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CASE ATTRACTION AND CASE AGREEMENT

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I will begin with some fairly uncontroversial comments on morphosyntax before getting down to the contentious stuff. Concerning the assignment of features such as gender, number and case between constituents, I draw a distinction - perhaps an artificially neat one - between proper and reflected feature specifications. For a given lexical category (nouns,say) proper features are either specified in the lexicon (eg. grammatical gender),assigned to the phrase headed by the category in question by a governor (eg. case) or, possibly, assigned on a notional basis (eg. number). Lexical items can also bear signatures of these features through reflected feature marking, of which I will distinguish three varieties:
(a)AGREEMENT - the spreading of a feature within a phrase headed by the lexical category to which the feature is properly assigned;
(b)CONCORD - the spreading of a feature within the boundaries of the sentence;
(c)ANAPHORA - the spreading of a feature through anaphoric elements (including zero).

The main focus of this paper will be upon feature-spreading phenomena involving the category of case. Examples will be drawn from several IndoEuropean languages as well as from Georgian. The first type of phenomenon to be explored is often accorded a paragraph or two in the larger grammars of the classical languages under the rubric of case attraction (cf.Kühner(1878,1904),Meillet & Vendryes(1924),Green(1930),Moore(1934),Smyth(1956),Goodwin (1963)). Consider examples(1)-(13):

(1) apò tôn póleōn hôn épeise (from the cities-Gpl which-Gpl he-won) 'from the cities which he won'
(expected: hás (which-fAcpl)) Thucydides vii.21

(2) ésesthe ándres áxioi tês eleutherías hês kéktēsthe (you-will-be men-mNpl worthy-mNpl the-fGsg freedom-fGsg which-fGsg you-got) 'you will be men worthy of the freedom you have obtained'
(exp: hēn (which-fAcsg)) Xenophon Anabasis i.7.3

(3) nos tamen hoc confirmamus illo augurio quo diximus
we still this-nAcsg confirm that-nAbsg omen-nAbsg which-nAbsg we-said) 'we confirm this by that omen which we mentioned'
(exp: quod (which-nAcsg)) Cicero Att. x.8.7

(4) bigan thō druhtīn redinōn thēn selbēn zwelif theganon thēn thār umbi inan sāzun (began the lord-mNsg to-speak the-mDpl same 12 men-mDpl which-mDpl there

by him sat) 'the lord began to speak to the twelve men that sat around him'
(exp: thie (which-mNpl)) Otfrid Evangelienbuch (c.870)

(5) emménomen hoîs hōmologésamen díkaiois oûsi (we-abide those-/which/-nDpl we-agreed just-nDpl being-nDpl)
'do we abide by those things we consider just?'
(exp: toútois há (those-nDpl which-nAcpl)...díkaia ónta(just-nAcpl being-nAcpl) Plato Crito 50a

(6) nêes hósai prôtai eirúatai ágkhi thalassēs hélkomen (ships-fNpl which-fNpl before were-launched onto sea let-us-draw-down) 'the ships, which before have been launched onto the sea, let us draw down'
(exp: neas (ships-fAcpl)) Homer

(7) urbem quam statuo vestra est (city-fAcsg which-fAcsg I-found yours is) 'the city which I establish is yours'
(exp: urbs (city-fNsg)) Virgil Aen.i.573

(8) meinen Tod den sie beweinen ist für sie gerechter Schmerz(my-mAcsg death which-mAcsg they mourn is for them genuine grief)
(exp: mein (my-mNsg)) German folksong

(9) thêkai hósai êsan tethneōtôn pásas aneîlon (tomb-fNpl which-fNpl they-were dead-Gpl all-fAcpl they-removed)
'they removed all the tombs of the dead that were there'
(exp: thêkas (tombs-fAcpl)) Thucydides iii.104

(10)sitqwata romelta getqode tkwen sul arian da cxovreba (wǒr̂ds-Obpl which-Obpl I-tell-you you-pl spirit are and life) 'the words which I tell you are spirit and life' (Old Georgian gospels - John 6:63)
(exp: sitqwani (words-Npl)

(11)ešmaki romeli maradis hbrjavs sikwdilad kacta agjra nateśavi (devil-N who-N always battles death-Adv men-Obpl seized kin-N) 'the devil who always battles men to the death seized (their) kin' (Old Georgian)
(exp: ešmakman (devil-E) Arsen Katolikozi

