

Lexicalism and the Distribution of Reflexives

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One of the most important stimuli for the recent development of theories of morphology has been the desire to work out the implications of the “Lexicalist Hypothesis”, first suggested by Chomsky 1970. Though this position has probably had as many interpretations as interpreters, a strong form of the hypothesis¹ is that given in (1):

- (1) **Lexicalist Hypothesis:** The syntax neither manipulates nor has access to the internal form of words.

Although this position is a rather restrictive one, and excludes many of the analyses proposed in the syntactic literature during the 1960’s and 1970’s, it seems generally to be possible to maintain it in the face of most that is known about the syntax and morphology of natural languages. One notable *prima facie* problem for (1), however, which many authors have cited as an argument for more permissive views of the interaction of morphology and syntax, is a particular kind of distribution of reflexive pronouns in causative constructions that is found in several languages. In the languages in question, reflexive pronouns appear in sentences whose main verb is causative with a distribution which suggests that the causative verb must be formed in the syntax — a violation, at least apparently, of the claim that the syntax does not manipulate the internal forms of words.

The present paper discusses one such case, that of Georgian, which appears to be typical of the kind of interaction which poses problems for the Lexicalist Hypothesis. In Section 1 below, the facts of this language which are problematic are presented and the nature of the problem laid out. In Section 2, an alternative analysis is presented which locates (at least part of) the principles determining the distribution of reflexives in the lexicon, which would remove the problem for (1). At first sight, however, this analysis has a number of features which are not particularly attractive. Section 3 then considers the facts of Georgian in more detail, and shows that there are in fact independent reasons to believe that the important features of the lexical analysis of reflexivization are well motivated for this language, despite initial appearances. Section 4 thus concludes that the analysis apparently required to maintain (1) is correct, and engages in some more general speculation about the implication of this analysis for other issues in syntax.

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¹Some discussion of this position, its implications and its history will be found in Anderson 1988.

1 Reflexives and Causatives in Georgian

The problem posed by Georgian comes from the fact that, as established by Harris 1981, reflexive pronouns in that language must be bound by the subject² of their clause. Reflexive pronouns have the form ‘possessive + *tavi*’ (e.g. third person *tavisi tavi*, literally ‘self’s head’), as illustrated in (2) below:³

- (2) a. vano irçmunebs tavis tavs
 Vano convinces self’s self
 Vano is convincing himself.
- b. vano elaparaḳeba tavis tavs
 Vano talks to self’s self
 Vano is talking to himself.
- c. vano pikrobs tavis tav–ze
 vano thinks self’s self–on
 Vano is thinking about himself.
- d. vanos uqvars tavisi tavi
 Vano loves self’s self
 Vano loves himself.

Note in particular that the antecedent of a reflexive may **not** be either the subject of a containing clause (as in (3a) below), or a non subject within the same clause (as in (3b)):

- (3) a. vano pikrobs rom nino saçmels amzadebs tavis–tvis
 Vano thinks that Nino food prepares self–for
 Vano_i thinks that Nino_j is preparing food for herself_{j,*i}
- b. nino ačvenebs paḫara givis tavis tavs sarḳe–ši
 Nino shows little Givi self’s self mirror–in
 Nino_i is showing little Givi_j herself_{i,*j} in the mirror.

Such conditions on the distribution of reflexives are not particularly unusual, since many other languages require anaphors (including reflexives) to be bound by the subject of the minimal containing clause. In Georgian, however, there is exactly one set of circumstances in which this condition is not satisfied fairly transparently.⁴ In sentences containing a causative verb, such as *alaparaḳebs* ‘makes speak’, causative of *laparaḳobs* ‘speaks’, or *miatantinebs* ‘makes take’, causative of *miitans* ‘will take’, **either** the subject of the causative verb (the agent of causation) **or** its indirect object (the agent of the caused action) can be the antecedent of a reflexive. This is illustrated in (4) below, where the lines connecting NP’s indicate the possible antecedents for the reflexive:

²See also Anderson 1984 for discussion of which NP constitutes the ‘subject’ of morphologically problematic clauses, such as that in (2d) below.

