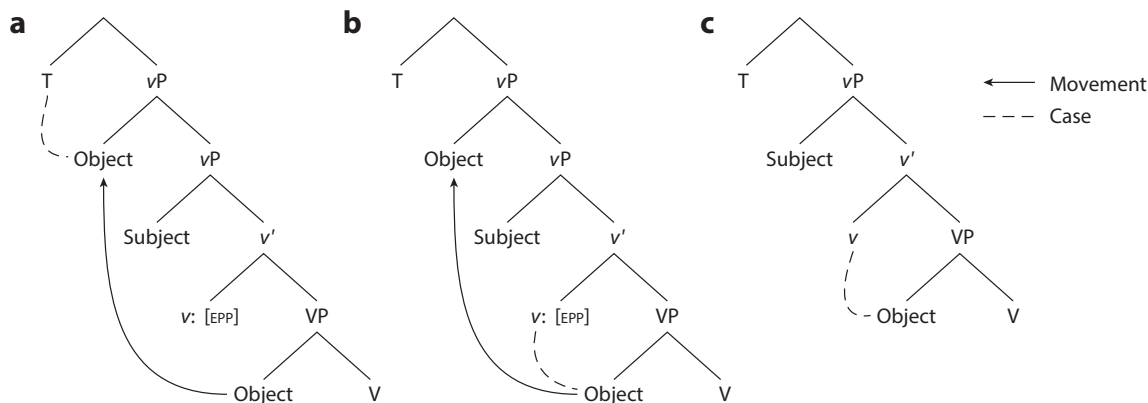


Figure 1

Three types of ergative languages (Aldridge 2004, 2008, 2012). Solid lines indicate movement; dashed lines indicate case assignment. (a) Syntactic ergativity in \bar{A} extraction and nonfinite clauses (e.g., Dyrirbal). (b) Syntactic ergativity only in \bar{A} extraction (e.g., West Greenlandic). (c) No syntactic ergativity (e.g., Tsez).

v under c-command and v lacks [EPP], there will be no inversion and no syntactic ergativity of any type. That produces a language like Tsez (Figure 1c).

The common thread through these different versions of the standard view is the idea that inversion prevents the subject from interacting with higher structure. Proponents of the standard view have therefore concluded that ergative subjects are case-licensed below Position X. This conclusion fits naturally with the dominant approach to the assignment of ergative case, namely the inherent ergative view: Ergative is an inherent case assigned to the subject in situ in Spec, v P. Therefore, even if Position X is as low as an outer specifier of v P, as on Aldridge's proposal, subjects can still be licensed when the object moves to Position X. Following this reasoning, Sheehan (2014) recasts the descriptive implicational hierarchy above as a formal parameter hierarchy. Relevant portions of this hierarchy are shown in Figure 2.

3. CHALLENGES AND ALTERNATIVES

The parameters invoked by the standard theory are not uncontroversial. Consider, for instance, the Nonfinite Clause Parameter. This parameter is intended to capture the difference between languages like West Greenlandic, where overt absolutive objects freely appear in nonfinite clauses, and Dyrirbal, where absolutives in at least certain nonfinite clauses are PRO. This difference is explained by a difference in how objects are licensed: Objects in Dyrirbal receive case from T, whereas objects in West Greenlandic receive case from v . Yet Legate (2012) points out that this explanation provides no ready account for the pronominal morphology of Dyrirbal. Whereas Dyrirbal predominantly uses an ergative-absolutive case pattern, it uses a nominative-accusative case pattern for pronouns (Dixon 1972). Legate argues that v always assigns case to the object in Dyrirbal, as in West Greenlandic; in Dyrirbal, this case has an overt realization for pronouns, but a default null realization elsewhere. Legate concludes that syntactic ergativity for nonfinite clauses (for which Dyrirbal is the standard example) cannot have to do with licensing of objects by T.

Similarly, Polinsky (forthcoming) mounts two challenges to the Inversion Parameter. First, she points out that restrictions on ergative \bar{A} extraction do not correlate as clearly as expected with evidence of inversion; for instance, bans on ergative extraction do not systematically correlate with

with the standard theory a commitment to the general themes behind the Ergative Parameter: Syntactic ergativity is found only in languages where external arguments have special syntactic properties determined in situ by *v*. At the same time, it is an alternative to the standard theory in that inversion plays no role in deriving syntactic ergativity.