(12)ei éstin hèn su próteron éleges arētēn alēthès (if it-is which-fAcsg you-N before spoke virtue-fAcsg real-fNsg)
'if the virtue you spoke of is real...'
(exp: arētē (virtue-fNsg)) Plato

(13)eporeúto sùn hē eîkhe dúnamei (he-advanced with what-fDsg he-had force-fDsg) 'he advanced with what force he had' (exp: hèn (what-fAcsg)) Xenophon

KEY: Cases - N(ominative) Ac(cusative) D(ative) Ab(lative) I(nstrumental) G(enitive) E(rgative) Ob(lique)
Genders - m(asculine) f(eminine) n(euter)
Numbers - sg(singular) pl(ural)

The attraction referred to occurs between a noun and a coreferent relative pronoun (RP) where the relative clause containing the latter occurs as an adjunct within a NP headed by the former. Of the properly nominal feature-types gender, number and case, we are accustomed to thinking of all three as possibly being reflected on non-nominal modifiers (determiners,adjectives,&c) but only of the first two as possible reflected feature-types on anaphors. As a general rule-of-thumb, each nominal is independently case-marked by its governing category. Case attraction is an interesting exception: under a complex and not yet well-understood set of conditions an antecedent and its anaphor can share case features. Note that either the antecedent or the anaphor may bear reflected case marking derived from the other. Note also that attraction is restricted to the domain of the NP headed by the antece - dent, and occurs between the head and a constituent of a modifying category. For these reasons, I classify it as feature spreading by agreement rather than anaphora,given the theoretically unbounded range over which some anaphoric processes can operate.(Or perhaps it can be classed with strictly-bounded anaphora, as in reflexivization and reciprocals.) The noteworthy thing about constructions such as exs (1) - (13), as well as those to be discussed further on, is that the grammars of these languages allow two feature-assigning constituents to, as it were, compete for expression on a given element. If the case-governing categories in the upper and lower clause both win out, a NP with relative clause modifier of the usual sort results. If case agreement dominates over case government, then attraction occurs. While the exact mechanism for resolving such conflicts is unclear , the following observations can be made:

(a) Quite a few classical IE languages, as well as Old Georgian, manifest relative-clause case attraction,though with different preferences for the two main types. According to Meillet and Vendryes(1924) 'progressive attraction' (RP attracted into case of antecedent,as in exs (1)-(5)) is "usuelle en grec" though "fort rare en latin", while 'regressive attraction' or attractio inversa (antecedent attracted into case of RP, as in exs (6)-(11)) is "commune aux deux langues, plus fréquent cependant en latin qu'en grec"(p 573). In Old Georgian, the relative distribution is similar to Latin (Dondua(1967),Aronson(1972)). Case attraction of this sort is also attested in Avestan (Reichelt(1978)),Sanskrit(Gonda(1954)),Oscan and Umbrian (Buck(1904)) and Germanic (Brugmann(1904),Grimm(1868)).

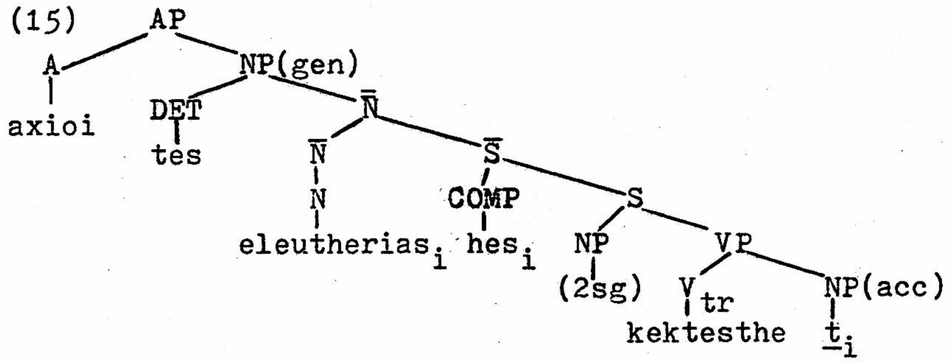
(b) Constituent structure does not differ significantly between attracted and nonattracted constructions. However, both Gonda(1975,p 526) concerning Latin attractio inversa, and Smyth(1956,p 526) concerning Greek progressive attraction point out that attraction only takes place "when the relative clause is essential to complete the meaning of

the antecedent"(Smyth,loc cit). That is, nonrestrictive relatives are never attracted, restrictive relatives may be. If one accepts Jackendoff's argument (1977,p 169) that restrictive relative clauses are daughters of N'',while nonrestrictive relatives - like appositives in general - are daughters of N''' (=NP), then case attraction between antecedents and RPs occurs within N'', never outside of it. Still, restrictive relatives need not incite attraction. Compare ex (2) with ex (14),also from Xenophon, but without attraction:

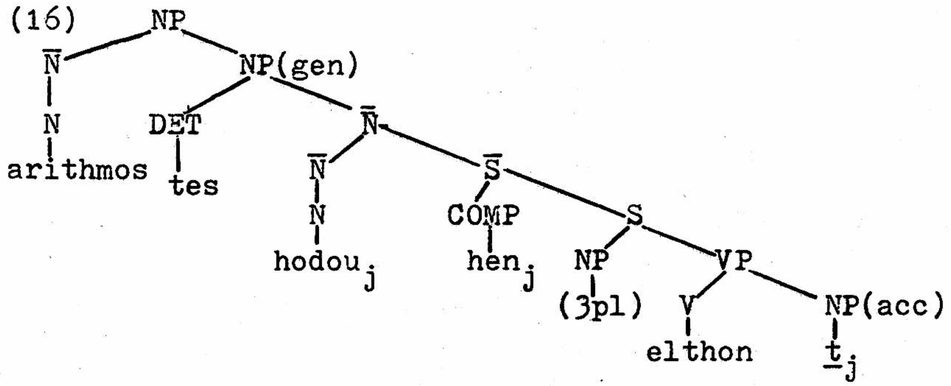
(14) arithmos tes hodou hen elthon ex Ephesou (calculation-mNsg the-fGsg road-fGsg which-fAcsg we-took from E.)
'the length of the road we took from Ephesus'

Their respective constituent structures would be as in (15) and (16):

(15)



(16)



(c) The relative proximity and position of the main and subordinate clause case governors plays a key part in determining the pattern of attraction. The three types of attraction exemplified in exs (1)-(13) can be schematized as in (17)-(19):

(17)PROGRESSIVE: $(_{S_0}..Q_g.(_{NP}.N_i\ (_{\bar{S}}\ COMP_i(_{S_1}..R_f.\underline{t}_i..)))..)$

(18)REGRESSIVE: $(_{S_0}..(_{NP}..N_i\ (_{\bar{S}}\ COMP_i(_{S_1}..R_f.\underline{t}_i.)))..Q_g.)$

(19)INCORPORATION: $(_{S_0}.Q_g.(_{NP}(_{\bar{S}}\ COMP_i(_{S_1}..R_f..\underline{t}_i.))N_i..)..)$
case X case X

Q and R are case-governing categories in the main and subordinate clauses respectively. Q assigns case g, R assigns case f. In progressive attraction (PA) the complementizer agrees in case with its antecedent rather than manifest the case assigned to it (properly) by its governor R. Of thirty Latin,Greek and German examples, the main-clause case governor(Q) preceded the NP containing N_i in 29 of them. In attractio inversa (AI), the antecedent N_i agrees with its anaphor rather than accept the case assigned by Q. As for position, Q follows the NP containing N_i in 23 out of 25 examples (from Latin(Green(1930), Greek(Smyth(1956),German(Brugmann(1904),and Georgian (Dondua(1967)). Incorporation, described by Smyth for classical Greek, is notable because the value of X in schema (19) depends on the actual values of the cases involved (f and g)."A Nom, Acc or Voc antecedent, when incorporated, usually conforms to the case of the relative.. A Gen or Dat antecedent usually attracts the relative to its own case."(ibid,p 570). See exs (12) and (13).
(d) Not only in incorporation, but in PA and AI as well, the values of f and g in the above schemas are significant. This is especially true of Greek PA. In the first three books of Xenophon's Anabasis 61 constructions with relative clauses occur, excluding cases where the head and RP are independently assigned the same case. Of these, 37 involve restrictive relatives. When incidences of attraction are sorted by case involved, the following asymmetric distribution is observed:

(20)

case assigned by main-clause case governor(Q_g) \ case assigned by lower-clause governor(R_f)	N	Ac	D	G
N		0-1	0-1	0-1
Ac	0-2		0-4	0-3
D	2-0	7-1		0-0
G	0-4	6-3	0-2	

(x-y): x:attraction y:no attraction

For thirty examples of Greek PA collected by Smyth,Brugmann and Kühner, the distribution is shown in (21):

(21)