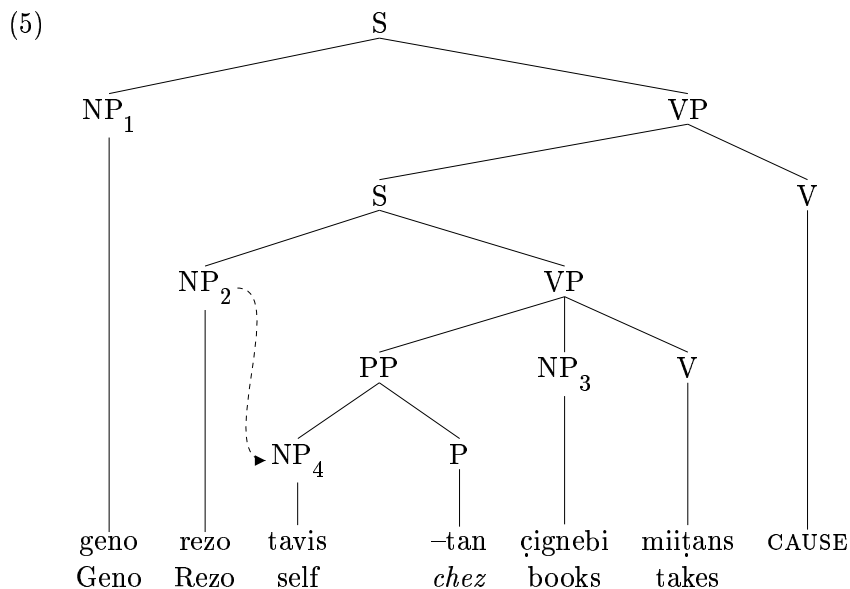
³The examples here, as well as most of the others in this article, are taken from Harris 1981. This is not because I am unable to provide other example sentences from Georgian, but rather because Harris 1981 is the *locus classicus* for the discussion of Georgian syntax in contemporary terms. Harris and I differ on a number of points, but the facts and analyses presented in her work form an indispensable basis for the present discussion. Citing her examples, thus, may aid the reader in placing the points addressed within a broader context.

⁴Assuming, again, the position of Anderson 1984 concerning the identification of ‘subjects’ in inversion constructions. This refinement of the account in Harris 1981 does not directly affect the present discussion, however.

- (4) a. $\overbrace{\text{ekimma vanos alapara\ka tavis tav-ze}}$
 doctor made talk Vano self's self-on
 The doctor_i got Vano_j to talk about himself_{i,j}.
- b. $\overbrace{\text{genom mia\cetanina rezos \cignebi tavis-tan}}$
 Geno made take Rezo books self-chez
 Geno_i got Rezo_j to take the books to his_{i,j} place.
- c. $\overbrace{\text{vanom alapara\ka tavis tavi sxva-ze}}$
 Vano made talk self's self other-on
 Vano_i made himself_i talk about someone else.

The most ‘natural’ analysis of this fact which comes to mind (and that of Harris 1981, in essence) is to posit an underlying two-clause structure for causatives, in which the NP which serves as subject of the related non-causative is subject of an embedded complement to an abstract verb of causation. This complex structure then undergoes a rule collapsing the two clauses into one. The rule in question is known as “Clause Union” in some theories, as “Verb (or Predicate) Raising” in others, as “Incorporation” in still others: the distinctions among these possibilities are not significant in the present context, for the essential claim of all of them is that a surface clause with a single causative verb is derived syntactically from an underlying structure containing a clause with a non-causative verb embedded in a matrix sentence whose verb expresses causation alone.

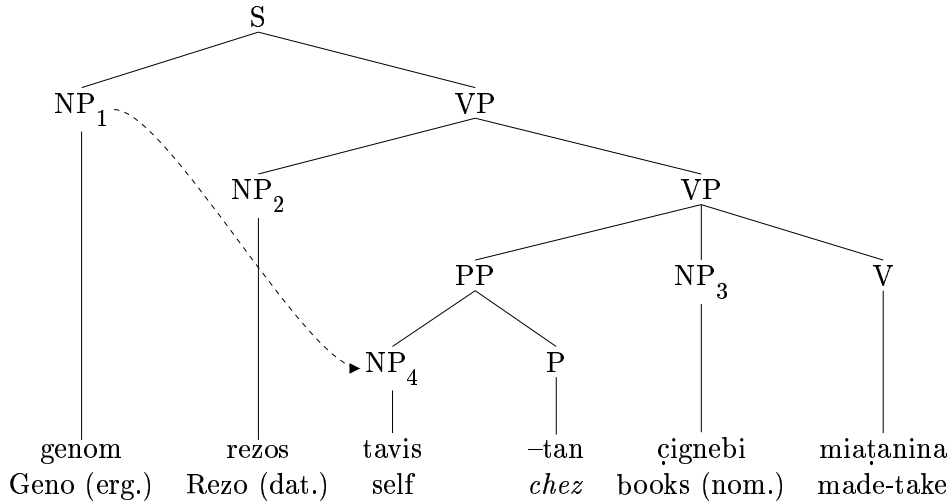
In such a derivation, the underlying structure of sentence (4b) is given (roughly, and assuming an underlying SOV order) by a Phrase Marker such as that in (5):



As indicated by the arrow, NP₂ can serve as the antecedent of a reflexive in the position of NP₄ in this structure, since NP₂ is the subject of the minimal clause containing NP₄.

After the operation of the rule which collapses the structure in (5) into a single clause, the result is something like the structure in (6), still assuming for the sake of simplicity that the basic word order of Georgian clauses is SOV:

(6)



The arrow in this structure indicates the possibility that NP₁ may serve as the antecedent of a reflexive in the position of NP₄, since NP₁ is the subject of the minimal clause (in the derived structure) that contains NP₄.

The two possibilities for the antecedent of the reflexive pronoun in (4b), then, correspond to instances of well formed antecedent-anaphor relationships in the two structures (5) and (6). In order to derive the ambiguity of reference of this reflexive, we need only assume that the binder of a reflexive can be determined either before or after the application of “Causative Clause Union” maps (5) onto (6). In the absence of a derivation relating these two structures, it is not clear how both possibilities can be reconciled with the generalization above about what NP’s can serve as the antecedent of a reflexive: these facts thus serve as important evidence in favor of such a derivation.

