The syntactic category of deadjectival nouns in German: Evidence from relative clause formation

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1. Introduction

- German: Two strategies to derive (abstract) nouns from adjectives:

(1) derivational suffixes (e.g. *-heit/-keit/-tum/-ität*);

(2) conversion

- Only (2) is fully productive in present-day German (cf. gaps like *Gutheit* 'good+HEIT', *Hochheit* 'high+HEIT', *Gekauftheit* 'buy++HEIT' *Besserkeit* 'better+KEIT' etc.). (2) can apply to adjectives (including participles) and their comparative/superlative forms:

(3) a. *gut* 'good' → *das Gute* 'the good (thing)', *besser* 'better' → *das Bessere* 'the better', *best-* 'best' → *das Beste* 'the best'
  b. *sehend* 'seeing' → *der Sehende* 'the one who sees', *erlebt* 'experienced' → *das Erlebte* 'what has been experienced ', *gekauft* 'bought' → *das Gekaufte* 'what has been bought'

- The (neuter) forms in (3) typically refer to (instantiations) of properties, or to persons/things that are characterized by a certain property.
- The products of (2) exhibit a set of special properties that raise questions concerning their categorial status and internal syntactic structure (cf. Kester 1996a,b, Sleeman 2013, McNally & Swart 2015 on Dutch; Alexiadou 2011, 2015 on Spanish/Greek/English, Alexiadou & Iordăchioaia 2014 on German, Romanian, Greek, and French).

Nominal properties
- syntactic distribution typical of nouns
- presence of determiners/determiner-like elements, cf. (4)
- adjectival modification, similar to nouns, cf. (5)

(4)   a. das/vieles/alles Gute
      the/much/all   good (weak inflection)
    b. ein/viel/nichts   Gutes
      a/much/nothing   good (strong inflection)

(5)   a. das vermeintliche/einzige/vollständige Neue
      the alleged/only/complete   new (one)
    b. das vermeintliche/einzige/vollständige Opfer
      the alleged/only/complete   victim/sacrifice

Adjectival properties
- alternation between strong and weak inflection, cf. (4)
- possibility of adverbial modification, cf. (6)
- retention of case-assigning properties (complements carry dative/accusative case instead of genitive), cf. (7)
- presence of prenominal anaphors, cf. (8) vs. (9)

(6) a. das sehr/vermeintlich/einzig/vollständig Neue
        the very/allegedly/only/completely   new (one)
    b. *das sehr/vermeintlich/einzig/vollständig Opfer
        the very/alleged/only/complete   victim/sacrifice

(7) die   dem   König Treuen
    the.PL the.DAT king   faithful.PL

(8) die einander   Liebenden
    the each other loving ones

(9) a.*die einander Fans/Brüder
      the each other fans/brothers
    b. die Fans/Brüder von einander
      the fans/brothers of each other

- Kester (1996a,b), Panagiotidis (2002), McNally & Swart (2015): Special 'mixed' properties can be accounted for if a silent nominal element is assumed. Under this analysis, the adjective does not undergo a category change, but retains its role as an attributive element:

(10) [*das Gute* N∅]

- Sleeman (2013), Alexiadou (2011, 2015), Alexiadou & Iordǎchioaia (2014): Relevant deadjectival nouns represent genuine nominalizations; 'mixed' properties follow from the presence of both nominal and adjectival functional structure in the internal make-up of these forms (giving rise to different degrees of 'nouniness' at the surface).
- Some arguments against the presence of a silent noun (see also Sleeman 2013 and Alexiadou 2015 on Dutch and English, respectively):
- Especially for mass readings, it is sometimes difficult to think of a (lexical) noun that can plausibly fill the position after the adjectival element:

(11) Gutes hat   die Sache nicht bewirkt.
     good   has   the affair not   caused
     'The affair has not caused anything good.'

- This is particularly clear in combination with certain determiners/quantifiers such as *nichts*, where the addition of a lexical noun seems to lead to ungrammaticality:

(12) *nichts   gutes   Wasser/Obst/Gold/Zeug
       nothing   good   water/fruit/gold/stuff

- In contrast to lexical nouns, gender is not merely a grammatical category, but has a semantic effect: neuter forms refer to abstract, non-animate entities, while masc./fem. forms refer to persons:[1]

(13) das   Schöne   vs. der/die   Schöne
      the.NEUT beauitful   the.MASC/the.FEM   beautiful (= a beautiful person)

- Again, this effect is not expected if it is assumed that the adjective modifies a silent lexical noun.

- Underline This talk:
  - ❖ Relativization facts possibly provide a window into the categorial properties of deadjectival nouns (further support for an account in terms of nominalization).
  - ❖ Alternation between d- and wh-relative clauses in German (neuter singular) reflects categorial properties of the antecedent (Brandt & Fuß 2014): *was* is used as a default relativizer that signals the absence of an appropriate lexical nominal antecedent.
  - ❖ Nominalized positives and superlatives do not behave similarly (only the latter strongly favor relativization by means of *was*).
  - ❖ The alternation between d- and wh-relativizers provides evidence for a more fine-grained subclassification of deadjectival nouns.

