Abstract: In the literature on relative clauses (e.g. Alexiadou et al. 2000: 4), it is occasionally observed that the German complex definite determiner *d-jenige* (roughly ‘the one’) must share company with a restrictive relative clause, in contrast to bare determiners *der/die/das* (Roehrs 2006: 213–215; Gunkel 2006; Gunkel 2007). Previous works such as Sternefeld (2008: 378–379) and Blümel (2011) treat the relative clause as a complement of D to account for its mandatory occurrence. While such syntactic analyses have intuitive appeal, they pose problems for a compositional semantic analysis.

The goal of this paper is twofold. First, we report on two rating studies providing empirical evidence for the obligatoriness of relative clauses in German DPs introduced by the complex determiner *d-jenige*. Secondly, following Simonenko (2014, 2015), we provide an analysis of the phenomenon at the syntax-semantics interface that captures familiar (Blümel 2011) as well as novel related observations. Particularly, the analysis accounts for the facts that postnominal modifiers can figure in *d-jenige*-DPs and that the element can have anaphoric demonstrative pronominal uses.

Keywords: obligatory relative clauses, German, demonstrative determiners, anti-uniqueness

1 Introduction

The literature on relative clauses in German occasionally observes that there is a special definite determiner or demonstrative-like element *dasjenige* (roughly
'the\textsubscript{neut} one',\textsuperscript{1} henceforth DJ) which must co-occur with a restrictive relative clause (rRC), (1-a).\textsuperscript{2} This contrasts with DPs introduced by other, simplex determiners e.g. \textit{der} ‘the’ / \textit{ein} ‘a’ / \textit{jeder} ‘every’ in (1-b), where an rRC is optional:

\begin{align*}
(1) \quad & \text{a. Derjenige Mann *(der das Pulver erfand) stand am Fluss.} \\
& \text{DJ man who the powder invented stood at the river} \\
& \text{‘The man who invented the powder stood at the river.’} \\
& \text{b. } \{\text{Der/Ein/Jeder}\} \text{ Mann (der am Fluss stand) war gross.} \\
& \text{the/a/every man who at the river stood was tall} \\
& \text{‘The/A/Every man (who stood at the river) was tall.’}
\end{align*}

The empirical problem DJ poses is easily stated: How can we capture the co-occurrence pattern of DJ and rRC, given that rRCs are optional when co-occurring with all other determiners and thus usually treated as adjuncts? The main purpose of this paper is to aim at a comprehensive description of the facts surrounding German DJ. We believe that any analysis of DJ-rRCs must capture the facts to follow, some of which have not hitherto been observed, let alone been analyzed. Any analysis should in addition be part of a fuller theory of DPs which captures optional rRCs like in (1-b) as well. An even better result would be one in which a compositional semantics is part of the treatment – and we provide such an analysis.

Despite the appearance that the phenomenon represents a small empirical corner which one might generously neglect, DJ-DPs must be understood as part of a rich and intricate cross-linguistic pattern and within a larger theoretical endeavor going back to observations of at least Smith (1964). E.g. Gunkel (2006) lays out systematic co-occurrence patterns of determiners and rRCs in Dutch, German, Swedish and French. As for its theoretical relevance and scope, researchers strive to come to terms with e.g. the syntax and semantics of demonstratives and plain definite DPs (cf. Leu 2008), and the ability of the former to allow for bound readings by quantifiers (cf. Simonenko 2015). Furthermore, the current study informs our understanding of relativization in particular, and nominal modification more generally (e.g. Cinque 2015 for one recent approach). So next to contributing to a descriptively adequate account of the DJ-facts, various independent phenomena converge on the formal analysis that we will pursue.

\textsuperscript{1} Abbreviations in glossing examples and elsewhere: \textit{ADJ} = adjective; \textit{ADJAGR} = adjectival agreement; \textit{AGR} = agreement; \textit{DEF} = definite; \textit{DEM} = demonstrative; \textit{GEN} = genitive; \textit{NEUT} = neuter; \textit{REFL} = reflexive.

\textsuperscript{2} Cf. Alexiadou et al. (2000: 4); Roehrs (2006: 213–215); Sternefeld (2008: 378–379); Blümel (2011).
This article is structured as follows. In Section 2 we present two rating experiments that validate the observational claims in the theoretical literature regarding DJ-DPs. An additional finding is an asymmetry with respect to the acceptability of extraposition of rRCs: with DJ-DPs rRC-placement in the Nachfeld is judged equally good as their non-extraposed counterparts, while extraposed rRCs were judged significantly worse than their non-extraposed variants with DPs headed by simplex determiners. Devoted to theoretical issues, Section 3 rehashes previous purely syntactic takes on DJ-DPs and proposes the current analysis. It makes use of an account at the syntax-semantics interface by Simonenko (2014, 2015), developed on the basis of independent facts and considerations, capturing core observations on DJ by Blümel (2011). Extending the findings of the two previous sections, Section 4 first shows that the theoretical analysis from Section 3 allows us to make predictions for novel data. Secondly, it addresses the experimental finding pertaining to extraposition and proposes a tentative explanation in terms of parsing. We hope that this will inspire further research on the intricate and ill-understood facts ( Büiring and Hartmann 1997). Section 5 concludes.

2 Experimental perspective

The literature on obligatory rRCs in the context of DJ relies mainly on linguists’ individual intuitions – an indispensable source of data and tool for linguistics. Still, in the following, we will provide additional empirical evidence for this, based on two rating experiments on the complex determiner DJ in comparison to their bare determiner counterparts der/die/das.

2.1 Experiment 1

Design and stimuli
Experiment 1 used a 2*2 factorial design with the factors “Det” (i.e. bare vs. complex=DJ) and ‘relative clause’ henceforth, rRC (+/−, i.e. present or absent). The four conditions are listed in Table 1.

| bare Det | complex Det |
|----------|-------------|
| +rRC     | OK          |
| −rRC     | OK          |
|          | degraded    |
We had two predictions: First, sentences containing the complex determiner would be rated more natural with relative clauses than without. Second, there would be no difference in the case of bare determiners. We used a total of 24 items in the experiment. An example of the stimuli is given in (2). The complete list of the test items are provided in Appendix A. In addition, we used 84 fillers consisting of both natural and unnatural sentences.

(2) a. \textit{Maria hat dem Mitarbeiter den Vorschlag gemacht, der das Projekt bald beantragen sollte.} (bare Det + rRC)

Maria has the colleague the suggestion made who the project soon apply for should 'Maria has made the suggestion to the colleague, who should apply for the project soon.'

b. \textit{Maria hat demjenigen Mitarbeiter den Vorschlag gemacht, der das Projekt bald beantragen sollte.} (complex Det + rRC)

Maria has DJ colleague the suggestion made who the project soon apply for should 'Maria has made the suggestion to the colleague, who should apply for the project soon.'

c. \textit{Maria hat dem Mitarbeiter den Vorschlag gemacht, dass das Projekt früher starten sollte.} (bare Det - rRC)

earlier start should 'Maria has made the suggestion to the colleague that the project should start earlier.'

d. \textit{Maria hat demjenigen Mitarbeiter den Vorschlag gemacht, dass das Projekt früher starten sollte.} (complex Det - rRC)

project earlier start should 'Maria has made the suggestion to the colleague that the project should start earlier.'

Procedure and subjects

The stimuli were split up into four counterbalanced sets, each with 108 sentences. The experiment was conducted online at https://www.soscisurvey.de. 36 German native speakers participated in the experiment for credit points. Subjects were instructed to rate the sentences as either natural or unnatural. The real experiment followed a practice stage of 8 sentences, which was intended to familiarize them with the rating task.
Data analysis and result

All analyses were performed using mixed effects linear regression models. The models were constructed using the lme4 package in R (Bates et al. 2015). The reported models are the maximal models that converged. The first model included Det (dem/DJ) and rRC (+rRC/-rRC) as fixed effects. Furthermore, we included random intercepts for subjects and items, as well as random by-subject slopes for the effects of Det and rRC (with interaction).

We found a significant interaction between Det and rRC ($t = 8.92, p < 0.0001$) and a significant effect of Det ($t = 5.56, p < 0.0001$). As shown in Figure 1, DJ was rated significantly more natural with rRC than without ($t = 6.67, p < 0.0001$). For simplex definite determiners like dem, on the other hand, sentences with complement clauses (i.e. -rRC) were rated more natural than with rRCs ($t = 5.76, p < 0.0001$). Based on this, we can confirm the observation that +jenige-sentences without an rRC are degraded.

![Figure 1](image-url)

Figure 1: The x-axis marks the four critical conditions. The scale y-axis indicates the judgments of each condition with the 95% confidence interval.

The result that bare determiners with rRCs were rated less natural than without was unexpected. We came up with two possible explanations: First, the DP e.g. der Vorschlag ‘the suggestion’ and the like might prefer the presence of a complement clause. In line with this was the fact that Condition 3 (bare Det - rRC) satisfying this condition was rated the best among all the conditions. The fact that Condition 2 (complex Det + rRC) with potentially the same problem was rated better than Condition 1 (bare Det + rRC) ($t = 3.33, p < 0.05$) can be explained as follows: In Condition 2, subjects were happy that the grammatical (syntactic and semantic) requirements of DJ were satisfied, thus paying less attention to the DP, e.g. der Vorschlag, that would occur more naturally with a CP complement (see Fabricius-Hansen and von Stechow 1989). The second possibility is that readers may have dispreferred the distant rRC as it could not be anticipated with the bare
determiner. This is compatible with the fact that rRC conditions were rated significantly more natural with the complex determiner DJ, as there the rRC is highly expected. To test the plausibility of these two possibilities, we conducted a follow-up experiment as described below.