In the context of the Lexicalist Hypothesis as stated in (1), however, the derivation just discussed is not possible. This is because a rule forming causative verbs (such as the rule of “Causative Clause Union” invoked above) would be a rule of the syntax which would have to have access to (and manipulate) the internal form of causative verbs like *alaparak̃ebs* ‘makes speak’ (cf. *laparak̃obs* ‘speaks’), *miat̃aninebs* ‘makes take’ (cf. *miit̃ans* ‘will take’), etc., contrary to the claim in (1).

To see this, we must consider briefly the morphology of verbs in Georgian, and particularly of causatives. A Georgian verb consists of several structural positions, including the following:⁵

- A **stem** position, occupied by a root (possibly followed by one or more derivational suffixes);
- A **pre-radical** vowel position, coming immediately before the stem and occupied by exactly one of the elements / \emptyset ,a,e,i,u/;
- An **aspectual preverb**, coming at the very left edge of the verb and filled by one of a small closed set of prefixes or by nothing;⁶
- An **agreement prefix**, coming after the aspectual preverb (if one is present) and before the pre-radical vowel (if present);

⁵See Anderson 1984 for some further information on the morphology of the verb in Georgian, as well as such descriptive sources as Aronson 1982, Vogt 1971, Tschenkeli 1958 and Tschenkeli 1960–1974.

⁶The choice of a particular aspectual preverb is lexically idiosyncratic. The preverb associated with a given lexical verb appears in certain tenses and not in others, as part of the system marking tense and aspect. For details, see the sources mentioned in the previous note.

- A **present-future stem formant**, chosen on a lexically idiosyncratic basis from a small closed set and appearing after the stem in certain tenses; and
- A set of final inflectional suffixes marking certain categories of tense, aspect, and agreement.

What is of interest to us in this scheme is the formal way by which causative verbs are built. While there are numerous lexical idiosyncrasies, the prevailing pattern is the following:

- The causative stem for one set of verbs (including e.g. *a-laparak-eps* ‘makes speak’ from *laparak-obs* ‘speaks’) is the same as the stem of the basic verb, while for others (including e.g. *mi-a-tanin-eps* ‘makes take’ from *mi-i-tan-s* ‘will take’), the causative stem consists of the base stem together (usually) with its present-future stem formant, followed usually by the suffix /-in/ (in some verb classes, /-evin/);
- The pre-radical vowel, whatever it may be in the base verb, is replaced by /a-; and
- The present-future stem formant of the resulting verb is /-eb/

The important point to note is that causative verbs have the same internal structure as basic verbs. That is, they are structurally single verbs, related by processes of replacement of certain structural units to their underlying basic verbs, but in no way analyzable as composed of two verbal units. The Lexicalist Hypothesis as stated in (1) thus does not allow their formation by rules of the syntax, since such rules would have to operate on the internal forms of words (presumably, two verbs — one a basic verb, and the other an abstract verb of causation) to blend them into a single morphological unit. This is exactly the sort of syntactic operation which (1) claims does not occur.

Notice that (1) does not prohibit the formation of causative constructions *per se* (or in general) by syntactic operations, but only those in which the derived causative verbal unit is a single morphologically unitary word. Thus, in a typical French causative such as (7) below, a syntactic derivation relating an underlying complex structure to a monoclausal surface structure would be perfectly consistent with (1):

- (7) Janine a fait manger le canard rôti au chat
 Janine has made eat the duck roast to the cat
 Janine made the cat eat the roast duck

In this construction, the two verbs in the underlying syntactic structure remain individually unitary words (*fait* ‘made, caused’ and *manger* ‘eat’) in the derived representation, unlike the Georgian case in which unitary surface words are composed from two syntactically independent verbal elements. Indeed, there is no reason to believe that (1) should even prohibit cases in which a syntactically complex causative construction is reduced to a single *phonological* word in surface structure, so long as all that is involved is a process of cliticization that applies in the phonology. Thus Martin 1988 argues that a Crow causative like that in (8) should be analyzed as coming from a syntactically complex structure with two underlying verbs:

- (8) bii-lishshi-la-hchee-k
 1-dance-2-CAUSEPAST
 you made me dance

Although this example consists of a single phonological word, there are two discreet subparts of this word corresponding to ‘dance’ and ‘CAUSE’ respectively; and indeed a major part of Martin’s argument derives from the fact that each of these is apparently inflected separately. An analysis on which the coalescence of the two syntactically distinct verbs was essentially a matter of the phonology⁷ would not necessarily violate (1), whose essence is the claim that the internal structure of *morphologically* unitary words is not accessible to or manipulated by rules of syntax. It has long been known that the correspondence between words as defined on purely phonological bases and words as defined by syntactic or morphological criteria, while generally good, is not perfect, and the notion of ‘word’ appealed to in (1) is clearly a morphosyntactic one where this diverges from a phonological definition.

