Fostering Diversity and Minimizing Universals: Toward a Non-Colonialist Approach to Studying the Acquisition of Algonquian Languages
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Seeking to determine valid and useful analyses of the acquisition of the Algonquian language Anihshininiimowin, this article critiques Chomsky's Universal Grammar (CUG) approach and instead proposes the use of a construction-based, emergentist approach. CUG emphasizes hypothetical universals and minimizes linguistic diversity in a way that is Eurocentric and scientifically problematic. In contrast, emergentism fosters diversity and minimizes universals in a manner that is useful for analyzing acquisition, for documenting the rich and expressive constructions of Anihshininiimowin, and for assisting with curriculum development. Academic scholarship occurs within social and political contexts, and therefore the study of language should not perpetuate colonialist processes.

Cherchant à déterminer des analyses valides et utiles de l'acquisition de la langue algonquine, l'anihshininiimowin, cet article critique l'approche grammaticale universelle de Chomsky et propose à la place l'utilisation d'une approche émergentiste basée sur la construction. La grammaire universelle de Chomsky souligne des universels hypothétiques et minimise la diversité linguistique d'une manière eurocentrique et problématique au niveau scientifique. En revanche, l'émergentisme favorise la diversité et minimise les universels d'une manière qui est utile pour analyser l'acquisition, pour documenter les constructions riches et expressives de l'anihshininiimowin, et pour aider au développement du programme didactique. L'art professoral universitaire se déroule dans des contextes sociaux et politiques et, par conséquent, l'étude de la langue ne devrait pas perpétuer des procédés colonialistes.

The Colonialist Context

The Beothuk people built a village on top of a small glacial moraine, an ancient deposit of gravel and sand. Compared to the extensive sheets of rock nearby, the gravel and sand allowed water to drain quickly and kept the Beothuk homes dry when it rained. The Beothuk village looked north across a bay, allowing easy travel to nearby islands. The village was also beside a stream that provided fresh water and a good supply of

fish, especially smelt, for food. This Beothuk village is now silent. It is only a historic site, with a small museum, near Boyd's Cove on the island of Newfoundland. The last Beothuk, Shanawdithit, died in 1829 (Upton, 1977, p. 146). The Beothuk people were exterminated by European colonization, their language and culture gone forever.

European colonization is a tragic history of subjugation, oppression, appropriation, enslavement, and genocide. While European cultures have proclaimed humanistic concerns for the dignity and welfare of all people, those same European cultures have also invaded other societies and committed atrocities (e.g., Fanon, 1963, p. 252). Postcolonial writers have observed that one factor motivating colonization is the aggressive belief that Eurocentric values are universal, and that the validity, truth, and supremacy of those values require that they should be given to or forced upon other peoples (e.g., Battiste, Bell, & Findlay 2002, p. 90; Henderson, 2000; Pennycook, 1998, pp. 47–51; Young, 1990, esp. pp. 9–10, 119–126).

These colonialist purposes toward the Beothuks can be seen in a letter written by Hugh Palliser, governor of the British settlement on what is now Newfoundland. In 1766, Palliser commissioned an expedition to capture some Beothuk people "in hopes of effecting thereby a friendly intercourse with them, in order to promote their civilization, to afford them the means of conversion to Christianity, and to render them in the end useful subjects to his majesty" (quoted in Upton, 1977, pp. 140–141). Palliser's motivations reveal a disturbing contradiction. He expressed positive evaluations of friendly interactions and the nature of Beothuk culture, but was apparently so convinced of the universal validity of his own culture that he ordered the Beothuks to be "kidnapped into civilization" (Upton, 1977, p. 141) in order to impose Eurocentric religious and political systems upon them. After reviewing these types of colonialist inconsistencies, Young (1990) concluded that "the contradictions of humanism continue to perplex anti-colonial thought" (p. 125).

Contemporary colonialism occurs in processes that oppress and marginalize non-Eurocentric cultures and value systems, including those of Canada's Aboriginal peoples. Postcolonial writers have critiqued this continuing domination and argued for non-colonial approaches. In particular, these critiques have revealed that Eurocentric values and assumptions are not universal. Claims about human universals must therefore be made with great caution to avoid Eurocentric oppression, and to actually contribute to the scholarly understanding of phenomena.

Similar to Pennycook's (1998, pp. 129–161) critique of the colonialist belief in the superiority of the English language, this article applies postcolonial criticism to linguistics and language education (see also Errington, 2008; Mühlhäusler, 1996). The goal here is to create a foundation for a non-colonialist approach to the study of the first language acquisition of the Algonquian language Anihshininiimowin (also known as Oji-Cree or Severn Ojibwe), which is spoken in northern Ontario. Upper and McKay (1987, 1988) created a remarkable longitudinal data set, from age eleven months to forty months, that provided transcripts of spoken interaction between Sylvia (a pseudonym) and her caregivers, especially her mother. In order to propose a valid and educationally useful analysis of Sylvia's use and gradual acquisition of Anihshininiimowin, this article strongly critiques the Universal Grammar approach proposed by Chomsky (e.g., 1965, 1986, 1988, 1995, 2005), and instead proposes the use of a construction-based, emergentist approach (e.g., Ellis, 1998; Ellis & Larsen-Freeman, 2006; Everett, 2008, pp. 208, 241; Goldberg, 2006; MacWhinney, 1998; Mellow, 2006, 2008; O'Grady, 2005; Tomasello, 2003; see also Mühlhäusler, 1996, pp. 8, 332). The term "usage-based" describes an approach that overlaps substantially with emergentism (see Goldberg, 2006, pp. 12–14, 222). Emergentism is a general approach to explanation in which a complex phenomenon is hypothesized to emerge from the aggregation, organization, and interaction of its basic, component parts and processes within a particular context.

Contemporary Colonialism: The Imposition of Eurocentric Universals

In many social, political, and educational areas, postcolonial writers have critiqued the continuing domination of approaches that focus on hypothetical, Eurocentric, idealized universals (Battiste, 1998, p. 23; Battiste, Bell, & Findlay 2002, p. 89; Henderson, 2000, p. 59; Pennycook, 1998, p. 17). Battiste (1998) has argued that "Eurocentrism must be analyzed and challenged at every instance it appears" (p. 22). Examples of this type of postcolonial critique can be found in criticism of art and literature. For example, Barthes (1972, pp. 100–102) critiqued the myth of universals of humanism as displayed in Edward Steichen's exhibition, "The Family of Man," a collection of photographs from countries all over the world. Barthes (1972) questioned the utility of proposing sentimentalized, gnomic truths that do not have "any value except in the realm of a purely

'poetic' language" (p. 101). In addition to birth, play, and work, death was one of the exhibition's themes. Barthes made the following observation: "The same goes for death: must we really celebrate its essence once more, and thus risk forgetting that there is still so much we can do to fight it?" (p. 102). Summarizing Barthes' essay, Young (1990) provided an explanation for the focus on idealized universals at the expense of a full understanding of diversity and of the injustices of colonialism and racism:

> Diversity is only introduced so that it can be taken away again in the name of an underlying unity which implies that at some level all such experiences are identical, despite their wide cultural and historical differences, that underneath there is one human nature and therefore a common human essence (p. 122).