Finally, Otsuka (2006) challenges the Ergative Parameter by arguing that Tongan displays syntactic ergativity in \bar{A} extraction, but ergative in Tongan is not an inherent case. She proposes that syntactic ergativity arises in a portion of the grammar when that portion contains case-sensitive syntactic rules (Otsuka 2006, 2010). In the next section, I expand on this view; in the remainder of this section, I present a new argument that it must be taken seriously. I do not draw on Tongan but on Shipibo, as the argument against inherent ergative is stronger in this language.¹⁰

Shipibo shows a form of syntactic ergativity in its internally headed relative clauses (IHRCs): The internal head may be absolutive, but not ergative (Valenzuela 2002). The subject may be the internal head in an intransitive relative clause (example 17), but in a transitive relative clause (example 18), only the object may be the internal head.¹¹ The internal head is underlined below.

- (17) [Mi-bé ainbo jo-a]-ra no-n onan-yama-ke.
 2-COM woman.ABS come-pp2.ABS-EV 1P-ERG know-NEG-COMPL
 We don't know the woman who came with you.
 (Valenzuela 2002, p. 67)

- (18) [Pitso-n bake natex-a]-tonin-ra joshin pi-ke.
 parakeet-ERG child.ABS bite-PP2-ERG-EV banana.ABS eat-COMPL
 The child the parakeet bit ate the banana.
 NOT: The parakeet that bit the child ate the banana.
 (Valenzuela 2002, p. 66)

This pattern may be reconciled with more standard instances of \bar{A} extraction restrictions if IHRCs in Shipibo involve covert \bar{A} movement of the internal head (Cole 1987, among others), and ergatives cannot undergo this movement.¹²

Syntactic ergativity in Shipibo constitutes an important challenge to the standard theory in view of Baker's (2014) argument that ergative case in this language must be structural, rather than inherent. The argument comes from the behavior of unaccusative predicates with added applicatives. In example 19*a*, the sole argument of a simple unaccusative clause bears the absolutive

¹⁰Otsuka's empirical argument for Tongan centers on the fact that ergative is not associated with a particular θ -role. See Deal (2015, section 3.4) for discussion of this type of argument.

¹¹Valenzuela (2002) shows that this restriction holds even when the result is semantic anomaly. Syntactic ergativity in IHRCs is also found in the Tibeto-Burman language Belhare (Bickel 1995).

¹²Curiously, the missing meanings may be expressed in Shipibo by an externally headed relative clause (EHRC), as in the following example. The same holds in Belhare (see footnote 11).

- (i) [Bake natex-a] pitso-n-ra joshin pi-ke.
 child.ABS bite-PP2 parakeet-ERG-EV banana.ABS eat-COMPL
 The parakeet that bit the child ate the banana.
 (Valenzuela 2002, p. 67)

A plausible analysis would be that this structure involves a base-generated \bar{A} dependency with a null resumptive pronoun. There is no ergative extraction restriction here because there is no extraction. This pair of analyses predicts that there should be island effects in Shipibo IHRCs but not EHRCs. In Belhare, a further option for relativizing on a notionally transitive subject involves detransitivizing the IHRC so that the subject is not ergative. This option is akin to the West Greenlandic antipassive in that it is not restricted to relative clauses. See Bickel (1995, pp. 418–20).

case. When an applicative is added, as in example 19*b*, this same argument now bears the ergative case. In view of the unaccusativity of the predicate, Baker proposes structures like examples 20*a* and 20*b* for these sentences.¹³

(19a) Kokoti-ra joshin-ke.
fruit.ABS-EV ripen-COMPL
The fruit ripened.
(Baker 2014, p. 345)

(19b) Bimi-n-ra Rosa joshin-xon-ke.
fruit-ERG-EV Rosa.ABS ripen-APPL-COMPL
The fruit ripened for Rosa.
(Baker 2014, p. 346)

(20a) [_{TP} fruit.ABS_i [_{VP} t_i ripen] T]

(20b) [_{TP} fruit.ERG_i [_{AppP} [_{PP} P Rosa.ABS] [_{VP} t_i ripen] Appl] T]

Ergative case for ‘fruit’ in example 19*b* cannot be determined in view of its θ -position, given that the verb is unaccusative. ‘Fruit’ is simply not an external argument. Therefore, Baker argues, ergative cannot be an inherent case in Shipibo. This finding calls into question the most basic parameter of the standard theory, as well as the alternative proposed by Polinsky (forthcoming). The data from Shipibo call for a treatment of both morphological ergativity and syntactic ergativity that does not presuppose that ergative is assigned in connection with an external θ -role.¹⁴ In the next section, I present such an analysis.

