Title: The Emergence of the Unmarked Pronoun

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The Emergence of the Unmarked Pronoun

Joan Bresnan

In pre-OT generative syntax, unlike phonology, markedness theory has had only a marginal role in theory development.[1] Yet appeals to markedness are often implicit in generative syntactic argumentation. For example, Baker (1993) points out that the free NP is a more basic structure than the incorporated noun: all noun-incorporating languages have free NPs and many languages with free NPs have no noun incorporation. This is a classic markedness asymmetry, indicating that among inventories of nominal expressions, morphologically bound nominal stems are marked and free NPs are unmarked as expressions of argument roles. Baker takes it as evidence that incorporated nouns are transformationally derived from free NPs by syntactic head movement. Indeed, the entire motivation for syntactic movement can be seen to be based on the idea that there are 'canonical', unmarked phrase structure positions in which arguments receive their logical interpretations (or 'theta roles'), and that the more marked structures are derived from these by structure-modifying rules. What generative syntax has tacitly developed, then, is a derivational theory of markedness in which marked structures are represented as transformationally complex structures. In contrast, OT offers a radically different approach to markedness based on the crosslinguistic typology of outputs rather than the derivation of marked outputs from unmarked inputs, and this has led to a fully nonderivational phonological theory of markedness.

Can we have a radically nonderivational theory of syntactic markedness similar to current theories of phonological markedness?[2] This question is addressed in Bresnan (to appear a,b). Bresnan (to appear a) proposes a simple markedness theory of bound, free, and zero pronominals which can explain the emergence of the unmarked pronoun in situations where the more marked

[1]Explicit markedness proposals in generative syntax have mainly involved imposing preference structures on parameter settings (e.g. Chomsky 1981, Harbert 1986) or formally implementing the 'elsewhere principle' in terms of feature underspecification and rule ordering (as discussed in Bresnan to appear b). See Battistella 1996, Moravcsik and Wirth 1986.

[2]In syntax transformational derivations may be represented in a single structure by coindexing constituents with chains of traces representing their earlier positions in the derivation of the structure. This move enables an OT-style typology of syntactic outputs while maintaining pre-OT assumptions about the inviolable correspondence between syntactic structures and theta roles (Bresnan to appear c).

pronominal forms otherwise required are unavailable. The theory derives the following two crosslinguistic markedness generalizations about pronominals:

(1) **Markedness relations of pronominal forms (Bresnan to appear a):**

a. "... no language lacks free forms while some languages may lack bound forms ..." (Carstairs-McCarthy 1992: 165–6)

b. No language lacks free forms, while some languages may lack zero forms.

This theory implies that the free pronoun has the unmarked typological distribution, but may also show itself to be unmarked language-internally, in the sense of Jakobson (1984). In languages with both bound and free pronominals, the free pronoun generally is used for focus (Schwartz 1986) in those contexts where it contrasts with a bound form, but it may nevertheless fill in the gaps in the paradigm of bound pronominals, taking on the non-focus uses of the latter.

In the present work I further develop and exemplify this theory and consider possible counterexamples to (1).

1. Pronominal Form and Pronominal Content

I will assume without argument that elements which function as definite personal pronouns are not structurally uniform across languages, but show formal variation, as schematized in (2).[3]

(2) **Range of personal pronominal forms:**

Zero Bound Clitic Weak Pronoun

'Zero' designates pronominals having having no expression in morphology or syntax; 'Bound' designates morphologically bound pronominals, also called pronominal inflections, which are expressed by affixal structure on a head; 'Clitic' refers to elements that have a specialized syntactic position and are phonologically bound to a host ('special clitics' in Zwicky's (1977, 1985) sense); 'Weak' pronouns are free forms, neither phonologically nor morphologically

[3]In what follows the terms 'pronoun'/'pronominal', and 'personal pronoun/pronominal' will be understood to refer to definite personal pronouns/pronominals. Indefinite pronouns are not included in the present study.

bound to another constituent, but they do not receive primary sentence accents. Pronouns are also free but may receive primary sentence accents. However, the difference between weak and strong free pronouns is not primarily phonological; we distinguish a special category of weak pronouns in a language only if they differ from free pronouns in form and syntactic distribution.

On this assumption, what universally characterizes a pronoun are its referential role and functions, not its phrase structure category. Some elements which resemble clitic pronouns, such as the indirect object clitic copies in Spanish, are not pronominal in content, but simply markers of grammatical agreement (Suñer 1988, Andrews 1990). They occur with every kind of indirect object, including negative indefinites, interrogatives, etc. Likewise, some elements which resemble non-pronouns, such as deictics used anaphorically in many languages or bound agreement morphology on verbs, may actually function as pronominals (Greenberg (1986: xix), Bresnan and Mchombo 1987, Demuth and Johnson 1989). This assumption is in accordance with typologically oriented work from a variety of traditions, including functional syntax (e.g. Givón 1976, 1983, 1984, 1990, 1995, Nichols 1986, Van Valin 1996), lexical functional grammar (e.g. Mohanan 1982, Simpson 1983, 1991, Kameyama 1985, Bresnan and Mchombo 1986, 1987, Andrews 1990, Austin and Bresnan 1996, Bresnan 1998a, forthcoming), Optimality Theoretic syntax (Grimshaw and Samek-Lodovici 1998, Samek-Lodovici 1996, Bresnan to appear a,b), and some work in the Minimalist Program (Everett 1996). All of this work analyzes the variety of pronominal forms simply as alternative forms of expression (or outputs) not differing in derivational complexity.

Pronouns can be identified crosslinguistically by their semantic, information-structural, and morphosyntactic properties. They are generally defineable as basic anaphoric expressions characterized by systematically shifting reference to persons within the utterance context. The referents of 'I', 'you', and 'she' shift in the sense that they vary systematically with the speaker and addressee: 'I' refers to the speaker and excludes the addressee; 'you' refers to the addressee and excludes the speaker; and 'she' refers to a third party who is neither the speaker nor the hearer. Of course, composite phrasal expressions like 'the speaker of the present utterance', 'the addressee of this utterance', 'the woman I told you about yesterday' could be argued to have the same properties of shifting reference depending upon speaker and addressee, but these are not basic expressions syntactically. Finally, anaphoricity distinguishes pronominals from basic expressions which are pure deictics, like 'this' and 'that': though pronominals often derive historically from deictics (Greenberg 1986: xix), they

must have anaphoricity as a synchronic property to be functioning as personal pronouns. (An operational definition of anaphoricity is referential dependence upon a superordinate pronoun within a sentence: the second "I" in "I said that I would come" shows anaphoricity in this sense, while "that woman" in "I said that that woman would come" does not, even when that woman is in fact the speaker of this sentence.) Similarly, pronominals sometimes derive historically from common nouns (Sugamoto 1989, Cooke 1968) and from honorific nominal phrases (Mühlhäusler and Harré 1990: 136–7), but it is their referential role and function in the synchronic grammar, not their etymology, that determines their pronominality. This issue is discussed further below.