2.2 Experiment 2

Design and stimuli
Experiment 2 used a 2*2 factorial design with the factors “Det” (bare vs. complex) and ‘distance of the relative clause’ (distant or local), which, crossed with each other, yielded four conditions, as in Table 2.

| bare Det  | complex Det |
|-----------|-------------|
| distant rRC | OK/degraded? OK |
| local rRC  | OK          OK |

We used a total of 24 items in the experiment. Crucially, we added a postnominal genitive attribute to the object DP, e.g. *der Vorschlag*, to satisfy the possible pragmatic constraint that it prefers a complement. An example of the stimuli is given in (3). The complete list of the test items are provided in Appendix B. In addition, we used 96 fillers consisting of both natural and unnatural sentences.

(3)  a. *Maria hat dem Mitarbeiter den Vorschlag einer Lohn erhöhung gemacht, der das Projekt bald beantragen sollte.*

   (bare Det + distant rRC)

   ‘Maria has made the suggestion of a salary raise to the colleague, who should apply for the project soon.’

b. *Maria hat demjenigen Mitarbeiter den Vorschlag einer Lohn erhöhung gemacht, der das Projekt bald beantragen sollte.*

   (complex Det + distant rRC)

   ‘Maria has made the suggestion of a salary raise to the colleague, who should apply for the project soon.’
c.  *Maria hat dem Mitarbeiter, der das Projekt bald beantragen sollte,*
    Maria has the colleague who the project soon apply for should
    *den Vorschlag einer Lohnerhöhung gemacht.* (bare Det + local rRC)
    the suggestion a salary raise made
    ‘Maria has made the suggestion of a salary raise to the colleague, who
    should apply for the project soon.’

d.  *Maria hat demjenigen Mitarbeiter, der das Projekt bald beantragen
    sollte, den Vorschlag einer Lohnerhöhung gemacht.* (bare Det + local rRC)
    Maria has DJ colleague who the project soon apply for
    should the suggestion a salary raise made
    ‘Maria has made the suggestion of a salary raise to the colleague, who
    should apply for the project soon.’

Our predictions were: First, based on the finding in Experiment 1, there would
be no differences between the local vs. distant rRC condition for the complex de-
terminer. Second, in the case of the bare determiner, either there would be no
difference between the local vs. distant rRC condition if the degradedness of Con-
dition 1 in Experiment 1 was indeed due to the absence of a complement CP for
the DP as e. g. *der Vorschlag.* Or, the distant rRC condition would still be rated as
less natural than the local rRC condition. Speaking in favor of this, Strunk (2014),
for instance, reports on experimental findings that DPs without DJ disprefer ex-
traposition, whereas extraposition is fine for DJ.

**Procedure and subjects**

40 German native speakers were asked to give naturalness judgments on the stim-
uli, which were split up into four counterbalanced sets. Each subject saw 120 sen-
tences in total. The procedure of the experiment is the same as that of Experi-
ment 1. The real experiment followed a practice stage of 8 sentences, which was
intended to familiarize them with the rating task.

**Data analysis and results**

All analyses were performed using mixed effects linear regression models. The
model was constructed using the lme4 package in R. The reported model is the
maximal models that converged. The model included Det (*dem/DJ*) and rRC-Type
(rRC local/rRC distant) as fixed effects. Furthermore, we included random inter-
cepts for subjects and items, as well as random by-subject and by-item slopes for
the effects of Det and rRC (with interaction).
Figure 2: The x-axis marks the four critical conditions. The scale y-axis indicates the judgments of each condition with the 95% confidence interval.

We found a significant interaction between Det and rRC ($t = 4.92, p < 0.0001$): as Figure 2 shows, while for DJ, both local and distant rRCs were rated equally natural, for *dem*, distant rRCs were rated significantly worse than local rRCs ($t = 6.93, p < 0.0001$). Local rRCs with the bare determiner did not differ significantly from either local or distant rRCs with the complex determiner, i.e. all three conditions are equally natural. Distant rRCs, on the other hand, are significantly worse with a bare, than with a complex determiner ($t = 5.75, p < 0.0001$).

2.3 Summary

To sum up, the two experiments provide empirical evidence that the complex determiner e.g. DJ requires a relative clause, and thus confirms the related observation made in the theoretical literature. In addition, they also show that extraposition is optional with the complex determiner whereas the bare determiner seems to have a locality preference. In the following, we will focus on the rRC requirement of the complex determiner and propose a formal analysis for this in Section 3, and return to the related issue of extraposition in Section 4.

3 Formal analysis

This section provides an analysis of DJ-DPs. We will begin by briefly reviewing previous analytical approaches to DJ-DPs (Alexiadou et al. 2000: 4; Sternefeld 2008: 378–379; Blümel 2011). We then lay out our theoretical assumptions and their empirical motivation. We will adopt the analysis by Simonenko (2014, 2015) for DJ-DPs and show that it not only helps to understand their various prop-
erties previously observed in the literature, but also sheds light on unreported facts.

3.1 Previous analyses

To the best of our knowledge, all accounts aiming at coming to terms with the obligatoriness of the rRC in DJ-DPs (repeated here as (4)) capture the phenomenon in selectional, i.e. in syntactic, terms: D directly Merges with the relative clause CP. Assuming that a given head can maximally select one complement, this means that the head-NP cannot be a complement of D.

(4) *Derjenige Mann (der das Pulver erfand) stand am Fluss.
    ‘The man who invented the powder stood at the river.’

(5) a. \[DP_{D=derjenige}\[CP_{Mann} \{CP_{der \{CP_{t_k \{CP_{das Pulver erfand}}\}k \{CP_{C_{tk}}\}C_{tk}}\}das Pulver erfand}]\]
    (Alexiadou et al. 2000: 4, following Kayne 1994)

b. \[DP_{D=\text{derjenige}}\[CP_{der das Pulver erfand}]\] NP=\text{Mann }
    (Sternefeld 2008: 378–379)

In the much-debated raising approach to rRCs shown in (5-a), the determiner and the head-noun of the rRC do not form a constituent. The head-noun undergoes raising within the CP-internal, Ā-moved DP, swapping its position with the relative pronoun. (5-b) represents more of a sketch of an analysis rather than a worked-out proposal. The relative-CP resembles an attributive adjective in that its underlying base configuration is prenominal, while the head-NP occupies the right specifier position within the DP. Thus, a proviso must be made to obtain the surface linear order, such as a rightward DP-internal extraposition rule. (5-b) has some intuitive appeal insofar as certain morphological agreement facts of the German DP (ϕ- and Case-agreement) are captured or at least need no special treatment, unlike in the raising account.

There are numerous problems with both these approaches and its descendants (cf. for example, Blümel 2011) but we hold the view that a fundamental problem lies in their reliance on syntactic structure alone. That is, while we believe that the idiosyncratic behavior of the construction is related to syntactic properties of the noun phrase, this cannot be the whole story. The relationship between the special determiner and the obligatory relative clause is more indirect, as we will suggest below.

Syntactic and morphological problems of the head raising analysis in (5-a) abound, and we will here not revisit familiar points of critique that have been
raised (cf. Borsley 1997; Heck 2005 and, recently, Webelhuth et al. 2018). Likewise, we will not address attempts at repairing some of these defects (Bianchi 1999; De Vries 2002), since we believe these to involve ad hoc solutions. Regarding (5-b), suffice it to say that this proposal raises questions for a compositional mapping between syntax and semantics: in what is arguably the standard treatment of rRCs at the syntax-semantics interface (Heim and Kratzer 1998), the semantic composition of the meaning of a head noun and an rRC comes about by Predicate Modification, which is defined over the denotation of two constituents of type \(<e, t>\). In (5-b), Predicate Modification cannot apply, because the rRC-CP and the NP are not sisters. Assuming that the semantic type of \([D=\text{dasjenige}]\) is \(<<e, t>, e>\) (cf. Heim and Kratzer 1998: 75 on English the), applying Function Application to the determiner and the rRC eventually yields a type clash: feeding \([D']_e\) to the denotation of the specifier, \([\text{NP}]<e,t>\), delivers the denotation of type \(t\) for the \([\text{DP}]\) – the wrong result. Needless to say that the syntactic treatment (5-b) is ad hoc and insufficiently general, designed for only one particular rRC-construction. It arguably entails a non-uniform treatment of relativized DPs in German if one were to integrate optional rRCs and their structure into the general picture.