With respect to the implications of Eurocentric claims about human universals, Young (1990) further argued that literary theorists must exercise caution: "Every time a literary critic claims a universal ethical, moral, or emotional instance in a piece of English literature, he or she colludes in the violence of the colonial legacy in which the European value or truth is defined as the universal one" (p. 124).

Postcolonial critiques have also been articulated about education in Canada. Battiste (1998) argued that education for and about Aboriginal peoples and issues "builds on Eurocentric strategies that maintain their knowledge is universal, that it derives from standards of good that are universally appropriate, that the ideas and ideals are so familiar they need not be questioned, and that all questions can be posed and resolved within it" (p. 21). Battiste also noted that universities tend to be particularly colonialist institutions: "Almost all universities have preserved Eurocentric knowledge and interpretive monopolies and generated gatekeepers of Eurocentric knowledge in the name of universal truth" (p. 23). Henry and Tator (2007) explained the mechanisms by which universities maintain Eurocentric monopolies:

> Systemic barriers [to inclusiveness and equity] persist within Canadian universities. One such barrier is the curriculum because it validates only particular kinds of knowledge. Eurocentric frameworks, standards, and content are not only given more resources but also more status, especially when it comes to hiring, promotion, and tenure decisions. Many faculty

of colour have argued that only specific types of knowledge are recognized as legitimate, thereby excluding those that diverge from the Eurocentric norm (p. 24).

The Eurocentric monopoly within universities has negative outcomes for Aboriginal students and faculty, and hinders the advancement of knowledge that is genuinely universal and validly includes diverse approaches to understanding and interpretation. Battiste, Bell, and Findlay (2002) argued that "universities have largely held onto their Eurocentric canons of thought and culture and sapped the creative potential of faculty, students, and communities in ways both wasteful and damaging" (p. 83).

Analyses of Algonquian Languages: The Problem of Eurocentric Universals

The languages of Canada's Aboriginal people are remarkably diverse. Within and across the languages, complex and subtle ideas can be expressed by an incredibly rich variety of words, sentences, and orations. These languages are essential for the preservation and transmission of culture and identity. As a result of colonization, many are endangered and not being widely acquired by children (e.g., Battiste, 1998; Kirkness, 1998; Statistics Canada, 2008, pp. 48–50). Battiste (2000) explained that the presence of Aboriginal languages in schools also raises the status of Aboriginal cultures and contributes to overall student success: "There is clear and convincing evidence that student achievement and performance in school and pride in Aboriginal communities and heritages are directly tied to respect for and support of the students' Aboriginal languages" (p. 199).

For these reasons, it is imperative to develop educational materials that can be used by fluent speakers who are and will be the teachers of these languages. These types of materials include explanations of the relationship between learning and teaching (e.g., Mellow, 2000) and comprehensive descriptions of Aboriginal languages (e.g., Valentine, 2001). These materials can then be used to create the books and lessons that are used in classes, as well as to inform the tools used for needs assessment and evaluation of learning outcomes. Crucially, curriculum development must be informed by a valid understanding of language learning and of the diversity of language. This principled understanding of language and learning should not be based on theories that assume Eurocentric

universals (i.e., the Chomskian Universal Grammar theory), but instead should be based on theories that make cautious claims about universals of language and learning (e.g., emergentism).

Sample Analyses: Chomskian Universal Grammar and Emergentism
The difference between Chomskian Universal Grammar (CUG; also described as the Principles and Parameters approach) and emergentism can be illustrated in contrasting analyses of a basic utterance. The analyses are of the word *chiwâpamin—you see me*—from the Algonquian language Western Naskapi, which is spoken in northern Quebec. (The diacritic mark indicates a long vowel, *â*; a double vowel, *aa*, is used for long vowels in Anihshininiimowin.) This word and the CUG analysis are from Brittain (2001), and were chosen because they provided a clear and detailed explanation of the analysis and its assumptions. Related types of CUG analyses have been proposed for other Algonquian languages, including Innu-aimûn or Montagnais (Branigan & MacKenzie, 2002; Ritter & Rosen, 2005), Ojibwa (McGinnis, 1999), and Plains Cree (Déchaine, 1999).

   Following the analysis provided by Brittain (2001, pp. 44–47), the meaningful units (or morphemes) in this Western Naskapi word are shown in (1). The glosses provided on the third line are simplified, especially for the suffix *–i*.

(1) chiwâpimin

   chi-   wâpim   -i   -n

   You-   see   -me   -FC:loc

   You (singular) see me

Using simplified translations, the morpheme *wâpim* may be translated as *see*, the prefix (or clitic) *chi-* may be translated as *you*, and the suffix *–i* may be translated as *me*. Brittain (2001, pp. 41, 47) described the suffix *–n* as a local feature contrast (FC:loc) suffix, an analysis that is beyond the scope of this paper and will not be discussed further.

   Building from O'Grady's (2005) emergentist analyses of English sentences, an emergentist analysis of *chi-wâpim-i-n* proposes that the verb *wâpim* implies the existence of an entity that sees and an entity that is seen. These lexical requirements are described as "dependencies," and

are resolved by efficient processing in the form of relatively immediate combination with particular elements, in this case with the morphemes *chi-* and *–i*. As language processing occurs in a linear stream of production or comprehension, *chi-* combines with *wâpim* and resolves the requirement for an entity that sees. Then, *wâpim* combines with *–i* and resolves the requirement for an entity that is seen. This Western Naskapi utterance is different from English because the entity that is the seer and the entity that is seen are referred to with bound morphemes within a complex verb rather than with pronouns that are separate words. Within a construction-based approach to language, a statement that is expressed by a complex verb with a prefix and a suffix is considered to be just one of many types of constructions that are fundamental units of Algonquian languages (see **Constructions**, below).

Emergentism and construction-based analyses emphasize the remarkable diversity that exists across human languages and document the properties of the many different constructions in a language (e.g., Goldberg, 2006, p. 16; Tomasello, 2003, p. 17). Emergentism also makes cautious assumptions about the universals that affect language use and learning. These universals are not specific to language, but instead are basic cognitive processes, such as efficient linear speech processing, the accumulation of a network of constructions in long-term memory, analogical generalizations, and automatization, as well as basic social purposes of communication, such as the description of entities and actions; the conveyance of questions, directives, and statements; and the socialization of an individual into a speech community (e.g., Tomasello, 2003, esp. pp. 18–19).