4. SYNTACTIC ERGATIVITY WITHOUT INHERENT ERGATIVE

The major premise of Otsuka’s (2006, 2010) analysis of syntactic ergativity in Tongan is that syntactic rules apart from those assigning case may nevertheless make reference to case values. For syntactic ergativity in \bar{A} movement, the crucial rules in her system are those that match case features on C heads against the *wh*-DPs they seek to attract. In a morphologically ergative language, C may bear no specific case feature, or it may bear an absolutive case feature. Languages of the latter type show a ban on ergative \bar{A} extraction.

In a system of this general design, it does not matter whether ergative is inherent or structural and, if structural, how it is assigned. It may be assigned under agreement with a head, as Otsuka herself proposes, but it may also in principle be assigned by a “configurational” case rule of the type explored by Baker (2014, 2015). Ergative case in Shipibo, for instance, is attributed by Baker to a rule of dependent case assignment (rule 21). For example 19*b*, Baker proposes that ‘fruit’ and ‘Rosa’ are in the same phase, resulting in ergative case for ‘fruit.’

- (21) If there are two distinct argumental NPs in the same phase such that NP₁ c-commands NP₂, then value the case feature of NP₁ as ergative unless NP₂ has already been marked for case.

¹³On the motivation for a covert P in the applicative structure, see Baker (2014, p. 367).

¹⁴Further arguments against treating all ergatives as inherent cases are given for Basque by Rezac et al. (2014) and for Nez Perce by Deal (2010, 2015).

Configurational case rule:

a rule that regulates the distribution of case features based on the configuration of arguments in a domain, rather than agreement between arguments and functional heads

Dependent case rule:

a rule that determines case for an argument based on the presence of another argument in the domain

Unmarked case rule:

a rule that determines case for an argument in a particular domain, given that it does not meet the conditions for dependent case assignment

Lexical/oblique case rule:

a rule that determines case for an argument given the particular properties of the head selecting it, such as a verb or adposition

Theories of case based wholly or in part on configurational rules are developed by Marantz (1991), McFadden (2004), Baker & Vinokurova (2010), Levin & Preminger (2015), and Baker (2014, 2015). Below, I show that, within a theory with configurational case rules, syntactic ergativity in \bar{A} movement can be understood as an instance of the broader phenomenon of case discrimination, also found in ϕ -agreement (Bobaljik 2008) and A movement (Preminger 2014).

The core idea of case discrimination is that a DP's ability to participate in the operation Agree may be determined in part by its morphological case. In Hindi-Urdu, for instance, DPs with marked case, whether ergative or accusative, may not participate in verbal agreement (Bhatt 2005). Bobaljik (2008) proposes that language variation concerning accessibility for ϕ -Agree is regulated by hierarchy 22, drawing on the configurational definitions of unmarked and dependent case proposed by Marantz (1991).

- (22) unmarked case < dependent case < lexical/oblique case

This hierarchy states a series of implications: DPs with dependent case are accessible for Agree only if those with unmarked case are as well, and DPs with lexical/oblique case are accessible for Agree only if those with dependent case are as well. Hindi-Urdu makes the most stringent choice: Only arguments in the unmarked case may participate in ϕ -Agree. Bobaljik argues that the statement of accessibility for ϕ -Agree in terms of morphological case, rather than grammatical function (see Moravcsik 1974), yields significant empirical gains. In Hindi-Urdu, for instance, the verb always agrees with the highest argument in the unmarked case, whether this is the subject or the object. In Tsez, too, the verb always agrees with the unmarked (absolutive) argument: the subject in an intransitive clause and the object in a transitive. Case discrimination in ϕ -Agree bars the verb from agreeing with arguments in dependent case, such as an ergative transitive subject. This is much the same logic I exploit below for the ban on ergative extraction.

Preminger (2014) incorporates hierarchy 22 into a theory of A movement based on the idea that movement to subject position in certain languages is possible only for arguments that pass a case-discrimination test. In French dative experiencer constructions, for instance, the dative may not A-move to Spec,TP (example 24), even though it is closest to T.

- (23) Il semble [à Marie]₁ que [Jean a du talent]
 It seems to Marie that [John has.3SG of talent]
 It seems to Marie that John has talent

- (24) * [À Marie]₁ semble t₁ [Jean avoir du talent]
 to Marie seem [John have.INF of talent]

Preminger captures this result by proposing, first, that ϕ -Agree in French is case-discriminating and, second, that A movement in French is possible only for that element picked out by ϕ -Agree.¹⁵ Only unmarked case is accessible for agreement in French. Therefore, there is no way to derive example 24: Because the dative does not meet the case discrimination test on ϕ -Agree, it does not meet the conditions for A movement. Case discrimination in the operation Agree is, again, at the heart of the matter. In this instance, an argument's inability to Agree affects not only ϕ -agreement but also the argument's ability to move.

