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REVISITING ANAPHORIC ISLANDS

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Postal (1969) discusses words as anaphoric islands. So-called OUTBOUND ANAPHORA was further discussed in a series of papers published in the 1970s through the early 1990s, but INBOUND ANAPHORA, such as Postal's **himite* (beside *McCarthyite*), has received less attention. It is shown here that a wide variety of words in Georgian are based on pronouns, including fully referential personal pronouns, reflexive pronouns, question words, quantifiers, and negative pronouns. Thus, the nonoccurring combinations of English are a language-particular problem.*

It has been widely held that subparts of words participate neither in the system of discourse reference nor in the system of quantification in natural language. Postal (1969), for example, claims that words are anaphoric islands. One consequence is that a part of a word cannot be the antecedent of a pronoun. For example, in 1, *tea* cannot be the antecedent of *it* (example from Spencer 1991:42); Postal dubbed these OUTBOUND ANAPHORA.

(1) *He took the **teapot** and poured **it** into the cup.

A second consequence, according to Postal, is that a word cannot contain a referential pronoun,¹ as shown in 2 (from Postal 1969) and 3–4; Postal refers to these as INBOUND ANAPHORA.

(2) *McCarthyite*, **himite*

(3) *childless*, **youless*

(4) *Clinton-like*, **him-like*

To be more precise, the claim is that a pronoun inside a word cannot refer. Thus, words such as *forget-me-not*, *he-man*, and *she-bear* are not counterexamples to this claim because the pronouns in these words never refer to specific individuals.

Georgian, a language of the Kartvelian (or South Caucasian) language family, spoken in the Republic of Georgia, has several morphological properties that challenge current concepts of the word. In this article I show that inbound anaphora occur routinely in Georgian.

It is also widely claimed that it is impossible to question part of a word. Thus, just as we cannot have **him-ite* parallel to *McCarthyite* and other forms in 2–4, we cannot have the forms in 5.

(5) **who-ite*, **which-less*, **what-like*²

In English, it is also impossible to quantify the lefthand member of a synthetic com-

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¹ I use the term REFERENTIAL PRONOUN or ANAPHORIC PRONOUN for a pronoun for which one can determine the reference with appropriate context, on a grammatical basis, without having to resort to pragmatic criteria.

² A referee suggests that forms like these are possible in echo-questions. For example, A: Bill is a Mcxxxxxy-ite. B: He's a who-ite? I couldn't understand the candidate's name the way you said it.

pound (Sproat & Ward 1987:326) or derived word. Thus we do not find 6 or, parallel to 2–4, 7.

- (6) *no-cat lover, *every-cat chaser
 (7) *no-one-ite, *nothing-less, *no-one-like, *everyone-ite, *everything-less, *all-like

In this article, I show that all of these types of inbound anaphora are possible, even common, in Georgian. Georgian possesses compound and derived words formed from personal, interrogative, and negative pronouns, and from quantifiers, as well as from other bases that cannot serve this function in English. It is unlikely that Georgian is alone in this respect.

To this end, I first provide a brief introduction to the notion of anaphoric islandhood in the linguistic literature, and then describe and illustrate the variety of Georgian word formation parallel to examples 2–7 above. I demonstrate further that the Georgian compounds and derived words in question contain pronouns that are referential in the sense relevant to contradict anaphoric islandhood. I also show that the derivational affixes are not instead to be analyzed as cases, and moreover that the words at issue are to be analyzed as words even though they contain genitive case forms. I conclude with a brief discussion of apparent examples of inbound anaphora or similar phenomena in other languages.

1. ANAPHORIC ISLANDS IN LINGUISTIC THEORY. The claim that words are anaphoric islands was first made by Postal (1969). His examples 8 and 9 below illustrate outbound and inbound anaphora, respectively.

- (8) ***McCarthy**ites are now puzzled by **his** intentions. (outbound)
 (9) ***McCarthy** was glad that **him**ites were the majority in the room. (inbound)

Postal's paper sparked a lively discussion, but the early contributions were limited to outbound anaphora; most of these articles argued that there is a gradation of acceptability of outbound anaphora, and that acceptability varies greatly from speaker to speaker (Lakoff & Ross 1972, Corum 1973, Browne 1974, Lieber 1984, Sproat & Ward 1987, Ward et al. 1991). Example 10 is a naturally occurring example cited in Ward et al. 1991:444.

- (10) The **Senator Bradley** forum has been canceled due to **his** need to be in Washington for the budget vote.

Though inbound anaphora has been less discussed, Sproat (1988:297) proposed a condition that would rule out both inbound and outbound anaphora (11).

- (11) Maximal projections are unavailable as parts of words in English.

Ward and colleagues (1991:450) made explicit proposals for both types.

- (12) a. Inbound anaphora is ruled out by a grammatical principle that prohibits pronominal elements from appearing in word-internal positions.
 b. Outbound anaphora is not ruled out by any grammatical principle—with the exception of outbound anaphora involving *do so*.

Lieber (1992:123) attributed the impossibility of inbound anaphora to the fact that 'Pronouns are closed class items'.³ In a similar vein, Sproat (1993, n. 7) suggested that

³ Ward and colleagues (1991:450) and Sproat (1993:191) make the same suggestion, attributing it to Paul Kiparsky.

‘functional categories and their projections cannot serve as the basis of morphological derivation in English’.

Postal himself (1969:227) mentioned two apparently good examples of inbound anaphora in English—*therefore* and *therein*—but he considered these ‘marginal combinations of anaphoric elements with *particle*-like elements’ and did not suggest any further reason for their failure to conform to his general prohibition. One might add *thereto*, *thereby*, *hitherto*, *whoever*, *whatever*, *y’all*, and even *himself*, *herself*, and so forth. One may legitimately ask therefore just what the prohibition against inbound anaphora is supposed to rule out. Note, for instance, that the use of the term *WORD* in conditions in 11 and 12a might be taken to suggest that even *its* in 13 should be ungrammatical.

(13) The ground hog_i saw its_i shadow.

But it is clear from the examples discussed that these conditions are not intended to rule out pronouns with inflection. Postal states that ‘inbound anaphora with coreferential anaphors is blocked for derivatives’ (1969:214), and he defines *DERIVATIVES* as compounds or derived words. The generally accepted claim seems to be that referring pronouns cannot occur in derived words or compounds, and it is implied that this might be especially true of personal pronouns.

