

Neutrality vs. Ambiguity in Resolution by Syncretism: Experimental Evidence and Consequences*

Alya Asarina (alya@mit.edu)

October 23, 2010

1 Introduction

Across a number of languages and constructions, syntactic *feature conflicts* can be resolved by *syncretism*. For instance, in Russian Right Node Raising (RNR) examples (1) and (2):

- The first-clause verb assigns accusative (ACC) to the RNRed noun phrase.
- The second-clause verb assigns nominative (NOM) to the RNRed noun phrase.

The sentence is ungrammatical when the RNRed noun is not syncretic for NOM-ACC in (1), but grammatical when it is syncretic in (2).

Russian RNR with different case requirements and no NOM-ACC syncretism:

- (1) *On ne ostavil, tak kak emu nadoela, tarelk-u/a s chërnoj kaëmkoj.
he not *kept_{acc}*, as him **sick.of_{nom}**, plate-ACC/NOM with black border
'He didn't keep, as he was sick of, the plate with a black border.'

Russian RNR with different case requirements and NOM-ACC syncretism:

- (2) On ne ostavil, tak kak emu nadoelo, bljudc-e s krasnoj kaëmkoj.
he not *kept_{acc}*, as him **sick.of_{nom}**, saucer-ACC&NOM with red border
'He didn't keep, as he was sick of, the saucer with a red border.'

Accusative:

- (3) a. On ne ostavil tarelk-u/bljudc-e.
he not kept_{acc} plate-ACC/saucer-ACC
'He didn't keep the plate/saucer.'

Nominative:

- b. Emu nadoel-a/o tarelk-a/bljudc-e.
him sick.of-f/n_{nom} plate-NOM/saucer-NOM
'He's sick of the plate/saucer.'

*Many thanks to Adam Albright, David Pesetsky, Sabine Iatridou, Bronwyn Bjorkman, Kai von Fintel, Norvin Richards, and Michael Lieberman for helpful comments and discussion.

Example (1) is ungrammatical due to a feature conflict – the raised noun cannot be compatible with both the accusative (ACC) case assigned by the first clause and the nominative (NOM) case assigned by the second clause. The syncretic form in (2) resolves this feature conflict.

Resolution by syncretism had been noted for many constructions and languages:

Case conflicts:

RNR: German (Pullum and Zwicky (1986)), French and Icelandic (Zaenen and Karttunen (1984))

ATB movement: Polish (Borsley (1983), Citko (2005))

Free relatives: German (Groos and Van Riemsdijk (1981)), Russian (Levy (2001) via Dalrymple et al. (2009))

Gender conflicts: German nouns (Pullum and Zwicky (1986))

Number conflicts: German nouns (Zaenen and Karttunen (1984))

Person conflicts: English verbs (Pullum and Zwicky (1986)), German verbs (Eisenberg (1973), via Pullum and Zwicky (1986))

Noun class conflicts: Xhosa adjectives (Voeltz (1971) via Pullum and Zwicky (1986))

Resolution by syncretism in English: (examples from Pullum and Zwicky (1986))

- (4) a. *Either they or I are/am/is going to have to go.
b. Either they or you are going to have to go.

- (5) a. *I certainly will, and you already have, clarify/clarified the situation with respect to the budget.
b. I certainly will, and you already have, set the record straight with respect to the budget.

In this talk:

Section 2: overview of the issues involved

Section 3: types of syncretism and how they are instantiated in Russian: neutrality, morphological ambiguity, phonological ambiguity

Section 4: experiment showing that only neutrality resolves feature conflicts

Section 5: proposed extension of Distributed Morphology (DM) that captures the syncretism facts

2 Background

In this section:

Section 2.1: Implications of the possibility of resolution by syncretism (feature conflicts are syntactically allowed).

Section 2.2: Summary of the discussion as to what kind of syncretism (neutrality vs. ambiguity) resolves feature conflicts.

2.1 Implications for theories of grammar

Two challenges for any theory:

- (6) a. Ruling out examples like (7), where conflicting case requirements make the sentence ungrammatical.
- b. Allowing examples like (8), where syncretism makes it possible for conflicting case requirements to be satisfied.