- Structure of the talk:
  - ❖ Section 2 argues that the choice between *das* and *was* is governed by categorial properties of the head of the relative clause ($N_{[neuter\ singular]} \rightarrow$ *das*)
  - ❖ Section 3 presents findings of a corpus study on the use of *das* vs. *was* in relative clauses modifying deadjectival nouns.
  - ❖ Section 4 develops a theoretical account that attributes variation between *das* and *was* to structural differences in the internal make-up of different deadjectival forms.
  - ❖ Section 5 wraps up and provides a concluding summary.
  - ❖ Section 6 discusses a set of related phenomena and remaining open questions.

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[1] Furthermore, note that in earlier stages of German, deadjectival nouns of the type discussed here were derived by overt derivational morphology (cf. Paul 1919: 106).

2. *das* vs. *was* in relative clauses

- In German, relative clauses that modify a nominal element are typically introduced by a so-called d-pronoun that inflects for case (assigned in the relative clause) and agrees in gender and number with the head of the relative clause (cf. e.g. Duden 2009: 302):[2]

(14) a. der Mann, **der**   schläft
      the   man   that.MASC.NOM   sleeps
  b. der Mann, **den**   Peter getroffen hat
      the man   that.MASC.ACC Peter met   has
  c. der Mann, **dem**   Peter vertraut
      the man   that.MASC.DAT Peter trusts
  d. die Frau, **die**   Peter getroffen hat
      the woman that.FEM.ACC Peter met   has
  e. das Auto, **das**   Peter fährt
      the   car   that.NEUT.ACC Peter drives
  f. die Männer/Frauen/Autos, **die**   Peter gesehen hat
      the men/women/cars   that.PL Peter seen   has

- With a certain set of neuter antecedents, the d-pronoun is replaced by the wh-pronoun *was* (cf. e.g. Duden 2009:1031f.; see Citko 2004 and Boef 2012, Broekhuis & Keizer 2012 for related phenomena in Polish and Dutch, respectively):

(15)   a. **indefinites/quantifiers**: *alles* 'everything', *eines* 'one thing', *vieles* 'many things', *etwas* 'something', ...
  b. **demonstratives**: *das* 'that', *dasjenige* 'that thing', *dem* 'that.DAT', ...
  c. **deadjectival nouns**: *das Gute* 'the good (thing)', *das Beste* 'the best' etc.

(16)   a. **Alles,**   **was**   die Zuschauer dort   sehen, ist Lug und Trug.
          everything   what the spectators there see   is lies and deception
          'Everything that the spectators see there is lies and deception.'
          (NON13/JAN.07012 Niederösterreichische Nachrichten, 17.01.2013, NÖN Großformat, Ressort: Meinungen; PRO & KONTRA)
  b. **Das, was** wir machen, ist **das, was**   uns gefällt.
      that what we make   is   that   what   us   pleases
      'What we do is what we like.'
      (BRZ07/JUN.06447 Braunschweiger Zeitung, 04.06.2007; „Das, was wir machen, ist das, was uns gefällt“)
  c. **Das Beste, was** Microsoft   heute tun kann, ist, Yahoo zu kaufen.
      the best   what Microsoft today do can   is   Yahoo to buy
      'The best that Microsoft can do today is to buy Yahoo.'
      (HAZ08/NOV.01608 Hannoversche Allgemeine, 08.11.2008, S. 15; Microsoft lässt Yahoo abblitzen)

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[2] An alternative albeit less frequent and stylistically marked option consists in using inflected forms of the wh-pronoun *welche* 'which' to introduce relative clauses. *Welch-* has a similar distribution as d-forms and is typically confined to the written language.

- The use of *was* in relative clauses is an MHG/ENHG innovation (cf. Paul 1920: 206ff.).

- In some Low German dialects, it has completely ousted *das*; in a subset of these dialects, it seems to have turned into a relative complementizer similar to English *that* (Weise 1917, Fleischer 2005):

(17) a. **dat Peerd,** **wat** ik köfft heb
      the horse.NEUT what I bought have (Wiesenhann 1936: 27)
   b. **də mån,** **wåt** dåᵘr we:r
      dhe man.MASC what there was (Pirk 1928: 26-27)
   c. **Alle Mannslüd wat** dor sind ...
      all men what there are (Bock 1933: 104)

- Related developments can be observed in oral/colloquial Standard German varieties, where *was* is used instead of *das* with all kinds of neuter antecedents:

(18) Dann braucht mir Mama bald keine Bücher mehr vorzulesen
      then needs me mum soon no books anymore read-out
      – dann kann ich selbst lesen.
         then can I on my own read
      Zum Beispiel **das Buch,** **was** Mama mir geschenkt hat.
      for example the book what mum me given has
      'for example, the book that mum gave me as a present'
      (RHZ98/AUG.12146 Rhein-Zeitung, 25.08.1998; HEUTE: SCHULANFANG)

2.1 Earlier proposals

- Paul (1920), Curme (1922), Behaghel (1928): early attempts to provide a principled description of the circumstances that determine pronoun choice in relative clauses.