The major types of pronominal properties are schematized in (3).

(3) **Crosslinguistic properties of personal pronouns:**

PRO — shifting reference, anaphoricity
TOP — topic-anaphoricity (Givón 1976, 1983, 1984, 1990: 916ff)
AGR — classification by person, number, gender (Givón 1984: 354–5)

'PRO' stands for the semantic properties shared by all personal pronominals, which include shifting reference and anaphoricity as described above. 'TOP' abbreviates the information-structural functions of personal pronouns such as specialization for reference to topical elements (Givón 1976, 1983, 1984, 1990: 916ff). In many languages there is a distinct series of pronominal forms which is reserved for reference to the topic; in Chichewa, for example, morphologically bound pronominal forms must be used to refer to a dislocated topic (Bresnan and Mchombo 1986, 1987). 'AGR' represents the classificatory dimensions by which personal pronominals are morphologically distinguished—person (allowing for participant deixis and inclusion/exclusion relations among participants), number (singular, dual, paucal, and plural), and gender (classifications into kinds) (Givón 1984: 354–5); this property is abbreviated by AGR in (3). Not all pronouns have AGR and TOP features.[4]

Personal pronouns can be represented independently of their forms of ex-

[4]A significant feature type which is omitted here is that of social level or distance; distinctions of social level or distance are elaborately marked by different pronominal forms in Javanese (Geertz 1960: 248ff), Balinese (Arka 1995), Thai, Burmese, and Vietnamese (Cooke 1968), and are also evident in the use of the Japanese and Korean pronominal systems. Mühlhäusler and Harré (1990: 64) take the major pronominal contrasts to be (i) "'person' and the features of participant roles" and (ii) "distance and proximity (obviative and proximative) both spatial and social".

pression by using feature structures based on these properties, as illustrated in part by Figure 1.

Figure 1: Representation of pronominal content by feature structures

$$\begin{bmatrix} \text{TOP} \\ \text{PRO} \\ \text{AGR} \end{bmatrix} \begin{bmatrix} \text{PRO} \\ \text{AGR} \end{bmatrix} \begin{bmatrix} \text{TOP} \\ \text{PRO} \end{bmatrix} \ldots$$

The leftmost feature structure in Figure 1 specifies a pronominal which is specialized for topic-anaphoricity and is also classified for person, number or gender. The rightmost feature structure specifies a specialized topic-anaphoric pronominal which lacks any agreement classifications.[5]

The pronominal inventory of a language may be defined as a set of pairings of instances of structural types from (2) with feature structures representing pronominal content as in Figure 1 (Bresnan to appear a). As shown in Figure 2, for example, bound and free pronouns may be represented as the pairings of a morphological affix *af* or a syntactic category X^0, respectively, with a feature structure representing their pronominal content; and the zero pronoun may be represented as the pairing of pronominal content with no structural expression at all. Null structure is the absence of structure, represented by $\emptyset$. Note that both morphological and syntactic structure are excluded from this definition of Zero pronouns. Thus Zero pronouns here do not include cases of so-called 'pro-drop' in the presence of agreement morphology; the latter are analyzed not as Zero pronouns, but as pronominal inflections represented as 'Bound' in (2) (Givón (1976), Jelinek (1984, 1988, 1990, 1995), Sandoval and Jelinek (1989), Demuth and Johnson (1989), Andrews (1990), Speas (1990), Willie (1990), Sadock (1991), Uyechi (1991), Jelinek and Demers (1994), Bresnan (1998a, forthcoming), Börjars, Chapman, and Vincent (1997), Toivonen (1996, 1997), Everett (1996), and Speas (1997), among many others). (This is a

[5] As in Bresnan (to appear a,b) privative features have been used to represent specification of content. For example, the feature TOP stands for a privative or monovalent feature, which has only a single (the 'marked') value. (An opposed monovalent feature such as FOC is also available; the opposition is captured by pragmatics rather than the formal opposition of ± values.) Such features give rise to benign ('permanent', 'inherent', or 'trivial') underspecification in the sense of Steriade (1995). Thus, all of the feature structures shown in Figure 1 are possible for both input and output, requiring no further specification or derivation.

slight simplification: see Simpson (1983, 1991), Bresnan and Mchombo (1986, 1987), Austin and Bresnan (1996), Nordlinger (1998), Mereu (1997) for evidence distinguishing agreement and pronominal inflection.)

Figure 2: Representation of pronominals as form/content pairings

Zero: $< \emptyset, \begin{bmatrix} \text{PRO} \\ \text{TOP} \end{bmatrix} >$ Bound: $< af, \begin{bmatrix} \text{TOP} \\ \text{PRO} \\ \text{AGR} \end{bmatrix} >$

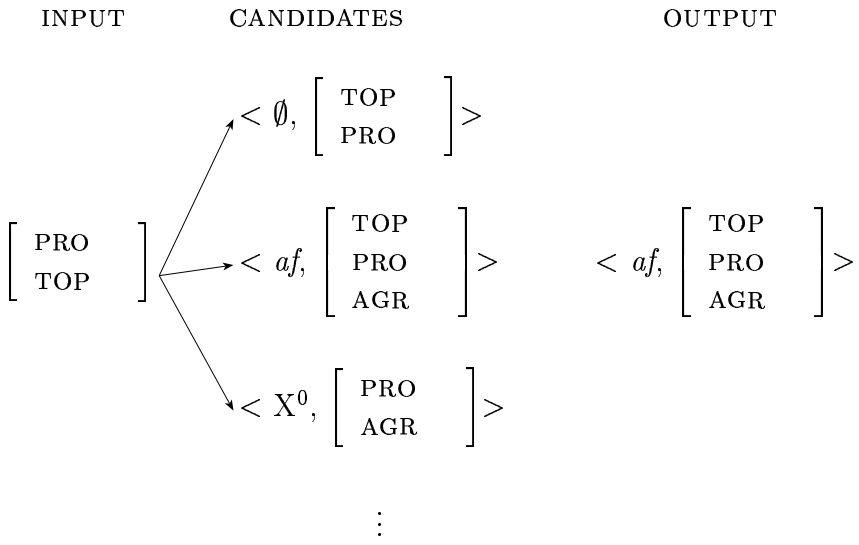
Free: $< \text{X}^0, \begin{bmatrix} \text{PRO} \\ \text{AGR} \end{bmatrix} >$

The inventory of pronominals of each language is selected from the possible pairings by evaluating them against universal constraints as prioritized by the language.

Within OT morphosyntax, then, the universal content of personal pronominals (which will be the 'input') will consist of all possible combinations of the pronominal feature types in (3), represented by feature structures as in Figure 1. The universal candidate set of structural analyses of pronouns will include all possible pairings of these feature structures with instances of structural types, including the examples in Figure 2, among many others. This model is illustrated in Figure 3.

