

In Search of Case Attraction

1 The Basic Phenomenon

Case Attraction broadly refers to a situation where a nominal element displays the case associated with some other related nominal element instead of the case that it would display if the relevant nominal expression was not around.

The following discussion will focus on free relatives and correlatives, which are the syntactic environments where case attraction seems to be at play. It is not clear to me whether case attraction is ever manifested outside of these environments (but see Fanselow et al. (1999)).

1.1 (Regular) Case Attraction

Relative Pronoun appears with the external case:

- (1) (from Bianchi (1999):94-95)
 - a. (Latin, Hor., Sat 1,6,15)
notante iudice quo nosti
judging_{ABL} judge_{ABL} who_{ABL} know
'judging the judge you know.' (ACC → ABL)
 - b. (Old English)
syDDan hie gefricgeaD frean userne ealdorleasne, Done De
when they learn that our lord_{ACC} our to-be-dead who_{ACC} that
aer geheold wiD hettendum hor ond rice...
before guarded against enemies treasure and kingdom
'when they learn that our lord, who in the past defended the treasure
and kingdom against the enemies, is dead... (NOM → ACC)
 - c. (Old High German)
sie gedâht' ouch maniger leide, der ir dâ héimé
she thought also some sufferings_{GEN} which_{GEN} her at home
geschach.
happened

'She thought of some pain that she suffered at home.' (NOM → GEN)

The attracted case is always less marked than the attracting case (see McCreight (1988)).

- (2) A Case-Markedness Hierarchy:
NOM < ACC < DAT < GEN ...

1.2 Inverse Case Attraction

'Head' NP/External determiner appears with the internal case:

- (3) (from Bianchi (1999):93)
 - a. (Latin, Verg., Aen. I,573)
Urbem quam statuo vestra est
city_{ACC} which_{ACC} found yours is
'The city that I found is yours.' (NOM → ACC)
 - b. (Latin, Cato, Agr. 51)
Pulli qui nascentur, eos in terra deprimito
sprouts_{NOM} which_{NOM} germinate, them_{ACC} in earth layer
'You must layer in the earth the sprouts that germinate.' (ACC → NOM)
 - c. (Latin, Plautus, Poen. 644)
Hunc chlamydatum quem vides, ei Mars iratust
this_{ACC} soldier_{ACC} whom_{ACC} see him_{DAT} Mars angry-is
'The soldier whom you see, Mars is angry at him.' (DAT → ACC)
 - d. (Old High German)
Den schilt den er vür bôt der wart schiere zeslagen
the_{ACC} shield_{ACC} which_{ACC} he held that was quickly shattered
'The shield that he held was quickly shattered.' (NOM → ACC)

Note that Inverse Case-Attraction allows for a more marked case to be attracted.

Inverse Case-Attraction is quite likely something quite distinct from Case-Attraction. The above cases can be reanalyzed as correlatives where the head precedes its relative determiner.

1.3 Matching in Free Relatives

The term *matching effect* was first introduced in Grimshaw (1977) and developed in further work by Bresnan and Grimshaw (1978) and Groos and van Riemsdijk (1981). It refers to the phenomenon that in certain languages, free relatives are acceptable only in configurations which are either case matching or categorial matching.

1.3.1 Case Matching

Case matching obtains if the case assigned to the relativized element in the free relative from inside the free Relative Clause is the same as the case assigned to the free Relative Clause from the outside. German displays case matching effects in free relatives (cf. (4)).

- (4) a. Wer(nom) nicht stark ist, muss klug sein.
Who not strong is must clever be
'Who isn't strong must be clever.'
- b. *Wen(acc)/*Wer(nom) Gott schwach geschaffen hat, muss klug sein.
Whom/who God weak created has must clever be
'Who God has created weak must be clever.'
- c. *Wem(dat)/*Wer(nom) Gott keine Kraft geschenkt hat, muss klug sein.
Whom/who God no strength given has must clever be
'Who God has given no strength to must be clever.'