In contrast to the linear combination of perceptible, meaningful elements in the emergentist approach, the CUG approach proposes an extremely abstract analysis of this word, including hypothetical elements that are always imperceptible and/or move in a direction that is the reverse of the speech stream. Brittain's (2001, pp. 47, 49) analysis used the principles of the recent version of CUG known as Minimalism (see **Figure 1**). Although it is beyond the scope of this article to describe this analysis fully, two essential observations can be made. First, just as in the English verb phrase *see me*, the verb *wâpim-i* is hypothesized to combine with an object pronoun (line 17) to create a V' constituent (line 15). Just as in CUG analyses of English, that V' constituent then combines with a subject pronoun (line 15). For Western Naskapi, however, Brittain (2001, p. 31) adopted the controversial hypothesis that each of these pronouns is a *pro*,

Figure 1. A Minimalist CUG Phrase Structure Representation of the Western Naskapi Utterance *chiwapimin*, *You* (singular) *see me* (from Brittain, 2001, pp. 47, 49).
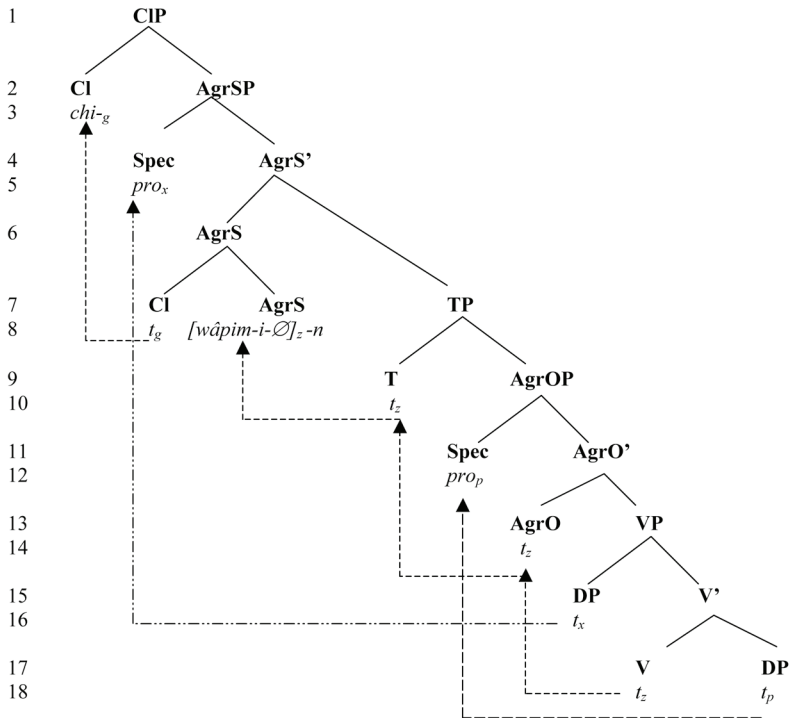
Notes. The lines have been numbered at the left margin to facilitate explanation of the derivation. Approximate Abbreviations: Agr – agreement; Cl – clitic; D – originally D meant determiner; O – object; P – phrase; S – subject; Spec – specifier; t – trace; T – tense; V – verb; subscripts show elements that are co-referential; X' – apostrophe indicates a stage of combination.

a phonetically null, imperceptible element that has no sound or form. In other analyses, Brittain (2001, pp. 85, 231) also proposed imperceptible complementizers and imperceptible expletives (which are non-referential words, such as the English *it* in *It is raining.*)

The second essential observation is that because this CUG analysis is a derivation, many of these elements are hypothesized to move upward in the representation, leaving behind additional imperceptible elements (traces, or *t*). For example, the object *pro*$_p$ moves to Spec of AgrOP (line 18

to line 12) and leaves the imperceptible t_p in the DP (line 18). The subject *pro*$_x$ leaves an imperceptible t_x in a DP as well (line 16). The verb *wâpim-i* moves in a series of steps (lines 18, 14, 10, and 8), leaving behind three imperceptible traces (t_z). The preverbal clitic *chi-* moves as well (lines 8 and 3), leaving behind the imperceptible t_g. In an inverse construction (e.g., *chi-wâpim-iti-n*, *I see you* [singular]), the clitic *chi-* begins inside of AgrO rather than AgrS (Brittain, 2001, p. 50), and then raises to the position in the Clitic Phrase (ClP). Although the traces are imperceptible, they have substantial power in CUG theory (see Brittain, 2001, pp. 75–76). For example, traces are said to block hypothetical synchronic contraction, supposedly explaining why English speakers can say *Who do you wanna see?* but not *Who do you wanna feed the dog*? (see O'Grady, Nakamura, & Ito (2008) and Pullum (1997) for analyses without traces and move-ment.) The actual linear order of morphemes in a word results only after the abstract derivation is complete, with the highest morphemes in the structure (e.g., *chi-* in line 3) corresponding to the left-most morphemes in the verb complex (Brittain, 2001, p. 48).

The CUG approach assumes an extensive set of Eurocentric univer-sals. The abstract universal construct of a derivation involving movement (or a transformation) was originally proposed to provide a general account of English sentences such as *You can see me* and *Who can you see?* In order to maintain that the declarative structure is basic, the English interrogative structure is hypothesized to be formed by combining *see* and *who* (similar to the combination in line 17), and then by moving *who* to the beginning of the sentence. On the basis of derivational analyses of English and similar languages, the CUG theory claims that there is a universal clause structure that is similar to the English declarative structure, with words and phrases that are the subject, the verb, and, for transitive verbal meanings, the object. Because Brittain (2001, pp. 29, 32, 48, 288) proposed a CUG analysis that assumes these Anglo-centric or Eurocentric universals, the resulting analysis of Western Naskapi is extremely complex and abstract. The claims that motivate this analysis are the following: (a) all sentences in all human languages have one underlying universal structure; (b) this universal structure corresponds to the English declarative structure that is common in written, formal English registers; (c) Algonquian languages have this universal structure; and (d) compared to English, Algonquian languages deviate from the normal pattern because their components within this structure are extremely abstract, imperceptible elements.

Chomsky (1995) explained that a primary goal of CUG is to minimize diversity: "The task is to show that the apparent richness and diversity of linguistic phenomena is illusory and epiphenomenal, the result of interaction of fixed principles under slightly varying conditions" (p. 389). CUG hypothesizes that languages differ only in a small set of limited ways. To characterize this variation, some hypothetical principles are said to be "parameterized," meaning that the principle has two (or several) settings. Everett (2008) critiqued the validity of these claims about the limits of diversity:

> A third problem for Chomsky's theory of language … is the simple fact that languages are less alike than Chomsky imagined, and their differences are profound …. The universal grammar/language instinct hypothesis simply has nothing of interest to tell us about how culture and grammar interact, which now seems to be vital to any complete understanding of language (pp. 257, 208; see also Evans, 2009, p. 46).

Pennycook (2001) also argued that Chomsky's universalist claims are problematic in relation to postcolonial issues:

> The humanist or universalist position that underlies both the search for underlying human commonalities (from human nature to universal grammar) and [Chomsky's] political critique focuses problematically on similarity rather than difference …. It is against such claims that many postcolonial writers have struggled …, suggesting that claims to universality are always parochial claims for shared European or North American traits …. To develop a viable philosophical and political background for critical applied linguistics, … such notions of universality and human nature must be rejected (pp. 35–36).