Nonetheless, although derivation of causative constructions like those of French and Crow (in (7) and (8), respectively) from syntactically complex sources would be consistent with (1), such a derivation is not possible for the Georgian causative. This is because causative verbs in Georgian, unlike these other languages, are lexically and morphologically unitary. If (1) is correct, then, their formation should take place within the lexicon and not in the syntax, which makes the derivation discussed earlier in this section impossible. This is the essence of the problem posed for the strong version of the Lexicalist Hypothesis adopted here by the facts of Georgian.

2 A Lexical Analysis of Reflexives in Georgian

In the previous section, we saw reason to believe two things about causative constructions in Georgian. On the one hand, the facts concerning the antecedents of reflexive pronouns in sentences like (4), in the context of the general conditions on Georgian reflexives, seem to require that the antecedent of a reflexive be capable of being determined either before or after the formation of causatives from non-causative bases. On the other hand, the morphological properties of Georgian causative verbs themselves seem to require that they be formed in the lexicon rather than in the syntax. On the assumption that the relation between reflexives and their antecedents is established in the syntax, these two conclusions seem to be contradictory.

A way to resolve this problem, apparently, would be to claim that *both* the binding of reflexives *and* causative formation take place in the lexicon (where they would again be free to interact in various ways). And indeed, lexical analyses of reflexives have been proposed by a number of writers. Grimshaw n.d., for example, provides a particularly detailed argument (within the framework of Lexical Functional Grammar) for the conclusion that the reflexive clitic *se* in French (and its cognates in other Romance languages) is actually the marker of a lexical process of reflexivization, creating reflexive verbs out of transitive ones.⁸ This process has three component effects:

- The verb acquires a lexical requirement that it occur with the clitic pronoun *se*;

⁷Although a syntactic derivation of Crow causatives as proposed by Martin would thus be consistent with the Lexicalist Hypothesis, I believe another account is actually preferable in this case: one on which causatives like that in (8) are actually a sort of composite verb with internal structure, similar to compounds, headed by the causative element. Arguing for this structure would, however, take us too far afield here. The point of the present discussion is simply that an analysis like Martin’s would be perfectly possible in the context of a strong lexicalist view of the interaction of syntax and morphology.

⁸Actually, Grimshaw’s analysis involves a number of distinct lexical operations which all have the effect of creating verbs with attached clitic *se*, some of which do not come from basic transitives. The point, however, is that her proposal involves a lexical process of reflexivization.

- It loses the ability to occur with a syntactic direct object argument in ‘c(onstituent)-structure’ representations; and
- The ‘f(unctional)-structure’ argument positions corresponding to the subject and object arguments of the related non-reflexive form are marked as referring to the same argument.

There is no doubt that, in some languages, lexical processes have the effect of adding an affix of some kind to a basic verb and otherwise modifying its argument structure along the lines of Grimshaw’s analysis of French. In Icelandic, for example, the suffix *-st* forms ‘middle voice’ verbs from others,⁹ where many of these have a reflexive or reciprocal interpretation (e.g., *klæðast* ‘dress oneself, get dressed’, cf. *klæða* ‘dress (trans.)’; *mætast* ‘meet each other’, cf. *mæta* ‘meet (trans.)’; etc.). The novelty of Grimshaw’s analysis lies in its extension of this mechanism to a language in which the reflexive element is a (clitic) pronoun, rather than a patently derivational affix.¹⁰

A central argument for Grimshaw’s lexical analysis of reflexives in French, however, is the demonstration that verbs with associated reflexive clitics are syntactically intransitive. Since the argument structure of reflexive verbs is thus quite different from that of the associated non reflexive base, the conclusion that the relationship between them is a lexical one seems quite plausible. But if we attempt to transfer the same analysis to Georgian, we find immediately that we cannot, since verbs with reflexive pronoun objects in this language do not appear to differ in transitivity from their bases. In particular, transitive (or ditransitive) verbs with reflexive objects are also transitive (or ditransitive, respectively). This is shown by a number of factors, among them the following:

- The case marking patterns of transitive and intransitive verbs differ systematically in certain tenses (notably those of the ‘aorist’ series). Transitive verbs with reflexive objects continue to show the pattern characteristic of transitive verbs, rather than replacing this with the intransitive pattern.
- The causative of a transitive verb with reflexive direct object treats the subject of the underlying verb as the indirect object of the derived transitive, as with non reflexive transitive verbs. If the reflexive verb were intransitivized, we would expect it to be treated as a *direct* object of the causative.
- The ‘object camouflage’ construction (see section 3.1 below) requires that a first or second person direct object be replaced by a special form if an overt indirect object argument is present. This condition continues to obtain if the indirect object is a reflexive, which would not be the case if this argument position had been eliminated as a by product of reflexivization.
- With non-finite verb forms (particularly the ‘mazdar’), intransitive subjects and the direct objects of transitives are marked with the genitive, while other arguments (including the subject of a transitive) are marked with postpositions. This is true regardless of whether the direct object is a reflexive.