Q_g \ R_f	N	Ac	D	G
N				
Ac	1			
D		6		
G	2	20	1	

This corresponds to the impressions of Smyth,Green,Goodwin and Moore that in Greek PA the most frequent scenario is an Ac RP attracted by a D or G antecedent. More rarely, N or D RPs undergo attraction. Among antecedents, N and Ac marked nominals show almost no attractive power; almost all attracting antecedents are in the G or D.
For Latin AI the distribution is less skewed; for 35 instances of AI collected by Kühner(1878) it is as in fig (22):

(22)

Q_g \ R_f	N	Ac	D	G	Ab
N		15			
Ac	5		1		
D	5	3			
G	1	1			
Ab		4			

This accords well with the observation made by Green (p 155) that the Ac RP is the usual attractor, though Ac may itself be attracted by the other cases,especially the N. Old Georgian AI seems rather unsystematic at first glance. Of the six possible asymmetric pairings of the three syntactic cases (N,E and D), the only one not attested in Dondua's nine examples is attraction of a N antecedent by an E RP (Dondua,p 24-5).For a possible explanation of the weaker case asymmetries in AI, compare schemas (17) and (18). In (17), the case governors Q and R are at roughly comparable distances, string-wise, from their governed nominals, while in (18), Q is clearly further away. Relative proximity, then, appears to be the dominant factor in AI,at least in Latin and Georgian, largely washing out case asymmetries; in PA,proximity balances out,allowing case effects to appear in sharper relief. Ceteris paribus, a morphosyntactic asymmetry is manifest in Latin and Greek case attraction between, on the one hand, the N and Ac (what Jakobson terms the 'direct' - prjamoj - cases (1958,p 159)) and the rest ('indirect' - kosvennyj - cases.) I will postpone further discussion of this matter until later on, and turn now to some lesser-known constructions in Georgian and Nepali. Unlike Greek and Latin, the mapping between grammatical roles and syntactic cases is rather complex. Both languages exhibit, roughly, the case system sketched in ex (23):

(23)

	(A) $Agent_{tr}$	(O) Obj_{tr}	(S) Sub_{intr}
Imperfective (present,etc)	NOM	DAT/ACC	NOM
Perfective (aorist,etc)	ERG	NOM	NOM
Dative-subject (inversion verbs)	DAT	NOM	DAT

(In Georgian, its dialects, and the other South Caucasian (Kartvelian) languages, the case systems vary in interesting ways from that of diagram (23). I hope to deal with these facts in a later study, but not here.) To use Dixon's term, A and S form the syntactic 'pivot' in Georgian (Dixon (1979)p120-1); that is, in conjoined structures, zero anaphora can occur when a transitive verb's agent (A) and the single term argument subcategorized by an intransitive verb (called 'substrate' (S),following Gołąb) are coreferential, but not S or A and O (transitive object), even if they have the same surface case. In standard Georgian the case of the subject in conjoined-VP constructions is determined by the nearest verb (Tschenkeli(1958)I:171-2):

(24) man_i dacera cerili da $\emptyset_i$ cavida kalakši (s/he-E wrote letter-N and went city-to)

(25) is_j cavida postaši da $\emptyset_j$ gagzavna cerili(s/he-N went post-to and sent letter-N)

(cavida assigns N case to its substrate, gagzavna and dacera assign E case to their agents). Winfried Boeder, in his excellent study on Kartvelian ergativity (1979),points out that in most dialects of modern Georgian,"if two clauses with identical subjects are conjoined and the second clause contains a verb requiring a non-Nom subject and the first a verb requiring a Nom subject, the first subject can have the case of the second clause's subject, if its verb denotes an 'activity'"(p 443,citing Topuria).

(26) $melia_I$m cavida da $\emptyset_i$ dacqo zara-s jebil-i (fox-E went and began bell-D search-N)'the fox went and began a search for the bell' (Mta-račul dialect;Dzidziguri p84)

(27) dasxden ertad palavn-eb$_j$ma da $\emptyset_j$ sadil-i čames (sat together hero-pl-E and dinner-N ate)'the heroes sat together and ate dinner'(Mtiulur dialect;Čikobava p55)

(28) cevida dedamis$_K$ma da $\emptyset_k$ utxra čitana-s (went mother-his-E and said-it-him Čitana-D) 'his mother went and told it to Č.' (Gurian dialect;Bleichsteiner p 95)