A ban on in- and outbound anaphora would mean that words are ‘inert’ insofar as certain grammatical processes, like interpretation or binding, are concerned. In this way, this ban is consistent with a broader constraint proposed in the literature in various forms, namely what is now referred to as the *LEXICAL INTEGRITY PRINCIPLE* or the *LEXICAL INTEGRITY HYPOTHESIS*.

The lexical integrity principle is the principle that the derivation of words does not take place in the syntax. While some have interpreted this more narrowly, Sadock (1980) interpreted it broadly as ruling out a variety of syntactic operations on parts of words. He argued that incorporated nouns in Greenlandic Eskimo could take part in syntactic operations, including both outbound and inbound anaphora (1980:311–13), and concluded that syntax and morphology are not independent of one another. Simpson (1983) is more explicit in including anaphoric island constraints as part of her *REVISED LEXICAL INTEGRITY HYPOTHESIS*:

Constituent-structure processes (which include annotation of functional information, and indexing of anaphoric information) are blind to the internal structure of words. (1983:75)

Although the corresponding statement in Simpson 1991:44 omits the material in parentheses, the later work continues to include anaphoric coindexation (the anaphoric island constraints) in the revised lexical integrity hypothesis (especially pp. 55–62). Yet Simpson also cites examples of inbound anaphora in Warlpiri, including those in 14–16.

(14) Nyarrpa-ma-ni?⁴
 what-CAUS-NPST
 ‘What did you do?’ (Simpson 1991:56)

(15) nyanungu-ku-palangu-kurlangu
 he-DAT-opposite.generation-POSS
 ‘his father’s place’ (Simpson 1991:57)

⁴ The following abbreviations are used in this article: CAUS: causative, DAT: dative, DERIV: derivational affix, EV: epenthetic vowel, GEN: genitive, INST: instrumental, MED: medial, NAR: narrative, NEG: negative, NOM: nominative, NPST: nonpast verb inflection, OBL: oblique (for cases other than nominative), ORD: ordinal, PL: plural, POSS: possessive, PROP: proprietive, PROX: proximal, QUAN: quantifier/quantity, QUES: question, REM: remote, and TRV: translative. In glossing circumfixes, I repeat the translation, using subscript numerals to distinguish the parts.

(16) Nyiya-kurlu? Ngula-kurlu.

what-PROP that-PROP

‘With what? With that.’

(Simpson 1991:57)

Simpson describes examples like 14 as ‘question words compounded with verb-forming suffixes’, 15 as a pronoun with a derivational suffix, and 16 as an example of use of a ‘derivational case’. Although she presents these and other counterexamples to the anaphoric island constraint, Simpson concludes, ‘But it also seems clear that, in large measure . . . the basic insights expressed in the Lexical Integrity Hypothesis . . . are correct’ (1991:62).

In their treatment of the lexical integrity hypothesis, Bresnan and Mchombo (1995) discuss five tests of lexical integrity, including inbound anaphoric islands. In Bantu languages, they identify three problems for the inbound anaphoric island constraint: ‘incorporated indexical pronouns’ (see Bresnan & Mchombo 1987), deverbal manner nominalizations that include these pronouns, and possessive pronouns combined with possessed nouns. These are illustrated in 17–19 (Bresnan & Mchombo 1995:190–91).

(17) Zi-ná-wá-lum-a.

(Chicheŵa)

SB10-PAST-OB2-bite-IND

‘They bit them.’

(18) mu-tí-túm-iró

(Chishona)

?-us-send-way

‘way of sending us’

(19) mnz-ânga

(Chicheŵa)

companion-my

‘my companion’

In contrast to 17–19, they cite 20b; while nouns can occur with the prefix *mwana*, the pronoun *hii* ‘it’ cannot (1995:191).

(20) a. mwana-siasa ‘politician’ (cf. siasa ‘politics’)

(Swahili)

b. *mwana-hii

These authors claim that inbound anaphora are ruled out only when ‘the pronominal element has no determinate syntactic function’ relative to the stem or affix with which it is associated (1995:191). The pronoun in 17 and 18 and similar examples is the object of the verb, and it is the possessor of the nominal in 19; in 20b the pronoun has no syntactic role. They conclude that ‘the inbound anaphoric island constraint is a valid test of lexical integrity when it is restricted to a subclass of meaning-changing morphological operations that are found in derivation and compounding’ (1995:192).

In the Georgian data discussed in the present article, the pronouns in derived lexemes do not bear a syntactic relation to the affixes with which they are associated, though it might be claimed that they are possessors of the second stem of the compounds in which they occur. The morphological derivatives are of exactly the type claimed by Bresnan and Mchombo not to exist, and these examples show that there is no universal constraint against morphological derivatives of this kind.

2. ANAPHORIC ISLANDS: DESCRIPTION AND VARIETY.

2.1. SIMPLE EXAMPLES. Unlike English, Georgian has numerous examples of words derived productively from fully referential pronouns. I first describe the pronouns that can form referential bases for word-formation processes and then turn to derivational morphology and compounding elements that can combine with these.

Words can be derived from the personal pronouns *čem-*, the possessive stem of ‘I’, *šen* ‘you.SG’, *čven* ‘we, us’, and *tkven* ‘you.PL’. Examples include *čem-iani* ‘me-ite’, *šen-iani* ‘you-ite’, *čem-nairi* (or *čem-naira*) ‘like me’, *šen-nairi* (or *šen-naira*) ‘like

you', *čem-odeni* 'as many/much as I', *šen-odeni* 'as many/much as you', *čem-euli* 'having once belonged to me', *šen-euli* 'having once belonged to you', *čem-peri* 'like me', and *šen-istana* 'comparable to you'. (The part separated from the personal pronoun consists of more than one morpheme in all examples.) One of these is illustrated in a sentence in 21; *čemodeni* 'as many as I' can refer only to the speaker.

- (21) Miveci merab-s ati c'ign-i, da axla mas akvs čemodeni.
 I.give Merab-DAT ten book-NOM and now he.DAT he.have as.many.as.I
 'I gave Merab ten books, and now he has as many as I.'