Bresnan (to appear a,b) observes that this model satisfies two fundamental requirements of OT: (i) the universality of the input implied by 'richness of the base' (Smolensky 1996b) and (ii) the recoverability of the input from the output, implied by the 'containment' or 'correspondence' theories of the input-output relation (Prince and Smolensky 1993, McCarthy and Prince 1995). Because richness of the base implies that the input must be universal, the syntactic GEN cannot simply be defined as mapping a set of language-particular 'lexical heads' or morphemes onto structural forms. A more abstract and crosslinguistically invariant characterization of the input is required. Because the recoverability of the input from the output is fundamental to the learnability of OT (Tesar and Smolensky 1998), the input must either be contained in the output or must be identifiable from the output by a correspondence. Hence the candidate set cannot simply consist of surface forms (such as strings of morphemes parsed into phrase structure trees) alone.

Figure 3: Correspondence model (Bresnan to appear a,b,c)



The theory of representations assumed in this model already exists: LFG (Kaplan and Bresnan 1982, Dalrymple et al. 1995) provides a mathematically well-defined correspondence between parallel feature structures (representing language-independent content) and categorial structures (representing the variety of surface forms). In LFG morphological and syntactic forms may correspond to complex f(eature)-structures of exactly the same type. Among other results, this allows for a well-defined domain for pronominal binding theory over the variety of structural types of pronominal forms shown in (2) (Bresnan 1998a, forthcoming). The universal input can thus be modelled by sets of f-structures, which provide an abstract and form-independent characterization of content.[6] The candidate set can consist of pairs of a c(ategorial)-structure and its corresponding specific f-structure, which may be matched to the input f-structure by correspondence (Bresnan to appear c). In this framework enumeration of the candidate set, formalization of the constraint language, the decidability of the universal parsing problem, and computational complexity issues have all been addressed with clarity (Johnson 1998, Kuhn 1999).

[6]F-structures can also be read as underspecified semantic structures, either Quasi-Logical Forms or Underspecified Discourse Representation Structures (Genabith and Crouch 1996).

Thus, each candidate is a structural expression (whether morphological or syntactic) of specified pronominal content. On this conception of GEN the input represents language-independent 'content' to be expressed with varying fidelity by the candidate forms, which carry with them their own interpretations of that content (Bresnan to appear a). Faithfulness constraints will require the input feature structures to correspond to the candidate feature structures in order to ensure expressibility of content. ('Harmony') constraints will also apply to the form-content pairings, as we will see below. Which of the ways of structurally expressing pronouns will appear in the inventory of a given language depends on how the candidates are harmonically ordered by the language, given its prioritizing of the constraints. Crucially, the candidates need not be perfect analyses of the input; as illustrated in Figure 3, they may overparse or underparse the input pronominal content. This is what allows for the emergence of the unmarked pronoun, as we will see.

2. Markedness Constraints on Pronominals

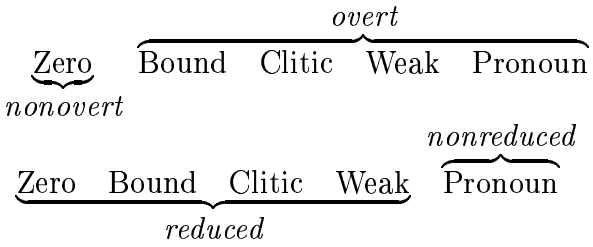
If all of the pairings of possible structural types with pronominal content actually occurred crosslinguistically, that would mean that the form-function relation is arbitrary, like the Saussurean sign. But this is not what we find. No language has an overt definite personal pronoun devoid of any distinctions of person, number, or gender, while many languages have zero pronouns with just this property.[7] No language has zero, bound, or clitic personal pronouns used only for emphasis and focus, though many languages have free pronouns with this function (which arises from the presence of other forms specialized for topic anaphora (Bresnan to appear a)).[8]

Thus there are generally predictable relations between the functional content of pronominals and their formal expressions. To characterize these, we first observe that the pronominal forms can be classified as in Figure 4 into overt/nonovert forms and reduced/nonreduced forms.

[7]Purely spatial deictics need not carry such 'AGR' information, and a pronominal system which derived from such pure deictics could in principle systematically lack these features. Sign languages might provide a case in point, though the status of pronominals in these languages appears to be controversial. I am grateful to Steve Wechsler for suggestions ASL to me as a possible source of pronouns without person features.

[8]Irish is a possible counterexample to this generalization. Its free pronominal objects give indications of being weak pronouns (being unconjoinable without reinforcing morphology), and there are morphological means of strengthening them (McCloskey 1986); the same strengthening morphology also applies to the bound pronominal forms (McCloskey and Hale

Figure 4: Overt and reduced pronouns



Overt pronominals are those with perceptible morphological or syntactic exponents; they are formally expressed by a nonnull structural type, either a phrasal constituent or a morphologically bound form. Only the Zero pronominal lacks a perceptible exponent and is categorized as nonovert in this sense. Reduced pronominals are those whose exponents have less phonological or morphological substance than nonreduced pronouns; they may be completely devoid of phonological substance (a Zero pronoun), or they may be morphologically dependent, prosodically defective, or incapable of bearing primary sentence accent. Only free (potentially strong) pronouns are categorized as nonreduced in this sense. With this classification of forms we can now formulate two harmony constraints on possible pairings, shown in (4):

(4) **Harmony constraints on pronominals:**

(a) Reduced $\Leftrightarrow$ TOP: Pronominals are reduced if and only if they are specialized for topic anaphoricity.

(b) Overt $\Leftrightarrow$ AGR: Pronominals are inherently specified for person/number/gender if and only if they are overt.

In functional terms (4a,b) can be viewed as 'naturalness' constraints on the relation between content and symbolization.

The harmony constraints in (4) are abundantly supported by typological and functional observations as well as detailed studies of particular languages. Constraint (4a) refers to the inventories of grammatical pronominal types specified in (2). In languages that have both reduced and nonreduced pronouns

1984).

as morphosyntactically distinct grammatical series, the two types contrast in function, with the reduced pronominals being specialized for topic-anaphoricity (Givón 1984, 1990: 917) and the nonreduced pronouns having focus functions (Schwartz 1986). The general correlation between reduced form and topic-anaphoricity is observed by Givón (1984, 1990: 917) under the name 'referential iconicity'. Haiman, citing Zipf's law (1935), argues that this generalization has an economy motivation, to minimize effort by reducing expression of frequent, familiar, predictable referents (Haiman 1985: 150, 167, 194, 232–2). Van Valin 1996 proposes a scalar representation of the relative markedness of referential coding devices with zero pronominals at the most topical extreme. In addition, many observations of the topic anaphoricity of specific types of reduced forms in particular languages have been made. On the topic anaphoricity of zero pronouns see for example Kameyama (1985) for Japanese, Grimshaw and Samek-Lodovici (1998) and Samek-Lodovici (1996) for Italian, and Lambrecht and Lemoine (1996) for spoken French. On pronominal inflections see Givón (1976) for Bantu and Bresnan and Mchombo (1986, 1987) for Chicheŵa. On clitics see Lambrecht (1981) for spoken French, Givón (1976) for Spanish, and Cardinaletti (1994) and Cardinaletti and Starke (1996). On weak pronouns see Cardinaletti (1995) and Cardinaletti and Starke (1996) for several Romance and Germanic languages.