That said, the empirical problem remains of capturing obligatory rRCs in DJ-DPs. In the following, we would like to suggest a solution which essentially resorts to analytical means which have been proposed and established independently. While the internal structure of rRCs is not the focus of this paper, we would like to briefly point out that the proposed analysis of the DP-structure and its compositional semantics are compatible with a matching approach to relatives (Chomsky 1965; Sauerland 1998), and possibly with a head external analysis (Chomsky 1977; Jackendoff 1977). A raising analysis encounters e.g. the problem that the head noun must vacate the RC in a “sideward” fashion, i.e. end up in a position from which it fails to c-command its trace and violate the Extension Condition (Chomsky 1995). Thus, to the extent that the current analysis, which aims at capturing the relationship between determiners and RCs, is on the right track, it has repercussions for the internal structure of RCs in that it speaks against a raising analysis (and is compatible with alternative approaches in the field).

3.2 Background: A DP-internal relational predicate

Austro-Bavarian makes a formal distinction between so-called weak and strong definite articles, exemplified in (6-a) and (6-b) respectively:
Wiltschko (2012) remarks that weak definites can, while strong definites cannot, co-occur with nominal predicates denoting a singleton. In the examples (6), the superlative adjective guarantees that the NP denote a singleton, i.e., the one individual that satisfies being simultaneously a mountain and of the type such that no other individual is higher. Taking these observations as a starting point, Simonenko (2015) treats (6-b) as a reflex of an anti-uniqueness presupposition which is part of the semantics of the strong definite article. Whenever the NP-denotation is a singleton, this presupposition is not met and the truth conditions of the sentence the DP is part of cannot be calculated. English demonstratives exhibit a similar restriction:

(7) a. the/#that highest mountain
    b. #That sun is bright.  
       (Simonenko 2015: 196)

Simonenko (2015) observes that importantly, the anti-uniqueness presupposition arising in the context of strong definite articles is obviated in the presence of rRCs, here exemplified with Austro-Bavarian again:

(8) a. da Tog an dem I auf ‘d Wöd kumma bin
    b. dea Tog an dem I auf ‘d Wöd kumma bin
       (Simonenko 2015: 197)

Both NP-denotations involve a singleton in that there can be at most one day on which the speaker is born. Crucially, the strong definite article is compatible with a rRC (8-b), surprisingly contrasting with (6-b). This contrast suggests that the rRC does not play the same role as (superlative) adjectives. Simonenko (2015: 197) thus concludes that “the head carrying the anti-uniqueness presupposition has to have access to the NP to the exclusion of the restrictive relative.” In her treatment, the relationship between the definite determiners (strong definite articles, demonstratives, DJ) and the said anti-uniqueness presupposition is rather indirect in that
the head introducing the presupposition differs from the D-head which hosts the definite determiner. For strong definite articles and demonstratives she proposes a DP-structure in which a functional projection she calls relational phrase (RP) is hierarchically sandwiched between D and NP, shown in (9):

\[
DP \quad D \quad [RP \quad R \quad NP]
\]

By assumption, R is phonologically null. Crucially, the semantics of R introduces the anti-uniqueness presupposition, and an rRC occupies the specifier position of this relational head. Adjectives adjoin to NP, which means that adjectives are in the syntactic scope of R. This, then, is the reason (6-b) and (7) (with a demonstrative) are bad. (6-a), by contrast, is well-formed, because weak definite articles involve a DP-structure without RP and thus no R-head with an anti-uniqueness presupposition. Given these considerations, we can turn to (8). In the absence of RP, rRCs adjoin to NP in (8-a), as is standard. By contrast, rRCs occupy SPEC-RP in DPs like (8-b). As the rRC is not within the scope of R, [R]’s anti-uniqueness presupposition simply does not apply to the denotation of the rRC (but only to the NP denotation). This then derives the puzzling asymmetry between attributive adjectives and rRCs with respect to the anti-uniqueness presupposition associated with strong definite determiners and demonstratives.

Regarding its compositional semantic contribution, [R] encodes lexically, what the extrinsic rule Predicate Modification does in the treatment of rRCs by Heim and Kratzer (1998): [R]’s denotation in (10) is a function applying to “two properties of individuals and, if defined, returns a set of individuals with both properties.” (Simonenko 2015: 198) The anti-uniqueness presupposition is a domain restriction on the first argument of [R], i. e. P, demanding that the cardinality of P be greater than 1:

\[
[R] = \lambda P_{e,t} : |P|>1. \lambda Q_{e,t} . \lambda y . P(y) \& Q(y)
\]

Since the anti-uniqueness presupposition applies only to the first argument of [R], material in SPEC-RP is exempt. Consequently, the denotation (10) allows for the formation of the intersection of (non-singleton) P and (unrestricted) Q. The application of (10) to both arguments delivers the denotation of RP, a set of individuals. The rest of the semantic composition proceeds as is standard, i. e. with a standard semantics for [D] involving a \(\iota\)-operator, as Simonenko shows:

\[
[D] = \lambda P_{e,t} : \exists!x [P(x)]. \iota x [P(x)]
\]

3 At the same time she rejects an approach by Elbourne (2008).
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Notice that [R]’s anti-uniqueness presupposition applies to the NP-denotation only, and not to the DP-denotation introduced by definite articles (strong and weak alike), i.e. the standard uniqueness presupposition of the definite D-head is retained: While the denotation of R’ has to involve a set whose cardinality is greater than one, that set intersects with the denotation of the rRC. The result of that function application meets the definite D-heads’ presupposition only if it yields a singleton.

3.3 Adopting the proposal

We suggest that the rRC’s presence with DJ is enforced by two factors: First, the fact that [R] requires two arguments occupying the head’s complement and SPEC respectively. Secondly, the idea that DJ’s realization is contingent on the presence of R, i.e. we stipulate (13):

(12) a. *derjenige Mann *(der das Pulver erfunden hat)
        DJ man who the powder invented has
        ‘the man who invented the powder’

   b.

\[
\begin{align*}
\text{DP}_e \quad & \quad \text{RP}_{<et>} \\
D_{<et,e>} = \text{derjenige} & \quad \text{R'}_{<et,et>} \quad \text{CP}_{<et>} \\
& \quad \text{R}_{<et,<et,et>} \quad \text{NP}_{<et>} \quad \text{der} \ldots \\
& \quad \emptyset \quad \text{Mann}
\end{align*}
\]

(13) DJ can spell-out D iff D takes RP as a complement.

4 Alternative implementations are conceivable, like e.g. a head movement or lowering approach from R to D or D to R respectively. Since the demonstrative d-as-jen-ig-e (d-AGR-DISTAL-ADJ-AGR) exhibits a transparent morphological complexity such an approach might have some plausibility. However, in present day German no element can intervene between the individual elements of DJ and so we retain a “conservative” lexical approach.
The obligatoriness of rRC follows from the fact that \( [R] \) applies to two arguments, each of which is a set of individuals. Slightly altering the rendering of the structure suggested by Simonenko, we suggest a rightward specifier\(^5\) so as to capture the fact that the rRC linearly follows rather than precedes the head noun. In the current discussion, nothing hinges on this choice, and alternatives involving Simonenko’s original proposal plus DP-internal rightward extraposition are readily conceivable. Notice that the analysis adopted in (12-b) makes the claim that the strong/weak distinction observable in Austro-Bavarian dialects has a reflex in standard German: While the definite determiner *die* ‘the’ / ‘that’ is lexically ambiguous between a definite article and a demonstrative, DJ is unambiguously the standard German strong definite determiner resembling the counterpart in Austro-Bavarian. We take it that the transparently demonstrative nature of DJ, which comprises the distal component *jen* ‘that’,\(^6\) supports this treatment and justifies a differential syntactic treatment of simplex determiners and complex, demonstrative(-like) elements like DJ.

In this context, notice that phonological contraction of prepositions and definite determiners is known to be confined to ‘weak’ definites (14-a) and impossible with ‘strong’ definites (14-b). Schwarz (2009) claims that the latter are anaphoric.

(14) a. *An jedem Bahnhof, in den unser Zug einfuhr, wurde mir* at every train station in which our train entered into was I *eine Brief vom / #von dem Bürgermeister überreicht.* a letter from.the weak / from.the strong mayor handed ‘At every train station that our train entered a letter from the mayor was handed to me.’
(Schwarz 2009: 222)

b. *Maria hat einen Ornithologen ins Seminar eingeladen. Ich halte* Maria has an ornithologist to.the seminar invited. I hold #von / von dem *Mann nicht sehr viel.* of.the weak / of the strong man not very much ‘Maria has invited an ornithologist to the seminar. I don’t think very highly of the man.’
(Schwarz 2009: 239)

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5 In a framework without specifiers like e. g. Chomsky (2013), the question of linear ordering of (especially base-generated) XP-YP-structures is independently in dire need of clarification.

6 Historically related to English *yonder* and *beyond*, cf. Blümel (2011: fn. 5), based on personal communication with Thomas Leu.
DJ clearly patterns with strong definites: Contracting any type of preposition with DJ is impossible, cf. (15), *insjenige ‘in-DJ’, *amjenigen ‘on-DJ’, *untermjenigen ‘under-DJ’.

(15) *An jedem Bahnhof, in den unser Zug einfuh, wurde mir ein at every train station in which our train entered into was I a Brief vomjenigen Menschen überreicht, der sich als Bürgermeister letter from.DJ man handed who refl as mayor erwies.

‘At every train station that our train entered a letter from the person was handed to me who turned out to be the mayor.’