¹⁵Formally, the structural description for the A-movement rule states that the moving element has entered into ϕ -Agree.

We can now see how this same type of pattern emerges in ergative extraction restrictions. Suppose that \bar{A} movement of XP to Spec,CP requires Agree between XP and the C head in an operator feature—[WH], [REL], or [FOC]. Furthermore, suppose that one or more of the operations Agree-[WH], Agree-[REL], and Agree-[FOC] are case discriminating: Elements in dependent and lexical/oblique case are not accessible. The result will be that ergatives cannot enter into the relevant Agree relationship. This, then, will disqualify them from undergoing the relevant type of \bar{A} movement in just the same way that failure to participate in ϕ -Agree disqualifies French datives from undergoing A movement. The ungrammaticality of example 24 is thus parallel to that of West Greenlandic example 5. The grammar simply cannot derive the examples in question, because they involve movement of elements that have not met the criteria for movement.

This theory provides an immediate explanation for the data from Chukchi (example 15 versus example 16). In Chukchi, Agree-[WH] is not case discriminating; any XP bearing a [WH] feature may Agree with C in this feature. Therefore, an ergative subject is fully capable of moving to Spec,CP in a constituent question like example 15. Relative clauses are different because the operator feature is different, so a different Agree operation is involved. Agree-[REL] crucially is case-discriminating in Chukchi, making XPs accessible for Agree with relative C only if they are in unmarked case. This explains why a ban on ergative extraction appears in relative clauses, as in example 16.

The broader typology of \bar{A} extraction in morphologically ergative languages falls out from hierarchy 22. Across languages, only those elements successfully targeted by Agree-F, where F is an operator feature, may undergo \bar{A} movement. In languages where only unmarked case is accessible for Agree-F, ergatives are barred from \bar{A} movement. One language that behaves this way for all operator features is Katukina, where ergatives cannot be *wh*-questioned, relativized, or focused (Queixalos 2010). In languages where both unmarked case and dependent case are accessible for Agree-F, both ergatives and absolutes are able to \bar{A} -move. Tsez is a language that uniformly behaves in this way.¹⁶ What is not expected is a language where only ergatives may \bar{A} -move. This expectation appears to be borne out. The case-discrimination theory of syntactic ergativity thus captures Otsuka's (2006) observation that the hierarchy of accessibility for relativization is properly stated in terms of case.¹⁷ It responds to her core idea that syntactic ergativity arises in virtue of case-sensitive syntactic rules. And it goes one step further in making the connection between the case-sensitive rules appropriate for \bar{A} movement, A movement, and ϕ -agreement.

The predictions of the case-discrimination theory of syntactic ergativity differ from those of the standard theory in three ways. First, where the standard theory requires a treatment of ergative as an inherent case, the case-discrimination theory requires treatment as a dependent case. The standard theory predicts syntactic ergativity to appear in languages where a special case is available for external arguments (potentially independent of the transitivity of the clause). The case-discrimination theory predicts syntactic ergativity to appear in languages where a special case is available for the higher of two arguments in some domain (independently of whether the higher argument is an external argument). Shipibo, as discussed above, is a language matching only the

¹⁶Notably, the Tsez example shows that the cutoff point for case discrimination for Agree-F and for Agree- ϕ must be separated: Only unmarked case is accessible for Agree- ϕ in Tsez (only absolutes show ϕ -agreement), though both unmarked and dependent case are accessible for Agree-F. West Greenlandic shows the opposite pattern: Both unmarked and dependent case are accessible for Agree- ϕ , though only unmarked case is accessible for Agree-[REL] (see footnote 9). There is a similarity here to the difference in case-discrimination between Agree-[WH] and Agree-[REL] in Chukchi. It remains to be determined whether there are any implicational relationships to be stated over the set of Agree operations that may show case discrimination.

¹⁷My formulation departs from Otsuka's in identifying the first two categories in hierarchy 22 as unmarked and dependent case, respectively. For Otsuka, the relevant categories are "active case" (the case obligatorily assigned in every clause) and "nonactive case" (the case assigned only in transitives).

second of these descriptions. The case-discrimination theory, but not the standard theory, may therefore account for syntactic ergativity in Shipibo.