Constraint (4b), the general correlation between zero pronouns and lack of inherent specification for AGR properties, is observed by Bresnan (to appear a). It is supported by the fact that in languages which lack verbal agreement morphology, zero pronouns are not restricted as to person and number. This is true for Japanese, Chinese, Malayalam, Jiwarli (Austin and Bresnan 1996: 248–50), and many other languages.

Contrary to constraint (4b), some languages do appear at first sight to have zero pronouns specified for person, number, or gender: for example, Warlpiri has a definite third person singular zero pronominal object (Hale 1973), and Brazilian Portuguese has a definite zero pronominal object which can be used only in the third person (singular or plural) (Farrell 1990: 328). However, in these cases the zero pronouns are filling paradigmatic gaps in the bound or clitic pronominal system. Thus Warlpiri has overt bound pronominal markers for subject and object on its Auxiliary in all persons and numbers, except for the third person singular object (Hale 1973, Nash 1996: 121), which is precisely the gap filled by the zero. Similarly, Brazilian Portuguese has a more restricted system of pronominal clitics than other Romance languages; its third person accusative forms, singular and plural, are "no longer vital" in the language

(Farrell 1990: 327), and these are precisely the gaps filled by the zero.[9] In such cases, the restriction of the zero pronoun to uses requiring specific featural content follows from morphosyntactic competition: the bound pronominal forms block the use of the zero wherever their own featural specifications apply, leaving the zero to be used elsewhere. We will return to this general effect in discussing Warlpiri below. The main point to note is that because the featural values of the zeros in these cases are predictable, it is unnecessary and unexplanatory to specify them as intrinsic properties of a null pronominal form.

These facts provide empirical support for (4b). There is also conceptual motivation for the constraint: if we make the plausible assumption that the overt marking of referentially classificatory contrasts in non-Zero pronominals makes them more easily perceptible, constraint (4b) can be motivated by the need to maximize expression of referential contrasts for ease of perception (Haiman 1985: 179ff, 191ff).

Of course, not all languages select all of the natural candidates available, so further constraints are required. The constraints in Figure 5 assess a mark against the various reduced forms of pronominals; they are a generalization of the constraints proposed by Bresnan (to appear a).[10]

Observe that the constraints in Figure 5 single out the reduced pronominals as marked. Markedness of course has many conflicting dimensions. Reduced pronominals are unmarked as expressions of topical (frequent, familiar, predictable) referents, for reasons we have already discussed. This generalization

[9]Farrell (1990: 327) observes, "For many speakers, they are virtually never used in ordinary speech, although formal registers, particularly formal written registers, continue to demand their use." There are also formal restrictions on the use of the clitics (Chagas de Souza 1997).

[10]Bresnan's constraints given in (i) are extensionally equivalent to the first two syntactic markedness constraints in (5):

(i) Bresnan's (to appear a) Constraints:

(a) ProAgr: pro $\supset$ agr

(b) $\emptyset$Top: top $\supset \emptyset$

('$\supset$' designates material implication, and so (a) can be read as asserting that pro implies agr and (b) that top implies Zero.) $\emptyset$Top marks nonzero pronominals, but only those which are specialized for topic anaphoricity and therefore have the top feature. $\emptyset$Top does not mark the (neutral) pronoun, because it is assumed that this pronoun will not have the top property. Similarly, the function of ProAgr is to mark the zero pronominal, which, it is assumed, will always lack inherent agr properties.

Figure 5: Structural markedness constraints on pronominals

$$\underbrace{\underset{[\text{PRO}]}{*\emptyset} \quad \underset{[\text{PRO}]}{*af}}_{Iconicity} \quad \underbrace{\underset{[\text{PRO}]}{*\text{CL}} \quad \underset{[\text{PRO}]}{*\text{Weak}}}_{Avoid\ Allotaxy}$$

is embodied in our Harmony constraint (4a), which may be viewed as a positive markedness constraint. Reduced pronouns are also unmarked in a purely formal sense, having less phonological structure by definition. However, there is evidence that reduced forms must be marked syntactically in some ways. We have already noted in (1) that their typological distribution is marked with respect to freestanding pronouns. Although free pronouns contrast with reduced pronominals in languages having both types, the free form is generally used to fill in gaps in the systems of reduced pronominals: where reduced pronominals are unavailable, the free pronoun may take on their functions (Bresnan to appear a). In that sense, free pronouns are unmarked in the classical Jakobsonian sense (1984): they are the forms used under neutralization of oppositions within a language. We will see several examples of this phenomenon below.

In Haiman's (1985) theory of natural syntax, reduced pronominals have a marked syntactic status, despite their favored use for topic anaphoricity in discourse. Zero and Bound pronominals violate a syntactic/semantic iconicity constraint, because they yield a non-isomorphic mapping between syntactic constituents and semantic referents and relations—the zero pronoun because it has semantic content without syntactic constituency, and the affixal pronoun because it is morphologically part of another constituent (the head) and so non-iconically maps a relation and referential role, two distinct semantic constituents, onto a single syntactic constituent. In contrast, the clitic and weak pronouns do not suffer from this defect, because by definition they are syntactic elements that are only prosodically dependent or defective. But clitics and weak pronouns have a different marked property: they are nonuniform in their syntactic distribution with free (neutral) pronouns. In French, for example, clitic pronouns generally appear preverbally, while free pronouns are postverbal. In West Flemish and Swedish, weak pronouns are attracted to positions (such as that of the complementizer or finite verb) from which free pronouns are excluded (Haegeman 1996, Sells 1998). This nonuniformity of independent

syntactic expressions of the same semantic roles or grammatical functions is called *allotaxy* by Haiman (1985: 162). (I am assuming that Zero and Bound pronominals are not allotactic because they are not independent syntactic expressions at all, though nothing crucial hinges on this assumption.)