Such facts buttress the basic idea that nominals involving DJ involve a more complex DP-structure than the one of simplex articles and that DJ is demonstrative in nature. We will later adduce more evidence in favor of this conclusion. For now, let us establish that in contrast to the structure underlying DJ-DPs, the analysis of optional rRCs like (16-a) is the usual one, i.e. they adjoin at the NP-level (16-b):

(16) a. der Mann (der das Pulver erfunden hat)
    the man who the powder invented has
    ‘the man who invented the powder’

    b. [DP D=der [NP [NP N=Mann ] rRC]]

Crucially, (13) rules out the realization of D as DJ in such structures as (16-b).

Taking stock, the fact that rRCs in German are usually optional receives the standard analysis: they adjoin to NP in the presence of all other determiners, safe DJ. Moreover, the standard semantics of relatives can be retained for DJ under the present approach, as shown above for strong definite articles. The seemingly exceptional behavior of rRCs in the presence of DJ is captured as well.

Remember that the treatment by Simonenko (2014, 2015) is a lexical one in that semantically, the rRC is the second argument required by the [R]-head. Such an analysis raises questions with respect to a well-known property of rRCs: How do we capture the fact that they can be stacked, i.e. they can be iterated? Syntactic operations like adjunction and semantic ones like Predicate Modification, both of which are recursive operations, appear to be indispensable. Consider (17), where two rRCs appear:
(17) derjenige Mann, der die Strasse entlanggelaufen ist, der Maria gut gefällt...

‘the man who walked along the streets who Mary likes well’

By exhausting the combinatoric potential of the functor $\text{J}_R$, a lexical analysis limits the number of relative clauses within the RP to one, leading to an undergeneration problem. However, we would like to argue that (17) provides an argument for (rather than against) the current analysis. Predicate Modification and adjunction remain available and computationally viable operations. Both of these apply at the NP-level, as is standard, while the rRC in SPEC-RP terminates the addition of rRCs. The semantic analysis predicts that in (17) the anti-uniqueness presupposition applies to the first rRC (call it P) and not the second (call it Q). This is indeed correct: P must comprise at least two individuals, otherwise the second relative clause is interpreted non-restrictively. Q forms an intersection with (anti-unique) P. Crucially, P must not be a subset of Q, i.e. there must be individuals in P which are not members of Q. Put differently, P must retain and comprise individuals which function as alternatives to the set singled out by Q. We believe that these considerations deserve more elaboration and thought than we can provide here. In particular, the issue should be addressed whether stacking relatives always involves a syntactic-semantic analysis as the one that we have sketched here, irrespective of the presence of DJ.

Summing up, we have adopted the analysis by Simonenko (2014, 2015) to accommodate familiar facts of obligatory rRCs in the context of DJ (Alexiadou et al. 2000; Sternefeld 2008; Blümel 2011). Syntactically, the analysis involves a functional projection between NP and DP, i.e. relational predicate layer RP. Semantically, $\text{J}_R$ is a function that takes two sets of individuals and, if the presupposition of the first argument is defined, returns a set of individuals with both these properties. The second argument of $\text{J}_R$ in SPEC-RP is the obligatory rRC. That is, the rRC’s occurrence is the result of a lexical requirement; optionally adding rRCs recursively at the NP-level beyond this requirement is still possible. As we will show in the next section, the analysis has numerous desirable empirical consequences.

7 We return to non-rRCs in Section 4.2.
4 Ramifications

In the following, we will highlight a few ramifications of the analysis in Section 3. In Section 4.1, we will first demonstrate that the account not only nicely captures DJ-DPs with rRCs, but also DJ-DPs with other modifiers as reported in Blümel (2011), as has also been shown in Simonenko (2014). In Section 4.2, we will provide a further extension of the analysis to account for a set of hitherto unobserved and unexplained facts regarding DJ in pronominal use without any modifiers. In Section 4.3, we will make a tentative proposal regarding Dutch light-headed relatives with the counterpart of German DJ. In Section 4.4, we conclude with a short remark on asymmetries in the extraposition behavior of rRCs with and without DJ, picking up results from the experiments from Section 2.

4.1 DJ with other modifiers

Blümel (2011: 27) observes that postnominal PP- and genitive DP-modifiers can appear in DJ-DPs instead of the rRC, as shown in (18) and (19):

(18) Q: *Welchen Jungen hast Du gesehen?*  
Which boy have you seen  
‘Which boy did you see?’

A: *Denjenigen aus Berlin.*  
DJ from Berlin  
The one from Berlin.’

(Blümel 2011: 27)

(19) Q: *Welchen Ehemann hast Du getroffen?*  
which husband have you met  
‘Which husband did you meet?’

A: *Denjenigen meiner Schwester.*  
DJ my.gen sister

Note that free choice readings are impossible with postnominal PP- and genitive DP-modifiers. This is plausibly related to their dependency on a discourse antecedent, which is missing in free choice type DJ-DPs like (i), which can occur out-of-the-blue and semantically resemble the corresponding free relatives:

(i) *Derjenige, der als erstes kommt, erhält den Preis.*  
DJ who as first comes get the price  
‘Whoever comes first, will be awarded.’
As before with rRCs, omission of the modifiers yields ungrammaticality (with a qualification to which we return):

(20)  
Q: *Welchen Jungen hast Du gesehen?*
which *boy have you seen*
‘Which boy did you see?’

A: *Denjenigen *(aus Berlin)* habe ich gesehen.*
*DJ from Berlin have I seen*
‘I saw the one from Berlin.’

(Blümel 2011: 27)

(21)  
Q: *Welchen Ehemann hast Du getroffen?*
which *husband have you met*

A: *Denjenigen *(meiner Schwester)* habe ich getroffen.*
*DJ my.GEN sister have I met*
‘I met my sister’s.’

(Blümel 2011: 27)

These facts suggest an obvious extension of the analysis: the SPEC-RP-position, normally occupied by the rRC, can alternatively host PP- or genitive DP-modifiers. That is, constructions involving these modifiers are structurally ambiguous between a standard structure where the modifier is NP-internal and the analysis under current investigation in which these modifiers fulfill the role of the rRC in SPEC-RP:

(22)
Notice that this analysis requires postnominal (partitive) genitive DPs to denote properties of individuals, something that might be needed on independent grounds. This analysis makes immediate sense of the following fact noted by Blümel (2011: 27): it is insufficient to merely add a modifier of the semantic type \(e, t\) to DJ to fulfill the determiner’s semantic needs. If that were the case, we would expect adding an attributive adjective to DJ to be good, contrary to fact:

\[
(23) \quad \text{Q: } \textit{Welche Tasse möchtest Du haben?} \quad \text{A: } \textit{Diejenige rote (Tasse).}
\]

\(\text{Q: ‘Which cup would you like to have?’ A: ‘The red one.’}\)

Instead, the relevant constituent has to be a postnominal modifier, i.e. occupy SPEC-RP (in our terms).

Blümel (2011) claims that obligatory PP- and DP-modification in DJ-DPs is only possible if the head noun is omitted, (24):

\[
(24) \quad \text{Q: } \textit{Welchen Jungen/Ehemann hast Du getroffen?}
\]

\(\text{Q: ‘Which boy/husband did you meet?’ A: ‘The one from Berlin.’}\)

(Blümel 2011: 27)

\[
A: \quad \textit{Denjenigen (*Jungen) aus Berlin.}
\]

\(\text{DJ boy from Berlin}‘\text{The one from Berlin.’}\)

(Blümel 2011: 27)

\[
A: \quad \textit{Denjenigen (*Ehemann) meiner Schwester.}
\]

\(\text{DJ husband my.gen sister}‘\text{My sister’s.’}\)

(Blümel 2011: 27)

Under the analysis in (22) this amounts to saying that N-ellipsis is obligatory. This would be unusual. The counterparts with a simplex article are fine (25), indicating
that it is not the redundancy of repeating the NP-part which is the culprit in (24), but a grammatical factor:

\[(25) \quad Q: \text{Welchen Jungen/Ehemann hast Du getroffen?} \]
\[
\text{which boy/husband have you met} \\
\text{‘Which boy/husband did you meet?’}
\]

a.  
\[
A: \text{Den (Jungen) aus Berlin.} \\
\text{the boy from Berlin} \\
\text{‘The one from Berlin.’}
\]

b.  
\[
A: \text{Den (Ehemann) meiner Schwester.} \\
\text{the husband my.GEN sister} \\
\text{‘My sister’s.’}
\]

We cannot solve this puzzle at this point but would like to point the following: The current approach represents a step forward in that it accommodates more data surrounding DJ-DPs, particularly obligatory modifier types other than rRCs.