> *was* is triggered by semantic properties of the head noun such as indefiniteness or genericity, in particular where reference is to matter with mass-like properties (Paul 1920, and in particular Curme 1922).

"[*was* is employed] If the antecedent is a word of general or indefinite meaning, or expresses a collective idea, such as **das**, **einiges**, **eins**, **das einzige**, **etwas** (or **was**), **solches**, **ein anderes**, **nichts**, **mehreres**, **manches**, **viel(es)**, **allerhand**, **allerlei**, **das bißchen**, **wenig**, **genug**, an ordinal, as **das Erste**, **das Zweite**, with especial frequency **alles**, also a neuter abstract noun or adjective-substantive (**das Schöne** *the beautiful*, &c., especially a superlative, **das Beste** *that which is best*), also a neuter noun denoting a material or a collective idea, provided the reference is to an indefinite mass or amount: [...]" (Curme 1922:198)

(19) a. Er verzweifelt überhaupt an allem **Heil**,   **was**   der Menschheit
      he despairs   generally   of all   salvation   what   the   mankind
      durch   die Gesellschaft zuteil   werden kann.
      through   the society   bestowed   be   can
      'He despairs of all salvation that the society can bestow on mankind.'
      (Albert Geiger in *Die Nation*, 10th March, 1900; Curme 1922: 198)

    b. Um   ihn her   war alles **Getier**   lebendig, **was**   auf der Heide die
      around him about was all   creatures alive   what on the heath the
      Junischwüle   auszubrüten pflegt.
      June-stuffiness to-breed   uses
      'Around him, all creatures, that the stuffiness of June uses to breed on the heath, were alive.'
      (Theodor Storm, *Ein grünes Blatt*; Curme 1922: 199)

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was is used when the relative clause lacks a proper nominal antecedent (Behaghel 1928).

> "<u>Die Relativsätze, denen im Hauptsatz kein stützendes Glied entspricht oder deren stützendes Glied durch eine nicht individuelle Größe[3] gebildet wird, werden im allgemeinen durch *was* eingeleitet</u>, nachdem einmal dieses als Relativ aufgetreten ist. Zu den nicht individuellen Größen gehören *es, das, dasjenige, dasselbe, dieses, solches*, sowie die indefiniten Pronomina, ferner die substantivierten Adjektiva: [...]"
> (Behaghel 1928:725f.)

> '<u>Those relative clauses that lack a corresponding supporting member in the main clause or those the supporting member of which is not instantiated by an individual measurement, are usually introduced by *was*</u>, once this element has become available as relativizer. Among the non-individual measurements are *es* 'it', *das* 'that', *dasjenige* 'that thing', *dasselbe* 'the same', *dieses* 'this', *solches* 'such', as well as the indefinite pronouns, and also nominalized adjectives [...]'

2.2 Lexical nouns trigger *das*

- Two corpus studies using the COSMAS web-interface to the *Deutsches Referenzkorpus* (DeReKo, around 20 billion words) at the IDS Mannheim (http://www.ids-mannheim.de/cosmas2/), cf. Brandt & Fuß (2014, 2015):
  i. Impact of semantic properties of the head noun (as suggested by Curme 1922): mass vs. count nouns
  ii. Impact of the absence/presence of a lexical head noun with the properties [neuter, singular] (Behaghel 1928)

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[3] Behaghel's notion of *individuelle Größe* 'individual measurement' seems to correspond to an individuatable lexical noun with descriptive semantic content.

2.2.1 Mass nouns

- Search for 12 neuter gender mass nouns[4] without determiner (to exclude effects of individuation):

(20) Water/Geld/... , **das/was**...
water/money   that/what...

	das	*was*
Geld, Wasser etc.	5.297 (**99.3%**)	38 (**0.7%**)

Table 1: Distribution of *das* vs. *was* after mass nouns (DeReKo, Archiv W-Gesamt, 1.5.2015)

> The distinction between mass and count nouns does not seem to be relevant for the choice between *das* and *was*.