1.3.2 Categorial Matching

Categorial matching obtains if the category of the relativized element in the free relative is the same as the category of the node occupied by the entire free relative. Categorial matching can be seen in Dutch & English (cf. Groos & Riemsdijk 1979 and Bresnan & Grimshaw 1978 respectively).

- (5) a. Ken jij de jongen met wie zij flirt?
Know you the boy with who she flirts
'Do you know the boy with who she is flirting?.' (*know* subcategorises for NP)
- b. *Ken jij met wie zij flirt?
Know you with who she flirts
'Do you know with who she is flirting?.' (FR is a PP, clash takes place)

- c. Ken jij wie zij net kuste?
Know you who she just kissed
'Do you know who she just kissed?.' (FR is an NP, no clash)

- (6) a. I'll buy [_{NP} [_{NP} whatever] you want to sell].
b. John will be [_{AP} [_{AP} however tall] his father was].
c. I'll word my letter [_{AdvP} [_{AdvP} however] you word yours].
d. I'll put my book [_{AdvP} [_{AdvP} wherever] you put yours]].

1.3.3 Headed Relatives

Headed relatives do not generally display matching effects - the case marking on the head of the main NP and the Relative Clause can have different case markings/categories. cf. (7a,b for German and English respectively)

- (7) a. Der Mensch(nom), den(acc) Gott schwach geschaffen hat, muss klug sein.
The person whom God weak created has must clever be
'The person whom God has created weak must be clever.'
- b. I saw [_{NP} [_{NP} the girl] [_{CP} [_{PP} to whom]_i [_{IP} John gave a book t_i]]]

1.3.4 The Role of Syncretism

In German, the relative pronoun *was* represents both the nominative and the accusative neuter.

- (8) *Groos & Riemsdijk (1979)*
- a. [Was du mir gegeben hast], ist prächtig.
what you me given have is wonderful
'What you have given me is wonderful.' (inside=acc, outside=nom)
- b. Ich habe gegessen [was noch übrig war].
I have eaten what still left was
'I ate what was left.' (inside=nom, outside=acc) (exs. from Groos & van Riemsdijk (1979))

2 Bavarian

(from Bayer (1984), see also discussion in Bianchi (1999):172-174)

Relative clauses in Bavarian involve an invariant complementizer *wo* and a relative pronoun, which can be optional in certain environments.

2.1 The Form of Relative Pronouns

	NOM	ACC	DAT
Masc	der -	den +	dem +
Fem	die -	die -	der(a) +
Neut	des -	des -	dem +
Plur	die -	die -	dene(n) +

- [+/-] oblique

2.2 Optionality of Relative Pronouns

Non-oblique relative pronouns are optional across the board:

- (9) a. I sog's dem Mō (der) wo im Gartn arwat.
I say-it the_{DAT} man who_{NOM} C in-the Garden works
'I said it to the man who works in the garden.'
- b. Mir song-s dera Frau (die) wo da Hund bissn hod.
we tell-it the_{DAT} woman who_{ACC} C the dog bit
'I told it to the woman who the dog bit.'
- c. Mir song-s dene Menner (die) wo da Hund bissn hod.
we tel-it the_{DAT} men who_{ACC} C the dog bitten has
'I said it to the men who the dog bit.'

→ Identity between external determiner and relative pronoun not required.

Oblique relative pronouns can only be omitted under identity with an oblique external determiner:

- (10) a. (DAT,DAT) → (DAT,ϕ)
Sie gem's dem Mō (dem) wo mir g'hoifa hom.
they give-it the_{DAT} man who_{DAT} C we helped have
'They gave it to the man whom we helped.'
- b. (NOM,DAT) ↗ (NOM,ϕ)
Der Mō *(dem) wo mir g'hoifa hom
the_{NOM} man who_{DAT} C we helped have
'The man whom we helped...'