### 4.2 R in pronominals

There emerge further new predictions of the analysis. Strong definite determiners can figure in readings in which they are bound by quantified DPs if modified by rRCs, as Simonenko (2015) shows. Next to this usage, she suggests that an analysis is available in which instead of an rRC, a silent individual pronoun can occupy SPEC-RP as shown in (26), termed i. This analysis aims at capturing deictic uses of the strong definite determiner in Austro-Bavarian; the referent of i is specified by a contextually given individual:

\[(26)\]

```
  DP_e
    ├── D<et,e>  └── RP<et>
      │          │
      ├── R<et,et> └── DP_e
      │          │
      └── R<et,et,et> └── NP<et> i
```
[R] is of the semantic type <et, <et, et>>. When the DP is used in a deictic fashion, i.e. when SPEC-R is occupied by a silent individual pronoun instead of the rRC, a type clash with the second argument of [R] must be avoided as illustrated in the tree above. To do so, Simonenko (2015) adopts the type shifting operation \textit{ident} (Partee 1987), turning the individual pronoun into a set of individuals:

\begin{equation}
\text{idem}(i) = \lambda x. (x = i)
\end{equation}

We adopt that analysis to the DJ-case. SPEC-RP can alternatively host either an individual pronoun, an rRC or a PP/DP-modifier, which functions as the second argument of [R]. This predicts the following: We expect that DJ can function as a demonstrative pronoun, anaphoric to a discourse antecedent.\textsuperscript{9} This is borne out, as a corpus search reveals.\textsuperscript{10} In the examples (28), the discourse antecedent is boldfaced:

\begin{itemize}
\item[(9)] The fact that demonstrative pronominal DJ prefers discourse-anaphoric uses and resists deictic uses has to remain an issue for future research.
\item[(10)] (28-a): http://de.bab.la/woerterbuch/deutsch-polnisch/derjenige
(28-b): https://www.wuerzburger.com/organspende-2.html
(28-c): https://ask.fm/niallsgurl__/answers/141466220642
In all attested examples does DJ take quantificational antecedents.
Notice that we consider examples with referential antecedents distinctly worse (i), again contrasting with the variants with simplex definite demonstrative pronouns.
\begin{itemize}
\item[(i)] a. \textit{Wenn Sie von Fritz eine Blutprobe genommen haben und der(*jenige) hat if you by F. a blood sample taken have and that(DJ) has vielleicht Hepatitis C, ...}
maybe hepatitis C
‘If you have taken a blood sample from Fritz and that one has maybe hepatitis C, ...’
b. \textit{Das bedeutet, dass Maria Organe entnommen werden dürfen, außer die(*jenige)
this means that M. organs extracted were may unless that(DJ)
hat sich zu Lebzeiten dafür entschieden.
has REF to lifetime there for decided
‘This means that Mary must get his/her organs extracted unless s/he has given permission during his/her lifetime.’
c. \textit{Klaus hat was gegen deine Augenbrauen? Der(*jenige) hat überhaupt keine
K. has something against your eyebrows that(DJ) has at.all no Ahnung was geil ist.
clue what cool is
‘Klaus dislikes your eyebrows? He has no clue at all what is cool.’
\end{itemize}
We must postpone an explanation of these facts to a different occasion.
(28) a. Wenn Sie von jemandem eine Blutprobe genommen haben und
    if you by somebody a blood sample taken have and
derjenige hat vielleicht Hepatitis C, ...
    DJ has maybe hepatitis C
‘If you have taken a blood sample from somebody and that one has
maybe hepatitis C, …’

b. Das bedeutet, dass niemandem Organe entnommen werden dürfen,
   this means that no one organs extracted were may
außer derjenige hat sich zu Lebzeiten dafür entschieden.
   unless DJ has REF to lifetime for decided
‘This means that no one must get his/her organs extracted unless s/he
has given permission during his/her lifetime.’

c. Wer hat was gegen deine Augenbrauen? Derjenige hat
   who has something against your eyebrows DJ has
überhaupt keine Ahnung was geil ist.
   at all no clue what cool is
‘Who holds something against your eyebrows? That one has no clue
at all what is cool.’

Given the current analysis, we can capture further, related properties of DJ-DPs:
As has frequently been observed, DJ cannot co-occur with non-rRCs:

(29) *Derjenige Mann, der übrigens das Pulver erfand, stand am Fluss.
    DJ man who by the way the powder invented stood at the river
‘The man, who invented the powder by the way, stood at the river.’

Assuming that non-rRCs adjoin to DP only, the current analysis accounts for this
in that a missing SPEC-R leads to a failure to satisfy the second semantic argu-
ment of [R], resulting in a type clash higher up in the structure.\textsuperscript{11} The account
also gives rise to another novel prediction: non-rRC can co-occur with DJ after all,
iff DJ has a discourse antecedent. The reason is that in this context, the structure
is that of a deictic demonstrative in which [R] must take the silent individual
pronoun i as a second argument. This makes SPEC-RP unavailable for an rRC.
There is then nothing that prevents the introduction of a non-rRC, which adjoins
to the DP. Once more, the facts fall into place:

\textsuperscript{11} Arguably, it violates syntactic subcategorization requirements of R in addition.
Das bedeutet, dass niemandem Organe entnommen werden dürfen, this means that no one organs extracted were may außer derjenige, der dann übrigens vorher untersucht worden sein unless DJ who then by the way before checked were be muss, hat sich zu Lebzeiten dafür entschieden. must has refl to lifetime there for decided ‘This means that no one must get his/her organs extracted unless that person, who must have been examined, has given permission during his/her lifetime.’

The grammaticality of (30) is thus on a par with a DJ-DP co-occurring with both an rRC and a non-rRC (which is acceptable as well, as expected).

4.3 Dutch light-headed relatives

Dutch features a counterpart of German DJ, het- and datgene respectively. Unlike in German, omitting the head is mandatory in Dutch (cf. Gunkel 2006: 4–5 and reference therein; Blümel 2011: 28):

(31)  a. hetgene dat ik gelezen heb ...
     DJ which I read have
     ‘the one I have read’
     b. ?hetgene van mij ...
     DJ from me ...
     ‘mine’
     (Blümel 2011: 28)

(32)  a. datgene dat ik gelezen heb ...
     DJ which I read have
     b. datgene van mij ...
     DJ of mine
     (Blümel 2011: 28)

That is, in Dutch, the head noun must not be pronounced, irrespective of modifier type as (33-a)/(34-a) show for rRCs and (33-b)/(34-b) show for PP:

(33)  a. *hetgene boek dat ik gelezen heb ...
     DJ book which I read have
     b. *hetgene boek van mij ...
     DJ book of mine
     (Blümel 2011: 28)
Such “light-headed relatives” are quite common cross-linguistically and are attested in e. g. Romance (French, Italian, Spanish) as well as Polish (cf. Citko 2004). We would like to suggest that Dutch light-headed relatives involve a simpler structure than the one considered for German. Specifically, we would like to claim that the structure of Dutch light-headed relatives is a simple complement of D-analysis, immediately capturing the impossibility of a head-noun.

(35)

| DP_o |
| --- |
| D<et,e> = hetgene |
| CP<et> |
| dat ik gelezen heb |

There is thus no need for a uniform analysis of German and Dutch DJ-facts: None is warranted by the data.

4.4 A short remark on extraposition

In Section 2, we reported on two rating experiments on DJ-DP in comparison to DPs headed by bare determiners. They confirm the observation made in the theoretical literature that DJ-DPs need a relative clause, which we formally analyzed in Section 3. In addition, we also found an asymmetry in the extraposition behavior of rRCs: these were judged as significantly worse than local rRCs for the bare determiners, while no such difference obtained for DJ-DPs. While relative clause extraposition was not the main focus of our paper, we will discuss it briefly in this section.

First, Strunk (2014) reports on corpus studies on relative clause extraposition showing that it can be influenced by multiple factors such as the distance of extraposition, the length of the relative clause, and the specific type of determiner used. He conducted a rating experiment on the bare vs. complex determiner (i. e. DJ) in German. Based on a 2*2 design, he used stimuli as in (36). One of his findings was that distant rRCs were judged significantly worse than local rRCs in the
case of bare determiners, whereas there was no difference between distant vs. local rRCs in the case of DJ.

(36)  
   a. Jens hat die Musikerin nach dem Konzert ausgelacht, die das einfache Stück nicht spielen konnte. (bare Det + distant rRC)  
      Jens has the musician after the concert laughed at who the easy piece could not play.  
      ‘Jens laughed at the/that musician after the concert who couldn’t play the easy piece.’  
   b. Jens hat die Musikerin ausgelacht, die das einfache Stück nicht spielen konnte. (bare Det + local rRC)  
      Jens has the musician laughed at who the easy piece could not play.  
      ‘Jens laughed at the/that musician after the concert who couldn’t play the easy piece.’  
   c. Jens hat diejenige Musikerin nach dem Konzert ausgelacht, die das einfache Stück nicht spielen konnte. (complex Det + distant rRC)  
      Jens has DJ musician after the concert laughed at who the easy piece could not play.  
      ‘Jens laughed at the/that musician after the concert who couldn’t play the easy piece.’  
   d. Jens hat diejenige Musikerin ausgelacht, die das einfache Stück nicht spielen konnte. (complex Det + local rRC)  
      Jens has DJ musician laughed at who the easy piece could not play.  
      ‘Jens laughed at the/that musician after the concert who couldn’t play the easy piece.’

While the design (see Section 2) and the stimuli of our experiments, see (3), differ from Strunk’s (2014), the results are similar to his. Taken together, this means that the bare determiner has a locality preference which lacks with DJ. The question is why. While we do not have a final answer to this, any answer should take into consideration the morphological makeup of the DJ, as in (37) from Blümel (2011).