Russian RNR with different case requirements and no NOM-ACC syncretism (rep. from (1)):

- (7) *On ne ostavil, tak kak emu nadoela, tarelk-u/a s chërnoj kaëmkoj.
he not *kept_{acc}*, as him **sick.of_{nom}**, plate-ACC/NOM with black border
'He didn't keep, as he was sick of, the plate with a black border.'

Russian RNR with different case requirements and NOM-ACC syncretism (rep. from (2)):

- (8) On ne ostavil, tak kak emu nadoelo, bljudc-e s krasnoj kaëmkoj.
he not *kept_{acc}*, as him **sick.of_{nom}**, saucer-ACC&NOM with red border
'He didn't keep, as he was sick of, the saucer with a red border.'

What we learn:

- Case assignment (and feature assignment more generally) is not optional. ((7) is ungrammatical)
- The syntax allows an item to bear contradictory features. ((8) is grammatical)
- The morphological system is not “fail-safe,” but can rule out certain inputs. ((7) is ungrammatical)

The last point is a problem for Distributed Morphology (DM) and any other system which assumes defaults throughout.

2.2 What kind of syncretism is relevant?

Types of syncretism:

Neutral form: Underspecified for a certain feature. Example: English past tense verbs (other than *be*) are neutral for person and number.

Ambiguous form: Not an underspecified representation. Two sets of features are accidentally represented in the same way. Example: English noun plural *-z* and English verb present tense 3rd person singular *-z*.

Claims in the literature:

Resolution by neutrality only: Zaenen and Karttunen (1984) and Ingria (1990) (conflict must also be semantically irrelevant); Dalrymple et al. (2009)

Resolution by neutrality and ambiguity: Pullum and Zwicky (1986) (for ambiguous forms, feature must be “syntactically imposed”)

I conducted an experiment to determine what kind of resolution is possible:

- judgments collected systematically
- narrow domain: case syncretism in Russian RNR constructions
- range of syncretism types: neutrality, morphological ambiguity, phonological ambiguity
- detailed discussion of Russian declension system indicates syncretism type
- result: only *neutral* forms resolve feature conflicts

3 Syncretism Types in Russian

The ways in which a morpheme can be syncretic for two sets of features (α and β):

Neutrality: A single morpheme is compatible with α and β .

Ambiguity: α and β are treated differently by the morphological system and identity of outputs is accidental.

Morphological ambiguity: The underlying phonological representations corresponding to α and β are (accidentally) the same.

Phonological ambiguity: The underlying forms for α and β are distinct, but the surface forms are identical due to the phonology of the language.

The experiment presented below shows that (at least in Russian RNR constructions) only *neutral* forms resolve feature conflicts. But first, we need to establish that the three types of syncretism (*neutrality*, *morphological ambiguity*, *phonological ambiguity*) are found in Russian.

3.1 Neutrality

Neutrality: A single morpheme is compatible with two sets of features.

Neutrality on Russian: NOM-ACC syncretism for neuter (declension class Ib) nouns (and elsewhere). Example: *bljudc-e* ('saucer'-NOM/ACC)

Morphological analyses of Russian have consistently treated NOM-ACC syncretism as an instance of neutrality. (Jakobson (1958), Neidle (1988), Wiese (2004), Müller (2004), Dalrymple et al. (2009)) Motivation for treating NOM-ACC syncretism in Russian as neutrality:

- metasyncretism (Williams (1994))
- syntactic connection

Metasyncretism: NOM-ACC syncretism is prevalent in the Russian declension system:

- all singular non-feminine inanimates (for nouns, adjectives, demonstratives)
- plurals (for nouns, adjectives, demonstratives)
- class III (feminine) nouns

This motivates treating nominative and accusative as forming a category:¹

- If NOM and ACC *share* a feature (or features), each instance of syncretism can be systematic.
- If NOM and ACC *do not share* a feature, each instance of syncretism is accidental(!).

Grouping NOM with ACC in Russian is also syntactically motivated:

- structural cases
- behavior with numerals (Russian) (see appendix A)
- behavior with genitive of negation (Russian) (see appendix A)

3.2 Morphological Ambiguity

Ambiguity: Two sets of features are treated differently by the morphological system and identity of outputs is accidental.