Haiman observes that the avoidance of allotaxy is—along with iconicity—a major source of the syntactic regularity seen in pidgins. The isolating, analytic, uniform syntactic structures of pidgins, he argues, can be explained in terms of their extreme syntactic unmarkedness, embracing iconicity and avoiding allotaxy. It is not surprising that New Guinea Pidgin, derived from English, should have free-standing pronouns, but as Haiman (1985: 161–2) notes, the same is true of Kenya Swahili in relation to standard Swahili. Standard Swahili's bound subject and object pronominal affixes on the verb are replaced in Kenya Swahili by "independent invariable pronouns in a rigid SVO order". Likewise, West African Pidgin Portuguese, according to Naro 1973: 444), replaced the various clitic pronominals of Portuguese with the fully stressed, independent strong pronominal forms. From this and other evidence, Haiman (1985: 161) concludes: "In pidgins generally, pronouns are always free-standing *words* (commonly derived from topicalized forms in the target languages) . . . "; that is, the pidgins adopt the unreduced forms of pronouns, which are the syntactically unmarked forms.

Haiman's claim about the prevalence of the free pronoun in pidgins has been widely corroborated for stable, crystallized pidgins. As Mühlhäusler and Harré (1990: p. 262) observe,"Pidgins prefer free pronoun forms to bound ones," and this preference holds as well for a wide variety of pidgins having non-European lexifiers (Bresnan 1998b).

By instantiating the functional motivations of 'Iconicity' and 'Avoid Allotaxy' as the structural markedness constraints of Figure 5, we can derive Haiman's (1985) markedness explanation for pidgin pronominal systems from the initial ranking of markedness constraints above faithfulness in Optimality Theory. Tesar and Smolensky (1998: 253) cite Alan Prince (p.c.) for the idea that in the initial ranking itself, the faithfulness constraints may be lower ranked than the structural markedness constraints. This initial structuring of constraints is proposed as a way to explain the acquisition of phonologies consisting of unmarked structures. If unmarked structures incur no marks, they provide no evidence for any particular constraint ranking in OT, and so will not lead to convergence on a single grammar. The solution is to hypothesize an initial state of the language learner in which structural markedness constraints

outrank faithfulness constraints.[11]

Accordingly, we have the three families of constraints shown in (5), where HARMONY refers to the general form-function harmony constraints (4a,b), STRUCT refers to the syntactic markedness constraints in Figure 5, which penalize reduced pronominal forms, and FAITH designates the PARSE$^{\text{FEATURE}}$ (or MAX(FEATURE)) family of constraints which require each attribute of the input to appear in the output f-structure.

(5) HARMONY $\gg$ STRUCT $\gg$ FAITH

Because the harmony constraints appear to be so widely observed, I assume here that they are undominated. But they are likely to be violated in some languages, as suggested in notes 7 and 8. In the present context they simply serve to filter out the Sausserian excess of arbitrary pronominal forms from the candidate set. Which of the natural forms that pass the harmony constraints are actually found in the inventory of a language depends on the relative ranking of STRUCT and FAITH constraints. The ranking of all the structural markedness constraints above the faithfulness constraints means that it is worse to be a reduced form (thus violating iconicity or exhibiting allotaxy) than to be unfaithful to the input. Hence this ranking, by the standard OT logic of markedness, yields only potentially strong pronouns in the pronominal inventory of a language (as in highly analytic languages like English and in pidgins). These unreduced free pronouns will not be specialized for the TOP property, and hence they will be unfaithful to an input specified for the topicality feature. But that violation will matter less, given the ranking in (5) than the violations incurred by being a syntactically marked form. Table 1 schematically illustrates these points for a representative sample of the candidate set.[12]

[11] See Bresnan 1998b on the specific relation of this hypothesis to pidginization.

[12] Table 1 only shows candidates having the PRO attribute, because we are setting aside (nonpronominal) agreement here. In effect, we are assuming that MAX(PRO) is ranked above the other members of the FAITH family.

Table 1: Ranking yielding only the unreduced pronoun (e.g. English)

	Input [PRO, TOP]	HARMONY	STRUCT	FAITH
	Zero: [PRO, TOP, AGR]	*!	*	
	Zero: [PRO, AGR]	*!	*	*
	Zero: [PRO, TOP]		*!	
	Zero: [PRO]	*!	*	*
	Bound: [PRO, TOP, AGR]		*!	
	Bound: [PRO, AGR]	*!	*	*
	Bound: [PRO, TOP]	*!	*	
	Bound: [PRO]	*!	*	*
	Pronoun: [PRO, TOP, AGR]	*!		
☞	Pronoun: [PRO, AGR]			*
	Pronoun: [PRO, TOP]	*!		
	Pronoun: [PRO]	*!		*
	⋮			

Thus the ranking shown in (5) gives us a pronominal inventory consisting only of potentially strong pronouns; that is, syntactically free pronouns capable of bearing primary sentence accents, having morphological classification for person/number/gender, and being unspecialized for topic anaphoricity. These are syntactically the least marked of the pronominal forms from the point of view of iconicity and the avoidance of allotaxy.

As soon as one of the structural markedness constraints is demoted below faithfulness, however, the form it marks enters into the inventory; that form becomes optimal for expressing topical content, as illustrated in Table 2. The table has been simplified by omitting all forms violating the harmony constraints, considering only three representative candidate types, and only the relevant instances of STRUCT:

Table 2: Ranking yielding a bound pronominal (e.g. Chichewa)

	Input [PRO, TOP]	HARMONY	*∅ [PRO]	FAITH	*af [PRO]
	Zero: [PRO, TOP]		*!		
☞	Bound: [PRO, TOP, AGR]				*
	Pronoun: [PRO, AGR]			*!	
	⋮				

For nontopical content, the free unreduced pronoun is optimal under the same ranking; see Table 3.

Table 3: The unreduced pronoun under the ranking of Table 2

	Input [PRO]	HARMONY	*∅ [PRO]	FAITH	*af [PRO]
	Zero: [PRO, TOP]		*!		
	Bound: [PRO, TOP, AGR]				*!
☞	Pronoun: [PRO, AGR]				
	⋮				

It follows that the demotion of the structural markedness constraint admits the corresponding reduced form into the inventory, but only for topical content; the free, unreduced pronoun remains optimal elsewhere. This result is stated by Bresnan (to appear a) and by Carstairs-McCarthy (1992: 165–6):

(6) **Markedness relation among bound and free pronoun inventories (Bresnan to appear a):**

Free pronouns only (English)
Both free and bound pronouns (Chichewa, Navajo, etc.)
Bound pronouns only (none)

By parity of reasoning, exchanging the two structural markedness constraints above as shown in Tables 4 and 5, we derive the markedness relation among zero and free pronoun inventories shown in (7), also stated by Bresnan (to appear a):

Table 4: Ranking yielding a zero pronoun (e.g. Japanese, Jiwarli)

	Input [PRO, TOP]	HARMONY	*af [PRO]	FAITH	*∅ [PRO]
☞	Zero: [PRO, TOP]				*
	Bound: [PRO, TOP, AGR]		*!		
	Pronoun: [PRO, AGR]			*!	
	⋮				

Table 5: The undreduced pronoun under the ranking of Table 4

	Input [PRO]	HARMONY	*af [PRO]	FAITH	*∅ [PRO]
	Zero: [PRO, TOP]				*!
	Bound: [PRO, TOP, AGR]		*!		
☞	Pronoun: [PRO, AGR]				
	⋮				

(7) **Markedness relation among zero and free pronoun inventories (Bresnan to appear a):**

Free pronouns only (English)
Both free and null pronouns (Jiwarli, Japanese, etc.)
Zero pronouns only (none)

Studies of the typology of pronominal systems (Forchheimer 1952, Wiesemann 1986) confirm that while there are many languages that lack reduced pronominal forms, languages that lack freestanding pronouns are rare.[13]

[13]Possible counterexamples are discussed in Section 4.