Second, the case-discrimination theory differs from the standard theory in how it derives the implication from syntactic ergativity in \bar{A} movement to morphological ergativity. The crucial factor is now the morphological case system, rather than the way that subjects are syntactically licensed. A language with nominative–accusative morphological case may make only unmarked case accessible for Agree-F, in which case only nominatives may \bar{A} -extract; or it may make both unmarked case and dependent case accessible for Agree-F, in which case both nominatives and accusatives may \bar{A} -extract. It may not, however, specially bar transitive subjects from \bar{A} extraction, because these subjects receive no special case marking. Notably, by the same token, there is no way to derive an extraction restriction for transitive subjects in a pure head-marking language, either. The case-discrimination theory therefore requires that apparent syntactic ergativity in \bar{A} movement in pure head-marking languages, such as those of the Mayan and Salish families, be reanalyzed as a different type of phenomenon. I take this topic up in the next section.

Finally, the case-discrimination theory makes syntactic ergativity in \bar{A} extraction a fact specific to the case discrimination property of Agree-F (again, where F is an operator feature). This means in principle that different syntactic operations could differ from \bar{A} movement in their sensitivity to morphological case, a point emphasized by Otsuka (2010). While this is perhaps advantageous for the Tongan coordination paradigms Otsuka discusses, it raises a challenge concerning the implication from syntactic ergativity in nonfinite contexts to syntactic ergativity in \bar{A} movement. A potential avenue for exploration would be to implicate \bar{A} movement in the structure of nonfinite clauses in certain languages, for instance, by requiring PRO to \bar{A} -move in purpose clauses in Dyirbal.¹⁸

5. IDENTIFYING EXTRACTION RESTRICTIONS IN PURE HEAD-MARKING LANGUAGES

The above discussion brings us to a final important question about syntactic ergativity: How can it be identified in languages without morphological case? The answer is especially important, as we have seen, for the case-discrimination theory, which predicts that bans on ergative \bar{A} extraction should be found only in languages with ergative case marking. In this section, we find that this prediction is, at least, not obviously false. Although various pure head-marking languages use special agreement morphology when transitive subjects are extracted, this morphology need not reflect a ban on extraction of ergatives. Rather, it may simply show that extraction is relevant for the calculation of the proper form of agreement morphology. Such behavior is not restricted to ergative languages, and I show that, within ergative languages, it is not restricted to extraction of ergative arguments.

I begin by returning to Q'anjob'al, whose head-marking pattern is illustrated in example 13. Constituent questions in this language involve overt \bar{A} movement to a preverbal position.

- (25) Maktxel max- \emptyset way-i $_{-ABS}$?
 who ASP-3ABS sleep-intrans -
 Who slept?
 (Coon et al. 2015)

¹⁸This proposal bears at least a family resemblance to Chierchia's (1989) idea that controlled PRO is interpreted as a λ -abstractor. I thank Pranav Anand for pointing this out. Note that, to explain the ergative pattern in Dyirbal, this proposal requires objects to have unmarked case; see, however, the discussion of Legate (2012) in Section 3.

In principle, given verb-initiality and the absence of case marking, one might expect *wh*-fronting to result in ambiguity in Q'anjob'al transitive clauses. This is indeed the situation in other Mayan VSO languages, such as Chol. In Q'anjob'al, however, transitive questions such as example 26 are unambiguous: They may only be interpreted as involving object extraction.

- (26) Maktxel max-∅ y-il-[aʔ] -*_{ERG} naq winaq -_{ABS} ?
 who ASP-3ABS 3ERG-see-TRANS CL man
 Who did the man see?
 NOT: Who saw the man?
 (Coon et al. 2015)

To express the meaning missing for example 26, the verb must bear a special “agent focus” suffix *-on*:

- (27) Maktxel max-∅ il-on[-i] -_{??} naq winaq ?
 who ASP-3ABS see-AF-INTRANS CL man
 Who saw the man?
 (Coon et al. 2015)

Whether this is a pattern of syntactic ergativity in \bar{A} extraction comparable to West Greenlandic examples 5 and 7 depends on the abstract case value of the \bar{A} gap in clauses such as example 27.