Morphological ambiguity: The underlying phonological representations corresponding to the two sets of features are (accidentally) the same.

Morphological ambiguity in Russian: Partitive-dative (PART-DAT) syncretism for a subset of masculine (declension class Ia) nouns. Example: *čaj-u* ('tea' - PART/DAT)

PART-DAT syncretism is treated as ambiguity by Jakobson (1958), Neidle (1988), Wiese (2004). Motivation for treating PART-DAT syncretism in Russian as ambiguity:

- different environments
- PART-genitive (GEN) connection

PART and DAT *-u* endings appear on different sets on nouns:

PART *-u*: subset of class Ia nouns

DAT *-u*: all class Ia and class Ib nouns.

If a single rule inserts both PART and DAT, there is no way to specify where this rule applies. In addition, PART is closely connected to non-partitive GEN, and not to DAT:

- PART is syncretic with non-partitive GEN in all parts of the declension system other than a subset of singular class Ia nouns (metasyncretism).
- GEN case marking is permitted where PART is possible ((9)).

(9) Nalej mne sok-u/sok-a.
pour me juice-PART/ juice-GEN
'Pour me some juice.'

¹It has been argued that metasyncretism is actually best accounted for by rules of *impoverishment* – syntactic deletion of features. (Bobaljik (2001), Harley (2008)) However, there exist instances of neutrality where impoverishment is not a plausible analysis, e.g. the English *be* paradigm. An account that does not invoke impoverishment is therefore needed, and so we set aside the possibility of impoverishment more generally.

3.3 Phonological Ambiguity

Ambiguity: Two sets of features are treated differently by the morphological system and identity of outputs is accidental.

Phonological ambiguity: The underlying forms for the two sets of features are distinct, but the surface forms are identical due to the phonology of the language.

Phonological ambiguity in Russian: Accusative-prepositional (ACC-PREP) syncretism for neuter (class Ib) nouns with unstressed endings. Example: *lezvi-e* ('blade'-ACC/PREP)

ACC and PREP neuter forms are distinct when the ending is stressed:

- (10) *sedl-ó* – *sedl-é*
 saddle-ACC – saddle-PREP

General process of vowel reduction in Russian:

- (11) unstressed o, e → i after a palatalized consonant

Unstressed ACC and PREP endings after a palatalized consonant yield the same surface phonological form:

- (12) *pól-i*
 field-ACC/PREP

3.4 Summary

Types of syncretism in Russian to be used below:

Neutrality: NOM-ACC (neuter, class Ib)

Morphological ambiguity: PART-DAT (masculine, class Ia)

Phonological ambiguity: ACC-PREP (neuter w/ unstressed ending, class Ib)

4 Experiment

Goal: Determining the ability of different types of syncretism to resolve feature conflicts.

Conditions: Syncretism in the Russian case system: neutrality, morphological ambiguity, and phonological ambiguity.

Outcome: Neutrality resolves feature conflicts, but ambiguity does not.

In this section:

Section 4.1: Stimuli.

Section 4.2: Setup and participants.

Section 4.3: Results.

4.1 Stimuli

Three test conditions:

- neutrality
- morphological ambiguity
- phonological ambiguity

The paradigm is Russian RNR constructions where the raised noun phrase is assigned one case in the first clause, and a different case in the second clause. For each experimental condition (neutrality, morphological ambiguity, phonological ambiguity), two types of sentences were presented.

Test sentences: RNRed noun is syncretic for the cases assigned by the two clauses.

Control sentences: RNRed noun is not syncretic for the cases assigned by the two clauses. It bears the case assigned to it in the second clause.²

- minimally different from test sentences
- same case environment as test sentences
- RNRed noun is either in a different declension than in test sentences or has a stressed ending (vs. unstressed ending for test)

NOM-ACC syncretism (neutrality) (repeated from (2)):

(13) On ne ostavil, tak kak emu nadoelo, bljudc-e s krasnoj kaëmkoj.
he not *kept_{acc}*, as him **sick.of_{nom}**, saucer-**ACC&NOM** with red border
'He didn't keep, as he was sick of, the saucer with a red border.'