In Georgian, demonstrative pronouns serve also as third person pronouns; these show a three-way distinction, 'this' (proximal), 'that' (medial), and 'yon' (remote).⁵ The possessive forms of these demonstratives (*amis*, *magis*, and *imis*, respectively) and of the neutral demonstrative pronoun (*mis*) may serve as bases for derivation and compounding, as illustrated in lines 2–10 of Table 1.

PROXIMAL	MEDIAL	REMOTE	NEUTRAL	GLOSS
1. amis 'this'	magis 'that'	imis 'that, yon'	mis 'his, her'	
2. amis-odeni	magis-odeni	imis-odeni	mis-odeni	'as many/much as she'
3. amis-peri	magis-peri	imis-peri	—	'like it/this/that' (dialectal only)
4. amis-nairi	magis-nairi	imis-nairi	mis-nairi	'like him, this/that kind (of)'
5. amis-tana	magis-tana	imis-tana	mis-tana	'like this/that'
6. amis-iani	magis-iani	imis-iani	mis-iani	'her-ite'
7. amis-euli	magis-euli	imis-euli	mis-euli	'having once belonged to him'
8. amis-eburi	magis-eburi	imis-eburi	mis-eburi	'comparable to this/that'
9. sa-amis-o	sa-magis-o	sa-imis-o	sa-mis-o	'for this/that'
10. u-amis-o	u-magis-o	u-imis-o	u-mis-o	'without her'
11. am 'this'	mag 'that'	im 'that, yon'		
12. am-gvari	mag-gvari	im-gvari		'this/that kind (of)'
13. am-(o)deni	mag-(o)deni	im-(o)deni		'this/that many'
14. am-nairi	mag-nairi	im-nairi		'this/that kind (of)'
15. am-it'om	mag-it'om	im-it'om		'for this/that reason'
16. ak 'here'	mand 'there'	ik 'there, yonder'		
17. ak-auri	mand-auri	ik-auri		'originating here/there'

TABLE 1. Word formation based on deictic and third person personal pronouns.

Modifying forms of the deictics, shown in line 11, can also serve as bases, as exemplified in lines 12–15 of the table. Adverbial deictics, line 16, are the base of the derivatives shown in line 17.

Formations of the same kinds can be based on the genitive forms of question words (*vis*, genitive of *vin* 'who'; *ris*, genitive of *ra* 'what'; *sad* 'where'), reflexives (*tavis*, genitive of *tav-* 'self'), negative pronouns (*aravis*, genitive of *aravin* 'no one'; *arapris*, genitive of *araperi* 'nothing'), or quantifiers (*q'vela* 'all, everyone', with the genitive *q'velas*): *vis-ianebi* 'who-ites', *vis-nairi* 'who-like, like who', *vis-odeni* 'as many as who', *vis-euli* 'having once belonged to whom'; *tavis-iani* 'self-ite', *tavis-odena* 'as much/many as self'; *aravis-iani* 'no-one-ite', *aravis-nairi* 'like no one', *aravis-odeni* 'as many as no one', *aravis-euli* 'having once belonged to no one'; *q'velas-nairi* 'like everyone', *q'velas-odeni* 'as many as everyone'. These formations are illustrated in 22–27.

⁵ Georgian does not have gender distinctions, and in this article I translate all of these interchangeably with masculine or feminine English pronouns, or as 'this' or 'that'.

- (22) **Č'ianč'vela_i tav_{i,*j}-is-oden-a** t'virt-s miatrevda.
 ant.NOM self-GEN-QUAN-HAVING load-DAT it.carry
 'The ant was carrying a load as big as itself.'
- (23) **Giorgi-m_i tav_{i,*j}-is-nair-i** aušena megobar-s.
 Giorgi-NAR self-GEN-type-NOM he.build.it.for.him friend-DAT
 'Giorgi_i built (his_i) friend one like his_i.'
- (24) **Merab-i_i čamovida tbilis-ši tav_{i,*j}-is-ian-eb-tan** ertad.
 Merab-NOM he.come Tbilisi-in self-GEN-DERIV-PL-with together⁶
 'Merab_i arrived in Tbilisi together with him_i-ites.'
- (25) R-is-oden-a t'virt-s miatrevda č'ianč'vela?
 what-GEN-QUAN-HAVING load-DAT it.carry ant.NOM
 'What size load was the ant carrying?'
- (26) Ra-nair-i bina-a?
 what-type-NOM apartment.NOM-it.is
 'What kind of apartment is it?'
- (27) Šen ertdroulad aravis-ian-i-c da q'velas-ian-i-c rogor xar?⁷
 you one.time no.one-ite-NOM-too and everyone-ite-NOM-too how you.are
 'How can you be the follower of no one and of everyone at the same time?'

Thus, referential personal pronouns, deictic pronouns, reflexive pronouns, question words, negative pronouns, and quantifiers occur as the first element of compounds and as the base in suffixal derivation.⁸

Oden 'only' is an independent word, and it also functions as the second element in compounds of these types: *šen-oden-i* 'as many as you [have, represent, etc.]', *imis-oden-i* 'as many as she (REM)', *tavis-oden-i* 'as many as oneself', *vis-oden-i* 'as many as who', *aravis-oden-i* 'as many as no one', *q'velas-oden-i* 'as many as everyone'. The element *nair-i* '-like, similar to' occurs marginally as an independent word (for examples, see Čikobava et al. 1950–64, vol. 5:1301–2). The status of both *-odeni* and *-nairi* as suffixes or bound stems is indeterminate, but here I assume that words formed with them are compounds. Compounds containing anaphoric first elements are also formed with *gvar-i* 'type', *per-i* 'color', and *šesaper-i* 'corresponding', but these are more restricted, occurring only in certain dialects, occurring only with certain other elements, or modifying only certain kinds of nouns.

Words based on a variety of pronouns are formed with the suffixes *-ian-* '-ite', *-eul-* 'having once belonged to', *-ebr-*, *-(eb)ur-* 'like, similar to', *-tana* 'with', and *-amdel* 'dating from, at the time of' or a related form (*-indel-*, *vandel-*, *-ndel-*, *-del-*). We find, for example, *šen-ian-i* 'you-ite', *mis-ian-i* 'her-ite', *tavis-ian-i* 'self-ite', *vis-ian-i* 'who-ite', and *aravis-ian-i* 'no one-ite'. Examples are provided in 28–29.