An influential early analysis for a range of Mayan languages by Larsen & Norman (1979) took the gap in agent focus clauses like example 27 to be absolutive. This makes for a clear connection with the West Greenlandic pattern: Absolutive subjects and objects can be extracted, but ergative subjects cannot be.¹⁹ Extraction of a subject from a notionally transitive clause (example 27) requires a strategy that (on this view) is formally parallel to the West Greenlandic antipassive in that it involves detransitivization of the verb. Evidence for the intransitivity of the agent focus clause comes from the verb's “status suffix” and from the lack of ergative agreement. This type of conception is taken up by Ordóñez (1995), Coon et al. (2015), and Assmann et al. (forthcoming). These authors argue that various Mayan languages ban ergative extraction and are thus canonically syntactically ergative.²⁰

An alternative conception is laid out by Stiebels (2006), according to which languages like Q'anjob'al are not syntactically ergative at all. On this view, agent focus clauses like example 27 are formally transitive, and the gap they contain is ergative. Evidence for the transitivity of the agent focus clause comes from absolutive agreement with the object, which is parallel to what happens in ordinary transitives.²¹ The absence of normal ergative agreement morphology, and the presence of the special agent focus suffix *-on*, arises in virtue of a special type of obligatory agreement with the extracted ergative argument, reflecting the presence of a [WH]-feature. Extraction of the ergative in example 26 is impossible because the wrong agreement has been used. Agreement has not properly accounted for the [WH]-feature borne by the subject, on a subject-extraction parse. On this analysis, these data are essentially an instance in a morphologically ergative language

¹⁹Larsen & Norman (1979) compare the Mayan situation in particular with Dyirbal.

²⁰Potential evidence comes from restrictions on absolutive objects in certain nonfinite clauses, as Ordóñez (1995) and Coon et al. (2015) discuss. If the implicational relations in hierarchy 12 are correct, this requires an \bar{A} -extraction restriction. See, however, Aissen (forthcoming) for discussion of the crucial argumentation.

²¹Note that absolutive agreement is overt with first- and second-person objects.

of agreement/extraction interaction, a phenomenon not restricted to morphologically ergative languages.

Finally, Erlewine (2015) explores an intermediate view for the related language Kaqchikel: Subjects of formally transitive clauses may indeed extract, but do so in a syntactically special way. There is no ban on ergative extraction, on this view. But unlike on Stiebels's view, there is syntactic ergativity of another type: Transitive subjects, but not other arguments, must skip their typical argument position in order to \bar{A} -move. An \bar{A} -moving subject cannot pass through Spec,TP, and therefore cannot participate in its normal (ergative) agreement with T. This provides a syntactic basis for agreement/extraction interaction.

These latter views—particularly that of Stiebels—lead us to expect that special forms of agreement morphology might appear for extraction not only of ergatives but also of absolutes. This expectation is borne out in the Northwest Caucasian language Abaza. Abaza verbs are like their Mayan counterparts in showing dedicated agreement for ergative and absolute. Clauses with \bar{A} extraction use specialized agreement to index extracted arguments.²² Compare example 28, where the ergative *wb*-phrase is indexed by ergative *wb*-agreement *z-*, with example 29, where the absolute is indexed by absolute *wb*-agreement *y-*.

- (28) S-*k^j* tap dəzda y-na-z-ax^w?
 1s-book who 3SG.INAN.ABS-PV-ERG.WH-take
 Who took my book?
 (O'Herin 2002, p. 252)
- (29) Ahmet w-*jⁱ*əp yač^wəya y-ta-y-c'a?
 Ahmet 3SG.M-pocket what ABS.WH-in-3SM.ERG-put
 What did Ahmet put in his pocket?
 (O'Herin 2002, p. 253)

There is little question of an extraction-restriction analysis here: abstractly ergative arguments may certainly extract, given the uniquely ergative form of *wb*-agreement found in example 28. Rather, the paradigm is similar to *wb*-agreement in the nominative–accusative language Palauan, where extraction of either a nominative or an accusative triggers special morphology on the verb (Georgopoulos 1991).

Similar conclusions may be drawn from the Austronesian language Selayarese. Selayarese verbs bear prefixes for ergative agreement and suffixes for absolute agreement. When an ergative is extracted, agreement is unaffected (example 30*a*). When an absolute is extracted, however, the corresponding agreement must be omitted (examples 30*b* and 30*c*).^{23,24}

- (30*a*) Inai la-erang-i loka-ñjo?
 who 3ERG-bring-3ABS banana-the
 Who brought the bananas?
 (Finer 1997, p. 689)

²²O'Herin (2002) argues that *wb*-phrases move to a high right specifier in Abaza and that verbs move to an even higher right head position.

²³Example 30*b* is formally intransitive; see Finer (1997) for discussion.

²⁴See Erlewine (2015) for discussion of a partially similar pattern in Karitiana.