2.2.2 Presence vs. absence of a lexical head noun

- Frequency of *das/was* in combination with selected elements that require relativization by means of *was* (determiner/demonstrative: *das* 'the, that'; indefinites/quantifiers: *alles* 'all, everything', *vieles* 'many, much', *nichts* 'nothing'; deadjectival noun: *das einzige* 'the only thing'):
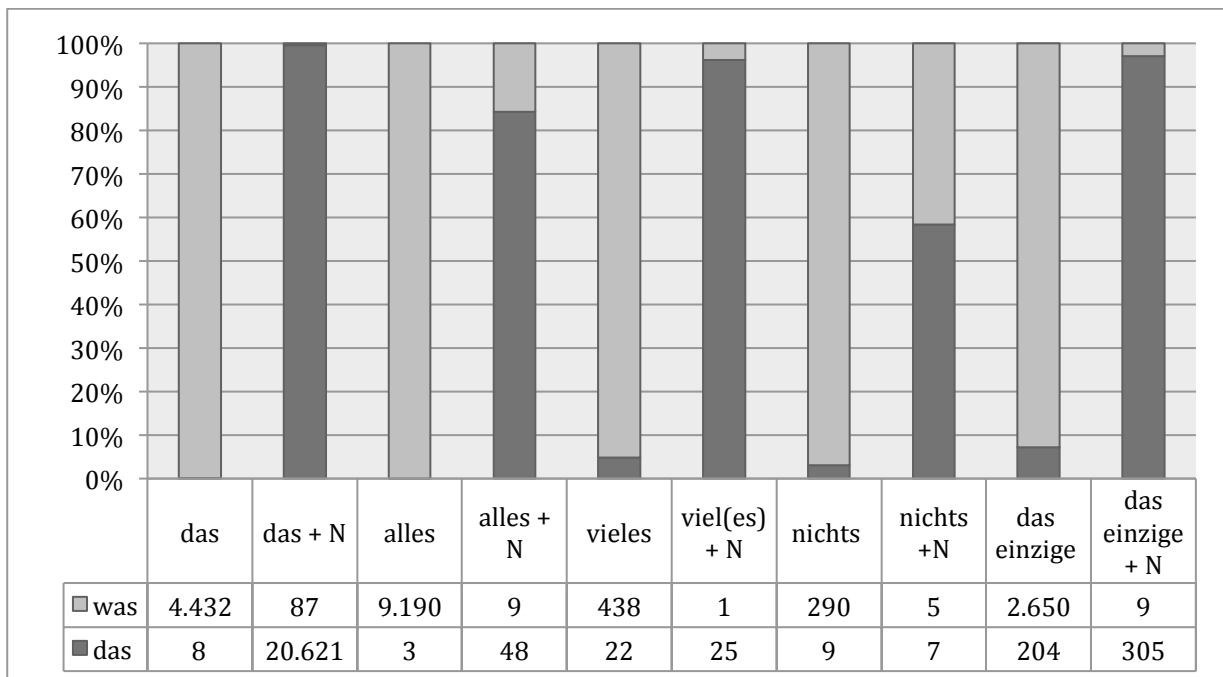

	das	das + N	alles	alles + N	vieles	viel(es) + N	nichts	nichts +N	das einzige	das einzige + N
☐ was	4.432	87	9.190	9	438	1	290	5	2.650	9
☐ das	8	20.621	3	48	22	25	9	7	204	305

Figure 1: Impact of the presence/absence of N with elements that require the relativizer *was* (DeReKo, Connexor-Teilarchiv, June 2014)[5,6]

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[4] The set included *Wasser* 'water', *Geld* 'money', *Licht* 'light', *Obst* 'fruit', *Gemüse* 'vegetables', *Fleisch* 'meat', *Bier* 'beer', *Eis* 'ice', *Brot* 'bread', *Eisen* 'iron', *Mehl* 'flour', *Metall* 'metal'.

[5] The rare examples of the type *nichts*+N all involve deadjectival nouns (*nichts Gutes/Schönes* 'nothing good/beautiful' etc.), which allow relativization by means of *was* (see below for details

[6] It seems that in German, the distinction between restrictive and non-restrictive relative clauses does not influence the choice between *das* and *was* (in contrast to Dutch, cf. Broekhuis & Keizer 2012).

(21)　Generalization: Relativization by means of *das*
　　　$N_{[neuter\ singular]} \rightarrow$ *das*

> The presence/absence of a lexical head noun plays a decisive role in the choice between *das* vs. *was* in relative clauses.

2.2.3 Noun ellipsis

- Apparent problem: Certain indefinites/quantifiers (*jedes* 'each', *eines* 'one thing' *keines* 'none') always trigger *das*, independent of the absence/presence of a lexical noun:

	jedes	jedes + N	eines	ein + N	keines	kein + N
☐ was	3	9	2	32	1	0
■ das	48	712	390	14.680	31	398
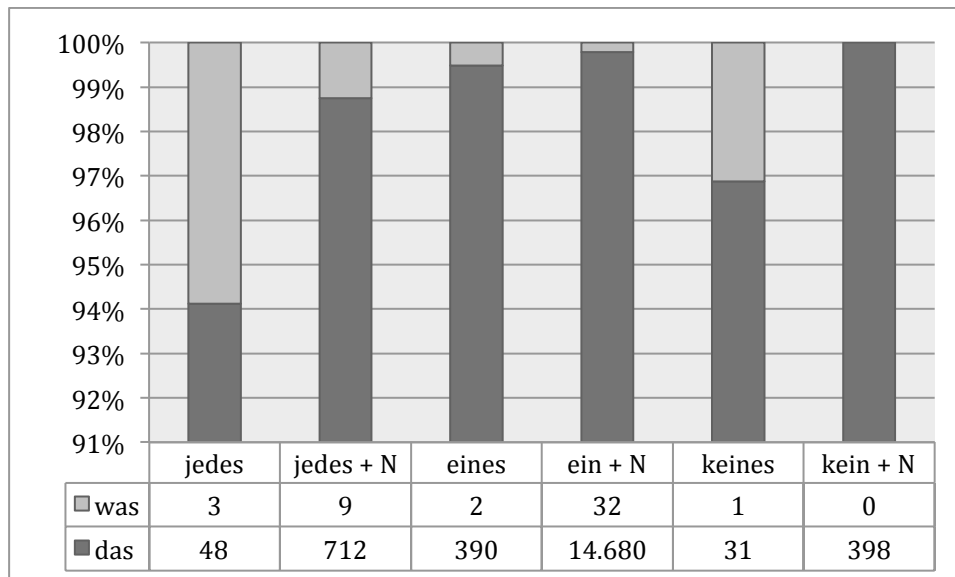
Figure 2: D-elements that always trigger *das* (DeReKo, Connexor-Teilarchiv, June 2014)