- (28) Ševardnaze_i icnobs? K'i, imis_j-ian-i-a.
 Shevardnadze know yes him.REM.GEN-ite-NOM-is
 'Does she know Shevardnadze?' 'Yes, she is a him-ite.'

⁶ Georgian literary norms require that monosyllabic postpositions be written with the head of the NP they follow, while polysyllabic ones are written as separate words. *-tan ertad* 'together with' is a complex postposition contrasting with *-tan* which alone usually has the meaning 'at, chez'.

⁷ I am grateful to Nino Amiridze for this example.

⁸ In a limited number of kinship terms, a personal or deictic pronoun may occur as the second element, for example, *deda-čem-i* 'my mother', *deda-šen-i* 'your (sg) mother', *deda-mis-i* 'her mother'.

- (29) **Buš-i_i** čamovida sakartvelo-ši **tav_{i,*j}-is-ian-eb-tan** ertad.
 Bush-NOM arrive Georgia-in self-GEN-ite-PL-with together
 ‘Bush arrived in Georgia with self-ites.’

The privative circumfix *u- . . . -o* ‘-less’ is used with a variety of bases: *u-šen-o* ‘you-less’, *u-imis-o* ‘her-less (REM)’, *u-arapr-o* ‘having nothing’.⁹ The circumfix *sa- . . . -o* ‘for (the purpose of)’ is likewise widely used: *sa-amis-o* ‘for it (PROX)’, *sa-imis-o* ‘for it (REM)’, *sa-tavis-o* ‘for oneself, REFLEXIVE’, *sa-arvis-o* ‘for no one’, *sa-q’ovelta-o* ‘for everyone’; for some speakers *sa-čem-o* ‘for me’, *sa-šen-o* ‘for you’ are also good.

- (30) *sa-amis-o pul-i ara makvs.*
 for₁-it.PROX-for₂ money-NOM NEG I.have
 ‘I don’t have money for that.’

The forms cited above are very ordinary; they do not require special stress or intonation. Their acceptability is not gradient or limited to certain dialects, except as noted. They are used in colloquial speech and in the literary language, and many of them can be found in the dictionaries, such as Čikobava et al. 1950–64 and Tschenkéli 1960–74.

In this section I have provided examples of compounds and words formed with derivational suffixes and circumfixes and containing referential (anaphoric) personal pronouns, deictic pronouns, question words, negative pronouns, quantifiers, and reflexives.

2.2. ANAPHORIC ELEMENTS MODIFYING THE ROOT OF A WORD? Examples in the section above show a referential pronoun as a sublexical unit, a part of a word; the pronouns are the root to which derivational morphemes attach, or they are one of the combining elements in a compound. In this section examples are introduced in which the pronoun is not the root to which the derivational morphemes attach but modifies that root; that is, another layer of structure is added in these examples. The structures are discussed further below.

A very common kind of example is illustrated in 31.

- (31) a. *im-γam-indel-i*
 that-night-DERIV-NOM
 ‘dating from that night’
 b. *am-dro-indel-i*
 this-time-DERIV-NOM
 ‘dating from this time’

Words with the suffix *-indel-* and its related forms may include one of the deictic modifiers, as in *am-γam-indel-i* ‘dating from this evening (tonight)’, *im-žam-indel-i* ‘dating from that time’, or *rod-indel-i* ‘dating from when’. Like the derivational affixes described in §2.1, this suffix frequently combines with a referential base, but the structure of these words is more complex. Compare the structures of *imis-ian-i* ‘him-ite’ and of *im-γam-indel-i* ‘from the time of that night’ in 32a and 32b, respectively. In both instances, the nominative case suffix *-i* is ignored; the referential pronouns are in bold.

- (32) a. [**imis**]_N ian]_N
 b. [**im** [γam]_N]_N indel]_A

⁹ The last is based on *araper-* ‘nothing’; double negation (here *u- . . . -o* ‘-less’ and *ara-* ‘NEG’) is common in Georgian.

Although **im yam-* is, from a semantic point of view, the base to which *-indel-* attaches, it is not a possible lexeme. *yame* ‘night’ is a word, but **im yame* is still not a word. It is also not a phrase, since as a phrase it would require the form *is yame* ‘that night’, in which both constituents are in their nominative case forms.

The privative circumfix, *u . . . o*, too, can be used in more complex structures.

- (33) Gamsaxurdia_i čemi saq’vareli mc’erali-a, da
 Gamsaxurdia my favorite writer-is and
 u-am_i-mc’eral-o-d kartuli lit’erat’ura c’armoudgenili-a.
 less₁-this-writer-less₂-TRV Georgian literature unimaginable-is
 ‘[Konstantine] **Gamsaxurdia**_i is my favorite writer, and without **this**_i
 writer Georgian literature is unimaginable.’
- (34) Merab-i k’maq’opil-i-a u-am-c’ign-o-d.
 Merab-NOM satisfied-NOM-is less₁-this-book-less₂-TRV
 ‘Merab is satisfied these-books-less.’

This kind of example is not as common as the types above, but one can find occasional examples in the literature. The forms of interest are in italics in 35–36, and the last is glossed in 37.

- (35) ganusazyvrel nacvalsaxelta erti gjupi nac’armoebia . . . **me** nac’ilak’is dartvit
 . . . upro žvelad . . . *uamnac’ilak’od*, ganusazyvrelubits šinaarssac šeicavda.
 (Imnaišvili 1957:535; italics added)
 ‘one group of indefinite pronouns is formed . . . with the addition of the
 particle **me**_i . . . At an earlier period, . . . they had indefinite semantics
 this_i-particle-less.’
- (36) es k’idev ar nišnavs imas, rom imave rigis sxva zmnebi . . . *u-r-supiksod* ar
 ixmarebodes imave raemet’i pormebris gavrcelēbis arešic. k’idev met’i,
 igive pormebi, romlebšic -r supiksi gv xvdeba, čveulebriv *uamsupiksodaa*.
 (Asatiani 1973:281; italics added)
 ‘this still does not mean that other verbs of the same set . . . are not used
r-suffix-less in the same [geographical] area in which forms having **r**
 are widespread. Further, the same forms in which we find the **r**_i suffix
 are ordinarily *this_i-suffix-less*.’
- (37) u-am-supiks-o-d-a-a
 less₁-this.OBL-suffix-less₂-TRV-EV-IS
 ‘this-suffix-less’

The structures of a simple word formed with the *sa- . . . -o* circumfix and described in §2.1 and those described here are compared in 38, using the examples *sa-amis-o* ‘for this’ in 30 and *u-am-supiks-o* ‘without this suffix’; the latter is simplified from the form occurring in 36. The referential pronouns (in the sense of n. 1) are in bold.