3. Emergence Effects

3.1 Pronoun replacing bound pronominal

In Bresnan (to appear a) I show that this theory explains not only the crosslinguistic asymmetries observed in the distribution of pronominal forms, but an important and related language-internal phenomenon: free pronouns may fill gaps in the paradigm of bound pronominals. In Chichewa, for example, where both a bound pronominal and a free pronoun are available, the free pronoun cannot be used topic-anaphorically, but is reserved for emphasis or contrast, as Bresnan and Mchombo (1987) observe. This is shown for the preposition *ndí* 'with, by' in (8):

(8) a. *ndí íwo*
with it (class 3)

b. *nǎwo* < **na + ǐwo*
with+it (cl 3) with it (cl 3)

The contracted form is used in topic-anaphoric contexts such as resumption of left dislocations illustrated in (9a), while the full pronoun object of the preposition cannot be, as illustrated in (9b):

(9) a. *mkángó uwu ndi-na-pít-á* (*nawó*) *ku msika*
lion(3) this I-RM.PST-go-INDIC with-it(3) to market
'This lion, I went with it to market.'

b.?* *mkángó usú ndi-na-pít-á* (*ndí íwó*) *ku msika*
lion(3) this I-RM.PST-go-INDIC with it(3) to market
'This lion, I went with it to market.'

But where a bound form is unavailable, the free form is used topic-anaphorically. Thus the preposition *kwá* 'to', unlike *ndí* 'with, by', does not allow a reduced pronominal object:

(10) a. *kwá íyo*
to him (class 3)

b. * *kwǎyo* < *kwa + ǐyo*
to+him (cl 3) to him (cl 3)

And with this preposition, the full pronoun object can be used to resume dislocated topics (and in all of the other environments normally prohibited to strong pronouns):

(11) *mfúmú iyi ndi-ká-kú-neněz-a kwá íyo*
chief(3) this I-go-you-tell.on-INDIC to him(3)
'This chief, I'm going to tell on you to him.'

This result follows from the ranking given in Table 2 for Chichewa, assuming that the lexical gap reflects some higher-ranking constraint, which is called LEX in Table 6 (see Bresnan (to appear a,b) for further discussion).

Table 6: Emergence of the unreduced pronoun in Chichewa

	Input [TO< x >, [PRO,TOP]$_x$]	LEX	*∅ [PRO]	FAITH	*af [PRO]
	kwá Zero [...[PRO,TOP]]		*!		
	kwá+Bound [...[PRO,TOP,AGR]]	*!			*
☞	kwá Pronoun [...[PRO,AGR]]			*	

3.2 Pronoun replacing zero pronoun

Following the same logic, we should expect similar emergence effects in zero pronoun languages. A fuller investigation is required, but some evidence from Japanese (provided with the assistance of Yukiko Morimoto and Peter Sells, p.c. March 1997), is suggestive. Example (12) shows a context in which the zero pronoun is used referring to a topic, while the free pronoun is excluded:

(12) *sono hon-o yonda kedo watashi-wa ??sore-o/∅ susume-nai*
that book-ACC read.PAST but I-TOP (it) recommend-NEG
'I read that book but I wouldn't recommend it.'

However, as in many languages, zero pronouns in Japanese are restricted to core arguments of the head—subjects and objects. A zero postpositional object pronoun is lacking. In this situation, the overt free pronoun can be used topic anaphorically, as shown in (13):

(13) *sono hon-o yonda kedo sore-ni/*∅ tuite-wa hanasitaku nai*
that book-ACC read.PAST but (that-dat) about-TOP talk.want NEG
'I read that book but I don't want to talk about it.'

This fact undoubtedly reflects the much broader crosslinguistic generalization that reduced pronominals of all types are distributed according to a hierarchy of argument prominence, being most common with subjects and decreasing with the increasing obliqueness of argument roles (Givón 1976, Siewierska 1999).[14] Without attempting a full analysis of this markedness scale in OT terms, we can simply suppose that the absence of a zero postpositional object in Japanese reflects an additional high-ranking markedness constraint, abbreviated *∅ OBL in Table 7. (See Bresnan (1998c) for a discussion of this contextual markedness property.) The emergence of the unmarked overt pronoun follows.[15]

Table 7: Emergence of the unreduced pronoun in Japanese

	Input [ABOUT< x >, [PRO,TOP]$_x$]	*∅ OBL	*af [PRO]	FAITH	*∅ [PRO]
	Zero: [PRO, TOP] tuite	*!			*
	Bound: [PRO, TOP, AGR]+tuite		*!		
☞	Pronoun: [PRO, AGR] tuite			*	
	⋮				

3.3 Zero pronoun replacing bound pronominal

What happens when more than one structural markedness constraint is demoted below faithfulness? Consider, for example, the ranking in (14).

(14) $\ldots \gg$ FAITH $\gg$ *∅ [PRO] $\gg$ *af [PRO]

Ranking both the zero and the bound structural markedness constraints below faithfulness means that the marks against these reduced forms are overridden by the importance of faithfully preserving the input content. So both these marked forms could be used to express topic-anaphoric content. But the ranking of the zero markedness constraint above the bound markedness constraint means that it is worse to use the zero pronoun than the bound pronoun. This point is illustrated in Table 8.

[14]There is also an interaction between zero pronouns and the person hierarchy, many languages having a zero pronoun only in the third person (Forchheimer 1953).

[15]Japanese attaches constraints of social level to its pronominal system; use of an overt pronoun to designate a person implies social familiarity and is therefore avoided in many situations (Peter Sells and Yukiko Morimoto, p.c. March 1997). For this reason, an inanimate overt pronoun is used in the examples given here.

Table 8: An additional ranking yielding bound pronominals

	Input [PRO, TOP]	...	FAITH	*∅ [PRO]	*af [PRO]
	Zero: [PRO, TOP]			*!	
☞	Bound: [PRO, TOP, AGR]				*
	Pronoun: [PRO, AGR]		*!		
	⋮				

Like the hypothetical ranking for Chichewa (Table 2), this ranking would also yield an inventory of bound and free pronominals, with the bound form being specialized for topic anaphoricity. The difference is that in situations where a highly ranked constraint penalizes the bound form, the free pronoun emerges as unmarked in Chichewa, but the zero pronoun would emerge here. Under the ranking in (14), the zero pronoun is relatively unmarked for topical content compared to the free pronoun.