(29) $(_{S_0}(_{S_1}(_{VP_1}$ dasxd-$)(_{NP}$palavn$_I))$ da $(_{S_2}(_{NP}\emptyset_i)(_{VP_2}$ čam- s.$)))$

In all of these dialects, the promotion of E marking in such constructions is said to be optional. As Boeder notes, the reverse (E-N→N-N) is nowhere attested(p 444). Several instances have been collected of dative subjects (either of verbs in the perfect/evidential, or verbs lexically marked for 'inversion') behaving like ergatives as far as promotion over intervening nominatives is concerned:

(30) adga $bič_I$sa da $\emptyset_i$ gamoeğvija (stood boy-D and awoke) 'the boy stood up and awoke' (Mtiulian dialect;Boeder)

(31) patra jma_js mobrunela, utkom $\emptyset_j$ (little $brother_j$-D has-returned,he_j-has-said-it) (Mtiulian,Boeder p 444)

(gamoeğvija and utkom assign D case to their agents,adga and mobrunela assign N case to their substrates).
A process analogous to Kartvelian case-promotion has been observed in Nepali by W.Wallace(1984). Like Georgian,Nepali has a case system like (23). Case promotion can occur in what Wallace terms 'embedded infinitive structures':

(32) $(_{S_0}$ NP$_i$ $(_{S_1}$ $\emptyset_i$ $(_{VP}$(NP$_j$) V$_1$-infinitive)) V$_0$-finite)

(NP$_i$ is optional.) If either V_0 or V_1 subcategorizes an E subject, the case of NP$_i$ is determined by the other verb. If either V_0 or V_1 calls for a D subject, then NP$_i$ takes the D.

(33) ma-lai/*ma-$\emptyset$ bhok-lagna lagyo (I-D/*I-N to-get-hungry I-was-beginning) 'I was beginning to get hungry'

(34) sita-$\emptyset$/*sita-le runa thalin (Sita-N/*Sita-E to-cry he-began) 'Sita began to cry'

(lagyo and runa govern N subjects,bhok-lagna is a D-subject verb, and thalin governs an E agent.) Unlike the Kartvelian languages, the Nepali case-promotion hierarchy (D>N>E) is encoded in an obligatory rule of the grammar. Failure to promote a higher-ranked subject case marker results in an unacceptable utterance. These observations are of interest in that they show that asymmetrical case-marking behavior is not linked in any simple way with grammatical-relation hierarchies of the Keenan-and-Comrie sort. With grammatical relation (here, subject/pivot) held constant, case asymmetries are still present. Our final stop in this whirlwind tour is Modern Icelandic, as reported by Andrews(1981,1982). Consider the following from Andrews(1982)p 26 - where two case options are listed, the preferred is given first:

(35) ég bað hann$_i$(Ac) að $\emptyset_i$ vera góðan(Ac)/góður(N) 'I requested him to be good'

(36) hann$_i$(N) skipadi honum$_j$(D) að $\emptyset_j$ vera góður(N)/góðum(D)
'he ordered him to be good'

(37) hann$_i$(N) lofadi honum$_j$(D) að $\emptyset_i$ vera góður(N)/*góðum(D)
'he promised him to be good'

(38) hana$_i$(Ac) langar til að $\emptyset_i$ vera vinsael(N)/vinsaela(Ac)
'she longs to be popular'

These are instances of 'anaphoric control', distinguished from 'functional control' in the LFG framework Andrews subscribes to. The element $\emptyset$ (or PRO) is introduced by rule to serve as functional-structure subject in S_2; mechanisms of control coindex $\emptyset$ with the appropriate NP. Case assigning rules assign N case to $\emptyset$, and rules of concord pass this on to the ACOMP góð-, sometimes. Often Ac(or D) case percolates down from the upper-clause NP to the lower-clause predicate via $\emptyset$. (Note the necessity of coreference for this to occur.) Andrews writes that the "convention for the systematic 'misapplication' of agreement restrictions is... variable, subject to complex, 'squishy' conditions" among which is "(b) Ac controllers elicit misapplication more strongly than do Ds (G NPs are never anaphoric controllers)". (1982, p 27). Once again we note a relative ranking of case types for likelihood of overriding a governing category in a competition between reflected and proper case marking. To summarize the data-adducing portion of this paper: the phenomena we have examined are characterized by the complexity and (except for Nepali) 'fuzziness' of their conditioning factors, due to the clashing of morphosyntactic mechanisms that ordinarily stay out of each other's way: proper case marking by governing constituents, and reflected case marking through agreement or concord, It is coreferemce that brings them into conflict. NPs and their anaphors will share at least some features to aid in identification. Since case features are shared between nouns and their modifying determiners and adjectives in the languages dealt with here, it is reasonable to expect a Systemzwang toward reflected case marking of coreferent nominals as well, especially when they occur within the same NP. 'Irregularities' of agreement and concord have been described before, among others by J.Morgan(1972,1984), G.Corbett (1979) and Nichols et al(1980). These discussions have focussed on the impact of performance-related factors, such as proximity, relative position or emphasis, on reflected feature spreading. What I find particularly intriguing about the case attraction data is that in the no-man's-land between the modules of case government and reflected-feature spreading there are more than just performance factors at work deciding the issue. All other things being equal, the relative position of the two case types brought into