The following cases bring out the relevance of obliqueness (as opposed to a distinction like structural vs. non-structural)

- (11) (Non-Oblique, Non-Oblique)
a. (NOM,ACC) → (NOM,ϕ)
Die Lampn (die) wo i g'seng hob wor greißlich.
the_{NOM} lamp which_{ACC} C I seen have was ugly
'The lamp that I saw was unsightly.'
- b. (NOM,ACC) → (NOM,ϕ)
Des Audo (des) wo i mecht is z'teia.
the_{NOM} car which_{ACC} I like is expensive
'The car I like is expensive.'

- (12) (NOM/Non-Oblique,ACC/Oblique) ↗ (NOM/Non-Oblique, ϕ)

Der Mantl *(den) wo i kaffd hob wor z'rissn.
the_{NOM} coat which_{ACC} C I bought have was torn
'The coat that I bought was torn.'

2.3 Generalization and Some Analysis

(13) The Pattern:

- a. Non-Oblique relative pronouns are always optional.
- b. Oblique relative pronouns are optional only under identity with an *identical* external determiner.

• This is not Case Attraction - the relative pronoun does not come to have external case.

• Similar in spirit to Case Matching - deletion under identity (except for the non-obliques).

• Bianchi (1999)'s explanation is in terms of abstract incorporation of the relative determiner and the external determiner and morphological underspecification.

- (14)
- a. Non-Obliques lose their morphological case-feature by the time they are in [Spec,CP] (or maybe they never had it any way). Oblique relative pronouns have such a case-feature.
 - b. Assume Late Insertion
 - c. Optional movement of Relative Determiner to External Determiner.
 - d. Features must be realized (at least once, maybe exactly once?).

(15) Realizations of $D_{external}+D_{relative}$:

- a. (oblique[x] + non-oblique[y]) → oblique[x]
- b. (non-oblique[x] + non-oblique[y]) → non-oblique[x]
- c. (non-oblique[x] + oblique[y]) → **no realization**
- d. (oblique[x] + oblique[y]) → **no realization**
- e. (oblique[x] + oblique[x]) → oblique[x]

3 Zurich German

(from Salzmann (2005))

3.1 The Basic Data

• No relative pronouns for individuals¹

• Invariant Complementizer *wo*

• Resumptive Pronouns are available from dative objects downward on Keenan and Comrie (1977)'s Accessibility Hierarchy, including possessors. They are **not** available for subjects and objects.

(16) a. subject:

d=Frau, wo (*si) imme z=spaat chunt
the=woman C she always too=late comes
'The woman who is always late...'

b. object:

es Bild, wo niemert (*s) cha zale
a picture C nobody it can pay
'a picture that nobody can afford'

c. indirect object: (from van Riemsdijk (1989))

de Bueb, wo mer *(em) es Velo versproche händ
the boy C we he:DAT a bike promised have:1Pl
'the boy we promised a bike'

d. prepositional object:

D=Frau, won=i von=*(ere) es Buech übercho ha,
the=woman C=I from=(she:DAT) a book got have:1SG
find i müesam.
find:1Sg I annoying
'I find the woman from whom I got a book annoying.'

e. possessor:

Das deet isch de Typ, won=i geschter *(sini) Fründin ha
that there is the guy C=I yesterday his girlfriend have:1SG
wele verfüere.
wanted seduce

'That's the guy whose girlfriends I wanted to seduce yesterday.'

¹There are relative pronouns for adverbial relations - *why, how, where* etc.

3.2 A Movement Based Analysis

Salzmann (2005) offers several arguments that the presence of resumptive pronouns in the above cases should not be taken to show that these cases do not involve movement. He notes that ZG relatives with resumptive pronouns show reconstruction and crossover effects.

