

The role of syncretism in agreement attraction: a reading study on Russian

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Many experimental studies focus on agreement attraction (e.g. Clifton & al. 1999; Dillon & al. 2013; Pearlmutter & al. 1999; Tanner & al. 2014; Wagers & al. 2009). It was demonstrated that attraction errors, like (1a), trigger more incorrect answers in grammaticality judgment experiments, provoke less pronounced effects in reading time and EEG studies than other agreement errors, like (1b). In this paper, we focus on the role of syncretism in grammaticality illusions associated with attraction. In a production study on German, Hartsuiker et al. (2003) showed that subjects like (2a), in which the form of the attractor is syncretic (ambiguous between accusative and nominative), provoked significantly more errors than subjects like (2b), in which the attractor is unambiguously dative. Similar patterns were later found in other languages. But only one study analyzed the role of syncretism in comprehension: working with number agreement attraction in Russian, Slioussar (2018) showed that syncretic attractor forms are a prerequisite for grammaticality illusions.¹

However, many other questions are still unexplored. In particular, Badecker and Kuminiak (2007) conducted several gender agreement production experiments on Slovak showing that not only the attractor, but also the head noun must be in a syncretic form to trigger attraction errors. As a result, significant attraction effects were found only in the examples like (4b), but not in (3a–b) or (4a). The only study looking at gender agreement attraction in comprehension was conducted on Russian by Slioussar and Malko (2016). They used only syncretic dependent noun forms and did not take the syncretism of the heads into account.

We conducted two self-paced reading experiments on Russian. Exp. 1 (N=40) compared syncretic and non-syncretic dependent nouns showing that only the former trigger grammaticality illusions associated with gender agreement attraction (before, this was demonstrated only for number agreement). Exp. 2 (N=55) compared syncretic and non-syncretic head nouns showing that head syncretism is also a prerequisite for grammaticality illusions (this has not been shown for comprehension before). For space reasons, we present only the Exp. 2 in detail.

We constructed 32 sets of target sentences like (5a–d) and (6a–d). In the subject NP, the head was always an F noun in Nom.Sg. The predicate could be F (grammatical) or M (ungrammatical). Half of the dependent nouns were M, making gender agreement attraction possible, the other half was F (control conditions). In half of the sentences, we used head nouns with syncretic Nom and Acc forms, in the other half, head nouns were unambiguously Nom. Target sentences were distributed across four experimental lists and complemented by 68 grammatical filler sentences.

Average word-by-word RTs in different experimental conditions are presented in Figures 1 and 2. Mixed-effects regression with random intercepts and slopes by participants and by items was used for the statistical analysis (by region). First, sentences from the syncretic and non-syncretic head groups were analyzed separately (factors: dependent noun and verb gender), then all ungrammatical sentences together (factors: dependent noun gender and head syncretism). Only in the sentences with syncretic head forms, attraction effects (significant factor interactions) were found in region 5 (predicate), i.e. the ungrammatical M gender on the predicate caused significantly smaller reading time delays when the dependent noun was M than when it was F.

Badecker and Kuminiak (2007) and Slioussar (2018) argue that the role of dependent syncretism is better explained in the retrieval approach to agreement attraction than in the representational approach. As for head syncretism, our findings show that when the head is unambiguously nominative, it is always retrieved correctly. Apparently, a morphologically ambiguous form creates some uncertainty activating two feature sets and therefore makes the retrieval less automatic and gives an opportunity to the attractor to be retrieved.

¹ Russian has three grammatical genders: M, F and N, and six cases. In many paradigms, accusative is syncretic with nominative.