- (30b) Inai ng-erang(*-i) loka?
 who INTRANS-bring(*-3ABS) banana
 Who brought bananas?
 (Finer 1997, p. 689)
- (30c) Apa la-taro(*-i) i Baso? ri lamari?
 what 3ERG-put(*-3ABS) HUMAN Baso? in cupboard
 What did Baso? put in a cupboard?
 (Finer 1997, p. 689)

Again, the well-formedness of the ergative prefixes in examples 30*a* and 30*c* indicates that there is no restriction on extraction of any core argument in Selayarese. In the former, the ergative is extracted while retaining control of its standard agreement morphology. In the latter, whereas standard absolutive agreement is forbidden on the verb, the ergative prefix indicates that an absolutive argument is nevertheless present; an ergative appears in a Selayarese clause only when an absolutive also does (Finer 1997). The paradigm is similar to antiagreement in the nominative–accusative language Berber, where extraction of a nominative argument requires the corresponding agreement to be replaced with a default form (Ouhalla 1993).

A final example of this type comes from Gitksan (Tsimshianic), another ergative–absolutive language with head marking. In this language, clausal organization and verb marking make a three-way distinction between extraction of objects, intransitive subjects, and transitive subjects. Transitive subject extraction requires an independent complementizer-like element *an* (example 31). By contrast, extracted intransitive subjects require the connective clitic =*hl* on the *wh*-word, along with a special extraction suffix on the verb (example 32).²⁵

- (31) Naa an-t ga'a=hl 'ul?
 who C-3SG.ERG see=CN bear
 Who saw the bear?
 (Davis & Brown 2011, p. 50)
- (32) Naa=hl lim-it?
 wh=CN sing-INTRANS.SUBJECT.EXTRACTION
 Who sang?
 (Davis & Brown 2011, p. 50)

The contrast between examples 31 and 32 makes it clear that the former does not involve detransitivization and extraction of an intransitive subject, along the lines of West Greenlandic example 7; most notably, the special intransitive subject extraction suffix is absent. Rather, the language shows agreement/extraction interaction, in the broad sense of specialized changes to clausal morphology in the presence of \bar{A} extraction. The nature of this morphology is significant for languages like Q'eqchi' (Mayan), where extraction of the notionally transitive subject requires both agent focus verb morphology and a specialized oblique object construction (Berinstein 1985). The Gitksan data suggest that even this type of change to clausal morphology need not be taken as evidence of a ban on extraction of abstract ergatives.

²⁵Clitic =*hl* is called a “connective” in the Gitksan literature, and forms a constituent with the following element (despite its enclitic properties). See Davis & Brown (2011) and references therein.

Table 2 Alignment and agreement/extraction interaction

Language	Morphological alignment	Morphosyntactic effects of extraction by	Source
Berber	NOM-ACC	NOM	Ouhalla (1993)
Irish	NOM-ACC	ACC	Clements et al. (1983)
Palauan	NOM-ACC	Both NOM and ACC	Georgopoulos (1991)
Q'anjob'al	ERG-ABS	ERG	Coon et al. (2015)
Selayarese	ERG-ABS	ABS	Finer (1997)
Abaza	ERG-ABS	Both ERG and ABS	O'Herin (2002)

These examples do not establish the proper analysis of the Q'anjob'al data with which we began. Their role is simply to demonstrate that the presence of a special verb form for extraction of notionally transitive subjects is insufficient to demonstrate a restriction on extraction of ergatives. It may be that ergatives are indeed extractable, but that there is an agreement/extraction interaction; this is fully possible in morphologically ergative languages, and not only for ergative arguments (*pace* Deal 2015). Rather, either or both core arguments may trigger special extraction morphology. This is precisely the same as in nominative–accusative languages, as is summarized in **Table 2**.

As a closing note on this subject, let us return to the pattern in West Greenlandic examples 5 and 7 to confirm the difference between this language and those that have been discussed in this section. Given that relative clauses in West Greenlandic lack overt relative pronouns, how do we know what case is borne by the \bar{A} gap in example 7? The strongest argument rests on the comparison between examples 6 and 7. The simple antipassive sentence in example 6 establishes, independently of extraction, the existence of a clause type with an instrumental object and an affix *-si* to the right of the verb root. The form of object marking and the presence of this affix in example 7 are immediately explained if both examples 6 and 7 make use of the same clause structure—a structure that example 6 shows to contain an absolutive subject. Note that the tight connection between examples 6 and 7 contrasts with the situation in Q'anjob'al, where the clause type seen in example 27 is found only when the subject is extracted.²⁶ This means there is no independent way to know the abstract case of the subject. Agreement/extraction interaction must be considered a live option. In broader terms, then, the case-dependency theory of \bar{A} -extraction restrictions must be considered a live option as well.