- Observation: In all instances of *jedes/eines/keines, das* found in the corpus, the lexical restriction of the quantifier corresponds to an element previously mentioned in the immediate discourse context (see also Duden 2009: 1032; Citko 2004 on Polish):

(22)　Ein richtiges <u>Fußballspiel</u>.　**Keines, das** ich nur im　　Fernsehen
　　　a　real　football match　none　that I　only in-the　TV
　　　anschauen kann, sondern eines　auf Rasen, eines, bei dem　ich am　　Rand
　　　watch　can　but　one　on lawn　one　at which I　at-the　edge
　　　stehen　und mitfiebern　kann.
　　　(BRZ10/MAR.05983 Braunschweiger Zeitung, 12.03.2010;)

- Assumption: *jedes/keines/eines* require the presence of a silent lexical noun, the identity of which can be reconstructed from the discourse context (an instance of noun ellipsis):[7]

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[7]　Note that the form of the quantifier in (22) deviates from the form which appears with an overt noun (**keines Fußballspiel* vs. *kein Fußballspiel* 'no football match'). However, this does not militate against an analysis in terms of ellipsis, since similar effects are observed in connection with split noun phrases:
　(i)　Geld　habe　ich [keines/*kein __]　mehr.
　　　money　have　I　none　　　anymore

(23)   ... N$_i$... [*jedes/keines* ~~N$_i$~~ [$_{SRel}$ *das* ...]]

> The 'exceptional' behavior of certain indefinites/quantifiers (*jedes/eines/keines*) can be attributed to the presence of an elided lexical noun ⇒ **relativization by means of *das***

- 'Exceptional' occurrences of the sequence …*das, das* point to the same conclusion, namely, that use of *das* forces interpretation in terms of an elided N:

(24) Didi Senft kommt daher   wie das Duracell-Häschen aus   der Werbung.
      Didi Senft comes around like the Duracell bunny   from the commercials
      Das ~~Duracell-Häschen~~**, das** am längsten   trommelt.
      that Duracell bunny   that the longest   drums
      (T06/JUN.04743 die tageszeitung, 26.06.2006, S. 5; Didi, der Teufel)

- In contrast, no reconstructable noun is present in the case of *das, was...* Instead, the syntactic-semantic role of N appears to be filled directly by the relative clause.

(25) **Das, was** möglicherweise auf Berlin zukommt, ist im   Land   Bremen
     that what possibly   for Berlin is.in.store is in-the country Bremen
     seit Jahren Realität.
     for   years   reality
     (B01/JUN.43830 Berliner Zeitung, 01.06.2001; Firmenberater sanieren den "Konzern Bremen" [S. 21])

2.3 Analysis: *was* as a default relativizer (Brandt & Fuß 2014)

- <u>Basic proposal</u>: The choice between d- and wh-morphology is determined in the course of the syntactic derivation, depending on whether the relativizer enters into an agreement relation with a lexical head noun (see also Boef 2012 on Dutch, Wiese 2013 on German).

- <u>Core assumptions</u>:

  (i) (Inherent) gender is the defining characteristic of lexical nouns.[8, 9]

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[8] Note that the present proposal differs from the approach taken by Brandt & Fuß (2014), who follow Baker (2003) and assume that the defining characteristic of lexical nouns consists in the presence of a criterion of identity (a so-called referential index) that sets them apart from other lexical categories:
"The idea in a nutshell is that only common nouns have a component of meaning that makes it legitimate to ask whether some X is the same (whatever) as Y. This lexical semantic property is the precondition that makes nouns particularly suited to the job of referring." (Baker 2003: 95f.)
Brandt & Fuß further assume, again following Baker (2003: 137), that relative pronouns contain a slot for a referential index that provides a criterion of identity and is identified with the referential index of the head noun of the RC (under agreement). Under the present proposal, identity between the relative head and the RP is achieved via syntactic agreement in gender features.

[9] If it is assumed that gender features are hosted by the category defining head *n* (cf. e.g. Lowenstamm 2007), one might rephrase the analysis and claim that the presence of *n* is the defining characteristic of lexical nouns (in contrast to determiners and quantifiers, which are D-elements, and deadjectival nouns, which may be derived by adding D or *n* to an adjectival category, cf. Alexiadou & Iordăchioaia 2014).