Fundamental Assumptions of Chomskian Universal Grammar and Emergentism

Although frequency patterns of linguistic input can explain many aspects of language learning (Ellis, 2002), language is more than the sum of the input that a learner comprehends. CUG is motivated by this concern, which is often described as "the poverty of stimulus problem" (Chomsky, 1986, p. 7; White, 2007). However, there are a number of different solu-

tions to this problem (e.g., MacWhinney, 2004; Mellow, 2006; Pullum & Scholz, 2002; Sampson, 1997; Tomasello, 2003). Many of these solutions have been utilized in acquisition research, including Lexical Functional Grammar (Pienemann, 1998), Head-driven Phrase Structure Grammar (HPSG) (Mellow, 2004), Construction Grammar (Ellis, 2003; Goldberg, 2006; Tomasello, 2003), Cognitive Grammar (Robinson & Ellis, 2008), dependency grammar (Robinson, 1990), functional grammar (Andersen, 1990; Bardovi-Harlig, 2000; Klein & Perdue, 1992), and emergentist sentence processing (O'Grady, 2005; O'Grady et al., 2008).

Emergentism is a general approach to explanation rather than a specific grammatical theory. Therefore, different approaches to emergentism are possible and particular approaches may selectively combine compatible constructs from different grammatical theories. The approach to emergentism in this paper combines constructs from emergentist sentence processing, Construction Grammar, functional grammar, and HPSG (Mellow, 2006, 2008; cf. Goldberg, 2006, pp. 205–226). CUG and emergentism can be situated within this range of theoretical alternatives by identifying three basic differences between the two approaches: assumptions about the nature of innate capacities; constructions; and developmental time and processes.

The existence of hypothetical language-specific innate capacities. CUG and emergentism are on the ends of a continuum of theories, with CUG assuming a highly extensive set of universal, innate, language-specific capacities, and emergentism assuming that there are no innate, language-specific capacities. Linguistic emergentism proposes that language use and acquisition emerge from the interaction of a large number of basic processes that are not specific to language. Thus, a basic assumption of emergentism is that a minimal set of universals should be used to explain acquisition. A non-colonialist approach to the study of language and acquisition also requires that universals be minimized so that the full diversity of Aboriginal languages and cultures can be understood rather than be obscured by exogenous constructs. All the grammatical theories listed above propose innate capacities that are less powerful and less extensive than those proposed by Minimalist CUG. (For a comparison of different grammatical theories, see Sag, Wasow, & Bender, 2003, pp. 294–309, 525–542).

Constructions. A second crucial difference between CUG and emergentism is an assumption about the status of constructions (e.g., questions, directives, statements; English passives and relative clauses; Anihshininiimowin direct and inverse verbal constructions). Tomasello (2003) defined a construction as "a unit of language that comprises multiple linguistic elements used together for a relatively coherent communicative function, with sub-functions being performed by the elements as well" (p. 100).

For most linguistic theories, including the version of emergentism in this article, constructions are fundamental units of language and acquisition (e.g., Ellis, 2003; Goldberg, 2006; Jackendoff & Pinker, 2005; Tomasello, 2003; cf. automatized processing routines in O'Grady, 2005). From the earliest stages of acquisition, language learners frequently hear and then acquire the patterns associated with different constructions and subtypes of constructions. Because different types of constructions (e.g., statements and questions) are each a unit of language, construction-based theories do not propose that one hypothetical structure is underlying and that the others are abstractly derived from it (see also *Circular Unlearnability*, below). Because constructions are proposed as fundamental units of language, these theories also carefully document the many diverse properties of constructions, including the ways in which grammar is intertwined with culture (e.g., Everett, 2008). Non-derivational theories are often characterized as monostratal or constraint-based.

Unlike the CUG analysis in **Figure 1**, a construction-based approach does not claim that all constructions must include a subject noun or pronoun (e.g., *you*), a verb (e.g., *see*), and, for transitive verbal meanings, an object noun or pronoun (e.g., *me*). In an emergentist approach, if dependencies are not resolved through efficient processing and the combination of words or morphemes, then they can be resolved pragmatically. For example, if an English speaker asks *Want more?* to another speaker while holding a bowl of saskatoon berries, the listener can infer that she or he is the wanter and that the entities that might be wanted are the berries. Because constructions like *chiwâpamin* and *Want more?* are not hypothesized to have an underlying universal structure, the construction-based approach does not propose that nouns or pronouns are omitted, dropped, or imperceptible in these constructions (cf. Brittain, 2001, p. 31). Instead, languages have a variety of ways to communicate propositions and referents to different interlocutors in different contexts. Therefore, many constructions do not have nouns or verbs.

To provide a preliminary overview of the types of constructions in Algonquian languages such as Anihshininiimowin, **Table 1** lists the number of tokens of the different types of constructions that were used in adult speech in the first four transcripts from Upper and McKay (1987; ages: eleven months one week; eleven months three weeks; sixteen months; and nineteen months). Spoken utterances were not included in this analysis if they could not be clearly parsed and analyzed into morphemes or if they included only a single noun (e.g., *omakisinik, in her shoe*) or only interactional words (e.g., *ki, oh yeah*; *kaa kaa, no no*; *eha, yes*).

Table 1. Numbers of Tokens of Different Anihshininiimowin Constructions in Adult Speech (based on Upper & McKay, 1987).

Function	Structure							
	+SubN +Verb	-SubN +Verb	+SubN -Verb	-SubN -Verb	*-na* -SubN +Verb	*-na* +SubN -Verb	*-na* -SubN -Verb	Total (percent)
Directive	1	51			-	-	-	52 (40)
Yes/No Question		7	1		7	1	2	18 (14)
Content Question	5	3	12		-	-	-	20 (15)
Statement	9	17	10	4	-	-	-	40 (31)
Total (percent)	15 (12)	78 (60)	23 (18)	4 (3)	7 (5)	1 (1)	2 (2)	130 (100)

Notes: + or – indicates whether an element was present, SubN is an abbreviation for subject nominal, and *na* is the particle indicating a yes/no question in Anihshininiimowin.

The data reveal three important patterns. First, **Table 1** shows that a variety of functions were used in this small sample of Anihshininiimowin constructions: directives (40%); statements (31%); and questions (29%). For English child-directed speech, Cameron-Faulkner, Lieven, and Tomasello (2003, p. 850) reported a variety of constructions, although in a somewhat different distribution: questions (32%); statements (39%); imperatives (09%); and fragments (20%) (copula, subject-predicate, and complex constructions have been combined to yield the number of statements). In my examination of the conversational spoken-English data reported in Biber, Johansson, Leech, Conrad, and Finegan (1999, pp. 211, 221, 1071), the following distribution of constructions was found to be present: declaratives and other clausal units (43%); non-clausal units (39%); questions (13%); and imperatives (5%). Overall, these results indicate that a variety of functions of constructions are used in Anihshi-

niiimowin and English and in conversation and child-directed speech. Statements (or declaratives) are frequent, but constitute less than half the constructions in each of these corpora.