NOM-ACC syncretism (neutrality) control (repeated from (1)):

(14) On ne ostavil, tak kak emu nadoela, tarelk-a s chërnojj kaëmkoj.
he not *kept_{acc}*, as him **sick.of_{nom}**, plate-**NOM** with black border
'He didn't keep, as he was sick of, the plate with a black border.'

Other items:

- RNR examples where the same case is assigned in both clauses, as a baseline for the acceptability of RNR.
- Fillers:
 - of comparable length with the RNR sentences, but not containing RNR
 - some grammatical, some with incorrect case marking

Predicted: Test sentences are more acceptable than the corresponding controls if, and only if, the type of syncretism involved (neutrality, morphological ambiguity, phonological ambiguity) can resolve feature conflicts.

See appendix B for sample sentences for each condition.

²Sentences where the RNRed noun bears the case assigned by the first clause instead are markedly worse (according to my own judgments and those of two other informants).

4.2 Setup and Participants

The experiment was conducted online through Amazon Mechanical Turk. Russian speakers (as opposed to other Turk users) were identified by their answers to preliminary free-response questions. Results from 41 participants were used.

The sentences were presented in written form.³

Question asked: “Can you say this?” (presented in Russian)

Possible responses: “yes” or “no”

Each speaker judged up to five sets of sixteen sentences. Each set included:

- one test sentence of each type (neutrality, morphological ambiguity, phonological ambiguity)
- one control for each type of test sentence (closest conjunct agreement)
- two RNR sentences with no feature conflict
- eight filler sentences

4.3 Results

Conclusion: Sentences with neutrality are significantly more acceptable than the corresponding controls. Sentences with ambiguity are not.

(15) Results at-a-glance:

Condition	# accepted	# total	% accepted
Fillers (grammatical)	191	261	73%
Fillers (ungrammatical)	52	235	22%
RNR, no case conflict	66	124	53%
Neutrality	41	62	66%
Neutrality controls	20	62	32%
Morphological ambiguity	27	62	44%
Morphological ambiguity controls	23	62	37%
Phonological ambiguity	32	62	52%
Phonological ambiguity controls	41	62	66%

The results were analyzed using a mixed effects logistic regression with maximum likelihood fitting. The model included:

- paradigm (neutrality, morphological ambiguity, or phonological ambiguity)
- neutral form? (yes/no)
- morphologically ambiguous form? (yes/no)
- phonologically ambiguous form? (yes/no)

³Audio recordings were used in a pilot for this experiment.

- random effect: participant ID

Significant factors ($p < .05$):

- neutral form? ($p < .001$)
- phonological ambiguity paradigm ($p < .001$)

Likelihood ratio test for the significance of the three experimental conditions:

(16) Significance of neutrality, morphological ambiguity, phonological ambiguity:

Condition	χ^2	p (χ^2)	significant?
Neutrality	13.6	< .001	yes
Morphological ambiguity	2.1	.146	no
Phonological ambiguity	3.4	.064	no

Conclusion: Out of the three conditions, only *neutrality* significantly raised acceptability.

5 Theoretical implications and analysis

The experimental results indicate that neutrality is different from ambiguity in an empirically and theoretically significant way.

Neutral form: feature conflict permitted

Ambiguous form: feature conflict prohibited

In particular, the assignment to an item of two features that are spelled out by different rules (i.e. no neutrality) must be banned in certain circumstances.⁴

In this section:

Section 5.1: A system with underspecification and defaults, such as Distributed Morphology (DM), will never fail to find a form to match any set of features. This is problematic for explaining the syncretism data.

Section 5.2: An analysis of the experimental data based on:

- an elaborated version of DM
- feature structures
- multidominance

Section 5.3: Summary of key theoretical implications.

⁴Dalrymple et al. (2009) propose an HPSG-based account of resolution by neutrality, with the assumption that lexical items are part of the syntactic structure. On this view, a number of the issues discussed in this section do not arise.