(ii) The more specified exponent *das* is used in cases where the relativizer picks up a gender feature via agreement with a lexical nominal antecedent.

(iii) Elsewhere, *was* is inserted (as a default relativizer).

2.3.1 Syntax

- <u>Standard assumptions</u>: Relative pronouns (RP) contain a category feature [D], an operator feature [Op], and a set of phi-features (features that await valuation in the course of the syntactic derivation are marked as 'uF'):[10]

(26)   RP [D, Op, Person, Number, uCase, uGender]

- The gender feature is determined/valued via agreement with the head noun (case is assigned/valued internal to the RC):[11]

(27)   head [$_{CP}$ RP$_i$ [$_{C'}$ C [$_{TP}$ ... t$_i$ ...]]]
           ↑AGREE↑

- Focusing on the *das*/*was* alternation, there are two possible outcomes of the syntactic derivation, dependent on whether the RP acquires a gender feature from a lexical head noun:[12]

(28)   a. [D, Op, –pl, –obl, –obj/+obj, **Gender: –masc, –fem**]
        b. [D, Op, –pl, –obl, –obj/+obj, **Gender: __**]

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[10] [person] might be left unspecified if it is assumed that third person expresses the absence of positively specified person features (Benveniste 1950, 1966). Number seems to play a special role: The finite verb of the RC agrees in number with the RP, which suggest that the RP is inherently specified for number. However, the RP also agrees in gender and number with the head noun, which suggests that number must be checked by the relevant agreement operation; thus, agreement not only involves feature valuation, but also matching of already valued features.

[11] See Zeijlstra (2012, 2013) for the idea that agreement involves a relation between a probe and a higher, c-commanding goal. Cf. Heck & Cuartero (2011) for an alternative mechanism based on downward agree that accomplishes agreement between head noun and relative pronoun/relative clause; see also Sternefeld (2008). Additional questions concern e.g. the nature of the feature that renders N active as a goal for upward Agree. One likely candidate is the case feature of N, which is still unvalued at the point where the RC is merged with N (see Heck & Cuartero 2011 for related considerations). Downward agreement between the relative operator can also be assumed if a matching analysis of relative clauses is adopted, in which the relativizer contains an NP which is deleted under identity with the head of the relative clause (Chomsky 1965, Sauerland 1998, 2003).

[12] The feature structures in (9) assume decomposition of phi-features, making use of more abstract features (basically following Bierwisch 1967; cf. Blevins 1995 and Wiese 1999 for slightly revised systems), including [±1, ±2] for person (where 3rd person corresponds to the absence of person specifications), [±plural] for number, [±masculine, ±feminine] for gender, and the following system of case distinctions based on the features [±oblique, ±object]:
(i) a. nominative: [–obl, –obj]
      b. accusative: [–obl, +obj]
      c. dative: [+obl, +obj]
      d. genitive: [+obl, –obj]

2.3.3 Spelling out RP

- <u>Background</u>: Realizational model of grammar (abstract morpho-syntactic features are supplied with phonological exponents post-syntactically, cf. Halle & Marantz 1993).

- The distribution of *das* vs. *was* is accounted for by different featural specifications of the Vocabulary items that are used to realize relative pronouns/operators:

(29) a. [D, +Op, –obl, **–masc, –fem**]   ↔ /das/
     b. [+Op, –obl]   ↔ /vas/

- *das* signals [Op], a category feature and neuter gender; in contrast, *was* is a pure focus/scope marker (cf. e.g. Bayer & Brandner 2008, Grewendorf 2012).[13]

- Under the assumption that the insertion of phonological exponents is governed by some form of the Elsewhere Condition (Kiparsky 1973, 1982; Halle 1997), the distribution of *das* and *was* can be correctly described:

(30) a. das Buch, **das** du   liest
        the   book that you   read
     b. alles, **was**   du   liest
        all   what   you   read

- <u>(30a): RC is merged with a lexical noun</u>. Both vocabulary items are compatible with the insertion context (RP containing a valued gender feature). According to the Elsewhere Condition, however, the more specified exponent must be used ⇒ **insertion of *das***.

- <u>(30b): RC is merged with a determiner/quantifier (presumably of the category D)</u>. The RP does not receive a gender feature in the syntax; as a result, *das* does not match the insertion context since it requires the presence of valued gender features ⇒ **insertion of the pure operator marker *was***, which is underspecified for [gender].