- (17) True pronouns do not cause SCO:
- a. *The boy who_i he_i thinks that Mary likes t_i
 - b. The boy such that_i he_i thinks that Mary likes him_i.
(note: not clear which of the above pronouns is the 'resumptive' one)

Resumptives in ZG cause SCO:

- (18) (note: no subject resumptives, hence subject must be a real pronoun)

*De Bueb won er_i tänkt, dass d=Marie in_i gärn hät
the boy C he thinks that the=Mary him likes has

'*the boy who_i he_i thinks that Mary likes t_i.'

He distinguishes between 'true' resumption (resumption within islands) and 'apparent' resumption (resumption outside of islands). This is in line with much recent work on resumption (see in particular Aoun et al. (2001)).

3.3 Case-Matching in ZG

When certain identity conditions obtain between the external syntactic environment of the NP head and the internal syntactic environment of the relative pronoun, resumption is not permitted.

- (19) Resumptives and Prepositions within the relative clause are deleted if the head noun (i) bears the same case, and (ii) is selected by the same preposition.
- (20) a. dative-dative:
- Ich han em Bueb, [wo=t (*em) es Buech versproche
I have:1Sg the:Dat boy C=you he:Dat a book promised
häsch], es schöns Exemplar ggee.
have:2Sg a beautiful copy given
'I gave the boy who you promised a book a beautiful copy.'
- b. from-from:

Ich ha vo de Frau, [won=i scho geschter
I have:1Sg from the:Dat woman C=I already yesterday
(*von=ere) es Buech übercho han], wider äis übercho.
from=she:Dat a book received have:1Sg again one received
'I received another book from the woman from whom I had already
received a book yesterday.'

These facts are reminiscent of certain facts from Old English as well as present day English concerning 'missing prepositions':

- (21) a. Old English (from Allen (1980))
- Judas se swicola hraDe eode to Daem arleasum ehterum De he
Judas the traitor quickly went to the impious persecutors C⁰ he
aer gesraec.
earlier spoke
'Judas, the traitor, went to the impious persecutors that he earlier spoke
to.'
- b. Present Day English (from Larson (1987))
- i. I spoke to him the same way/*fashion.
 - ii. The way/*fashion [I spoke to him] was rude.
 - iii. We parted in the same cordial fashion [that we met].

3.3.1 Subjects and Objects

No matching here - resumption is not an option for subjects and objects even if the external environment does not match.

- (22) a. dative-nominative:
- De Frau, [wo (*si) geschter cho isch], schuld i no
the:Dat woman C she:Nom yesterday come is owe:1Sg I still
viel Gält.
much money
'I still owe the woman who came yesterday a lot of money.'
- b. P-dative-nominative:
- Vo de Frau, [won=i (*si) letschts Jahr in Kreta troffe
from the:Dat woman C=I she:Acc last year on Crete met
han], han i nie me öppis ghöört.
have:1Sg have:1Sg I never more something heard
'I've never heard again from the woman I met last year on Crete.'

3.3.2 Matching with PPs

We can set aside cases where the internal and external case are different: we will always get resumption in those cases.

- P-DP[Case1], Resumptive[Case1] → resumptive cannot appear

(23) Ich ha vom Maa, [won=i (*em) es Buech ggee
I have from.the:Dat man C=I he:Data book given have:1Sg
han], geschter mis Gält übercho.
yesterday my money got
'Yesterday I got the money from the man to whom I had given a book.'

- DP[Case1], P-Resumptive[Case1] → resumptive must appear

(24) Ich han em Maa, [won=i *(von=em) es Buech übercho
I hvae:1Sg the:Dat man C=I from=he:Dat a book received
han], zwänzg Stutz ggee.
have:1Sg twenty bucks given
'I gave the man from which I received a book twenty bucks.'

- P₁-DP[Case1], P₂-Resumptive[Case1] → resumptive must appear

(25) Ich ha vo de Lüüt, [won=i *(mit=ene) i d=Schuel
I have:1Sg from the:Dat people C=I with=they:Dat in the=school
bin], scho lang nüüt me ghöört.
am already long nothing anymore heard
'I have not heard anything for a long time from the people with whom I went to school.'