6. CONCLUSION

Syntactic ergativity shows us how the factors behind morphological ergativity interact with other components of the grammar. In some languages, this interaction underlies a ban on \bar{A} extraction of ergatives. In a subset of these languages, the structure of nonfinite clauses is affected as well. The major concern of this article has been the analysis of these patterns. The standard theory, developed by Campana (1992), Ordóñez (1995), Bittner & Hale (1996), Aldridge (2004, 2008, 2012), Sheehan (2014), Coon et al. (2015), and Assmann et al. (forthcoming), explains the interactions of morphological ergativity with \bar{A} movement and nonfiniteness by a series of parameters

²⁶This is so in many Mayan languages even though the agent focus morpheme itself (if this is the right characterization of that morpheme) may often be found outside of extraction contexts. Clauses containing this morpheme without extraction are typically importantly different from agent focus clauses concerning the syntax of the object. See, for instance, Ayres (1983) for evidence to this effect in Ixil.

regulating the assignment of inherent ergative case, the inversion of the object with the subject, and the locus of case assignment for the object. The most serious challenge to this view comes from languages where ergative can be shown not to behave as an inherent case—for instance, it may be assigned under certain conditions to internal arguments (as in applicative-of-unaccusative examples). Shipibo is such a language, as Baker (2014) has argued, and I have argued that Shipibo shows a ban on ergative extraction as well. To account for this pair of facts I have proposed an alternative to the standard theory that combines insights from Otsuka (2006, 2010), Bobaljik (2008), and Preminger (2014). Ergative extraction restrictions arise on this theory from morphological case discrimination in the Agree operation feeding \bar{A} movement. On this theory, these restrictions form part of a larger argument for the central role of morphological case in conditioning syntactic operations.

One prediction is that there are not bans on transitive subject extraction in pure head-marking languages of the Mayan/Salish type. The identification of such bans is not straightforward: Special morphology appearing in the context of transitive subject extraction may be analyzed as involving a new type of syntactic ergativity, distinct from a ban on ergative extraction (Erlewine 2015), or as involving a purely morphological agreement/extraction interaction (Stiebels 2006). Importantly, interactions between agreement and extraction are fully possible in morphologically ergative languages, and not only for ergative arguments. Discovery of the true nature of ergative extraction restrictions depends in part on the delicate task of distinguishing these rival analyses of transitive subject extraction in pure head-marking languages.

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Contents

Morris Halle: An Appreciation <i>Mark Liberman</i>	1
Synchronic Versus Diachronic Explanation and the Nature of the Language Faculty <i>Stephen R. Anderson</i>	11
Phonological Representation: Beyond Abstract Versus Episodic <i>Janet B. Pierrehumbert</i>	33
Contrast in Phonology, 1867–1967: History and Development <i>B. Elan Dresher</i>	53
Phonological Neighborhood Effects in Spoken Word Perception and Production <i>Michael S. Vitevitch and Paul A. Luce</i>	75
Sociophonetics of Consonantal Variation <i>Erik R. Thomas</i>	95
Phonological Effects on Syntactic Variation <i>Arto Anttila</i>	115
Functional Categories and Syntactic Theory <i>Luigi Rizzi and Guglielmo Cinque</i>	139
Syntactic Ergativity: Analysis and Identification <i>Amy Rose Deal</i>	165
Nonsyntactic Explanations of Island Constraints <i>Frederick J. Newmeyer</i>	187
Existential Sentences Crosslinguistically: Variations in Form and Meaning <i>Louise McNally</i>	211
Negation and Negative Dependencies <i>Hedde Zeijlstra</i>	233
The Semantic Properties of Free Indirect Discourse <i>Anne Reboul, Denis Delfitto, and Gaetano Fiorin</i>	255

Experimental Work in Presupposition and Presupposition Projection <i>Florian Schwarz</i>	273
Expressives Across Languages: Form/Function Correlation <i>Olga Steriopolo</i>	293
Sentiment Analysis: An Overview from Linguistics <i>Maitte Taboada</i>	325
The Sociolinguistics of Globalization: Standardization and Localization in the Context of Change <i>Barbara Johnstone</i>	349
“So Much Research, So Little Change”: Teaching Standard English in African American Classrooms <i>Rebecca Wheeler</i>	367
Constructing a Proto-Lexicon: An Integrative View of Infant Language Development <i>Elizabeth K. Johnson</i>	391
Language and Speech in Autism <i>Morton Ann Gernsbacher, Emily M. Morson, and Elizabeth J. Grace</i>	413

Errata

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