This situation might be exemplified by Warlpiri, which has bound pronominal markers for subject and object on its Auxiliary, as noted above (Hale 1973, Simpson 1991). We will assume these are pronominal inflections, abstractly characterized as 'Bound' in (2).[16] The Auxiliary is obligatory in main clauses with verbal predicators, but it is absent in infinitival clauses, which Simpson shows to have the morphological and categorial structure of nominals. In the latter contexts zero pronouns appear. As we would expect from the absence of agreement morphology, these zero pronouns are not restricted as to person and number (Simpson 1991: 141–3). Example (15a) shows a third person plural use, and (15b) shows a second person singular use:

(15) a. *Kurlarda kala-lu-nganpa maja-rninja-rla yu-ngu.*
spear.ABS USIT-3plSUBJ-1plexclOBJ straighten-INFIN-SERIAL give-PAST
'They would give us spears$_i$ after straightening (them$_i$).'

b. *Ngari=ka-rna-ngku yampi-mi nyuntu*
JUST=PRES-1sgSUBJ-2sgOBJ leave-NPAST you.SG.ABS-EUPH

[16] These are also used as NP-agreement markers (Simpson 1991, Austin and Bresnan 1996), which can be represented by letting the PRO value be optionally parsed (cf. Bresnan and Mchombo 1986, 1987). Several approaches to the representation of optionality that could be used here are discussed by Bresnan (to appear b); see also Asudeh (1999).

paka-rninja-wangu-rlu Jungarrayi-kirlangu ngumparna-kurlangu
hit-INFIN-PRIV-ERG Jungarrayi-POSS brother.in.law-POSS
ngajulu-rlu-ju, Japaljarri.
I-ERG-EUPH Japaljarri.ABS
'Japaljarri, I'm just leaving you without beating (you)
who belong to Jungarrayi my senior brother-in-law.'

If we assume that a high-ranking constraint prevents auxiliaries from appearing as constituents of NPs, the zero emerges as the least marked available topical pronominal, as shown in Table 9.

Table 9: Emergence of the zero pronoun in Warlpiri

	Input [PRO, TOP]	*(Aux,NP)	FAITH	$*\emptyset$ [PRO]	*af [PRO]
☞	Zero: [PRO, TOP]			*	
	Bound: [PRO, TOP, AGR]	*!			*
	Pronoun: [PRO, AGR]		*!		
	⋮				

In the context of further constraints on the markedness of pronominal agreement features, the same relative markedness of the zero and bound pronominal forms would explain the appearance of the Zero as the default form filling in gaps in the bound pronominal paradigm.

4. Languages without Pronouns?

Finally, let us consider possible counterexamples to the main markedness claim derived from the present theory (1), that no language lacks free (unreduced) pronouns. The claim is that free pronouns are never completely absent from a language. They may be absent in certain grammatical functions. For example, in Southwestern Ojibwe (an Algonquian language of North America) free pronouns have a very restricted distribution appearing as initially focused elements, as appositions, and in coordinations, bound pronouns being used elsewhere (Schwartz and Dunnigan 1986). Free pronouns may also be absent in certain categories of person. For example, in Dyirbal (a Pama-Nyungan language of Australia), first and second person free pronouns exist, but third person pronouns are supplanted by demonstratives which commonly cooccur

with nominal heads (Dixon 1980: 357). Such restrictions can be captured with a richer constraint set allowing for interactions of pronominals with grammatical relation and person (Bresnan 1998c, Aissen this volume).

In the present context, however, we are interested in the question of whether there are languages having no free pronouns in any syntactic function. There are two sources of apparent counterexamples to be considered: (i) languages in which free pronouns have a distinctive syntactic distribution differing from NPs/DPs, and (ii) languages in which pronouns are derived from other categories, such as demonstratives, nouns, or inflected verb stems. Both types raise the issue of whether the pronominal elements in question are in fact free pronouns and not nonpronominals or pronominals of other types.

Taking type (i) first, many languages align free pronouns in prominent edge positions distinct from lexical NP/DP positions. Some examples are given in (16):

(16) **Free pronouns with edge alignment:**

Kichaga: strong object pronouns aligned at right edge of VP (Bresnan and Moshi 1990: 166)
Warumungu: free pronoun subjects and objects aligned at left edge or second position of clause (Hale 1973: 341; Simpson and Heath 1982)
Zuni: first and second person free pronouns (subjects, objects, possessives) aligned at left edge of IP (Nichols 1997: 373)

For example, the Bantu language Kichaga has bound pronominal objects prefixed to the verb stem and strong free pronouns, used for contrast, which are found in a position distinct from lexical NPs at the right edge of the VP (Bresnan and Moshi 199: 166). The Australian language Warumungu (Hale 1973, Simpson and Heath 1982) normally places subject and object pronouns in second position in the clause. Here they may be considered weak pronouns or clitics: they are unstressed, and some combinations of subject and object have a fused portmanteau form (Simpson to appear). However, subject pronouns may also appear fully stressed in sentence-initial position, as Hale (1973: 341) observes:[17]

> Warumungu pronouns, although they normally appear unstressed and cliticized, are in fact independent pronouns in the sense that

[17]Hale 1973 refers to the language as 'Warramunga'; subsequent to the publication of Hale 1973, it became officially designated 'Warumungu'. Hale's spelling has been adjusted accordingly in the quotation (cf. Hale (1973: n. 25, p. 340)).

> they can appear as isolated, fully stressed words—as answers to questions, for instance. ... Furthermore, subject pronouns may (under conditions, perhaps of style, which I do not adequately understand) appear fully stressed in sentence-initial position.

Zuni first and second person independent pronouns also take second position in the clause (IP), whether they are subjects, objects, or possessives (Nichols 1997: 373). Nichols argues that they are not clitics, however: "They are not phonologically dependent on another constituent or on one another, they may bear full stress, and other material such as adverbs may intervene between them ..." Similar examples could be multiplied (e.g. nominative and genitive pronouns in Tagalog, Kroeger 1993: 119-123, Nespor 1994, Anderson 1996: 167).

In effect, then, there do exist strong pronouns which are allotactic. Allotaxy is not exclusively a property of weak and clitic pronouns. Even lexical NPs may exhibit it. In some languages, for example, indefinite NPs have special syntactic positions distinct from other NPs (and often adjacent to the verb). I assume that the special positioning of free (strong) pronouns in some languages is also possible.

