

Mismatching d-pronouns and the transparency of negation

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The surprising accessibility of negative indefinites in the left sentence of a disjunction for anaphoric personal pronouns in sentences to the right (1-a) and of indefinites embedded under an even number of negations (1-b) has been noticed already in the earliest works dealing with anaphoric relations (Groenendijk & Stokhof, 1991; Heim, 1982; Kamp & Reyle, 1993).

- (1) a. There is no bathroom in this house or it is well hidden.
b. It's not true that Peter doesn't own a car. Its in the garage.

The literature that tried to deal with these phenomena immediately recognized that a solution to the case with two negations generalizes to the cases with negative indefinites in disjunctions, since the latter can be treated as negated conjunctions with negated constituent sentences. Under this hypothesis, negative indefinites contribute a further, second negation to their conjunct, and hence, an indefinite is embedded under two negations. Solutions along those lines (e.g. Elliott, 2023; Gotham, 2019; Krahmer & Muskens, 1995; Stone, 1992, a.o.) treat negation as transparent, i.e., as allowing discourse referents from within its scope to project.

However, what is rarely ever accounted for are the uniqueness entailments that sometimes arise with these examples. The use of the singular “it” in the second clause of (1-b) strongly conveys that Peter owns exactly one car, while the singular pronoun in the right disjunct of (1-a) entails that there is exactly one bathroom in the house, if there is any at all. That being said, there also is strong evidence in favor of non-unique interpretations as well (cf. especially Elliott, 2023).

This talk intends to further sharpen this empirical picture by taking German data with singular and plural d-pronouns into consideration. As will be argued, the German data points towards a systematic ambiguity between a strong, uniqueness entailing interpretation of the pronoun, and a weaker one, that is compatible with a mere existential reading. This difference is realized by two morphologically different pronouns in German, namely d-pronouns on the one hand that clearly entail uniqueness of their antecedents (and thus force some accommodation), and personal pronouns on the other that can be understood in a mere existential sense:

- (2) Es gibt hier kein Badezimmer, oder es/?das ist gut versteckt.
There is here no bathroom.SING, or PRN/?D-PRN.SING is well hidden.

Once the plural counterparts of these sentences are considered as well it becomes evident that a prerequisite for the uniqueness entailments triggered by singular d-pronouns is a match in the number morphology, since it is not possible to force it with a singular pronoun that mismatches a plural antecedent:

- (3) Es gibt hier keine Badezimmer, oder #es/#das ist gut versteckt.
There are here no bathrooms.PL, or #PRN/#D-PRN.SING is well hidden.

This way of approaching these environments also reveals a more subtle point about the possibility to use mismatching plural pronouns with singular antecedents. While personal plural pronouns are not grammatical in bathroom sentences, or with singly or doubly negated antecedents, German plural d-pronouns are.

- (4) Es gibt hier kein Badezimmer, oder #sie/die sind gut versteckt.
There is here no bathroom.SING, or #PRN/D-PRN.SING are well hidden.
(5) Jo besitzt keine mechanische Uhr. #Sie/Die sind ihm zu teuer.
Jo owns no mechanical watch.SING. #PRN/D-PRN.PL are he.DAT too expensive.

- (6) Es ist nicht wahr, dass Jo kein Auto besitzt. #Sie/?Die sind in der Garage.
 It is not true that Jo no car.SING owns. #PRN/?D-PRN.PL are in the garage.

To account for this novel data, I will propose to modify Brasoveanu’s PCDRT (Brasoveanu, 2008) in two important ways. Adapting PCDRT is beneficial in that it allows to treat singular d-pronouns as introducing an atomicity requirement that needs to be fulfilled by the sum of the possible values of the discourse referent that their antecedent introduced. This explains the uniqueness entailments presented above, since the sum of a single individual is a single individual again. The sum-formation is absent in personal pronouns, so they are satisfied as long as their antecedents have single individuals as their values. Furthermore, PCDRT has the tools to account for the distribution of plural d-pronouns. It will be argued that their function—contrary to that of ordinary personal plural pronouns that just pick up a plurality from their antecedent—is to form a plural individual from the contributions of the (negated) indefinites they are anaphorically related to. This explains the contrast between the two German versions of the bathroom sentences.

One modification that was already proposed in the literature cited above needs to be that negation becomes transparent. In contrast to existent accounts (that sometimes resort to non-classical logics in order to derive the correct truth-conditions and accessibility facts), a second change concerns the contribution of indefinites in case they cannot be satisfied. In orthodox dynamic systems, these cases are usually not represented as ways in which a sentence can be false, since they cannot make use of assignment functions that assign an individual to the variable it introduced (there might be none). Hence, the resulting systems usually fail to derive the intuitively correct truth conditions together with the correct accessibility facts. I will argue that the timely introduction of a dummy individual as known from certain systems of Plural Logic that does not have any properties (‘zilch’, cf. Oliver & Smiley (2013)) fixes exactly this. The presence of these cases also explains why connectives and quantifiers that are defined with the help of negation are not fully transparent, i.e., do not allow for further anaphoric relations beyond their syntactic scope. In case of bathroom sentences, this is due to the need to accommodate a value for the antecedent to license the use of a (singular) pronoun in cases where there might be none, rendering the use of the disjunction pointless. Time permitting, the consequences of such an account of negation for the definability of sentential connectives and quantifiers in the style of DPL will be explored.

References

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