While one could perhaps propose analyses of any of these phenomena that avoided the conclusion that object argument positions are still syntactically present even when filled by reflexive pronouns, the cumulative weight of these points (which represent only a selection from among the possible

⁹See Anderson 1990 for a discussion of the syntax, morphology, and phonology of Icelandic verbs in *-st*.

¹⁰Though it should be noted that some authors have proposed that Romance clitics should in fact be considered to be more like affixes than independent pronouns. See Borer 1986 for some discussion of this issue.

arguments that could be adduced) is quite unambiguous. Taken together with the fact that there are apparently no arguments in the opposite direction (that is, there are no arguments tending to show that an argument position filled by a reflexive is absorbed as a consequence of such a lexical operation as that which Grimshaw demonstrates for French), the evidence is overwhelmingly in favor of the claim that no detransitivization or other form of argument absorption accompanies reflexivization in Georgian.

Although the specific form of argument invoked by Grimshaw in favor of a lexical rule of reflexivization is thus not available for Georgian, this fact does not by itself exclude the possibility that a lexical process (of a somewhat different nature than that of French) is at work in this language. And in fact, an analysis of the appropriate sort has been proposed elsewhere in the literature. An argument of the form developed in section 1 above, purporting to show that causative verbs must be derived syntactically from underlyingly complex sources, was presented by Baker 1985, 1987, based on the facts of ChiMwi:ni. Di Sciullo & Williams 1987, in developing a version of the Lexicalist Hypothesis which they refer to as the principle of the ‘syntactic atomicity’ of words, note that Baker’s argument would pose essentially the same problem for such a view as that which we saw above in the Georgian facts. They propose that a resolution of this difficulty would lie in a lexical account of reflexivization:

[S]uppose that the reflexive binding is not syntactic, but lexical [...] We might suppose that the reflexive rule is an operation on argument structures that adds no affix but rather adds the feature ‘refl’ to the specification of the accusative argument of verbs and binds the Theme argument to the subject argument. The ‘refl’ feature on the accusative argument means that only the reflexive pronoun can be inserted in the position associated with this argument in syntax. (Di Sciullo & Williams 1987, p.60)

Note that, in contrast to Grimshaw’s analysis of Romance reflexive clitics, this proposal involves no change in the argument structure of the verb, but only (a) the addition of a syntactic requirement that a particular argument of the verb be filled by a NP bearing the feature ‘refl’;¹¹ and (b) a change in the verb’s semantic interpretation, reflecting the fact that the reflexive argument position is interpreted as bound to the same referent as that provided by the subject NP. While this account was proposed specifically for ChiMwi:ni, its extension to Georgian involves no substantial change in its spirit or the mechanisms it invokes.

Let us now see how such a lexical reflexive rule could deal with the apparent contradiction we derived in section 1. First, we can note that since it involves a lexical rule of reflexivization, this rule could obviously interact with other lexical rules (such as the causative rule, which we saw had to be lexical in order to respect the Lexicalist Hypothesis) in substantial ways. Second, the interaction of lexical reflexivization with causative formation can in fact yield the possibilities we noted for the antecedent of a reflexive, in the following fashion.

On the one hand, the lexical reflexive rule can apply to e.g. *laparakobs* ‘speaks’ directly, yielding a (homophonous) verb meaning ‘speaks to self’, which requires a reflexive object. If the causative rule now applies to this verb, a verb meaning ‘makes speak to self’ is derived. *Ceteris paribus*, this verb ought to preserving the properties of the underlying verb ‘speaks (to self),’ including the

¹¹Notice that subcategorization of an argument position for a ‘refl’ NP must be interpreted as not only a sufficient condition for the appearance of such a NP, but a necessary one as well. This sort of complementarity is often characteristic of subcategorization relations, but remains to be made precise as part of the complete elaboration of the present analysis.

restriction that the direct object must bear the feature ‘refl’ as well as the binding of this argument to (what is now) the indirect object of the derived verb. This derivation thus gives one reading of sentences like (4a,b), that on which the antecedent of the reflexive is the surface indirect object.

On the other hand, if causative applies to the basic, un-reflexivized verb ‘speaks’ to yield a new verb ‘makes speak’, there is no reason why this new verb cannot itself undergo lexical reflexivization. The result would be a verb meaning ‘makes speak to self’, again requiring a direct object NP with the feature ‘refl’, but this time binding that NP to the surface subject of the causative verb. This gives the other reading of sentences like (4a,b), and the well formedness of (4c) — the cases in which the antecedent of the reflexive is the surface subject of the causative.

The analysis proposed by DiSciullo and Williams, then, allows us to derive the apparent counter example which causative sentences present for the general condition that reflexive pronouns have the subject of their clause as antecedent. If we assume that this condition is actually a condition on a lexical rule of reflexivization, such a rule can apply without modification either before or after the lexical rule of causative formation. We thus derive the full range of observed facts about Georgian without violating the Lexicalist Hypothesis as stated in (1). Furthermore, the rules assumed here both seem possible as lexical operations, since they only refer to and/or manipulate information that must in any event be present in lexical entries: in particular, argument structures, syntactic frames (or subcategorization properties), and phonological shape.