- This analysis facilitates a unified treatment of different types of RCs, which all have in common that they that lack an appropriate (overt) nominal antecedent:

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[13] An argument in favor of the existence of a separate series of relative pronouns (specified for Op) comes from the observation that certain attributive genitive forms such as *deren* (genitive plural) are unambiguous relative markers, which cannot be used as demonstratives. Furthermore, both *das* and *was* are taken to be specified for [–obl], the feature shared by nominative and accusative. Note, however, that the situation is more complex, which perhaps suggests that *das* and *was* carry different case specifications. (i) below shows that *was* but not *das* is compatible with contexts where dative case is assigned by a preposition:

(i)   a. ein Ergebnis, mit   dem/*das   Peter zufrieden war
         a   result   with that.DAT/that Peter satisfied   was
      b. Ich frage mich,   mit   was Peter zufrieden   wäre.
         I   ask   myself with what Peter satisfied   would-be

However, *was* is not compatible with verbal dative (**Was vertraust du*? 'What do you trust?'). Possibly, this can be attributed to a visibility condition on oblique cases which *was* fails to satisfy (in cases such as (ib) one might assume that the visibility condition is fulfilled by the preposition, which can be analyzed as a phonological realization of oblique case, cf. e.g. Caha 2009).

❖ attributive *was*-relatives

❖ free relatives[14]

❖ continuative relative clauses ("weiterführende Relativsätze"), which modify a matrix event or proposition

❖ relative clauses referring to quote-like expressions (translations, in particular):

(31) a. [**Wer** wagt], gewinnt.
    who.NOM dares wins

   b. [**Was** der Mann auch anpackt], funktioniert.
    what the man ever tackles works
    'Whatever the man tackles, works.'
    (HAZ09/AUG.02148 Hannoversche Allgemeine, 14.08.2009;)

   c. [**Wem** das nicht passt], kann nach Hause gehen.
    who.DAT that not suits can to home go
    (HMP12/JUN.00623 Hamburger Morgenpost, 07.06.2012, S. 36; Claus "Bubu" Bubke "Hier bin ich das Gesetz" - Ex-Kult-Zeugwart ist jetzt der Herr der Kunstrasenplätze - Er schwärmt von Stani und trauert alten Zeiten nach)

(32) Wie bei allen anderen Mannschaftssportarten nahmen die Starken
    as with all other team sports took the strong
    Rücksicht auf die Schwächeren, [was den Spass für alle garantierte].
    regards for the weak what the fun for all guaranteed
    (St. Galler Tagblatt, 23.10.2009, S. 52; Goldener Herbst im Simmental)

(33) a. Von disciplina wird der Begriff discipulus hergeleitet,
    from disciplina is the notion discipulus derived
    was soviel wie Lehrling oder Schüler bedeutet.
    what so much as apprentice or pupil means
    (St. Galler Tagblatt, 18.02.2009, S. 36; Geschichte prägt die Disziplin)

   b. Hauptsache, die Stoffe sind flauschig weich und vermitteln ein Gefühl von «Wellness», **was** soviel bedeutet wie Wohlgefühl.
    (St. Galler Tagblatt, 17.09.1997, Ressort: TB-MOD (Abk.); Ein Modewinter)

   c. Wenn ein Fussballspieler das eigene Tor erwischt, so spricht der Romand von einem «autogoal», **was** soviel bedeutet wie das Deutschschweizer «Eigengoal».
    (St. Galler Tagblatt, 06.12.1997, Ressort: TB-INL (Abk.); Wenn die Sprache Brücken schlägt)

---

[14] In addition, there is a somewhat archaic alternative construction type where an apparent free relative is introduced by a d-pronoun as in (i)

   (i) [**Der** das sagt], muss es wissen.
    that.MASC.NOM that.NEUT says must it know
    'He who says so, must know it.'

Fuß & Grewendorf (2014) argue that d-free relatives exhibit a number of special properties that set them apart from wh-free relatives and suggest an analysis where a demonstrative pronoun is modified by a relative clause, leading to deletion of the relative pronoun under identity with the head element (an instance of syntactic haplology).

2.3.5 Some further consequences of the analysis: wh-forms vs. d-forms

- d-forms:

  (i) The insertion of d-forms is bound to the presence of a syntactic agreement relation between head noun and RP (valuation of [uGender]), which also serves to establish coreference between these two elements.

  (ii) Grammatical gender (non-interpretable, resulting from agreement)

- wh-forms:

  (i) *was* (and wh-forms more generally) is not dependent on a syntactic agreement relation with an antecedent (RP's content is not affected by feature valuation in the syntax).[15]

  (ii) Gender distinction has a semantic effect: The absence of an antecedent with specified gender (and number) features frees up wh-forms to code a semantic (as opposed to grammatical gender) difference, namely, the difference between persons (*wer*) and non-persons (*was*), just as in interrogatives (cf. Wiese 2013).

- Absence of valued [gender] at the interfaces – repair via insertion of default values:
  (a) At the interface to the morphological component, the absence of [gender] is interpreted as [neuter] (cf. e.g. Harley & Ritter 2002 for related considerations).
  (b) At the interface to the semantic component, the absence of [gender] is interpreted as [–animate/human].

3. Deadjectival nouns

- Duden grammar (2009: 1032):

  „Die Form *was* steht überwiegend bei Bezug auf substantivierte Adjektive mit Genus Neutrum [...]. Die Form *das* kommt ebenfalls vor."

  The form *was* 'what' prevails with reference to nominalized adjectives in the neuter gender [...]. The form *das* 'that' is also possible.