- P-DP[Case1], P-Resumptive[Case1] → resumptive cannot appear

(26) from-from:

Ich ha vo de Frau, [won=i scho geschter
I have:1Sg from the:Dat woman C=I already yesterday
(*von=ere) es Buech übercho han], wider äis übercho.
from=she:Dat a book received have:1Sg again one received

'I received another book from the woman from whom I had already received a book yesterday.'

3.3.3 Matching with Datives

It has been argued that Datives in German are not uniform: some authors distinguish between structural (unaccusative subjects) and inherent (transitive objects, ditransitive goals).

With respect to matching, they all pattern together:

- in the (NOM, DAT) environment, there must be resumption (irrespective of whether the dative is structural/inherent).
- in the (DAT, DAT) environment, there cannot be resumption (irrespective of whether the dative is structural/inherent).

3.3.4 The Role of Surface Form

What seems to matter for matching is surface form:

Bare indefinite plurals without adjectives are ambiguous w.r.t. Case. In such cases, resumption is blocked suggesting that matching is stated on surface form and not abstract case features.

(27) Mane, won i (*ene) es Buech gib, müend intellektuell sii.
men C I they:Dat a book give:1Sg must:Pl intellectual be
'Men to whom I give a book must be intellectual.'

3.4 Towards an Explanation

3.4.1 Datives must be realized

Datives seem to differ from Nominatives/Accusatives in that they (generally) require morphological realization.

- Certain indefinite quantifiers do not inflect for case. These quantifiers cannot appear in dative-marked positions.

(28) (from Bayer et al. (2001))

a. Accusative:

Wir haben genug/nichts/allerlei/etwas/wenig erlebt.
we have enough/nothing/a-lot/something/little experienced

'We have experienced enough/nothing/a lot/something/little.'

- b. Dative:
 *Feuchtigkeit schadet genug/nichts/allerlei/etwas/wenig.
 humidity harms enough/nothing/a-lot/something/little
 'Humidity harms enough/nothing/a lot/something/little.'

Some of these have inflected forms, which are optional for the accusative but obligatory for the dative:

- (29) a. Wir haben schon viel-(es)/nur wenig-(es) erlebt.
 we have already much-Acc only little-Acc experienced
 'We have experienced much already/only little.'
 b. Das schadet/gelicht/ähmelt viel-*(em)/wenig-*(em).
 that harms/equals/resembles much-Dat/little-Dat
 'That harms/equals/resembles much/little.'

• Topic Drop

- (30) a. accusative topic, can be dropped:
 Hab' ich schon gesehen
 have I already seen
 'I have already seen (it).'
- b. dative topic, cannot be dropped:
 *Würde ich nicht vertrauen
 would I not trust
 '*I wouldn't trust (him).'

• Comparatives

- (31) a. Mehr Patienten sind gekommen als [NOM...] behandelt werden
 more patients are come than treated become
 konnten.
 could
 'More patients showed up than could be treated.'
- b. Mehr Patienten sind gekommen als der Arzt [DAT*(ihnen)]
 more patients are come than the doctor they:Dat
 Medikamente geben konnte.
 medicine give could
 'More patients showed up than the doctor could give medicine to.'

Salzmann notes that (31b) has the feeling of an intrusive pronoun in Standard German, but is unmarked in ZG.

- A ban against P-stranding is also relevant (see Fleischer (2002), also diss.)