Despite these advantages, however, the analysis is somewhat unpalatable at first glance, and DiSciullo and Williams only propose it (for ChiMwi:ni) with reservations. The problems it presents come not from its empirical coverage, but rather from the extent to which seems to be something of a trick, invoking mechanisms in a lexical context that belong more properly to a syntactic description. There are at least two problematic aspects of the analysis: the status of a feature like ‘refl’, and the extent to which lexical rules ought to be able to refer to facts about binding relations between anaphors and their antecedents. More specifically,

- The binding principles deal with the ways in which the reference of an anaphor can be determined. That does not, however, ensure that there will be any syntactic feature (like ‘refl’) present in syntactic representations and available for use by other parts of the grammar. In order for the proposed lexical reflexivization mechanism to function, however, it is necessary to assume a syntactic property of NP’s (identified by the feature ‘refl’) which is available to meet the subcategorization requirement of the derived reflexivized verbs. Properties like ‘pronominal’ and ‘anaphor’ are typically assumed to be lexical properties of words, rather than syntactic properties of phrases. Only if they are taken to be properties of phrases, however, does it make sense for lexical items to subcategorize for them.
- Clearly, the binding of anaphoric elements has to be defined over syntactic representations. This is especially true if relations between moved elements and the positions in which they originate are to be treated as a case of antecedent-anaphor binding (as represented by treating the traces of movement as anaphors). But if the distribution of reflexives is governed by the application of principles of Binding in the syntax, it seems bizarre to allow lexical rules to specify them directly, or even to allow lexical rules to “know” whether a given argument position will be filled by a reflexive or by a non-reflexive NP. It also seems redundant.

Only if we can answer these apparent difficulties can we accept a lexical analysis of reflexivization along the lines discussed above. As we will see in the following section, however, the facts of

Georgian turn out to be more consistent with the theoretical claims of this account than our presystematic intuitions (as just articulated) might lead us to expect.

3 More on the Syntax of Georgian

The reservations expressed above about a lexical rule of reflexivization of the sort required for Georgian focus on the possibility of allowing verbs to subcategorize for a specifically reflexive argument, and on the legitimacy of a reference to anaphoric binding in a rule that applies in the lexicon rather than the syntax. We address those problems here.

Even in more familiar languages, like English, there are apparently cases in which we want to state of a verb that it requires a reflexive pronoun as a complement. In some instances, apparently obligatory anaphora can be attributed not to a syntactic restriction on a lexical item, but to the semantics of the situation described. Thus, the grammaticality of *Fred held his breath* as opposed to **I held Fred's breath* is arguably of this sort: as a matter of the logic of the situation, only Fred can hold Fred's breath. This account does not seem to extend to examples such as those in (9), however:

(9)

Fred behaved himself and let Mary have the last piece of duck.

Fred helped himself to more duck.

Fred prides himself on his roast duck.

Fred availed himself of the opportunity to snarf another piece of duck.

Note that even the paraphrase employed above is impossible in these examples: **Only Fred can behave Fred*, **Only Fred can pride Fred on his roast duck*, etc. These verbs seem to require a reflexive pronoun as complement, as a genuinely syntactic (and not merely semantic) restriction.

The isolated nature of these examples, however, makes it possible to analyze them as individual idioms, with little bearing on the question of whether reflexive pronouns have syntactic properties that are accessible to systematic subcategorization statements. In the first subsection below, some facts about the NP's that serve as reflexive pronouns in Georgian are presented which make it somewhat more plausible to claim that, whatever may be the case in English, a feature of the appropriate sort does exist in Georgian. The following subsections then address the plausibility of a lexical rule specifying or referring to anaphoric binding. It is suggested first of all that a difference in the binding of reflexive pronouns vs. other anaphors in Georgian has a natural explanation in terms of such a rule; and secondly, that at least one other lexical rule of the language must have access to binding relations of the sort manipulated by the proposed lexical rule of reflexivization.

3.1 The nature of NP's of the form POSS+*tavi*

Georgian reflexive pronouns are formally composed of an appropriate possessive followed by the Noun *tavi* 'head'. Thus, *čemi tavi* can mean either 'my head' or 'myself'. NP's of this structure in the first and second person have a third meaning, as well, however. When occurring in the position of direct object of a verb that shows agreement with an indirect object, they are the way Georgian expresses pronominals (me, you, us):

- (10) a. vano anzors adarebs givis
 Vano Anzor compares Givi
 Vano is comparing Anzor to Givi.
- b.*vano (šen) gadarebs givis
 Vano you compares you Givi
 (Vano is comparing you to Givi.)
- c. vano šens tavs adarebs givis
 Vano you(rself) compares Givi
 Vano is comparing you to Givi.

This fact suggests that the syntax of Georgian involves a rule (called “Object Camouflage” by Harris 1981) which specifies determinate, syntactic conditions under which NP’s of the relevant sort are non-reflexive pronominals. A rule assigning essentially the feature ‘–refl’ under syntactically specifiable conditions is proposed by Anderson 1984, p. 209. But if this is correct, it becomes more reasonable to assume that ‘refl’ is a feature of NP’s that is present (and manipulated) in the syntax, and for which verbs could in principle be subcategorized.