Second, **Table 1** shows that Anihshininiimowin constructions often do not have a subject nominal (noun or pronoun; a pronoun is not a prefix or clitic within a verb), resulting in the need for an imperceptible subject pro_x in CUG analyses, as seen in lines 5 and 16 in **Figure 1**. The term "subject" is used in this discussion even though it would not likely be used in an emergentist analysis (e.g., Mühlhäusler, 1996, p. 326). Ninety-one of the constructions (70%) did not have a subject nominal, while thirty-nine (30%) had a subject nominal. In addition, thirty (23%) of the constructions did not have a verb. The constructions that had both a subject nominal and a verb included one directive (provided in 2a), five content questions (e.g., 2b), and nine statements (e.g., 2c; *niin, I* is a subject pronoun). The first line in the examples has the syllabic symbols that the Anihshininiimowin communities use; the second line has phonetic symbols. Simplified glosses are provided in the third line, showing any prefixes/clitics within verbs that indicate the doer or controller of an action or situation. The fourth line provides a translation.

(2) a. ᖰᔅᐱᖭ ᐊᐱᐦ ᑐᓂ ᑕᐃᐧᑲᓄᐢ   b. ᐊᓄ ᑐᑕᐧ ᐳᐤ

   Silpya   acaan Toni   tawikanos   aane   totak   posh

   Sylvia   go   Tony   call   what   do   cat

   Sylvia call Tony   What did the cat do?

   c. ᓂᐧ ᑲᐅᑖᐧᐱᓇ   ᐊᐦᐊ

   niin   kaotaapina   aha

   I   get   that one

   I'll get him for you

The constructions that had a verb and did not have a subject nominal included fifty-one directives (e.g., 3a), seven yes/no questions with the particle *na* (e.g., 3b; a prefix *ki-*, *you* is part of the verb *kiwaniton*), three content questions (e.g., 3c), and seventeen statements (e.g., 3d; a prefix *ni-*, *I* is part of the verb *nikaaton*).

(3) a. ᐱᓴᐣ

    pisan

    come

    Come here

b. ᑭᐊᐧᓂᑐᐧ ᓇ   ᑭᓯᐱᑲᐩ

    kiwaniton na   kisipikayn

    you-lose   question   your-shirt

    Did you lose your shirt?

c. ᐊᐊᐧᓀᐧ   ᑳᑲᓄᓈᐨ

    awanen   kaakanonaac

    who   call

    Who are you calling?

d. ᐅᐦᐅᒫ   ᓂᑳᐊᑐᐧ   ᑭᐦᒥᒋᒼ

    ohomaa   nikaaton   kihmicim

    here   I-put   your-food

    I'll put your food here

The constructions that had a subject nominal and did not have a verb included one yes/no question (e.g., 4a), twelve content questions (e.g., 4b), and ten statements (e.g., 4c).

(4) a. ᑭ ᑭ ᐊᒥ ᓇ   ᐊᐦᐊᐁᐧ

    ki ki ami na   ahawe

    oh oh so   question   that one

    Oh! Is that the one?

b. ᐊᐊᐧᓀᐧ   ᐊᐦᐊᐁᐧ

    awanen   ahawe

    who   that one

    Who's that?

c. ᐱᒋᑲᐸᐟ   ᑲᐁ   ᐊᒋᐨ

    picikapat   kaye   acic

    inside-cupboard   also   baby

    The baby is in the cupboard too

Four statements did not have either a subject nominal or a verb (e.g., 5).

(5) ᑲᐃᐧᐧ   ᐃᐦᐃᒪ   ᐱᒋᑲᐸᐟ

    kawin   ihima   picikapat

    not   there   inside-cupboard

    Not in the cupboard

These results indicate that Anihshininiimowin constructions vary considerably in their structures and that subject nouns and pronouns are infrequent. It would be misleading to claim that a subject noun or pronoun is standard or expected but is dropped, omitted, or imperceptible in more than two-thirds of the adult constructions.

A third important pattern is that different structures were used to express the same function, revealing different subtypes of constructions. To be able to characterize this variation in structure-function mappings in English, Biber et al. (1999, p. 202) described functions as statements, questions, and commands/requests (the term directive is used in this article) and used different terms to describe the structures explicitly associated with each of these functions: declarative clauses; interrogative clauses; and imperative clauses, respectively. When the explicit structures are used, these may be described as direct speech acts (Finegan, 1994, p. 342). When other structures are used, these may be described as indirect speech acts. For example, Biber et al. (1999, pp. 203, 207) argued that English question functions can be expressed by declarative structures (often with appropriate intonation) and English request functions with interrogative structures. **Table 1** shows that ten of the Anihshininiimowin yes/no questions (56%) did not have a *na* question particle and were therefore expressed with an indirect speech act (e.g., *kiwapatan*; literal meaning: *You see it*; intended meaning: *Do you see it?*; intonation is not reported in the Upper and McKay transcripts). Although this is a small sample of Anihshininiimowin data, the results indicate that the diversity of structure-function mappings within constructions must be a fundamental focus of acquisition research and curriculum planning.

In contrast to a construction-based, emergentist approach, CUG denies that constructions play any significant role in language or acquisition. Chomsky (1995) explained this claim: "The basic assumption of the [Principles and Parameters] model is that languages have no rules at all in anything like the traditional sense, and no grammatical constructions (relative clauses, passives, etc.) except as taxonomic artifacts" (p. 388). In rejecting the psycholinguistic reality of constructions, and instead assuming universal principles, CUG posits that one structure is basic or canonical and that all constructions are derived from it. Specifically, English relative clauses and questions are derived from a structure that corresponds to the English declarative structure. When this assumption is extended to all languages, the constructions of languages such as Western Naskapi and Anihshininiimowin are also assumed to be derived from a structure that corresponds to the English declarative structure.

Developmental time and learning processes. Emergentism emphasizes developmental time and learning processes that occur over days, weeks, months, and years. The emergentist approach assumed in this article proposes that the many specific and complex grammatical properties of a language result from automatized computational routines that gradually emerge and accumulate after the repeated processing of thousands and thousands of words and constructions by an efficiency-driven, linear computational system. The production and comprehension of these constructions is encouraged and facilitated by a need to communicate and by the interactional cooperation that is fundamental to human language (e.g., Grice, 1975; Lightbown & Spada, 2006, p. 19). In relation to Mi'kmaw acquisition, Battiste and Henderson (2000) explained that acquisition is facilitated by being in "a rich language environment" and that the development of language is intertwined with personal relationships and cultural worldview: "Children establish who they are and what values they embrace through the core of adults and families with whom they share [a large number of] face-to-face encounters" (pp. 51, 53). In this way, the conceptual meanings and the cultural relevance and use of words and constructions are gradually learned in context, in specific utterances, conversations, and stories (Everett, 2008, p. 201).

In sharp contrast, the CUG approach proposes that language (hypothesized as universal principles and concepts) is not learned, but is instead innately provided by human genetics. Developmental time and processes are either rejected or de-emphasized (Derwing, 1973, pp. 72–73, 80). For example, Chomsky (1986) claimed that "irrespective of questions of maturation, order of presentation, or selective availability of evidence, the result of language acquisition is as if it were instantaneous" (p. 54). Chomsky (1988) also claimed that words are learned "perfectly right away," "with only a very small number of presentations of the sound" because "most concepts that have words for them in language" are innate and "available to us before we even have the experience" (pp. 190–191). Chomsky (1988) explained his rejection of learning processes:

> Language is not really something you learn. Acquisition of language is something that happens to you; it's not something you do. Learning language is something like undergoing puberty. You don't learn to do it; you don't do it because you see other people doing it; you are just designed to do it at a certain time (pp. 173–174).