(37) The determiner DJ features five distinct morphemes, listed here: d-er-jen-ig-e / DEF-AGR-DEM-ADJ-ADJAGR
   a. a definiteness marker
   b. definiteness / strong agreement
   c. the stem of the distal demonstrative jen ‘that’
d. an adjectival ending -ig (as in lust-ig ‘funny’, etc.)
e. adjectival agreement ending

The stem of the distal demonstrative is crucial here. It makes the DJ an anaphoric demonstrative, which requires a relative clause to provide a “property” antecedent. A discourse context with an antecedent as in (28) can serve the same function, but relative clauses are the most common strategy to satisfy this requirement. This explains why local or distant rRCs were judged as equally good for the DJ. In contrast, a bare determiner such as der is ambiguous between a plain definite article as its common use vs. an anaphoric demonstrative with an antecedent in discourse context (cf. Schwarz 2009). In other words, bare determiners by their semantics do not require a forthcoming relative clause.

In terms of language production, speakers would put parts of a sentence (i.e. an rRC and the hosting NP) that belong together semantically next to each other, all things being equal (see also the related discussion in Strunk 2014: 89). In terms of comprehension, the human parser integrates a local rRC immediately into the DP, resolving the referent. A distant rRC, however, requires reanalysis of the already resolved referent and thus can be perceived as less natural. This view is in line with the Discourse Locality Theory by Gibson (1998) which assumes that integrating a new discourse event (in this case, by an rRC) incurs structural integration costs, which depend on the distance from its dependents. Taken these altogether, this suggests that the lower naturalness rating of “bare Det + distant rRC” might reflect extra integration costs. DJ is different in this regard due to its underlying syntax and semantics, such as the one that we have proposed here, which triggers the expectation of an rRC, no matter if local or distant.

A final remark is that there might be cross-linguistic variation concerning DPs that require rRCs with respect to locality. For example, the English DP the one requires a relative clause, as shown in (38-a). According to our native speaker informants, (38-a) is a well-formed sentence but not (38-b). If this observation is valid in general, this means that the one has a locality preference for the rRC. Whether it is the case also with common DPs e.g. the student is an empirical question. How does the processing of relative clauses for these differ from that of German DJ-DPs vs. bare DPs? We will leave this for future comparative studies.

(38) These past few days, I interviewed many students.
    a. I hired the one *(who struck me as most competent) as a tutor.
    b. ??I hired the one as a tutor who struck me as most competent.
5 Conclusion

In this paper, we have reconsidered the observation in the theoretical literature that the complex determiner *d-jenige* (roughly ‘the one’) in German requires a restrictive relative clause. We reported on two rating experiments showing the complex determiner without a relative clause results in degradedness and thus providing empirical evidence for the observation. A secondary finding from the two experiments is that the relative clause is equally natural being local to or extraposed from the complex determiner. In contrast, bare determiners prefer a local relative clause over a distant one.

Focussing on the requirement of *d-jenige* for an obligatory relative clause, we discussed problems of existing syntactic accounts for the phenomenon and proposed a compositional analysis by treating the relative as a semantic argument of a relational head R, following Simonenko (2014, 2015). We argued that this analysis captures the German data from the literature (Alexiadou et al. 2000; Sternefeld 2008; Blümel 2011) and extends naturally to new observations in German and, possibly, beyond.

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Appendix A. Stimuli of experiment 1

(1) a. Maria hat dem Mitarbeiter den Vorschlag gemacht, der das Projekt bald beantragen sollte.
    b. Maria hat demjenigen Mitarbeiter den Vorschlag gemacht, der das Projekt bald beantragen sollte.
    c. Maria hat dem Mitarbeiter den Vorschlag gemacht, dass das Projekt früher starten sollte.
    d. Maria hat demjenigen Mitarbeiter den Vorschlag gemacht, dass das Projekt früher starten sollte.
(2) a. Tina hat dem Freund den Tipp gegeben, der an dem Lauf teilnehmen sollte.
b. Tina hat demjenigen Freund den Tipp gegeben, der an dem Lauf teilnehmen sollte.
c. Tina hat dem Freund den Tipp gegeben, dass er schneller starten sollte.
d. Tina hat demjenigen Freund den Tipp gegeben, dass er schneller starten sollte.

(3) a. Michaela hat dem Headhunter den Auftrag erteilt, der am schnellsten antworten konnte.
b. Michaela hat demjenigen Headhunter den Auftrag erteilt, der am schnellsten antworten konnte.
c. Michaela hat dem Headhunter den Auftrag erteilt, dass das Projekt bald beginnen müsse.
d. Michaela hat demjenigen Headhunter den Auftrag erteilt, dass das Projekt bald beginnen müsse.

(4) a. Johanna hat dem Anwalt den Antrag überreicht, der am kompetesten wirkte.
b. Johanna hat demjenigen Anwalt den Antrag überreicht, der am kompetesten wirkte.
c. Johanna hat dem Anwalt den Antrag überreicht, dass Herr Müller vor Gericht erscheinen muss.
d. Johanna hat demjenigen Anwalt den Antrag überreicht, dass Herr Müller vor Gericht erscheinen muss.

(5) a. Das Innungsmitglied hat dem Vorstand den Gedanken mitgeteilt, der sich besonders engagiert.
b. Das Innungsmitglied hat demjenigen Vorstand den Gedanken mitgeteilt, der sich besonders engagiert.
c. Das Innungsmitglied hat dem Vorstand den Gedanken mitgeteilt, dass die Bilanz gefälscht werden könnte.
d. Das Innungsmitglied hat demjenigen Vorstand den Gedanken mitgeteilt, dass die Bilanz gefälscht werden könnte.

(6) a. Das Amt hat dem Architekten den Plan mitgeteilt, der am günstigsten arbeitet.
b. Das Amt hat demjenigen Architekten den Plan mitgeteilt, der am günstigsten arbeitet.
c. Das Amt hat dem Architekten den Plan mitgeteilt, dass die Baustelle nun eröffnet werden soll.
d. Das Amt hat demjenigen Architekten den Plan mitgeteilt, dass die Baustelle nun eröffnet werden soll.

(7) a. Nicole hat dem Manager den Vorschlag gemacht, der in einer Bank arbeitet.
b. Nicole hat demjenigen Manager den Vorschlag gemacht, der in einer Bank arbeitet.
c. Nicole hat dem Manager den Vorschlag gemacht, dass das Bezahlungssystem geändert wird.
d. Nicole hat demjenigen Manager den Vorschlag gemacht, dass das Bezahlungssystem geändert wird.

(8) a. Das Model hat dem Fotograf den Tipp gegeben, der hoch cholerisch ist.
b. Das Model hat demjenigen Fotograf den Tipp gegeben, der hoch cholerisch ist.
c. Das Model hat dem Fotograf den Tipp gegeben, dass die Kamera noch verschlossen ist.
d. Das Model hat demjenigen Fotograf den Tipp gegeben, dass die Kamera noch verschlossen ist.

(9) a. Das Institut hat dem Bewohner den Hinweis gegeben, der in Osnabrück lebt.
b. Das Institut hat demjenigen Bewohner den Hinweis gegeben, der in Osnabrück lebt.
c. Das Institut hat dem Bewohner den Hinweis gegeben, dass es morgen regnen werde.
d. Das Institut hat demjenigen Bewohner den Hinweis gegeben, dass es morgen regnen werde.

(10) a. Das Team hat dem Trainer den Auftrag erteilt, der sie in das Finale führte.
b. Das Team hat demjenigen Trainer den Auftrag erteilt, der sie in das Finale führte.
c. Das Team hat dem Trainer den Auftrag erteilt, dass er sie ins Finale führen möge.
d. Das Team hat demjenigen Trainer den Auftrag erteilt, dass er sie ins Finale führen möge.

(11) a. Das Kollektiv hat dem Arbeiter den Gedanken eingepflanzt, der besonders viel diskutierte.
b. Das Kollektiv hat demjenigen Arbeiter den Gedanken eingepflanzt, der besonders viel diskutierte.
c. Das Kollektiv hat dem Arbeiter den Gedanken eingeplant, dass Geld ein übel sei.
d. Das Kollektiv hat demjenigen Arbeiter den Gedanken eingeplant, dass Geld ein übel sei.

(12) a. Jutta hat dem Hausmeister den Plan mitgeteilt, der schon mittags betrunken ist.
b. Jutta hat demjenigen Hausmeister den Plan mitgeteilt, der schon mittags betrunken ist.
c. Jutta hat dem Hausmeister den Plan mitgeteilt, dass dieser entlassen werden soll.
d. Jutta hat demjenigen Hausmeister den Plan mitgeteilt, dass dieser entlassen werden soll.

(13) a. Das Ensemble hat der Dirigentin die Ansage gemacht, die einen sehr guten Ruf hat.
b. Das Ensemble hat derjenigen Dirigentin die Ansage gemacht, die einen sehr guten Ruf hat.
c. Das Ensemble hat der Dirigentin die Ansage gemacht, dass das Konzert abgesagt wurde.
d. Das Ensemble hat derjenigen Dirigentin die Ansage gemacht, dass das Konzert abgesagt wurde.