5.1 Distributed Morphology as-is

Key properties of DM:

- disjunctively ordered rules of insertion
- underspecification

In such a system [PART, DAT] (for instance) could be spelled out by one of four types of rules:⁵

- (17)
1. PART, DAT → a
 2. PART → b
 3. DAT → c
 4. → d

Presumably there is no rule like 1 in the morphological system. But [PART, DAT] can be spelled out by rule 2, 3, or 4.

Problem: It is never impossible to spell out an item based on its having too many features. How can non-syncretic and ambiguous forms be ruled where neutral forms are possible?

5.2 Modifying Distributed Morphology

5.2.1 What we want

How can a morphological system like DM rule out forms with conflicting features? Proposal:

1. In examples of resolution by syncretism, an item (e.g. RNRed noun) receives two separate sets of features (or feature structures).
2. The derivation crashes if the two sets of features are not spelled out by the same rule.

What exactly causes an item to bear two sets of features is discussed in the next section. Proposal:

- Two case features assigned to the RNRed noun are not spelled out together, but rather become part of *two separate sets of features*.
- Two feature sets on a single item must be spelled out by a single rule.

No syncretism

- (18) *On ne sosedu podlil, a naoborot poradovalsja, moloku s saxarom i he not neighbor-dat *poured*_{part}, but opposite **was.glad**_{dat}, milk[Ib]-**DAT** with sugar and likërom.
liqueur
'He didn't pour some to his neighbor, but rather was glad of, milk with sugar and liqueur.'

moloko ('milk'): [PART, singular, class Ib] and [DAT, singular, class Ib] (in (18))

For *moloko* ('milk') in (18), the following two insertion rules would spell out the two feature sets:

⁵For convenience, simple privative case features are used throughout much of this discussion. The same points would carry over to a more elaborate analysis of the case system.

- PART, singular, class Ib → -a
- DAT, singular, class Ib → -u

Result:

- *two different rules*, two different morphemes → rejected

Ambiguity

- (19) *On ne sosedu podlil, a naoborot poradovalsja, chaju so
he not neighbor-dat *poured*_{part}, but opposite **was.glad**_{dat}, tea[Ia]-**PART/DAT** with
sgushchënym molokom.
condensed milk
'He didn't pour some to his neighbor, but rather was glad of, tea with condensed milk.'

čaj ('tea'): [PART, singular, class Ia] and [DAT, singular, class Ia] (in (19))

Rules for the two sets of features on *čaj* ('tea'):

- PART, singular, class Ia → -u
- DAT, singular, class Ia → -u

Result:

- *two different rules*, same morphemes → rejected

Using two different insertion rules for the two sets of features makes the result ungrammatical. This contrasts with examples like (20) and (21) where the same insertion rule applies to the two sets of features.

Identity

- (20) On ne soxranil, a vybrosil, pechen'e iz poezdki v Angliju.
he not **kept**_{acc}, but **discarded**_{acc}, cookie-ACC from trip to England
'He did not keep, but rather threw out, cookies from a trip to England.'

pechen'e ('cookie'): [ACC, singular, class Ib] and [ACC, singular, class Ib] (in (20))

One rule for the two identical sets of features:

- non-oblique, singular, class Ib → -o

Result:

- single rule → accepted

Neutrality

- (21) On ne ostavil, tak kak emu nadoelo, bljudce s krasnoj kaëmkoj.
he not *kept*_{acc}, as him **sick.of**_{nom}, saucer[Ib]-**ACC&NOM** with red border
'He didn't keep, as he was sick of, the saucer with a red border.'

bljudce ('saucer'): [ACC, singular, class Ib] and [NOM, singular, class Ib] (in (21))

NOM-ACC syncretism is an instance of neutrality. The feature sets on *bljudce* ('saucer') in (21) are thus spelled out by a single rule:

- non-oblique, singular, class Ib → -o

Result:

- single rule → accepted

Summary:

1. In certain situations, an item bears more than one feature set.
2. If an item bears two feature sets, both sets must be spelled out by the same morphological insertion rule.