- (38) a. [sa [**amis**]_N o]_A
 b. [u [**am** [supiks]_N]_N o]_A

Arguments that these are words, not phrases, are given in §5.2.

I have shown in this section that while it is very common in Georgian for an anaphoric element to occur as a sublexical unit in a structure like 32a or 38a, it is also possible for it to occur as a sublexical element more deeply embedded, as in 32b or 38b.

3. GENITIVES IN GEORGIAN WORD FORMATION. The reader may be concerned that items I describe as derived words or compounds may not be words at all because many of them contain a genitive case marker. In this section I survey the use of genitives in Georgian word formation.

3.1. COMPOUNDS. It is very common for the first element of a noun-noun compound to bear the full form of the genitive case (*-is*), as in 39, or a reduced form (*-i*), as in 40. Generally, words that have the full form of the genitive cannot be replaced with words containing the reduced form, and vice versa.

(39) Genitive case singular

- a. q'av-is-per-i
coffee-GEN-color-NOM
'the color of coffee'
- b. ĵar-is-k'ac-i
army-GEN-man-NOM
'soldier'

(40) Reduced genitive singular

- a. mam-i-da
father-GEN-sister.NOM
'paternal aunt, father's sister'
- b. oĵax-i-švil-i
family-GEN-child-NOM
'member of the family'

Parallel to each word in 39–40 is a phrase with the full form of the genitive; for 39b and 40b, at least, the meanings of the phrases are different from those of the compounds: *ĵar-is k'ac-i* 'army's man', *oĵax-is švil-i* 'family's child'.

In some compounds the first element bears the archaic fusional marker of the genitive plural in its full form (*-ta*) or reduced (*-t*).¹⁰

(41) Genitive plural

- a. sabč'o-ta k'avšir-i
soviet-PL.GEN union-NOM
'Soviet Union, union of soviets'
- b. mk'a-ta-tve
mowing-PL.GEN-month.NOM
'July, month of mowings'

(42) Reduced genitive plural

- a. mic'a-t-mokmedeba
earth-PL.GEN-action.NOM
'agriculture'
- b. nav-t-sadgur-i
ship-PL.GEN-station-NOM
'port'

The productive, agglutinative genitive plural, *-eb-is(a)*, is apparently not used in compounds. In some compounds of the same semantic structure, the genitive is absent, and the first element occurs in stem form.

3.2. DERIVATION. The suffixes and circumfixes discussed in §2 require the genitive form of the base with nouns, as well as with pronouns. For example, *-euli* occurs with the genitive of common nouns (e.g. *mep-is-eul-i* [king-GEN-EUL-NOM] 'having belonged to the king'), with kinship terms (*ded-is-eul-i* 'having belonged to Mother'), or with a proper name (*merab-is-eul-i* 'having belonged to Merab'). The other suffixes dis-

¹⁰ Although I have referred to the fusional marker *-ta* as archaic, it is used in formal contexts and in some additional word-formation processes (see Harris 2002b).

cussed also occur with the genitive with common nouns, kinship terms, and proper names: *kmr-is-ian-i* ‘husband-ite’, *k’ac-is-tana* ‘like a man’, *lom-is-ebur-i* ‘like a lion’.¹¹ The elements discussed above as indeterminate forms (e.g. *oden* ‘only’) or as the second word in a compound also occur with the genitive: *gela-s-odeni* ‘as many as Gela’, *kviš-is-nair-i* ‘like sand’, *klint’on-is-nair-i* ‘like Clinton’.

The circumfixes described above, unlike the clear suffixes and the indeterminate forms, generally occur with the noun root, not with the genitive as their base, as illustrated below. It is only when the base is a pronoun or quantifier that the genitive is required with these circumfixes.

- | | |
|---|---|
| (43) u-p’ur-o | u-rk-o |
| less ₁ -bread-less ₂ | less ₁ -horn-less ₂ |
| ‘breadless’ (fig. ‘poor’) | ‘hornless, without horns’ |
| (44) sa-st’umr-o | sa-sapla-o |
| for ₁ -guest-for ₂ .NOM | for ₁ -grave-for ₂ .NOM |
| ‘hotel’ | ‘cemetery’ |

In this section I have shown that the genitive is frequently used both in compounding and in derivation in Georgian. Each of the derivational suffixes discussed above occurs with the genitive of bases of all kinds, but the circumfixes considered here occur with the genitive only with certain pronouns. The use of the genitive does not stand in the way of these being considered words.

4. DERIVATIONAL AFFIX OR CASE MARKER? The reader may be concerned that affixes I label derivational may actually be case markers. If that were true, the words described in this article would be of little interest, since the claims about anaphoric pronouns relate only to derived words and compounds, not to inflected words (see §1). In this section I discuss some of the ways in which the affixes described here differ from case markers.

As discussed in §2, words formed with *-oden-* ‘as many, much as’, *-nair-* ‘like, similar to’, *-gvar-* ‘type’, *-per-* ‘color’, and *-šesaper-* ‘corresponding’ have some of the characteristics of compounds. I therefore concentrate in this section on the other affixes described in this article, including the suffixes *-ian-* ‘-ite’, *-eul-* ‘having once belonged to’, *-ebr-*, *-(eb)ur-* ‘like, similar to’, *-tana* ‘like’, *-del* ‘dating from, at the time of’ or a related form (*-indel-*, *vandel-*, *-ndel-*, *-amdel-*), and the circumfixes *u- . . . -o* ‘less’ and *sa- . . . -o* ‘for (the purpose of)’.¹²

Case marking is entirely productive, and every noun and pronoun in the language declines (i.e. is paradigmatic), though a few nouns and several pronouns show irregularities. Some regular examples are given in 45.