3.5 An Analysis

- Matching as incorporation:

- (32) a. D-incorporation:
 $[_{DP} D_i + D_{ext} [_{CP} [_{DP} t_i NP] C [.....]]]$
 b. D and P incorporation:
 $[_{PP} P_i + P_{ext} [_{DP} D_j + D_{ext} [_{CP} [_{PP} t_j NP] C [.....]]]]]$

- Distributed Deletion (see Fanselow and Cavar (2002)): a mechanism to allow different parts of a chain to be realized in different positions:

- (33) A-bar splits in ZG:
 a. Wer häsch gsäit, dass ich *(em) das Buech cha verchauffe?
 who.Obl have.2Sg said that I he.Dat the book can sell
 'To whom did you say that I can sell the book?'
- b. Wer häsch gsäit, dass=t *(mite=en) wettsch go tanze?
 who.Obl have.2Sg said that=you with=he.Dat would-like go dance
 'With whom did you say that you would like to go dancing?'

Some redundancy in realization of different copies, Regeneration

- Do not multiply realize case features.

4 A Markedness Generalization

- disccsion from Fleischer (2005)

Fleischer (2005) classifies relativization structures in German dialects as being +/-case.

- (34) -case: case is not overtly expressed internal to the relative clause CP
 a. the book [_{CP} (that) [I like]]

- b. dialect of Großbesseln (transitional area of Rhine and Moselle Franconian, West Central German)

As kind [_{CP} vo: [ix mEn]] is grONg.
 the_{Nom} child that I_{Nom} mean is.3Sg sick

'The child that I mean is sick.'

- c. Yiddish

a fraynd [_{CP} vos [ikh hob shoyn etlekhe yor nit gezen]]
 a friend that I_{Nom} have.1Sg already several years not seen

'A friend whom I have not seen for years'

- (35) +case: case is overtly expressed internal to the relative clause CP

- a. the person [_{CP}whom [I like]]...

- b. on the relative pronoun 1 (dialect of Großbesseln)

As kind [_{CP} das vo: [ix mEn]] is grONg.
 the_{Nom} child Rel.Sg.Acc that I_{Nom} mean is.3Sg sick

'The child that I mean is sick.'

- c. on the relative pronoun 2 (dialect of Altenburg (East Central German, Thuringian))

die Frau, die du gesehen hast
 the_{Nom} woman Rel.FSg.Acc you_{Nom} seen have.2Sg

'The woman you have seen.'

- d. through a resumptive pronoun: (Yiddish)

a fraynd [_{CP} vos [ikh hob im shoyn etlekhe yor nit
 a friend that I_{Nom} have.1Sg him_{Acc} already several years not
 gezen]]
 seen

'A friend whom I have not seen for years'

- 2 vs. 3 case dialects of German:

- (36) a. 3 case dialects - nominative, accusative, dative.
 This is the case with High German dialects (central and southern areas).
 b. 2 case dialects lose the dative/accusative distinction. So we are left with the Nominative/Non-Nominative distinction.
 This is the case with Low German dialects (northern areas).

- (37) Unattested systems:

- a. 1 case dialects
 b. 2 case dialects which merge nominative with dative

How do [+/-case] relativization strategies correlate with the element that is being relativized?

- (38) a. DO[+case], IO[+case]: Altenburg, North Saxon
 b. DO[+/-case], IO[+case]: Yiddish, Palatinate
 c. DO[-case], IO[+case]: Wissembourg
 d. DO[+case];[-case](match), IO[+case];[-case](match): Großbesseln, Bavarian
 e. DO[-case], IO[+case];[-case](match): Zurich
 f. DO[-case], IO[-case]: Saarbrücken, North Frisian, Zaisenhausen

- 2 case dialects treat IO and DO the same w.r.t. the case requirement:

North Saxon → both DO and IO use a [+case] strategy

North Frisian → both DO and IO use a [-case] strategy

- Implicational Generalization: no dialect permits an unrestricted [-case] strategy for IOs while requiring a [+case] strategy for DOs.

5 Case Attraction as Case Agreement

- Discussion from Fanselow et al. (1999)

In many languages, predicative NPs appear with the case of the DP they are predicated of.