Unmodified DM:

- identity, neutrality → accepted (✓)
- ambiguity, no syncretism → accepted (✗)

Modified DM:

- identity, neutrality → accepted (✓)
 ambiguity, no syncretism → rejected (✓)

Standard DM vs. Modified DM:⁶

(22) form: *molok* ('milk') [non-syncretic]

	a. Standard DM:	b. Modified DM :
case	PART, DAT	PART, DAT
features	[<i>class: Ib, number: sing, case: PART, DAT</i>]	[<i>class: Ib, number: sing, case: PART</i>] [<i>class: Ib, number: sing, case: DAT</i>]
rule	Ib, sing, DAT ↔ -u	none!

form: *chaj* ('milk') [ambiguous]

	a. Standard DM:	b. Modified DM:
case	PART, DAT	PART, DAT
features	[<i>class: Ib, number: sing, case: PART, DAT</i>]	[<i>class: Ib, number: sing, case: PART</i>] [<i>class: Ib, number: sing, case: DAT</i>]
rule	Ib, sing, DAT ↔ -u	none!

form: *pechen'* ('cookie') [identical]

	a. Standard DM:	b. Modified DM:
case	ACC, NOM	ACC, NOM
features	[<i>class: Ib, number: sing, case: ACC, ACC</i>]	[<i>class: Ib, number: sing, case: ACC</i>] [<i>class: Ib, number: sing, case: ACC</i>]
rule	Ib, sing, ACC ↔ -e	Ib, sing, ACC ↔ -e

⁶Insertion rules given here are for concreteness only. The details depend on one's analysis of the Russian declension system.

form: *bljudc* ('saucer') [neutral]

	a. Standard DM:	b. Modified DM:
case	ACC, NOM	ACC, NOM
features	[<i>class: Ib, number: sing, case: ACC, NOM</i>]	[<i>class: Ib, number: sing, case: ACC</i>] [<i>class: Ib, number: sing, case: NOM</i>]
rule	Ib, sing, non-oblique ↔ -e	Ib, sing, non-oblique ↔ -e

5.2.2 Where multiple sets of features come from

When does an item bear more than one set of features? I propose:

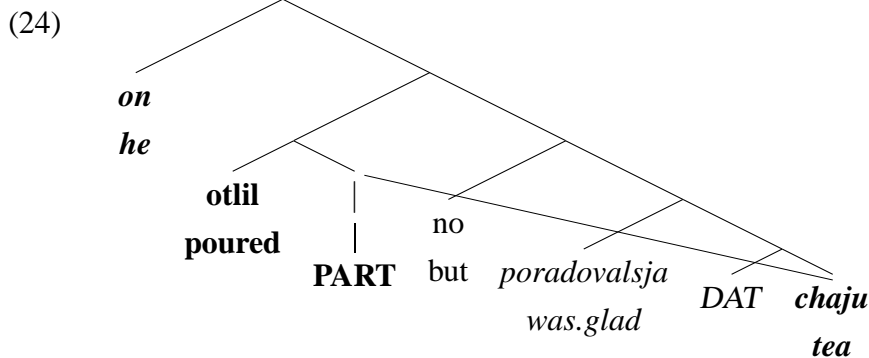
1. Multiple features of the same type can be assigned in a multidominant structure. For example, an RNRed noun, shared in a multidominant structure, receives multiple case features.
2. Multiple feature structures are generated when an item is assigned two features for the same feature category. For example, a noun assigned case twice will have associated with it two feature structures that must be spelled out.

Multidominance

Morphological ambiguity (simplified):

(23) *On otlil, no poradovalsja, chaju.
 he poured_{part}, but **was.glad**_{dat}, tea[*Ia*]-**PART/DAT**
 'He poured off, but was glad of, the tea.'

A multidominant structure has been proposed for RNR constructions (McCawley (1982), Wilder (1999)):



There are two clauses with overlapping members, joined together by *no* ('but').

In bold: PART assigned to *chaj* ('tea')

In italics: DAT assigned to *chaj*

Syntactically separate case (shown above) is not strictly essential, but it makes the proposal simpler.

- A noun is assigned case features by the case nodes it combines with.
- When a noun combines with more than one case node (e.g. PART and DAT above), it receives a case feature from each case node.