White (2007) also explained that CUG does not consider developmental time:

> UG is a theory of constraints on representation …. This says nothing about the time course of acquisition (L1 or L2) or about what drives changes to the grammar during language development …. The precise mechanisms that lead to such grammar change are not part of the theory of UG. Rather, the theory needs to be augmented in various ways (p. 46).

In sum, CUG is essentially a theory of the non-acquisition of language.

Implications for Education

The development of language teaching materials for Anihshininiimowin and other Algonquian languages will be facilitated by a theory that emphasizes constructions as well as developmental time and learning processes. The emphasis on constructions leads to a focus on the mappings between structures and functions, including information for learners about the different types of structures that can be used to express particular pragmatic functions or speech acts, as discussed in relation to the yes/no questions in **Table 1** (see Upper & McKay, 1987, pp. 15–16). Many language teachers organize their courses according to an ordering of constructions that is thought to be learnable (e.g., beginning with simpler constructions). Those constructions may be either explicitly presented and practiced or implicitly used in communicative tasks that are based on authentic materials. By engaging in a variety of learning tasks, learners can utilize the many different cognitive and interactional processes that contribute to language learning.

One example of a useful interactional process is the exchange and joint expression of meanings by interlocutors across turns (see Upper & McKay, 1987, pp. 17–18). An example in Anihshininiimowin acquisition from Upper & McKay (1987, Tape 15-B) is provided in (6), from when Sylvia was twenty-five months old and attempting to direct her mother's attention to a pair of pants that Sylvia would then put on and wear on top of her coveralls.

(6) Sylvia: ᑕᐠ

                kotak

                other

   Mother:

                e

                eh? (request for clarification)

   Sylvia: ᑕᐠ

                kotak

                other

Mother:	ᐊᒥ	ᓇ	ᐊᐦᐊᐁ·	ᑕᐠ	ᑭᑕᐢ
	ami	na	ahawe	kotak	kitas
	oh	question	that one	other	your-pants

                Are those your other pants?

Sylvia:	ᑕᐠ	ᒛᐢ	(Adult form:	ᑕᐠ	ᓂᒛᐢ
	kotak	taac		kotak	nitaas)
	other	pants		other	my-pants

During this part of their conversation, Sylvia was pushed to use an utterance with two words (often called a pivot schema; see Tomasello, 2003, p. 114) in order to direct her mother's attention to the other pair of pants. The single word *kotak* was insufficient to express Sylvia's meaning. After her mother asked for clarification and then asked Sylvia about her other pants, Sylvia produced a more complex and more communicatively effective utterance, *kotak taac*. This example illustrates the interrelationship between discourse and grammar, with meaning clarified and expanded across turns and with turn-taking creating a communicative context that encourages and facilitates the use of more complex utterances. Because a central concern of language educators is to create classroom discourse that facilitates learning, it is essential that educators be informed about the use and acquisition of these types of discourse patterns (e.g., Lightbown & Spada, 2006, pp. 109–132).

    Emergentist analyses of the Upper and McKay (1987, 1988) dataset will provide documentation of the properties and acquisition of constructions, and will show longitudinal development in relation to cognitive

processes such as the accumulation and automatization of a network of constructions in long-term memory, as well as communicative processes such as the use of language in conversational discourse. This information will be very useful for the decision-making processes of teachers and curriculum developers.

In contrast to emergentism, the CUG theory rejects or de-emphasizes constructions and developmental processes, and is therefore not useful for language education. In spite of the assumptions of CUG, Honda and O'Neil (2004) claimed that CUG is the primary explanation for acquisition and that it should inform Aboriginal language teaching and revitalization programs. Honda and O'Neil provided extensive discussions of CUG as if it were a fact rather than a controversial hypothesis, and did not discuss any other theoretical accounts of grammatical abilities and their acquisition. Honda and O'Neil (2004, esp. p. 1) claimed that correction and modified caregiver input (motherese) do not have any beneficial effects, but are instead counter-productive. Other than correction and motherese, Honda and O'Neil did not discuss any other cognitive or communicative processes that contribute to the acquisition of grammar. Furthermore, they provided no discussion of the acquisition of discourse patterns or pragmatic aspects of language use. Honda and O'Neil's presentation of ideas is biased and incomplete, and is therefore a disservice to Aboriginal language educators who require balanced and comprehensive information to inform their decision-making processes.

Critiques of Universal Grammar

CUG has been very controversial for the last forty years (e.g., Derwing, 1973; Everett, 2008; Jackendoff & Pinker, 2005; Lieberman, 1984, 2008; Pinker & Jackendoff, 2005; Sampson, 1997), with criticism appearing even in the popular media (Colapinto, 2007; MacFarquhar, 2003; Monaghan, 2009). Three fundamental problems with CUG are explained in this section: psycholinguistic uninterpretability; circular unlearnability; and evolutionary implausibility. These critiques indicate that this pursuit of Eurocentric universals is not only colonialist, but also fails basic criteria for scientific research. This concern was raised by Tomasello (2003): "We can force all languages into one abstract mold, which mostly means forcing the grammatical entities of non-European languages into European categories …. On one reasonable view, this is just Eurocentrism, plain and simple, and it is not very good science" (p. 18).

The essence of the three critiques is that abstract generalizations must be used with caution in scientific research. Although abstract generalizations can be useful for certain purposes, the extension of the English derivational analysis to Algonquian languages is neither valid nor useful. As a simple comparison, the construct of an "average" is also an abstract generalization. If a car mechanic has one hundred customers with 4-cylinder engines and one hundred customers with 6-cylinder engines, then it is possible to say that, on average, the mechanic's customers have 5-cylinder engines. Although this abstraction might be useful for computing the amount of oil the mechanic will use in a year, it certainly is not useful for actual repairs to an engine. It would be absurd to propose and attempt to work on an imperceptible fifth cylinder on a 4-cylinder engine.

Psycholinguistic Uninterpretability
The first fundamental problem with CUG abstractions is that the derivations are not psycholinguistically interpretable. O'Grady (2008) argued that it is unclear how Minimalist analyses "can be interpreted or evaluated psycholinguistically, given that the minimalist computational system that [Chomsky] employs builds structure from *right to left*—the reverse of what actual processors do" (p. 461; emphasis in original; see also Derwing, 1973, esp. pp. 47, 282–291; Sag et al., 2003, p. 301). As indicated in the description of **Figure 1**, the structure for *chiwâpamin* was built from the right (line 18) to the left (line 3). The processes of movement are abstract and atemporal. It is unclear how they should be interpreted in relation to real-time cognitive processes.