- (45) Singular declension in Georgian
- | | | | |
|--------------|--------------|-------------------------|-----------|
| Nominative | zayl-i ‘dog’ | bost’neul-i ‘vegetable’ | dye ‘day’ |
| Narrative | zayl-ma | bost’neul-ma | dye-m |
| Dative | zayl-s | bost’neul-s | dye-s |
| Genitive | zayl-is | bost’neul-is | dye-is |
| Instrumental | zayl-it | bost’neul-it | dye-it |
| Translative | zayl-ad | bost’neul-ad | dye-d |

¹¹ These suffixes (or suffixes of the same form) can also combine with roots, but they generally have meanings different from those discussed in the text. For example, there is a suffix *-eul* that attaches to the root of a noun, forming a word that means a collective of that base, for example, *xil-eul-i* ‘fruits, a variety of fruit’ from *xil-* ‘fruit’ (Jorbenaze et al. 1988:153–55).

¹² In this section, I have drawn on the criteria discussed in Booij 1998.

Some grammars include the vocative as a case, in addition to the six in 45, and it is true that not every noun has a vocative. The status of the vocative is thus problematic but need not concern us here. Derivation, in contrast to case marking, is not entirely productive; and most derivational affixes that require a noun base cannot be used with all nouns. For example, *-ian-*, like English *-ite*, does not occur with *prezident'i* 'president'. A friend and supporter of dogs is not **zayl(-is)-ian-i* (from *zayli* 'dog'), and **bost'neul(-is)-ian-i*, which might be thought to mean 'vegetarian', from *bost'neuli* 'vegetable', does not exist.¹³

Case markers are obligatory, while derivational affixes are not. Every occurrence of every noun must have a case marker. For vowel-final stems, the case marker for the nominative is not realized, but for consonant-final stems, every case has a realized form, as illustrated in 45. Even a borrowed name, such as *klint'on-* 'Clinton', is not used in a sentence without a case marker, such as *klint'on-i* 'Clinton-NOM'.

A related characteristic is that, with few exceptions, case markers are semantically compositional, while derivational morphemes are often semantically opaque. For example *sa-st'umr-o*, based on *st'umar-* 'guest' and the circumfix *sa- . . . -o* 'for' or often 'place for', means only 'hotel', never 'tourist bureau', 'tour agency', 'guestroom', or 'bed and breakfast'. A possible exception to the compositionality of case marking is that there are slight differences in the meaning of the dative case forms of nouns referring to time; for example, *dye-s*, the dative of 'day', means 'today', just as *c'el-s*, dative of 'year', means 'this year'; yet *dila-s*, dative of 'morning', means 'in the morning (generally)'. It is likely, however, that this has nothing to do with the meaning of the case form, which is otherwise regular, but rather with polysemy of the kind found in German *Morgen* 'morning; tomorrow' (see Booij 1998:17 for exceptions in Dutch and English).

A case marker occurs 'outside' a derivational affix, that is, further from the root. Thus, we may derive *klint'on-ian-* 'Clinton-ite', and the obligatory case marker must be further from the root than *-ian-*; for example, *klint'on-ian-ma* 'Clinton-ite-NAR'. In §3 I pointed out that genitive case markers occur INSIDE certain derivational morphemes; for example, *mep-is-eul-i* [king-GEN-EUL-NOM] 'having belonged to the king' has the genitive *-is* inside *-eul*. Such a form, however, still requires a case marker OUTSIDE the derivational affix; in the example cited it is *-i* 'NOM'.

In Georgian, a case marker may be preceded by the plural marker *-eb*, but a derivational affix never can be.¹⁴ For example, we find *dye-eb-is* [day-PL-GEN]. In *sa-st'umr-o-eb-s* 'to the hotels', *sa- . . . -o* is the derivational affix, with the base *st'umar-* 'guest'; the plural suffix *-eb* follows the derivational marking and precedes the case.

Case is determined by syntactic environment, while derivation is not (see Anderson 1992:587, and others). For example, only a nominative can occur as object of *vnaxe* 'I saw', but nouns with various derivational affixes occur freely in this syntactic role, as shown in 46, where the first option has a nonderived base, the second has the derivational circumfix *sa- . . . -o* 'for', and the third the derivational suffix *-ian* 'ite'.

- (46) {k'ac-i/ sa-st'umr-o/ klint'on-ian-i} vnaxe.
 man-NOM for₁-guest-for₂-NOM Clinton-ite-NOM I.saw
 'I saw {a man/a hotel/a Clintonite}.'

Derivational morphology often changes word class. Table 2 shows the word class

¹³ There are other morphemes with the form *-ian-* and with other meanings. They differ from the morpheme discussed here not only in meaning, but also in that they do not take a base in the genitive form.

¹⁴ The archaic fusional suffix *-ta* does not have exactly the same ordering properties as *-eb*.

of the base forms and derived forms for each of the derivational affixes described here. As can be seen, most of the affixes do change word class.

BASE	DERIVED STEM	WORD CLASS OF ROOT	WORD CLASS OF STEM
klint'oni 'Clinton'	klint'on-ian-i 'Clinton-ite'	noun	noun
mepe 'king'	mepis-eul-i 'having once belonged to the king'	noun	adjective
lomi 'lion'	lomis-ebur-i 'like a lion'	noun	adjective
k'aci 'man'	k'acis-tana 'like a man'	noun	adjective
dye 'day'	dye-vandel-i 'dating from today'	noun	adjective
švili 'child'	u-švil-o 'childless'	noun	adjective
st'umari 'guest'	sa-st'umr-o 'hotel'	noun	noun

TABLE 2. Word classes of base and derived forms described here.

In Georgian, adjectives and other modifiers can be used with null heads after their referents are identified in discourse, and in this use they require a case marker, as in 47.

- (47) *Maḡal-i bič'-i c'avida, dabal-i k'i darča.*
 tall-NOM boy-NOM he.leave short-NOM though he.stay
 'The tall boy left, but the short [one] stayed.'

Such examples have led some to remark that case markers can act as derivational morphology, converting an adjective to a noun (e.g. Šaniže 1973). But if we assume that *dabali* 'short' in 47 has a null head and bears the case of that head, the case marker has no such power to change category.