Multidominance has been proposed for most of the constructions where syncretism effects have been observed:

- RNR (McCawley (1982), Wilder (1999))
- ATB movement (Citko (2005))
- free relatives (Riemsdijk (2000))

Feature structures What happens when an item receives more than one case feature? My account is inspired by the proposal of Bjorkman (2009):

- When an item is assigned two features from the same feature hierarchy, a split into two separate feature structures occurs.
- Example: [DAT] and [PART] are both in the feature hierarchy for case. If both are assigned to a single noun, that noun ends up bearing two separate feature structures.

I propose that every lexical item is associated with a feature matrix. For Russian nouns, it contains:

- number
- declension class
- case

Repeated from (23):

Morphological ambiguity (simplified):

(25) *On *otlil*, no *poradovalsja*, *chaju*.
he *poured*_{part}, but **was.glad**_{dat}, tea[*la*]-**PART/DAT**
'He poured off but was glad of, the tea.'

Chaju ('tea') is inherently class Ib and singular:

(26)
$$\begin{bmatrix} \text{CLASS} & \text{Ib} \\ \text{NUMBER} & \text{singular} \end{bmatrix}$$

Chaju is assigned case by *otlil* ('poured') and *poradovalsja* ('was glad') in (25). *Otlil* assigns PART case, which creates the following structure:

(27)
$$\begin{bmatrix} \text{CLASS} & \text{Ib} \\ \text{NUMBER} & \text{singular} \\ \text{CASE} & \text{PART} \end{bmatrix}$$

Now, when *poradovalsja* assigns DAT case, it cannot be inserted in the matrix above, as the CASE slot is already filled. Proposal:

- a new feature matrix is created
- all non-conflicting values (in this instance, class and number) are preserved
- there is a new case value

Chaju thus bears both of the feature matrices in (28):

$$(28) \quad \left[\begin{array}{ll} \text{CLASS} & \text{Ib} \\ \text{NUMBER} & \text{singular} \\ \text{CASE} & \text{PART} \end{array} \right] \quad \left[\begin{array}{ll} \text{CLASS} & \text{Ib} \\ \text{NUMBER} & \text{singular} \\ \text{CASE} & \text{DAT} \end{array} \right]$$

All the feature structures an item bears must be spelled out. As proposed above:

- The derivation crashes when two different rules are used to do spell out the feature sets on a single item (as in the PART/DAT example).
- Two feature structures on a single item do not result in a crash so long as they are spelled out by a single rule (as in examples of NOM/ACC syncretism).

5.3 Summary

In this section, I have argued that:

- Feature conflicts are permitted by the syntax (for neutral forms).
- Feature conflicts are resolved when the morphology treats the features assigned in the same way.
- Feature conflicts are not resolved by accidentally syncretic forms.

The fate of an item with conflicting feature specifications is determined at the intermediate level of morphological spellout, which is where neutral and ambiguous forms are distinguished.

6 Conclusion

- Experimental evidence indicates that *neutral* forms resolve feature conflicts, whereas *ambiguous* forms do not.
- A failure in morphological insertion can result in ungrammaticality.
- Modifying DM with the idea that an item can sometimes bear multiple feature structures, and that these structures must be spelled out by a single rule, captures the syncretism facts.

A NOM-ACC Syntactic Similarities in Russian

NOM and ACC pattern together in Russian with respect to:

- behavior with numerals
- behavior with genitive of negation

Paucal numerals combine with:

- genitive singular nouns in nominative and accusative environments
- plural nouns with the appropriate case marking in all oblique environments

(29) dva stol-a
two-**NOM/ACC** table-**GEN.SG**

- (30) a. dvux stol-ov
two-**GEN** table-**GEN.PL**
- b. dvum stol-am
two-**DAT** table-**DAT.PL**
- c. dvumja stol-ami
two-**INST** table-**INST.PL**
- d. dvux stol-ax
two-**PREP** table-**PREP.PL**

Genitive of negation is licensed only for noun phrases that would otherwise be assigned nominative (in an unaccusative construction) or accusative. (Babby (1980), Pesetsky (1982))

- (31) a. Pis'ma ne prishli.
letters-**NOM** not came-pl
'The letters haven't come.'
- b. Pisem ne prishlo.
letters-**GEN** not came-neut
'Letters haven't come.'