- (1) a. *The key to the cabinets are rusty.* b. *The key to the cabinet are rusty.*
- (2) a. *die Stellungnahme gegen die Demonstrationen*
 the_{F.NOM.SG} position against the_{ACC.PL} demonstrations
 b. *die Stellungnahme zu den Demonstrationen*
 the_{F.NOM.SG} position on the_{DAT.PL} demonstrations
- (3) a. *odmena pre výhercu* (4) a. *ret'az na medved'a*
 reward_{F.NOM.SG} for winner_{M.ACC.SG} chain_{F.NOM=ACC.SG} for bear_{M.ACC.SG}
 b. *odmena pre projekt* b. *ret'az na bicykel*
 reward_{F.NOM.SG} for project_{M.ACC=NOM.SG} chain_{F.NOM=ACC.SG} for bicycle_{M.ACC=NOM.SG}
- (5) Non-syncretic head conditions (dependent nouns were always syncretic):
- a. ff: *Ocenka za četvert' byla vysokoj u priležnogo učenika.*
 grade_{F.NOM.SG} for term_{F.ACC=NOM.SG} was_{F.SG} high_{F.SG} at diligent student
 b. fm: **Ocenka za četvert' byl vysokim u priležnogo učenika.*
 grade_{F.NOM.SG} for term_{F.ACC=NOM.SG} was_{M.SG} high_{M.SG} at diligent student
 c. mf: *Ocenka za semestr byla vysokoj u priležnogo učenika.*
 grade_{F.NOM.SG} for semester_{M.ACC=NOM.SG} was_{F.SG} high_{F.SG} at diligent student
 d. mm: **Ocenka za semestr byl vysokim u priležnogo učenika.*
 grade_{F.NOM.SG} for semester_{M.ACC=NOM.SG} was_{M.SG} high_{M.SG} at diligent student
- (6) Syncretic head conditions (dependent nouns were always syncretic)
- a. ff: *Rec' pro moral' byla skučnoj s pervyx slov.*
 speech_{F.NOM=ACC.SG} about moral_{F.ACC=NOM.SG} was_{F.SG} dull_{F.SG} from first words
 b. fm: **Rec' pro moral' byl skučnym s pervyx slov.*
 speech_{F.NOM=ACC.SG} about moral_{F.ACC=NOM.SG} was_{M.SG} dull_{M.SG} from first words
 c. mf: *Rec' pro etiket byla skučnoj s pervyx slov.*
 speech_{F.NOM=ACC.SG} about etiquette_{M.ACC=NOM.SG} was_{F.SG} dull_{F.SG} from first words
 d. mm: **Rec' pro etiket byl skučnym s pervyx slov.*
 speech_{F.NOM=ACC.SG} about etiquette_{M.ACC=NOM.SG} was_{M.SG} dull_{M.SG} from first words

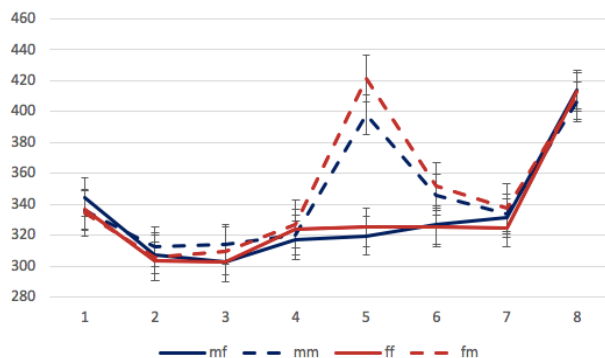


Fig. 1. Average word-by-word RTs (in ms) in the non-syncretic head conditions.

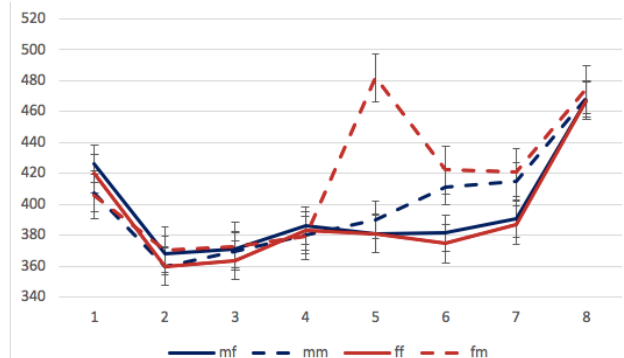


Fig. 2. Average word-by-word RTs (in ms) in the syncretic head conditions.

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