Georgian case marking is productive, obligatory, and arranged in paradigms, while derivation has none of these characteristics. Case markers are semantically compositional, while derivational affixes are often opaque. I have shown that in Georgian case markers occur further from the root than derivational markers, and that case markers can be preceded by *-eb* 'PL', while derivational affixes cannot be. Case is determined by syntactic environment, while derivation is not; and derivational affixes often change word class, while case markers do not. In Georgian, then, case markers are not easily mistaken for derivational affixes.

5. WORDHOOD. I turn now to several kinds of arguments that the items described above are morphological and syntactic words; they are also phonological words, but that it not at issue. In §5.1, arguments relate to the words described in §2.1, while the arguments in §5.2 relate to words described in §2.2.

5.1. SIMPLE ANAPHORA. First, many of the items described above must be considered single words, not phrases or sequences of two or more words, because the parts cannot occur alone. The items referred to as suffixes cannot occur alone: **iani*, **eburi*, **euli*, **it'om*. Thus items such as *amis-iani* 'him-ite', *čem-eburi* 'comparable to me', *vis-euli* 'having belonged to whom', and *im-it'om* 'for that reason' must be words, even though the first element in each instance can occur as an independent word form.

The circumfixes, *u- . . . -o* and *sa- . . . -o*, cannot stand alone in any sense, nor can combinations of the parts stand alone; this would be expected if the items cited as words were actually sequences of two or more words. In *u-šen-o* 'without you', neither **u-šen* nor **šen-o* exists alone. In *sa-amis-o* 'for this', **sa-amis* cannot stand alone as a word, nor can **amis-o*. The same arguments can be made for the examples in 43 and 44. Thus, items formed with the circumfix *u- . . . -o* or *sa- . . . -o* must be words.

A second argument for the wordhood of these items is based on the fact that declension of possessive pronouns in a phrase is different from the forms found in compounds and derived words. The forms used in phrases are illustrated in 48.

(48) Nominative	čem-i	megobar-i	'my friend'	vis-i	megobari	'whose friend'
Narrative	čem-ma	megobar-ma		vis-ma	megobarma	
Dative	čem(-s)	megobar-s ¹⁵		vis	megobars	
Genitive	čem-i	megobr-is		vis-i	megobris	
Instrumental	čem-i	megobr-it		vis-i	megobrit	
Translative	čem	megobr-ad		vis	megobrad	

The declensions of a compound and of a derived noun are illustrated in 49 and 50, respectively.

(49) Nominative	čem-nair-i	megobar-i	'a friend like me'	vis-oden-i	'as many as who'
Narrative	čem-nair-ma	megobar-ma		vis-oden-ma	
Dative	čem-nair	megobar-s		vis-oden-s	
Genitive	čem-nair-i	megobr-is		vis-oden-is	
Instrumental	čem-nair-i	megobr-it		vis-oden-it	
Translative	čem-nair	megobr-ad		vis-oden-ad	
(50) Nominative	čem-ian-i	'me-ite'	vis-eul-i	'having once belonged to whom'	
Narrative	čem-ian-ma		vis-eul-ma		
Dative	čem-ian-s		vis-eul-s		
Genitive	čem-ian-is		vis-eul-is		
Instrumental	čem-ian-it		vis-eul-it		
Translative	čem-ian-ad		vis-eul-ad		

At issue here are the possessive stems of the personal pronoun *čem-* 'my (SG)', the question word *vis-* 'who.GEN', and comparable forms in similar words. In a phrase, *čem-* 'my' has various suffixes, depending on the case of the head noun, as shown in 48. The question word *vin* 'who' and other possessors are in the genitive, and they have additional suffixes that depend on the case of the head noun, as illustrated. But in compounds (49) or derived words (50), *čem-* occurs in stem form, without the suffixes *-i* or *-ma* in the cases that would require these in phrases. So **čem-ma-ian-ma* is impossible, with or without an added word boundary; *čem-* occurs in its bare stem form in the nominative, narrative, genitive, and instrumental only within a word. Thus, *čem-nair-i* 'like you' and *čem-ian-i* 'you-ite' are words. Like most other bases, *vin* requires the genitive as its combining form in most compounds and derived words; inside lexemes this genitive does not take the additional suffixes *-i* and *-ma* in the appropriate cases. Thus **vis-i-eul-i* and **vis-ma-eul-ma* are not possible forms, even with an additional word boundary.¹⁶ Thus, the elements described as words in §2.1 must be true words because the pronouns that they contain cannot occur in that form as independent words but must have an additional suffix.

A third argument for the wordhood of these collocations is based on deletion. Across languages of the world, in many instances it is impossible to delete under identity out of a word (see however Booij 1985, Nespor 1985).

- (51) a. Is čem-nairi da čem-iani-a.
 she me-like and me-ite-is
 'She is like me and a me-ite.'

¹⁵ The *-s* of the possessor in the dative can be omitted, but the preferred form retains it. See Tschenkéli 1958:134–35 for examples of all details.

¹⁶ Given that *nair-i* 'similar to' and *oden* 'only' are independent words, it should not be surprising that there is a (marginal) phrase *čem-i nair-i* 'similar to me' parallel to the word *čem-nair-i* 'like me'.

- b. *Is čem-nairi da -iani-a.
 she me-like and -ite-is
 ‘She is like me and a me-ite.’
- c. *Is -nairi da čem-iani-a

The failure of such deletion is additional evidence of wordhood.¹⁷

A fourth kind of evidence is the impossibility of interrupting these items with a clitic or other word. A clitic *-ve* means ‘same, indeed, precisely’ or ‘very’ as in ‘that very one’; I gloss it here as ‘indeed’ or ‘precisely’. Example 52 shows that *-ve* occurs with a noun or pronoun, but it does not occur inside the complex derived forms discussed above.

- (52) a. imis-ve *imis-ve-ian-i
 her-indeed her-indeed-ite-NOM
 ‘precisely hers’ ‘a follower of precisely hers’
- b. merab-is-ve *merab-is-ve-ebur-i
 Merab-GEN-indeed Merab-GEN-indeed-LIKE-NOM
 ‘precisely Merab’s’ ‘like Merab precisely’

As expected, if the compound can be turned into a parallel phrase, as those formed with the independently occurring *oden-* can, then *-ve* can occur in the position that is impossible in 52.