3.2 Binding conditions on anaphors in Georgian

While reflexive pronouns of the sort considered so far must, as already stated, be bound by the subject of their clause, possessive reflexives (i.e., *tavisi* ‘self’s’ in Spec(NP) position), behave differently. Like English reflexives, they are subject to a somewhat more relaxed condition: they must simply be bound within their governing category. Non-subjects can thus serve as the antecedents of possessive reflexives:

- (11) nino adzlevs bavšvs tavis dedas
 Nino gives child self’s mother
 Nino_i is giving the child_j to her_{i,j} mother.

Some explanation is therefore required for the difference in behavior between possessive reflexives and reflexive pronouns, since it is evident that a single binding condition for the class of lexical anaphors cannot describe both simultaneously.

Suppose we were to treat the basic binding condition for anaphors in Georgian as the same one that appears to be operative in English:

- (12) An anaphor must be bound within its governing category.

This condition makes no reference to a subject/non-subject distinction, and thus is appropriate for the possessive reflexives. Let us further assume that the condition in (12) is part of the syntactic Binding theory, and thus applies to (some level¹² or levels of) syntactic representation. What, however, of the reflexive pronouns?

We can note first that the positions in which reflexive pronouns appear all satisfy the condition in (12), and so there is no reason to reject their characterization as anaphors subject to that

¹²The literature on Binding in recent years takes various positions on whether the conditions of the Binding theory apply to underlying structure, Surface structure, or perhaps Logical Form. All of these are syntactic representations, as opposed to lexical representations, and the distinction among these views is not relevant here.

condition in the syntax. The difference between possessive and non-possessive reflexives, however, would follow if possessive reflexives are constrained only by the operation of the binding theory in the syntax, while reflexive pronouns are constrained *both* by the binding theory *and* by the additional lexical requirement that they be bound to the subject argument of their governing verb. In fact, this move might make it possible in general to remove reference to ‘subject’ from the binding theory as it applies in the syntax. Anderson 1986 (among many other references) argues that languages differ as to whether they make reference to a ‘subject’ condition on the antecedents of reflexives in addition to the basic binding condition for anaphors stated in (12). Such a condition, however, is difficult to state over syntactic representations in a completely general way, since the structural properties of subjects may well not be uniform across languages. As a condition on lexical rules, however, it is plausible to suggest that something like the notion of ‘external argument’ (see Williams 1981, for example) captures the appropriate additional condition. Conditions on the structural position occupied by the ‘external argument’ of a predicate must be expressed in the grammars of languages for which this position differs in any event, and so the language particular details of a ‘subject’ condition on reflexives could be relativized in an independently motivated way.

Assuming that a language may (or may not) have a lexical rule sanctioning reflexive pronouns in argument positions where they can be bound to the external argument of a predicate, then, secures two advantages. First, it allows us to maintain the generality of the binding condition in (12) by separating this from the language-particular ‘subject only’ condition on the antecedents of some (but perhaps not all) anaphors. Secondly, it holds out the hope that we can confine reference to ‘subject’ in this way to a lexical rule of reflexive binding, rather than introducing this condition (which may involve some language particular structural properties) into the syntactic Binding theory. Whether this proposal can be extended to a full range of languages, of course, can only be determined on the basis of considerable further research, but it seems at least to be a promising line of enquiry. Both of the suggested consequences of the lexical analysis of reflexives in Georgian, however, are in line with the general trend in recent syntactic work toward modular theories, in which complex sets of facts are decomposed and treated as resulting from the interaction of several individually simple conditions.

3.3 The ‘Coreferential Version Object Deletion’ construction

Finally, Georgian also has a rule (called by Harris 1981 “Coreferential Version Object Deletion”) which applies to certain indirect objects. This rule applies when the indirect object expresses either (a) a benefactive or (b) the possessor of the direct object; and when furthermore (c) this IO is coreferential with the subject of the clause. The rule has two effects: (a) The indirect object argument is entirely deleted from the syntactic (but not the semantic) representation of the sentence; and (b) the ‘version vowel’ position in the verb’s morphology is filled by /i/ (even if this position is empty with non-reflexive indirect objects). This rule has applied in the following sentences:

- (13) a. i. deda u-ḡeravs švils ḡabas
 mother sews for child dress
 The mother is sewing a dress for the child.
 ii. deda i-ḡeravs ḡabas
 mother sews self dress
 The mother is sewing herself a dress.

- b. i. mzia uḥmends das pexsacmlebs
 Mzia cleans her sister shoes
 Mzia is cleaning her sister's shoes.
- ii. mzia iḥmends pexsacmlebs
 Mzia cleans self shoes
 Mzia is cleaning her (own) shoes.
- c. i. bavšvma dambana piri
 child washed me face
 The child washed my face.
- ii. (me) dav-i-bane piri
 I washed self face
 I washed my face.
- d. i. kali movṣṭace
 girl I carried his off
 I kidnapped his daughter.
- ii. kali mov-i-ṭace
 girl I carried off for self
 I kidnapped myself a girl.