competition on a hierarchy of case determines whether or not attraction occurs. It is as if we have found a gap in the grammar between two modules, allowing us to glimpse a bit of the machinery inside. Naturally there is a strong urge to investigate the possibility of a universal case hierarchy, but maybe investigating some methodological issues first would be more prudent. It has become common practice to decompose differential rankings of types within a category or generalizations across types into the properties of a denumerable set of features. Jakobson made two notable attempts at this for case(1936,1958), both dealing almost exclusively with Russian data. On the basis of largely - though not entirely - semantic considerations Jakobson devised a small set of binary features to characterize the eight morphologically distinct Russian cases in a cross-cutting fashion. Groups of cases sharing a common feature were correlated with syncretisms in various nominal paradigms, and phoneme distributions in case desinences. Jakobson's features have received some strong criticism (eg. Serbat(1981)), in large part because of the vagueness inherent in their assignment criteria. I would like to throw out the proposal that we apply Jakobson's method in reverse. Instead of proceeding from semantically-determined features to morphosyntactic confirming instances, why not begin with morphosyntactic evidence of case asymmetries and then search for characteristic features linking case types that show similar behavior? The idea isn't new - a procedure of this sort was employed by M.Silverstein in his analysis of split ergative case-marking systems (1976,1981). Given the asymmetric behavior of NP types vis-á-vis case-marking system across languages, Silverstein noted that the NP types could be ranked on this basis. Then crosslinguistically-valid features were sought to characterize them, on independent bases - giving rise to a hierarchy of NP- characterizing features, to explain both the case-system split and other phenomena unrelated to case marking (eg Smith-Stark's 'plurality split'(1974))."The problem is to intensionalize correctly an interlocking set of distributional asymmetries in a crosslinguistically consistent fashion"(M.Silverstein, marginal comment).

Now to my closing remarks: First of all, I hope to have shown that case attraction and similar phenomena are not wholly the result of performance factors, as has been proposed from Jacob Grimm's time to the present, but are in part reflective of asymmetries among types of a core grammatical category. Secondly, apropos of the topic of this parasession, analogies can be drawn between the mechanisms of case assignment and case agreement (or proper and reflected feature spreading). In recent work (1976,1981,1982) Silverstein sketched out a 'functional morphosyntax' of proper case marking, in which the latter is treated as dependent upon the interaction of several independent variables. Something similar, it seems to me, can be done for

reflected feature spreading. In particular, the interacting variables would include:
(i) lexical characteristics of the target(eg.Adjs and Dets are more amenable to reflected case marking,Ns and Vs less so - though case marking of Vs in modifying relative clauses is found in some Australian languages);
(ii) the actual case types involved,perhaps expressed through a feature hierarchy.This will wash out in most - but maybe not all - instances of case-feature spreading to non-nominal categories.In Modern Georgian,for instance, where postposed Adjs (the typologically nonharmonic order) copy the case desinences of their nominal head,regardless of its case, preposed Adjs copy the case endings of the N,E and Voc, but show highly reduced agreement for the other case types;
(iii) tightness of structural linkage, as expressed by feature-percolation conventions,perhaps.(Note also the importance of restrictiveness for attraction of RPs);
(iv) coreference between case-sharing nominals,possibly related to other anaphoric processes with strong structural constraints (zero-anaphora,reciprocals,etc.).

Given the attention that has been paid to ordinarily well-behaved(and easily-modelable) agreement phenomena that turn complex and 'squishy' in the dark corners of the marked periphery,one might consider an interactive mechanism like the above, which has the possibility of,one might say, 'fraying around the edges' built into it. The preliminary observations reported on here are worth checking out further in this regard, both in depth and breadth.

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