- (53) imisi-ve oden-i
 her-indeed as.many.as-NOM
 ‘indeed as many as she/her’

The contrast between the phrase in 53 and the ungrammaticality of the comparable words in the righthand column of 52 indicates that the latter are words. They cannot be interrupted because words ordinarily cannot be interrupted by clitics or other words.

On the basis of lack of independent occurrence, case form, failure of deletion under identity, and failure of interruption by a clitic, I conclude that the forms described in §2.1 are words.

5.2. MORE COMPLEX EXAMPLES. There is structural evidence also that *u-am-supiks-o* ‘without this suffix’, *u-am-mc’eral-o* ‘without this writer’, and other examples given in §2.2 are words. Consider the paradigm in 54.

- (54) Nominative es supiks-i ‘this suffix’ es mc’eral-i ‘this writer’
- Narrative am supiks-ma am mc’eral-ma
- Dative am supiks-s am mc’eral-s
- Genitive am supiks-is am mc’erl-is
- Instrumental am supiks-it am mc’erl-it
- Translative am supiks-ad am mc’erl-ad

The sequences **am supiks* and **am mc’eral* do not occur as part of the declension of these expressions, and they are not possible phrases because an independent noun in Georgian must always bear a case marker.¹⁸

Further, with the exception of *am* ‘this’, none of the parts of *u-am-supiks-o* ‘without this suffix’ or *u-am-mc’eral-o* ‘without this writer’ can occur alone. Thus, **u*, **u-am*,

¹⁷ The failure of deletion under identity out of a word, as in 51, and the impossibility of interrupting a word with a clitic, as in 52, are attributed to lexical integrity.

¹⁸ A zero allomorph of the nominative case occurs with nouns whose stem ends in a vowel, such as *gogo* ‘girl.NOM’, *deda* ‘mother.NOM’.

**u-am-supiks*, **am-supiks*, **am-supiks-o*, **supiks*, **supiks-o*, and **o* are all ungrammatical. **Supiks-o* should, in principle, be the vocative case of the root *supiks-*, but in fact this case is archaic with all but a few human nouns.

Lastly, the analysis proposed here is in accord with traditional analyses of *u- . . . -o* and *sa- . . . -o* by Georgian linguists (Šaniže 1973, Jorbenaze et al. 1988) as circumfixes, that is, as affixes and therefore things that attach to words.

On the basis of these facts, I conclude that the forms described in §2 do indeed qualify as words.

6. INTERPRETATION: POSSIBLE INBOUND ANAPHORA IN OTHER LANGUAGES. Georgian is, of course, not unique in having referential pronouns inside words. Counterexamples in English, Warlpiri, and three Bantu languages were adduced in §1.

It appears that Hunzib, a language of the North East Caucasian family, unrelated to Georgian, also has some words built on pronouns. Van den Berg (1995:62, 119) lists the following forms.

- | | | |
|---------|---------------------------------|---------------------------|
| (55) a. | bəḁ-aa ‘so, like this (PROX)’ | bəḁ-il ‘this much (PROX)’ |
| | b. bəl-aa ‘so, like this (MED)’ | bəl-il ‘this much (MED)’ |
| | c. əg-aa ‘so, like that (REM)’ | əg-il ‘that much (REM)’ |
| | d. hin-aa ‘how’ | hid-il ‘how much’ |

Van den Berg (1995:119) shows that when these are used as attributives, they also have genitive (*-s*) and instrumental (*-d*) forms.

Abdullaev (1979:130) observes that pronouns can undergo word formation in Tsez, a language related to Hunzib. He provides the following examples: *did-didiv* ‘what kind of’, *mi-mitov* ‘you yourself’, *di-ditov* ‘I myself’, *sida-sis* ‘another’.

Many languages have personal pronouns, in some sense, in the verb. One may object that this is merely agreement, not inbound anaphora, but Rood (2002) argues that forms such as 56 in Wichita contain not mere agreement, but true pronouns.

- (56) ta-ki-hirʔi:ras (-ki- ‘me’) ‘he/she found me’ (Rood 2002:297)

As Rood observes, there is nothing for the pronominal elements here to agree with, for there are no independent pronouns in the language.

In the context of anaphoric island constraints, Georgian is the first language to be discussed that has such a wide variety of personal, demonstrative, reflexive, and negative pronouns, as well as question words, quantifiers, and adverbs as the base of derivation with productive suffixes and in compounds. Nevertheless, this language is surely not unique in this respect. Georgian shows, however, that there is no universal constraint against pronouns in such contexts.

7. CONCLUSIONS. The constraint against words formed on pronouns (i.e. inbound anaphora), to the extent that it exists at all, is language-specific. Adapting the insight of Ward and colleagues (1991:450), inbound anaphora is not ruled out by any universal grammatical principle. Words formed on pronouns can be a regular, rule-governed, and productive part of the grammar of a language.

Although I have shown that inbound anaphora is not universally impossible, this does not disconfirm the lexical integrity principle, since anaphora is only one part of its claims, as revised by some linguists. However, Ackerman & Webelhuth 1998, Harris 2000, 2002a, and other works challenge another claim of that principle, namely that words cannot be interrupted by other words.

We must now look for explanations for the nonoccurrence in English of **him-ite*, **you-less*, **this-suffix-less*, **which-th*, **which-less*, and many others. The occurrence

of *whereby, therefore, himself*, and so forth show that there is not a simple division of languages into those that do and those that do not permit inbound anaphora. We must also sort out what principles govern these lexemes in Georgian, since not all potential combinations are grammatical there. For example, although many combinations with *-tana* 'like', such as *vis-tana* 'like who', are possible, **ris-tana* 'like what' is not grammatical.

Anaphoric islandhood has also become a standard part of the argumentation used in defining the word. The data presented here, however, show that as a criterion for identifying the word, anaphoric islandhood must be used with great caution, if at all. Until we understand the principles that govern the combination of pronouns and quantifiers with derivational morphology and elements of compounds in various languages, individual data provide very little information with respect to the wordhood of an item that might be a word or a phrase.

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