Thus a language having specialized syntactic positions for (subclasses of) free pronouns does not constitute a counterexample to the present theory, provided that those pronouns have the functional properties of pronouns and are free unreduced forms, potentially capable of bearing primary sentence accent. What may be involved is merely alignment of pronouns along two distinct dimensions of prominence—the person hierarchy or functional hierarchy—with an edge position.[18] The violation of allotaxy is overridden by these dominating constraints. The grammatical relations of such edge-aligned pronouns determine their agreement, binding, control, and other properties, and follow in the present framework from the correspondence mappings between c-structure and f-structure at the sentence level (Bresnan to appear a,c, forthcoming).

The second source of apparent counterexamples to the generalization that no language lacks free pronouns is languages in which pronominal elements are derived from other categories. This situation is not uncommon. As Hale (1973: 340) remarks concerning the historical development of the Warlpiri subject and object agreement markers, "The process of destressing and cliticizing pronouns

[18]This is similar to recent proposals for edge alignment of clitics (Anderson 1996, 1997, Legendre 1997), but is not restricted to the clitic forms of pronominals. On harmonic alignment of markedness hierarchies in syntax see Aissen (this volume).

eventually became an obligatory rule and, subsequently, independent pronouns were re-created from other sources available to the language, such as oblique forms of pronouns like those found in possessives or in other functions not normally subject to cliticization." He notes that a Western Australian language (Warnman, see Nash 1996: 120) innovated an invariable stem for independent pronouns, which was certainly not a pronoun historically. Nichols and Peterson (1996: 345–6) in their quantitative study of the Amerind personal pronouns observe that some of their sample languages have no distinct independent pronoun roots, but have independent pronouns consisting of "a generic pronominal root (usually invariant across all person-number categories, and often etymologically a form of the verb 'be' or a noun such as 'body' or 'self') with nominal or verbal affixes distinguishing the different number categories."

Personal pronouns can also be created from nouns. Examples occur in Romance and Southeast Asian languages, as well as Japanese (Sugamoto 1989).[19] Personal pronouns are also commonly created from demonstratives. As Greenberg (1986: xix) observes, "It is further well known that many languages do not have a third person pronoun that is distinct from one or more demonstratives. The most common is a distance demonstrative which is also the most common source of purely anaphoric third person pronouns. This is a common diachronic process by which the demonstrative first acquires anaphoric meaning in addition to its demonstrative meaning and then becomes confined to anaphoric usage." This appears to be the case for the nonhuman classes of pronouns in Chichewa, which are formally identical to the demonstratives. Nevertheless, they behave identically to the distinctive pronominal roots with respect to the topic-anaphoric properties investigated by Bresnan and Mchombo (1987). A

[19] Spanish and Portuguese polite second person pronouns derive from honorific titles such as Spanish *Vuestra Merced* and Portuguese *Vossa Merce* ('Your honour'), which became *Usted* and *Voce(s)* respectively; the third person number agreement required with these forms is a remnant of their nominal origin (Mühlhäusler and Harré 1990: 136–7). In Thai, deferential first person pronouns often have literal denotations for the head or related parts of the body such as crown or hair, while many deferential second person pronouns denote the sole of the foot. The historical significance is that "the inferior speaker places the sole of his hearer's foot, or the dust beneath the foot, on a par with his own head or hair—the highest and most respected part of his body" (Cooke 1968: 9). Thai third person pronouns often have kin-term sources. Burmese and Vietnamese also have nominal sources for many pronouns, although the personal pronouns can be formally distinguished from other nominals, and even in Thai, where "personal pronouns are not so easily distinguished formally from kintype nouns" except by limitations on modification, they can be distinguished as "a class apart" by their semantic structuring (Cooke 1968: 147).

similar phenomenon can be found in English. Trudgill and Chambers (1991: 8) report that in East Anglian dialects of English *it* occurs only as an object pronoun, with third person neuter singular subjects being indicated by *that*:

(17) a. That's raining.

b. I don't like it—that's no good.
(East Anglian dialects of English, Trudgill and Chambers 1991: 8)

(18) A local woman who helps us clean the house here said to me the other day after a long search for the broom, which, like many other things is always being moved around the house by the kids, and had gone missing to be finally located down the side of the fridge

"That's a good place for it. But as soon as you start saying something, that disappears."

(Louisa Sadler, p.c., May 6, 1997)

In Standard English demonstrative pronouns cannot be used in these anaphoric contexts. In East Anglian, *that* has the morphological form of a demonstrative, but is functioning as a third singular neuter personal pronoun. Thus it is incorrect to *define* pronouns as having distinct pronominal stem forms. It is the synchronic functions of the element that determine its pronominality, not its etymology.

Now the Salish languages of the American Northwest have both of these properties at once: special edge positioning for first and second person pronouns (which are perhaps weak pronouns or 'clitics'), and a set of independent strong pronouns based on pronominal inflections of verbal roots (Hukari 1976, Jelinek and Demers 1994). Jelinek (1997: 243) concludes on the basis of these distributional and morphological facts that Straits Salish lacks independent pronouns, and remarks that the same holds for Winnebago, a Siouan language (cf. Lipkind 1945: 29, Forchheimer 1952: 88). But we now see that this conclusion cannot be drawn solely on the basis of narrowly categorial and morphological conceptions of pronominality, for a great variety of forms of expressions can function as pronouns. In the case of Winnebago, Lipkind (1945: 53) writes of the demonstrative suffixes added to the positional verb stems for 'sit', 'lie', and 'stand': "These ... form a set of words which function like independent personal pronouns, being used as subject or object or vocatively. Both the verb

and the positional take personal pronouns [bound pronominals–jb]." Of the positional verbs he writes (1945: 45): "The positionals beside their verbal function are also used with demonstratives .... Long things are talked of as lying, tall or upright things as standing, and other things as sitting. Clouds 'lie,' rain 'stands,' the sun and moon 'sit.'" In other words, these verbal elements serve as positional classifiers to the demonstratives. We have, then, a pronominal form morphologically composed of inflections for person, a positional classifier, and a demonstrative suffix. The content conveyed by this form—namely, person and kind classification (based on positional type)—is fully consistent with pronominality. Finally, we note that Winnebago is a configurational language: syntactic position is "the chief source of grammatical relations" (Lipkind 1945: 12). Thus the appearance of these freestanding person forms in subject and object positions suggests the syntactic function of pronominal arguments. Once again it is the synchronic functions of the element that must determine its pronominality, not its etymology.[20]

In sum, the present theory of pronominal markedness can explain the existence of universal (or near-universal) asymmetries in the typology of pronominal systems, the preponderant use of free pronouns in pidgins of typologically diverse sources, and the emergence of free pronouns to fill gaps in the system of reduced pronouns within individual languages. These preliminary results suggest that it is indeed possible to develop a nonderivational theory of markedness for syntax analogous to the OT theories being developed in phonology, but of course much further work is required.

[20]Examination of texts is needed to determine the function of such pronominal forms in Winnebago, Straits Salish, and other languages where the presence of free pronouns has been doubted.

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