(14) a. Moritz hat der Studentin die Nachricht mitgeteilt, die von einem Autounfall gezeichnet war.
b. Moritz hat derjenigen Studentin die Nachricht mitgeteilt, die von einem Autounfall gezeichnet war.
c. Moritz hat der Studentin die Nachricht mitgeteilt, dass Autos ziemlich gefährlich seien.
d. Moritz hat derjenigen Studentin die Nachricht mitgeteilt, dass Autos ziemlich gefährlich seien.

(15) a. Das Eichhörnchen hat der Katze die Haselnuss gestohlen, die satt in der Sonne lag.
b. Das Eichhörnchen hat derjenigen Katze die Haselnuss gestohlen, die satt in der Sonne lag.
c. Das Eichhörnchen hat der Katze die Aufgabe gegeben, dass sie alle Haselnüsse aufsammeln solle.
d. Das Eichhörnchen hat derjenigen Katze die Aufgabe gegeben, dass sie alle Haselnüsse aufsammeln solle.

(16) a. Das Ärzteteam hat der Patientin die Diagnose gestellt, die über Tumorschmerzen klagt.
b. Das Ärzteteam hat derjenigen Patientin die Diagnose gestellt, die über Tumorschmerzen klagt.
c. Das Ärzteteam hat der Patientin die Diagnose gestellt, dass diese hypochondrisch sei.
d. Das Ärzteteam hat derjenigen Patientin die Diagnose gestellt, dass diese hypochondrisch sei.

(17) a. Das Generalskomitee hat der Roboterarmee die Anweisung einprogrammiert, die als Todesschwadron bekannt war.
b. Das Generalskomitee hat derjenigen Roboterarmee die Anweisung einprogrammiert, die als Todesschwadron bekannt war.
c. Das Generalskomitee hat der Roboterarmee die Anweisung einprogrammiert, dass diese ins All aufbrechen.
d. Das Generalskomitee hat derjenigen Roboterarmee die Anweisung einprogrammiert, dass diese ins All aufbrechen.

(18) a. Merlin hat der Frau die Vorhersage gemacht, die im Nachbarhaus wohnt.
b. Merlin hat derjenigen Frau die Vorhersage gemacht, die im Nachbarhaus wohnt.
c. Merlin hat der Frau die Vorhersage gemacht, dass Kinder sie stören werden.
d. Merlin hat derjenigen Frau die Vorhersage gemacht, dass Kinder sie stören werden.

(19) a. Das Oberhaupbt hat der Mutter die Ansage gemacht, die ihr Kind in die Luft wirft.
b. Das Oberhaupt hat derjenigen Mutter die Ansage gemacht, die ihr Kind in die Luft wirft.
c. Das Oberhaupt hat der Mutter die Ansage gemacht, dass Erdbeere eigentlich Nüsse sind.
d. Das Oberhaupt hat derjenigen Mutter die Ansage gemacht, dass Erdbeere eigentlich Nüsse sind.

(20) a. Das Gremium hat der Sprecherin die Nachricht mitgeteilt, die die Aufsicht über das Institut hat.
b. Das Gremium hat derjenigen Sprecherin die Nachricht mitgeteilt, die die Aufsicht über das Institut hat.
c. Das Gremium hat der Sprecherin die Nachricht mitgeteilt, dass sie ihren Job verliert.
d. Das Gremium hat derjenigen Sprecherin die Nachricht mitgeteilt, dass sie ihren Job verliert.
(21)  
   a. Thomas hat der Gärtnerin die Aufgabe erteilt, die im Untergeschoss wohnte.
   b. Thomas hat derjenigen Gärtnerin die Aufgabe erteilt, die im Untergeschoss wohnte.
   c. Thomas hat der Gärtnerin die Aufgabe erteilt, dass die Bäume entlaubt werden müssen.
   d. Thomas hat derjenigen Gärtnerin die Aufgabe erteilt, dass Bäume entlaubt werden müssen.

(22)  
   a. Hannes hat der Autofahrerin die Diagnose gestellt, die einen kaputten Corsa fährt.
   b. Hannes hat derjenigen Autofahrerin die Diagnose gestellt, die einen kaputten Corsa fährt.
   c. Hannes hat der Autofahrerin die Diagnose gestellt, dass ihr Auto wirklich kaputt ist.
   d. Hannes hat derjenigen Autofahrerin die Diagnose gestellt, dass ihr Auto wirklich kaputt ist.

(23)  
   a. Georg gab der Auszubildenden die Anweisung, die aufgeregt war.
   b. Georg gab derjenigen Auszubildenden die Anweisung, die aufgeregt war.
   c. Georg gab der Auszubildenden die Anweisung, dass der Farbeimer weggeräumt werden muss.
   d. Georg gab derjenigen Auszubildenden die Anweisung, dass der Farbeimer weggeräumt werden muss.

(24)  
   a. Marius hat der Zahnärztin die Vorhersage gemacht, die ihre Zähne reparieren soll.
   b. Marius hat derjenigen Zahnärztin die Vorhersage gemacht, die ihre Zähne reparieren soll.
   c. Marius hat der Zahnärztin die Vorhersage gemacht, dass Zahnersatz immer teurer wird.
   d. Marius hat derjenigen Zahnärztin die Vorhersage gemacht, dass Zahnersatz immer teurer wird.

Appendix B. Stimuli of experiment 2

(1)  
   a. Maria hat dem Mitarbeiter den Vorschlag einer Lohnerhöhung gemacht, der das Projekt bald beantragen sollte.
   b. Maria hat demjenigen Mitarbeiter den Vorschlag einer Lohnerhöhung gemacht, der das Projekt bald beantragen sollte.
c. Maria hat dem Mitarbeiter, der das Projekt bald beantragen sollte, den Vorschlag einer Lohnерhöhung gemacht.
d. Maria hat demjenigen Mitarbeiter, der das Projekt bald beantragen sollte, den Vorschlag einer Lohnerhöhung gemacht.

(2) a. Tina hat dem Freund den Tipp eines Getränks gegeben, der an dem Lauf teilnehmen sollte.
b. Tina hat demjenigen Freund den Tipp eines Getränks gegeben, der an dem Lauf teilnehmen sollte.
c. Tina hat dem Freund, der an dem Lauf teilnehmen sollte, den Tipp eines Getränks gegeben.
d. Tina hat demjenigen Freund, der an dem Lauf teilnehmen sollte, den Tipp eines Getränks gegeben.

(3) a. Michaela hat dem Headhunter den Auftrag einer Mitarbeitersuche erteilt, der am schnellsten antworten konnte.
b. Michaela hat demjenigen Headhunter den Auftrag einer Mitarbeitersuche erteilt, der am schnellsten antworten konnte.
c. Michaela hat dem Headhunter, der am schnellsten antworten konnte, den Auftrag einer Mitarbeitersuche erteilt.
d. Michaela hat demjenigen Headhunter, der am schnellsten antworten konnte, den Auftrag einer Mitarbeitersuche erteilt.

(4) a. Johanna hat dem Anwalt den Antrag ihrer Klage überreicht, der am kompetentesten wirkte.
b. Johanna hat demjenigen Anwalt den Antrag ihrer Klage überreicht, der am kompetentesten wirkte.
c. Johanna hat dem Anwalt, der am kompetentesten wirkte, den Antrag ihrer Klage überreicht.
d. Johanna hat demjenigen Anwalt, der am kompetentesten wirkte, den Antrag ihrer Klage überreicht.

(5) a. Das Innungsmitglied hat dem Vorstand den Gedanken der Bilanzfälschung mitgeteilt, der sich besonders engagiert.
b. Das Innungsmitglied hat demjenigen Vorstand den Gedanken der Bilanzfälschung mitgeteilt, der sich besonders engagiert.
c. Das Innungsmitglied hat dem Vorstand, der sich besonders engagiert, den Vorschlag der Bilanzfälschung gemacht.
d. Das Innungsmitglied hat demjenigen Vorstand, der sich besonders engagiert, den Vorschlag der Bilanzfälschung gemacht.

(6) a. Das Amt hat dem Architekten den Plan einer Wohnsiedlung mitgeteilt, der am günstigsten arbeitet.
b. Das Amt hat demjenigen Architekten den Plan einer Wohnsiedlung mitgeteilt, der am günstigsten arbeitet.
c. Das Amt hat dem Architekten, der am günstigsten arbeitet, den Plan einer Wohnsiedlung mitgeteilt.
d. Das Amt hat demjenigen Architekten, der am günstigsten arbeitet, den Plan einer Wohnsiedlung mitgeteilt.

(7) a. Nicole hat dem Manager den Vorschlag einer Verbesserung gemacht, der in einer Bank arbeitet.
b. Nicole hat demjenigen Manager den Vorschlag einer Verbesserung gemacht, der in einer Bank arbeitet.
c. Nicole hat dem Manager, der in einer Bank arbeitet, den Vorschlag einer Verbesserung gemacht.
d. Nicole hat demjenigen Manager, der in einer Bank arbeitet, den Vorschlag einer Verbesserung gemacht.