(32) Ja ne chital pis'ma/pisem.
I not read letters-**ACC**/letters-**GEN**
'I haven't read (the) letters.'

- (33) a. Ja ne rad pis'mam/*pisem.
I not glad letters-**DAT**/*letters-**GEN**
'I'm not glad of (the) letters.'
- b. Ja ne dovolen pis'mami/*pisem.
I not pleased letters-**INST**/*letters-**GEN**
'I'm not pleased with (the) letters.'

- c. Ja ne dumaju o pis'max/*pisem.
I not think about letters-**PREP**/*letters-**GEN**
'I don't think about (the) letters.'

B Sample Stimuli

B.1 Neutrality (NOM-ACC)

Experimental sentences: neuter (class Ib)

Control sentences: feminine (class II)

Neutrality:

- (34) On ne ostavil, tak kak emu nadoelo, bljudce s krasnoj kaëmkoj.
he not *kept_{acc}*, as him **sick.of_{nom}**, saucer[Ib]-**ACC&NOM** with red border
'He didn't keep, as he was sick of, the saucer with a red border.'

No syncretism; second conjunct agreement:

- (35) On ne ostavil, tak kak emu nadoela, tarelka s chërnoj kaëmkoj.
he not *kept_{acc}*, as him **sick.of_{nom}**, plate[II]-**NOM** with black border
'He didn't keep, as he was sick of, the plate with a black border.'

B.2 Morphological ambiguity (PART-DAT)

Experimental sentences: masculine (class Ia)

Control sentences: neuter (class Ib)

Morphological ambiguity:

- (36) On ne sosedu podlil, a naoborot poradovalsja, chaju so
he not neighbor-dat *poured_{part}*, but opposite **was.glad_{dat}**, tea[Ia]-**PART/DAT** with
sgushchënym molokom.
condensed milk
'He didn't pour some to his neighbor, but rather was glad of, tea with condensed milk.'

No syncretism; second conjunct agreement:

- (37) On ne sosedu podlil, a naoborot poradovalsja, moloku s saxarom i
he not neighbor-dat *poured_{part}*, but opposite **was.glad_{dat}**, milk[Ib]-**DAT** with sugar and
likërom.
liqueur
'He didn't pour some to his neighbor, but rather was glad of, milk with sugar and liqueur.'

B.3 Phonological ambiguity (ACC-PREP)

Experimental sentences: neuter (class Ib), unstressed ending

Control sentences: neuter (class Ib), stressed ending

Phonological ambiguity:

- (38) On ne nastupil, a sidel, na lózhe s serym pokryvalom.
he not *stepped*_{acc}, but **sat**_{prep}, on bed[Ib]-**ACC/PREP** with gray bedspread
'He did not step on, but sat on, the bed with a gray bedspread.'

No syncretism; second conjunct agreement:

- (39) On ne nastupil, a sidel, na vedré s bol'shoj dyrkoj.
he not *stepped*_{acc}, but **sat**_{prep}, on bucket[Ib]-**PREP** with big hole
'He did not step on, but sat on, the bucket with a big hole.'

B.4 Other

Baseline – RNR without case conflict:

- (40) On ne soxranil, a vybrosil, pechen'e iz poezdki v Angliju.
he not **kept**_{acc}, but **discarded**_{acc}, cookie-**ACC** from trip to England
'He did not keep, but rather threw out, cookies from a trip to England.'

Filler – grammatical:

- (41) On vchera vybrosil, ponimaja chto postupaet glupo, tarelku iz tonkogo fajansa.
he yesterday **discarded**_{acc}, realizing that acts stupidly, plate-**ACC** from thin faience
'He threw away yesterday, realizing that he's acting stupidly, a fine faience plate.'

Filler – ungrammatical:

- (42) *On vchera vybrosil, ponimaja chto postupaet glupo, tarelka iz tonkogo fajansa.
he yesterday **discarded**_{acc}, realizing, that acts stupidly, plate-**NOM** from thin faience

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