The Deictic Nature of Speech Act Reference

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Motivation. I conducted two experiments to access the ontological status of speech acts in discourse in German. If speech acts are part of the utterance situation, deixis to speech acts should be possible, but anaphora, which is restricted to entities introduced in the discourse, should not.

Experiment 1. In the first, exploratory online experiment (30 participants, 2×12 items), it was tested whether pronominal reference to speech acts could be elicited from native speakers in German. They were presented with short contexts with two interlocutors and were asked to complete the last utterance whose beginning either involved the demonstrative *das* or the personal pronoun *es*. The results were annotated with respect to the referent of the pronoun (SPA_ILL = illocutionary act, EVT = eventuality, PROP = proposition), but I will focus on speech acts and events here. The example in (1) shows a *das* variant and a continuation that indicates a speech act reference. The relative frequencies of some of the referent types intended by the participants for each of the two pronouns are given in Fig. (1).

(1) *Niklas hat gerade sein Abitur mit*
Niklas   has   just   his   high-school-diploma with
Bravur   bestanden. Seine große Schwester
flying-colors passed   his   older   sister
Lara freut sich für ihn.
Lara is-happy refl for him

‘Niklas hast just passed his high-school diploma with flying colors. His older sister Lara is happy for him.’

Lara sagt zu Niklas: „Herzlichen
Lara says to Niklas   cordial
Glückwunsch!"
congratulation

‘Lara says to Niklas, “Congratulations!”’

Was könnte Niklas darauf sagen?
What could   Niklas   there-on say

‘What could Niklas answer to this?’

Niklas erwidert: „Das ist . . . lieb von dir,
Niklas replies   that is nice   of   you
danke." [SPA_ILL]
thanks

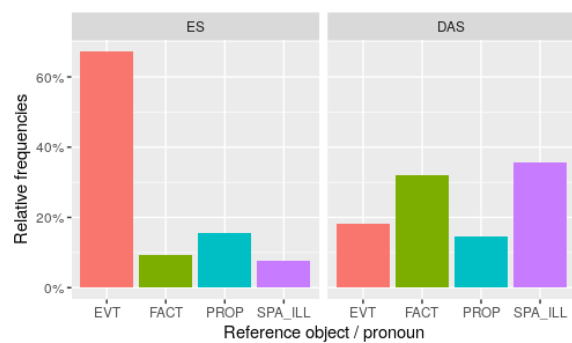‘Niklas replies, “That is **nice, thank you.**”’

Figure 1: Naturalness of pronouns

This pilot study was not primarily designed to test a hypothesis, but rather to elicit speech act references from speakers and to learn which of the pronouns *es* and *das* are suitable expressions for this purpose. Another open question concerned the types of referents the participants would make the pronouns refer to.

The central hypotheses in Exp. 1 concern the comparison between illocutionary acts as representatives of situational events on the one hand and events that are introduced linguistically on the other. The personal pronoun *es* cannot refer to situational events, so *es* should prefer reference to linguistically introduced events. *Das* on the other hand should prefer reference to speech acts, since eventualities that have recently been introduced linguistically are salient and should therefore rather be referred to by personal pronouns than demonstratives. Additionally, independently from the individual predictions of the two pronouns, there is an overall effect of pronoun choice on the choice between SPA_ILL and EVT.

I fit two logistic regression models in R on the data from Exp. 1. One test compared the frequencies of speech acts with the frequencies of other eventualities depending on the given pronoun, and the other one compared propositions with facts. The first model revealed that, given the pronoun *es* and regarding only the SPA_ILL and EVT cases, EVT was strongly preferred over SPA_ILL with a proportion of 89.6 % ($p = 5.26 * 10^{-6}, SE = 0.472$). Given the pronoun *das*, SPA_ILL was chosen in 66.2 % of the time ($p = 0.00618, SE = 0.246$). There was a difference between *es* and *das* in the choice of referent ($p = 1.13 * 10^{-7}, SE = 0.533$).

Experiment 2. The pilot study did not disentangle two factors in the answering strategies of the participants: a) which pronoun can refer to what kinds of entities, and b) what entity the participant intuitively wants to make a statement about, given the context. This entanglement may lead to situations were the given pronoun is dispreferred for the favored referent.

The first experiment tested the naturalness of pronominal speech act reference. In the second experiment (99 participants, 18 items), the preferred choice for either personal or demonstrative pronouns was investigated, dependent on a given type of referent. To test which pronoun is preferred for reference to what kind of entity, we have to reverse the study design of Exp. 1. The referent must be given, and a choice of pronoun must be offered.

The 12 items from Exp. 1 were reused in such a way that two items each were accompanied with a continuation that favored reference to one of the six referent types, including illocutionary acts (SPA_ILL) and non-speech-act eventualities (EVT). The continuations were inspired by the participant continuations from Exp. 1 to ensure naturalness. The participants were given the choice between the demonstrative *das* and the personal pronoun *es* as the first position in the sentences.

(2)   [. . .] *Niklas erwidert: „{ Es / Das } ist lieb*
      Niklas   replies   it   that   is   nice
      von dir, danke.“ [SPA_ILL]
      of   you   thanks
      'Niklas replies, "{ It / that } is nice of you, thank you."'

As the predictor variable in Exp. 2 is a multilevel categorical variable, we can formulate a general hypothesis of significance, as well as predictions for the direction of influence for each of the levels, i.e. for the different types of referents.

I assume a preference for personal pronouns for reference to eventualities. Eventualities are present as available referents in the discourse, provided that they have been introduced linguistically. These entities should be salient and ready for uptake by, preferably, personal pronouns. Anaphora with a demonstrative pronoun is possible if the referent is not salient. Additionally, there should be an overall effect of referent type on pronoun choice.

Personal pronouns were used very rarely to refer to speech acts (96% demonstratives), while verbally introduced events were referred to by both demonstrative (44%) and personal pronouns. The relative frequencies of the two pronouns, for some of the given referents, are displayed in Fig. (2).
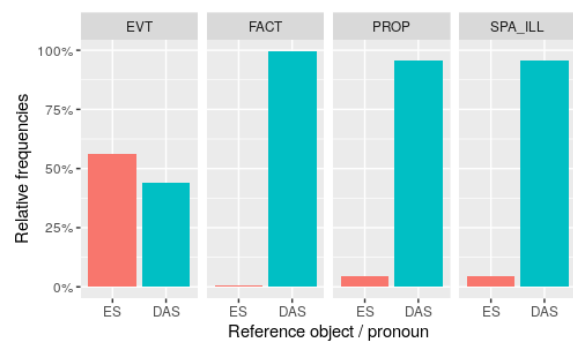

Figure 2: Preference for pronouns

Binomial logistic regressions tested the effect of each level of the predictor (type of referent) on the choice of pronoun. I again focus here on speech acts and events. There was no significant effect for eventualities ($p = 0.106$), but for speech acts ($p = 1.22 * 10^{-17}$), which showed a strong preference for the demonstrative *das*. Additionally, I used the logistic models to test the significance of the difference in the influence on pronoun choice for the level pair EVT/SPA_ILL ($p = 1.54 * 10^{-17}$). Speech act reference had a much higher proportion of demonstratives than event reference. Finally, I performed an χ^2 test as an omnibus test on the predictor, which proves significant with $p = 2.2 * 10^{-16}$.

Conclusion. Reference to speech acts is deictic, as German native speakers a) do not choose speech acts as referents of personal pronouns, but only demonstrative pronouns, and b) choose demonstratives in order to refer to speech acts. I will additionally present on the findings regarding other referent types such as facts and propositions, which are not discussed in this abstract.

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