The rule of “Coreferential Version Object Deletion” must involve the deletion of the Indirect Object argument position from the syntactic representation, and not simply its replacement by a phonologically null pronoun. There are several reasons to believe this. First, phonologically null proforms in Georgian can in general be replaced with overt pronouns for reasons of emphasis; but the appearance of any overt NP (whether pronominal or not) in Indirect Object position with “Subjective Version” forms (such as the ii sentences in 13 above) is ungrammatical. Thus one cannot have sentences like (14) below:

- (14) a.*gela (tavis) tavs/mas iḳeravs axal ṣarvals
 Gela (self's) self/him sews for self new trousers
 (Gela is making new trousers for himself)
- b.*gela (tavis) tavs uḳeravs axal ṣarvals
 Gela (self's) self sews for (s.o.) new trousers
 (Gela is making new trousers for himself)

The ungrammaticality of the first of these examples shows that the benefactive position must be eliminated, and cannot be filled by a (reflexive or non-reflexive) pronoun when Coreferential Version Object Deletion applies. As noted above, this is quite unusual in Georgian, since argument positions filled by pronominals that are phonologically null can typically be filled by an overt pronoun if this is emphatic. The impossibility of any pronoun in this sentence suggests that the argument position itself is absent. The second example in (14) shows that the rule itself is obligatory, in that one cannot use a reflexive pronoun with the form of the verb which would be found for a non reflexive benefactive.

A second argument in favor of the claim that the indirect object argument position is syntactically absent in Coreferential Version Object Deletion sentences is the fact that a third person

indirect object, whether phonologically overt or null, would trigger agreement, resulting in the replacement of the version vowel /i/ by /u/. This is completely impossible with sentences such as the ii forms in (13). Thus, a sentence such as (15) can only have the interpretation “Mother is sewing a dress (for someone else)”, not “Mother is sewing herself a dress.”

- (15) deda u-ḳeravs ḳabas
 mother sews for (her) dress
 The mother is sewing her/*herself a dress.

Finally, we can note that the replacement of the version vowel by /i/ in association with the loss of an argument position affects a number of Georgian verbs other than those involving Coreferential Version Object Deletion, such as *xedavs* ‘sees (transitive)’ vs. *ixedeba* ‘looks (in some direction; intransitive)’; *hḳbens* ‘bites (transitive)’ vs. *iḳbineba* ‘bites, has the habit of biting (intransitive)’, etc. Other examples are given by Vogt 1971, p. 117. Thus, there may be a single unified process that absorbs one of the internal arguments of a verb while marking it with pre-radical /i/, applicable in a number of lexical environments. Minimally, however, the forms just cited suggest an association between pre-radical /i/ and argument loss (as opposed to an interpretation on which /i/ is simply a kind of reflexive marker).

We conclude, then, that the rule of Coreferential Version Object Deletion produces verbs with one less syntactic argument position than was present in its input. Since it thus alters the syntactic frame in which a verb appears, however, it would be a violation of the Projection Principle for such a rule to apply in the syntax. This can be avoided, of course, if the rule applies in the lexicon.

The conclusion that Coreferential Version Object Deletion is lexical is strengthened somewhat by the following additional observations. First, the rule appears to refer to the substantive content of the θ -role associated with a particular argument, rather than to the grammatical position it occupies (or to the mere fact that it has a θ -role). It is precisely indirect objects which are interpreted as benefactives or possessors (a reasonably natural class) that undergo this rule when coreferential with the subject (or external argument) of their clause. Now in principle, there is every reason to want to exclude reference to the substantive content of θ -roles (as opposed to the fact that a NP has been assigned **some** θ -role) from the syntax; and we can do that here if and only if the rule of Coreferential Version Object Deletion applies in the lexicon rather than in the syntax.

Finally, this rule must also manipulate the internal form of the verb, inserting the version vowel /i/. Since Indirect Objects can appear with verbs with any of /a,i,e/ or / \emptyset / as version vowel, but the forms in question here require /i/, the syntax would again have to violate the Lexicalist Hypothesis to ensure the correct morphological form.

But once we grant that the rule of Coreferential Version Object Deletion (creating “Subjective Version” verb forms) is a lexical rule, we have an argument that lexical rules must be able to refer to whether an argument position is filled by a reflexive or not. The rule which we have been discussing applies obligatorily if and only if a benefactive or possessive indirect object would otherwise be a ‘refl’ NP bound by the subject position of the verb. Lexical rules must thus have access to coreference relationships of the sort usually described by the Binding Theory — or at least to the subset of such relationships for which we might want to invoke the feature ‘refl’.

4 Conclusion

We conclude that a lexical rule of reflexive binding, of the sort proposed by DiSciullo and Williams 1987, not only provides an alternative to the apparent violation of the Lexicalist Hypothesis involved in Georgian reflexive causative constructions, but fits quite well with other facts of the language. The apparently *ad hoc* nature of such a rule which troubled DiSciullo and Williams does not reflect its real character, at least for this language. In fact, such an account may have important consequences for a properly modular view of the constraints governing the appearance of anaphoric items in natural languages.

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