(8) a. Das Model hat dem Fotograf den Vorschlag einer Zusammenarbeit gemacht, der hoch cholerisch ist.
b. Das Model hat demjenigen Fotograf den Vorschlag einer Zusammenarbeit gemacht, der hoch cholerisch ist.
c. Das Model hat dem Fotograf, der hoch cholerisch ist, den Vorschlag einer Zusammenarbeit gemacht.
d. Das Model hat demjenigen Fotograf, der hoch cholerisch ist, den Vorschlag einer Zusammenarbeit gemacht.

(9) a. Das Institut hat dem Bewohner den Hinweis einer Wetteränderung gegeben, der in Osnabrück lebt.
b. Das Institut hat demjenigen Bewohner den Hinweis einer Wetteränderung gegeben, der in Osnabrück lebt.
c. Das Institut hat dem Bewohner, der in Osnabrück lebt, den Hinweis einer Wetteränderung gegeben.
d. Das Institut hat demjenigen Bewohner, der in Osnabrück lebt, den Hinweis einer Wetteränderung gegeben.

(10) a. Das Team hat dem Trainer den Vorschlag einer Vertragsverlängerung unterbreitet, der sie in das Finale führte.
b. Das Team hat demjenigen Trainer den Vorschlag einer Vertragsänderung unterbreitet, der sie in das Finale führte.
c. Das Team hat dem Trainer, der sie in das Finale führte, den Vorschlag einer Vertragsverlängerung unterbreitet.
d. Das Team hat demjenigen Trainer, der sie in das Finale führte, den Vorschlag einer Vertragsverlängerung unterbreitet.
(11) a. Das Kollektiv hat dem Arbeiter den Gedanken eines Streikaufrufs eingepflanzt, der besonders viel diskutierte.
b. Das Kollektiv hat demjenigen Arbeiter den Gedanken eines Streikaufrufs eingepflanzt, der besonders viel diskutierte.
c. Das Kollektiv hat dem Arbeiter, der besonders viel diskutierte, den Gedanken eines Streikaufrufs eingepflanzt.
d. Das Kollektiv hat demjenigen Arbeiter, der besonders viel diskutierte, den Gedanken eines Streikaufrufs eingepflanzt.

(12) a. Jutta hat dem Hausmeister den Plan seiner Entlassung mitgeteilt, der schon mittags betrunken ist.
b. Jutta hat demjenigen Hausmeister den Plan seiner Entlassung mitgeteilt, der schon mittags betrunken ist.
c. Jutta hat dem Hausmeister, der schon mittags betrunken ist, den Plan seiner Entlassung mitgeteilt.
d. Jutta hat demjenigen Hausmeister, der schon mittags betrunken ist, den Plan seiner Entlassung mitgeteilt.

(13) a. Das Ensemble hat der Dirigentin die Ansage ihrer Unterstützung gemacht, die einen sehr guten Ruf hat.
b. Das Ensemble hat derjenigen Dirigentin die Ansage ihrer Unterstützung gemacht, die einen sehr guten Ruf hat.
c. Das Ensemble hat der Dirigentin, die einen sehr guten Ruf hat, die Ansage ihrer Unterstützung gemacht.
d. Das Ensemble hat derjenigen Dirigentin, die einen sehr guten Ruf hat, die Ansage ihrer Unterstützung gemacht.

(14) a. Moritz hat der Studentin die Information einer Hilfsstelle mitgeteilt, die von einem Autounfall gezeichnet war.
b. Moritz hat derjenigen Studentin die Information einer Hilfsstelle mitgeteilt, die von einem Autounfall gezeichnet war.
c. Moritz hat der Studentin, die von einem Autounfall gezeichnet war, die Information einer Hilfsstelle mitgeteilt.
d. Moritz hat derjenigen Studentin, die von einem Autounfall gezeichnet war, die Information einer Hilfsstelle mitgeteilt.

(15) a. Der Verein hat der Erzieherin die Aufgabe der Kitaleitung gegeben, die sich als sehr kompetent erwies.
b. Der Verein hat derjenigen Erzieherin die Aufgabe der Kitaleitung gegeben, die sich als sehr kompetent erwies.
c. Der Verein hat der Erzieherin, die sich als sehr kompetent erwies, die Aufgabe der Kitaleitung gegeben.
d. Der Verein hat derjenigen Erzieherin, die sich als sehr kompetent erwies, die Aufgabe der Kitaleitung gegeben.

(16) a. Das Ärzteteam hat der Patientin die Diagnose einer Hypochondrie gestellt, die über Tumorschmerzen klagt.
   b. Das Ärzteteam hat derjenigen Patientin die Diagnose einer Hypochondrie gestellt, die über Tumorschmerzen klagt.
   c. Das Ärzteteam hat der Patientin, die über Tumorschmerzen klagt, die Diagnose einer Hypochondrie gestellt.
   d. Das Ärzteteam hat derjenigen Patientin, die über Tumorschmerzen klagt, die Diagnose einer Hypochondrie gestellt.

(17) a. Das Generalskomitee hat der Roboterarmee die Anweisung eines Angriffs einprogrammiert, die als Todesschwadron bekannt war.
   b. Das Generalskomitee hat derjenigen Roboterarmee die Anweisung eines Angriffs einprogrammiert, die als Todesschwadron bekannt war.
   c. Das Generalskomitee hat der Roboterarmee, die als Todesschwadron bekannt war, die Anweisung eines Angriffs einprogrammiert.
   d. Das Generalskomitee hat derjenigen Roboterarmee, die als Todesschwadron bekannt war, die Anweisung eines Angriffs einprogrammiert.

(18) a. Merlin hat der Frau die Vorhersage eines Glücksfalls gemacht, die im Nachbarhaus wohnt.
   b. Merlin hat derjenigen Frau die Vorhersage eines Glücksfalls gemacht, die im Nachbarhaus wohnt.
   c. Merlin hat der Frau, die im Nachbarhaus wohnt, die Vorhersage eines Glücksfalls gemacht.
   d. Merlin hat derjenigen Frau, die im Nachbarhaus wohnt, die Vorhersage eines Glücksfalls gemacht.

(19) a. Das Oberhaupt hat der Mutter die Drohung eines Sorgerechtentzugs gemacht, die ihr Kind in die Luft wirft.
   b. Das Oberhaupt hat derjenigen Mutter die Drohung eines Sorgerechtentzugs gemacht, die ihr Kind in die Luft wirft.
   c. Das Oberhaupt hat der Mutter, die ihr Kind in die Luft wirft, die Drohung eines Sorgerechtentzugs gemacht.
   d. Das Oberhaupt hat derjenigen Mutter, die ihr Kind in die Luft wirft, die Drohung eines Sorgerechtentzugs gemacht.

(20) a. Das Gremium hat der Sprecherin die Nachricht ihrer Kündigung mitgeteilt, die die Aufsicht über das Institut hat.
b. Das Gremium hat derjenigen Sprecherin die Nachricht ihrer Kündigung mitgeteilt, die Aufsicht über das Institut hat.
c. Das Gremium hat der Sprecherin, die die Aufsicht über das Institut hat, die Nachricht ihrer Kündigung mitgeteilt.
d. Das Gremium hat derjenigen Sprecherin, die die Aufsicht über das Institut hat, die Nachricht ihrer Kündigung mitgeteilt.

(21) a. Thomas hat der Gärtnerin die Aufgabe der Baumpflege erteilt, die im Untergeschoss wohnte.
b. Thomas hat derjenigen Gärtnerin die Aufgabe der Baumpflege erteilt, die im Untergeschoss wohnte.
c. Thomas hat der Gärtnerin, die im Untergeschoss wohnte, die Aufgabe der Baumpflege erteilt.
d. Thomas hat derjenigen Gärtnerin, die im Untergeschoss wohnte, die Aufgabe der Baumpflege erteilt.

(22) a. Hannes hat der Autofahrerin die Diagnose eines Totalschadens gestellt, die einen kaputten Corsa fährt.
b. Hannes hat derjenigen Autofahrerin die Diagnose eines Totalschadens gestellt, die einen kaputten Corsa fährt.
c. Hannes hat der Autofahrerin, die einen kaputten Corsa fährt, die Diagnose eines Totalschadens gestellt.
d. Hannes hat derjenigen Autofahrerin, die einen kaputten Corsa fährt, die Diagnose eines Totalschadens gestellt.

(23) a. Georg gab der Auszubildenden die Einschätzung ihrer Arbeit, die aufgeregt war.
b. Georg gab derjenigen Auszubildenden die Einschätzung ihrer Arbeit, die aufgeregt war.
c. Georg gab der Auszubildenden, die aufgeregt war, die Einschätzung ihrer Arbeit.
d. Georg gab derjenigen Auszubildenden, die aufgeregt war, die Einschätzung ihrer Arbeit.

(24) a. Marius hat der Zahnärztin die Vorhersage eines Kariesbefalls gemacht, die ihre Zähne reparieren soll.
b. Marius hat derjenigen Zahnärztin die Vorhersage eines Kariesbefalls gemacht, die ihre Zähne reparieren soll.
c. Marius hat der Zahnärztin, die ihre Zähne reparieren soll, die Vorhersage eines Kariesbefalls gemacht.
d. Marius hat derjenigen Zahnärztin, die ihre Zähne reparieren soll, die Vorhersage eines Kariesbefalls gemacht.
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