Circular Unlearnability
Many of the poverty of stimulus arguments that have been used to motivate CUG are, in fact, circular arguments in which language is described using unlearnable constructs that lead researchers to conclude that language must be innate because it cannot be learned (Derwing, 1973, pp. 69–70; Mellow, 2006, p. 653; O'Grady et al., 2008, p. 480). One example of circular unlearnability is Yang's (2006, pp. 20–21) argument that children require CUG to be able to derive an interrogative structure from a declarative structure by correctly moving an auxiliary verb, especially when two auxiliary verbs are present (e.g., *Was the rabbit that was chasing the tortoise___ losing the race?* but not *Was the rabbit that___ chasing the tortoise was losing the race?*). However, when a construction-based approach is adopted, question constructions are not derived from declara-

tive structures, auxiliary verbs are not moved, and Yang's argument does not exist (see Sampson, 1997, p. 124; Tomasello, 2003, pp. 7, 288, 303). Instead, speakers of English may combine a relative clause construction with a yes/no question construction (Goldberg, 2006, p. 10; Tomasello, 2003, p. 303). In the above example, speakers would not use that complex combination to question whether the rabbit was chasing the tortoise.

The analysis in **Figure 1** contains a large number of imperceptible elements that could never be learned, including two *pro*s and six traces. Similarly, the right-to-left movement of the elements (including the imperceptible *pro*s) is abstract and atemporal, and therefore unlearnable. Thus, the properties of this abstract analysis circularly suggest a poverty of stimulus problem that can only be solved by proposing that humans have CUG. However, if the properties of the word are expressed with concrete, construction-based, emergentist analyses, then CUG is not necessary.

Evolutionary Implausibility

CUG assumes that language is not learned, but is instead provided by human genetics. The content of CUG is extensive, including a very long list of universal semantic concepts (Chomsky, 1988, pp. 190–91; Chomsky, 1995, p. 389; Chomsky, 2005, p. 4) and a large set of hypothetical parameterized principles. However, the genetic encoding of these items has not been found and many scholars have argued that these items are evolutionarily implausible (Lieberman, 1984, pp. 2–3; Lieberman, 2008, p. 223). For example, one leading proponent of parameterized principles, Baker (1996), has argued that CUG is evolutionarily implausible: "Now we crucially come face to face with the main puzzle of evolution from a Chomskian viewpoint: what is X that UG developed out of? It is difficult to give a plausible answer …. I think that the difficulties in this view are formidable" (p. 509).

These concerns lead to a third fundamental problem within CUG, a contradiction that can be called the logical problem of CUG and evolution—namely, increases in empirical scope decrease evolutionary plausibility. Chomsky (2005) noted this contradiction: "The more varied and intricate the conditions specific to language, the less hope there is for a reasonable account of the evolutionary origins of UG" (p. 8). In order for CUG to succeed, researchers must either explain more phenomena with fewer CUG constructs or systematically eliminate phenomena from the scope of CUG. However, as Newmeyer (2003) explained, CUG researchers do not adopt these strategies: "I would go so far as to claim that no

paper has ever been published within the general rubric of the minimalist program that does not propose some new UG principle or make some new stipulation" (p. 588). Newmeyer also argued that CUG should not reduce its scope:

> If some extra-UG learning mechanism is at work [acquiring non-core, idiomatic constructions], then the danger, as pointed out by Culicover (1999), is that that mechanism could learn the core cases as well—rendering UG, and with it the entire Chomskyan program—irrelevant. So it behooves Chomsky to work to expand the scope of UG (and with it the scope of its empirical coverage), not to contract it (p. 590).

Thus, apparent progress by expanding empirical coverage causes CUG to be less plausible, but limiting the empirical coverage causes it to become irrelevant.

Evolutionary implausibility is a highly problematic weakness of CUG. This weakness has been discussed for decades, and critics have argued that CUG is a creationist (or crypto-creationist) theory (see Lieberman, 1986, p. 701; MacFarquhar, 2003, p. 71; Pinker, 1994, p. 355; see also Everett, 2008, pp. 243, 272). An explicit statement of creationism as the origin of CUG can be found in the work of Baker (1996), one of its most influential proponents. Brittain (2001, pp. 31–32) explicitly adopted some of Baker's analyses, and Honda and O'Neil (2004, pp. 2, 32) explicitly used Baker's (2001) definition of UG.

In concluding that evolution cannot account for the nature of language, Baker did not consider whether his analyses could be reframed to allow patterns to be learned by general cognitive abilities. Instead, Baker argued for creationism as the origin of parameterized CUG. After quoting the Judeo-Christian biblical account of the Tower of Babel from the book of Genesis, Baker (1996) concluded:

> However the historical details of the story are to be taken, its basic point is clear: linguistic diversity results from a direct act of God. This act was logically distinct from the act that gave humanity a linguistic nature in the first place …. In closing, I should say that I do not intend these last few pages to single-handedly convince those who are materialists in theory or practice that there are spiritual forces at work in the world. However, it does seem right that those who are already convinced of this

be alert to places where spiritual forces may shed some light on important facts of intellectual interest (pp. 514, 515).

Baker's approach is evangelical proselytizing rather than scientific inquiry. However, spiritualism cannot repair flawed science, and spiritualism does not need to be justified by flawed science.

Conclusions and Implications
Implications of Diversity and Universals
Because emergentism and construction-based analyses emphasize "culturally embedded linguistic diversity" (Mühlhäusler, 1996, p. 333), they may be useful to inform projects that document and teach Aboriginal languages. Within the CUG approach, Hale (1998) provided a statement of the importance of linguistic diversity. Hale recognized the terrible consequences of European colonization, and explained the cultural importance of linguistic diversity and the negative manner in which language death affects the speakers of those languages. However, most of Hale's article argued for the importance of linguistic diversity for his own "self-serving" purpose of investigating universal grammar (p. 213). Hale's purpose reveals a restricted perspective on diversity that is counterproductive for language teaching and preservation, and an implication of universal ownership of languages (i.e., "that endangered languages belong to everyone in the world," not just to their communities of speakers; Hill, 2002, p. 121). The position of universal ownership is one of several counterproductive arguments for the study of endangered languages. These arguments are a "dispassionately framed position [that] has its own political implications for zones of postcolonial contact between linguists and speakers" (Errington, 2008, p. 166), and may "distress and alienate speakers and members of their communities and amplify their distrust of linguists" (Hill, 2002, p. 120). Hale's conflicting statements about diversity illustrate "the contradictions of humanism" (Young, 1990, p. 125).

Throughout his article, Hale presupposed the existence of universal grammar as a fact rather than a hypothesis, leading to a number of controversial claims. For example, after discussing Irish relative clauses, Hale (1998) claimed that "the path of movement is visible in Irish, invisible in English, and most other languages" (p. 195). Invisible right-to-left movement is utilized to argue for universals, but is not psycholinguistically interpretable (see above). Hale also discussed case marking in Lardil (an

Australian language), explaining those patterns by claiming that "most of what we see here (apart from the details of morphology) belongs to the realm of that which does not have to be *learned* in the course of first-language acquisition. It is part and parcel of universal grammar" (p. 199; emphasis in original). Rather than consider alternative and learnable analyses of this linguistic pattern, Hale assumed unlearnable CUG principles.