- (39) a. nominative:
 er wird ein guter Mann
 he.Nom becomes a.Nom good.Nom man
 'He becomes a good man.'
 b. accusative:
 wir lassen ihn einen guten Mann werden
 we let him.Acc a.Acc good.Acc become

'We let him become a good man.'

Fanselow et al. (1999) explore the possibility that cases like (39) could be related to instances of case attraction.

- (40) Ancient Greek: (external: genitive, internal: accusative, realized: genitive)

áksioi tes eleutherías hes kéktesthe
worthy the freedom.Gen which.Gen possess

'worthy of the freedom you possess.'

Case attraction of the above sort is not possible in every language:

- (41) German: relative pronoun cannot appear in matrix case

*wegen des Mannes dessen du siehst
because the.Gen man.Gen who.Gen you see

'because of the man who you see.'

- (42) Two Constraints:

- GOVCASE: An NP must realize the case it is governed for.
- AGRCASE: if NP1 and NP2 are semantically coindexed, they agree in Case.

AGRCASE as stated seems too unrestricted to me - but let's set aside that complication for now.

- (43) a. Ancient Greek: AGRCASE >>, << GOVCASE
b. German: GOVCASE >> AGRCASE

5.1 The role of low ranked constraints

For grammaticality purposes, in case there is a conflict between two constraints, it is the higher ranked constraint that wins.

Fanselow et al. (1999) explore the possibility that lower ranked constraints like AGRCASE can nevertheless play a role during processing.

- (44) a. Left to right processing
b. Information about GOVCASE is not yet available

- Information about AGRCASE is available
- AGRCASE guides processing
- Finally, information about GOVCASE becomes available and AGRCASE leaves the room.

An expectation:

- (45) *die* is FSg, but unspecified for case:

die Frau die....
the woman who

'the woman who....'

- If we know that the external determiner *die* is accusative, AGRCASE would bias us towards an accusative interpretation of the relative pronoun *die*.
- Background: case ambiguous structures in German display a subject preference.

Expectation: we expect an object preference to arise when (45) is embedded in an environment where the external case is accusative.

5.2 An Experiment

- (46) NP₁ V₁ [_{NP2} Det₂ N₂ [Rel₂ Adv NP₃ V₂ Aux₂]] Adjunct-Clause....
- NP₁ is marked nominative.
 - V₁ is either a transitive verb in which case NP₂ is formally accusative, or it is *sein* 'be', in which case NP₂ is formally nominative.
 - Det₂, N₂ and Rel₂ are morphologically unmarked for case.
 - NP₃ is also unmarked for case, but has a number specification different from NP₂.
 - The grammatical functions of NP₂ and NP₃ are determined by Aux₂.

- (47) Test Examples

- a. (subject relative, with *be*)

Das ist die Frau, die glücklicherweise die Soldaten besucht hat,
that is the woman who fortunately the soldiers visited has
obwohl...
although

'That is the woman who has fortunately visited the soldiers, although...'

b. (object relative, with *be*)

Das ist die Frau, die glücklicherweise die Soldaten besucht
that is the woman who fortunately the soldiers visited
haben, obwohl...
have although

'That is the woman who the soldiers have fortunately visited, although...'

c. (subject relative, with a transitive verb)

der Soldat überrascht die Frau, die glücklicherweise die Männer
the soldier surprises the woman who fortunately the men
besucht hat,...
visited has

'The soldier surprises the woman who has fortunately visited the men.'

d. (object relative, with a transitive verb)

der Soldat überrascht die Frau, die glücklicherweise die Männer
the soldier surprises the woman who fortunately the men
besucht haben,...
visited have

'The soldier surprises the woman who the men have fortunately visited.'

- If AGRCASE plays a role in processing, we expect (47a, d) to have the fastest reading times on the disambiguating auxiliary.
- The preference for Subject-Object order would favor (47a, c).

Results:

(48) Reading times for auxiliary:

- (47a): [N=nom, Rel=nom]: 611ms.
(47b): [N=nom, Rel=acc]: 736ms.
- (47c): [N=acc, Rel=nom]: 639ms.
(47d): [N=acc, Rel=acc]: 594ms.

(the a vs. b, c vs. d differences are significant.)

- Note that the AGRCASE preference overrides the preferences for Subject-Object order (47c vs. 47d).

6 Attraction Errors

Bader and Meng (2002) explore the relationship between Case Attraction effects in processing and attraction errors of the sort indicated below:

(49) Speech Error:

- Common: The editor of the history books are...
- Rare: The editors of the history book is...

Intuition: singular is unmarked, only marked features are attracted.

Bader and Meng (2002) (and more generally the Bader/Bayer research group) are interested in the representation of case, in particular the dative. There is evidence that compared to nominative/accusative, the dative is a marked case.

So the question is: do all cases participate in Case Attraction, or only marked cases?

6.1 Background

Locally Ambiguous Structures:

(50) a. S-O

(Ich glaube,) daß Fritz das Buch geschickt hat.
I believe that Fritz the book sent has
'I believe that Fritz has sent the book.'

b. O-S

(Ich glaube,) daß Fritz das Buch geschickt wurde.
I believe that Fritz the book sent was
'I believe that the book was sent to Fritz.'

Self-Paced reading exhibits preference for S-O word order.

This preference can be overturned by a relative clause whose relative pronoun is marked dative.

- (51) Ich glaube, daß Maria, **der** ich gerade begegnet bin, das Buch
I believe that Maria who.Dat I just met am the book
geschickt hat.
sent has
'I believe that Maria, who I just met, sent the book.'

The presence of the relative clause causes a sharp drop in the percentages of correct answers in a speeded-grammaticality experiment.

Bader's Proposal:

- (52) The Case Attraction Hypothesis (CAH):
A marked case feature can erroneously migrate within the CPPM (Current Partial Phrase Marker).

An alternate proposal:

- (53) The Parallel Function Hypothesis (PFH):
If the syntactic function of the head noun is ambiguous, the parser assumes that the syntactic functions of the head noun and the relative pronoun are identical.

6.2 CAH vs. PFH

- (54) a. Ich glaube, daß Maria, **der** ich gerade begegnet bin, das Buch
I believe that Maria who.Dat I just met am the book
geschickt hat.
sent has
'I believe that Maria, who I just met, sent the book.'
- b. *die* is ambiguous between Nom/Acc, but cannot be Dat:
Ich glaube, daß die Frau, **der** ich gerade begegnet bin, das
I believe that the woman who.Dat I just met am the
Buch geschickt hat.
book sent has
'I believe that the woman who I just met sent the book.'
- c. Ich glaube, daß der Frau, die ich gerade getroffen habe,
I believe that the.Dat woman who.Acc I just met am
das Buch geschickt wurde.
the book sent was
'I believe that the book was sent to the woman who I just met.'

Bader and Meng (2002) assume a directionality to Case Attraction: they expect (54a, b), but not (54c), to not display Case Attraction effects,

- To avoid the active-passive distinction, the test sentences involved active transitive and psych-verb sentences.

Results:

- (55) a. Dative relative pronouns induce Case Attraction errors in both (54a, b) (i.e. irrespective of whether we have a 3-way ambiguous Proper Name, or a 2-way (Nom-Acc) ambiguous Definite Description.)
b. Case Attraction effects were found only with (54a, b) but not with (54c), suggesting that only marked cases participate in Case Attraction
- Bader and Meng (2002) relate this to their proposal that dative case is represented by a case flag (a KP) within the CPPM, while the nominative/accusative are not.

Additional experiments show that case attraction is not dependent on the head noun being ambiguous. Case attraction occurs as frequently with ambiguous head NPs as with unambiguous head NPs.

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