Hale's discussion reveals that the phenomena that he investigated and the way that he interpreted them were limited and affected by the perspectives of hypothetical universals. Additional discussions of how CUG may limit an investigation are provided by Colapinto (2007) and Everett (2008, pp. 197, 254). In addition, Mühlhäusler (1996) argued that "the preserving of languages by describing their putative grammatical core structures may turn out to be a very dubious policy" (p. 277; see also p. 332). Hale's approach is an example of the colonialist argumentation pattern noted by Young (1990): "Diversity is only introduced so that it can be taken away again in the name of an underlying unity" (p. 122). Mühlhäusler (1996) similarly critiqued the relationship between diversity and universals in the CUG approach:

> The dogma of effability (that all languages are totally intertranslatable) and the practice of taking English as the point of departure or even the only point of reference for establishing universals has led to an implied denigration of linguistic diversity …. In as much as linguistic diversity is a surface phenomenon, it is seen to muddy the view on deeper universals, and the reduction of diversity seen from a transformational perspective must seem a rather attractive proposition (p. 331).

Sampson (1997) explained that CUG researchers "think of the diversity of the world's tongues as a fairly superficial matter masking an underlying unity" (p. 3). Errington (2008) also explained that diversity is considered to be superficial and peripheral in the CUG approach:

> [The central agenda of CUG] is to deduce a small number of abstract parameters, or "atoms of language" (Baker, 2001). By explaining how these parameters combine according to the "mind's hidden rules of grammar," they aim to explain also what count as superficial phenomena of linguistic diversity.

> New strategies for discovering these universal parameters
> make an ocean of descriptive details less interesting, and the
> work of engaging diversity in "the field" a peripheral activity
> (p. 149).

In sum, the CUG approach minimizes linguistic diversity in a manner that
does not assist with teaching and preserving Aboriginal languages.

Universities and Publicly Funded Education
Many CUG researchers participate in projects to create materials that
can be used to preserve and teach Aboriginal languages. Some, such as
Honda and O'Neil (2004), use their CUG assumptions in these projects.
Other CUG researchers do not apply CUG to these projects. For example,
Rice (2005) provided the following suggestion for producing a grammar
book for an undocumented language: "There is general agreement that
if a grammar is written to be of lasting value, it is important that it not
be written in the linguistic framework that is of currency at the time, but
that it be presented in what Dixon calls 'basic linguistic theory'" (p. 403).
If this basic linguistic theory is limited in its abstractions and universals,
includes cultural aspects of language use, and assumes diverse learning
processes, then these non-CUG linguistic projects would not be subject
to the criticisms explained in this article.

However, within the larger socio-political context of publicly funded
educational systems, recent criticism has argued that resources spent on
research into linguistic universals results in fewer resources available to
contribute to language preservation and revitalization (e.g., Evans, 2009,
pp. 222–223; Monaghan, 2009). These resources include: (a) funding for
faculty positions, research grants, and student fellowships; (b) offering
courses and degree programs (and time spent by students in those courses);
and (c) using the limited time of fluent elders. If a majority of these lim-
ited resources are allocated to CUG activities, this would appear to be an
example of the colonialist pattern described by Battiste (1998): "Almost
all universities have preserved Eurocentric knowledge and interpretive
monopolies and generated gatekeepers of Eurocentric knowledge in the
name of universal truth" (p. 23).

The Importance of Postcolonial Criticism
One anonymous reviewer disagreed with the validity of many of the
central claims of this article:

> Quite simply, the idea that [Chomskian linguistics] is in any
> way Eurocentric is long gone from the academic arena of de-
> bate—it might have been a topic of debate in the 1970s, but
> is no more …. I am not prepared to comment further on the
> author's political interpretation of linguistic theory as I do not
> regard it as being relevant to linguistic analysis.

The first assertion of the reviewer, that there has been no recent debate
about the Eurocentric nature of CUG, is false because many of the quo-
tations used here—by Mühlhäusler (1996, p. 331), Pennycook (2001,
pp. 35–36), and Tomasello (2003, p. 18)—are much more recent than
the 1970s (see also Evans & Levinson, to appear; Van Valin, 2000). The
second assertion rejects the socio-political implications that have been
explained in this article.

The reviewer does not appear to accept a fundamental premise of
postcolonial criticism—that all scholarship about Aboriginal people,
cultures, and issues must be examined regularly to verify that the claims
are not Eurocentric, exogenous, or colonial. No evolving area of research,
including emergentism, will ever be completely free of bias, and therefore
it is imperative that researchers continually re-examine their assumptions
and approaches. The reviewer's position appears to be an example of the
colonialist pattern explained by Battiste (1998), the claim that certain
universal "ideas and ideals are so familiar they need not be questioned"
(p. 21; see also Mühlhäusler, 1996, p. 310).

A postcolonial perspective also requires that scholars recognize and
address the socio-political nature of analyses of aspects of Aboriginal
cultures (such as language) by those who are not members of the cultural
communities under study and who propose universalist analyses originally
developed for European languages. Some linguists have acknowledged
the socio-political nature of linguistic analyses (e.g., Mühlhäusler, 1996,
pp. 20–21, 335, 338; Rice, 2009, p. 46). Battiste and Henderson (2000)
strongly argued that all research on Indigenous issues must be considered
in historical and socio-political contexts:

> Most existing research on Indigenous peoples is contaminated
> by Eurocentric prejudice. Ethical research must begin by replac-
> ing Eurocentric prejudice with new premises that value diversity
> over universality …. At the core of this quest is the issue of how
> to create ethical behavior in a knowledge system contaminated
> by colonialism and racism. Nowhere is this work more needed

than in the universities that pride themselves in their discipline-specific research. These academic disciplines have been drawn from a Eurocentric canon, an ultra theory that supports production-driven research while exploiting Indigenous peoples, their languages, and their heritage (pp. 132–133).

Can Linguistics Inform Aboriginal Language Documentation and Preservation?

Chomsky (1995) explained that "the [Principles and Parameters] model is in part bold speculation rather than a specific hypothesis" (p. 388). However, academic scholarship occurs in social, political, and historical contexts. Given the contexts of colonialism and Eurocentric monopolies within universities, bold speculation about human universals, combined with an *a priori* dismissal of the richness and diversity of linguistic phenomena, is a scientifically problematic approach that perpetuates colonialist processes. Given the context of endangered languages that require linguistic descriptions that are useful for teaching and learning, the creation of speculative, idealized, Eurocentric abstractions is not at all useful. The Upper and McKay corpus of the acquisition of Anihshininiimowin requires analyses that are concrete and can reveal patterns of longitudinal development. The emergentist approach can provide a cautious and useful way to analyze the data, document the language, and assist in the teaching and learning of the diverse and expressive constructions of Anihshininiimowin and other Aboriginal languages.

Because of their differing purposes, the relationship between CUG linguists and Aboriginal language activists is often distant (e.g., Rice, 2009; Speas, 2009) and sometimes adversarial (e.g., Monaghan, 2009; see also Gerdts, 1998). As noted above, this conflict partially arises out of a competition for the limited resources within educational systems and the limited time and energy of small numbers of speakers of endangered languages. This article has argued that a constructive collaboration is possible between linguistic researchers, postcolonial scholars, and Aboriginal language activists. A scientific theory of language and learning can have important insights for the decision-making processes of those who document the diverse constructions of a language, those who create teaching and assessment materials, and those who implement those materials in language classrooms.

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