---

[15] Further evidence suggesting that the connection between relative *was* and its antecedent is less tight than between a d-form and its antecedent: *was* apparently can be construed with different kinds of antecedents, leading to systematic ambiguities (see also Holler 2005: 96):

(i) Adrian hat alles   gekauft, was Anton auch hat.
     Adrian has everyting bought   what Anton also has
       a. 'Anton has bought everything, too.' (reference to the matrix predicate/VP)
       b. 'Adrian has bought everything that Anton already owns.' (reference to *alles*)

(ii) Adrian will   in die Bretagne fahren, was Anton auch will.
     Adrian wants to the Brittany go   what Anton also wants
       a. 'Adrian wants to go to Brittany, and Anton also wants that Adrian goes to Brittany
           (reference to the matrix proposition/IP)
       b. 'Adrian wants to go to Brittany, and Anton wants to go to Brittany, too.'
           (reference to the matrix predicate/VP)

(34) «Denn nicht **das Gute, das** ich will, tue ich, sondern
    since not the good that I want do I but rather
    das Böse, das ich nicht will, das führe ich aus.» [...]
    the evil that I not want that carry I out
    Wenn wir ehrlich sind uns gegenüber, wissen wir alle,
    if we honest are us against know we all
    dass dieser Konflikt immer wieder in uns ist. Und dass es Kraft braucht,
    that this conflict always again in us is and that it strength requires
    Mut, trotz diesem Widerstreit all **das Gute, was** wir zustande bringen,
    courage despite this conflict all the good what we accomplish
    zu achten, zu verstärken.
    to heed to strengthen
    (Die Südostschweiz, 18.02.2006; «Gutmensch» - ein Unwort)

- Thus, deadjectival nouns apparently differ from both lexical nouns (⇒ *das*) and determiners/quantifiers (⇒ *was*).

- However, a corpus study carried out in the DeReKo (W-Gesamt, November 2014) shows that the situation is actually more complex. Three cases must be distinguished:

(35)   Distribution of *das/was* with deadjectival nouns (neuter singular):

    a. Elliptical readings ⇒ *das*

    b. (non-elliptical) nominalized positives (*das Gute* 'the good (one)') ⇒ *das* & *was*

    c. (non-elliptical) nominalized superlatives (*das Beste* 'the best'): ⇒ *was*

3.1 Elliptical readings ⇒ *das*

(36)   Das bisher bestehende <u>Kraftwerk</u> ist bekanntlich völlig überaltet [...]
    the yet existing power plant is as-is-known completely outdated
    Das neue, das Ende 1994 fertiggestellt sein soll,
    the new [one] that at the end-of 1994 completed be should
    wird nach dem neuesten Stand der Technik errichtet [...]
    will-be according to the latest state of technique built
    (Salzburger Nachrichten, 05.03.1993; Heizkraftwerk Nord 88 Mill. S teurer)

(37)   Trainer Roger Hegi hält sein <u>Team</u> für das **beste,**
    manager Roger Hegi considers his team for the best
    das er in St. Gallen bisher betreut hat.
    that he in St. Gallen so far supervised has
    (St. Galler Tagblatt, 12.02.1998, Ressort: TB-SPO (Abk.); Hohes Ziel mit Hegis bester Auswahl)

- <u>Analysis</u>: Again, the use of *das* is due to the presence of an elided lexical head noun (i.e., elliptical readings do not present relevant cases since the adjective does not undergo nominalization):

(38)   ... *Kraftwerk*... [*Das neue* ~~*Kraftwerk*~~ [_{SRel} *das* ...]]

3.2 Non-elliptical readings: nominalized positives

- Nominalized positives (non-elliptical readings): Variation between *das* and *was*:

(39) a. Aber auch ganz neue Ideen seien gerne willkommen und
but also entirely new ideas are with pleasure welcome and
oft sei es **das Neue, was** den Anstoß gebe, eingefahrene Fahrwasser
often is it the new what the impetus give habitual fairways
endlich zu verlassen.
finally to abandon
(RHZ97/JUL.03252 Rhein-Zeitung, 05.07.1997; Gute Ideen sind in der Tat gefragt)

    b. In vielen Ländern Afrikas - wie auch Osteuropas - sind alte,
in many countries of-Africa as also of-Eastern Europe are old
überkommene Ordnungen oder Unordnungen im Umbruch oder sogar
traditional orders or non-orders in change or even
gestürzt. **Das Neue, das** sich aus solchen Veränderungen ergeben
overthrown the new that REFL from such changes result
könnte, ist vielerorts allerdings noch nicht in Sicht.
could is in-many-places however not yet in sight
(T92/JUN.24015 die tageszeitung, 24.06.1992, S. 16; Zensur in der neuen Weltunordnung)

- A quantitative analysis shows that *das* is actually more frequent than *was* in this context:

	das	*was*
Gute(s) 'good'	490 (**74%**)	172 (**26%**)
Schöne(s) 'beautiful'	132 (**73.7%**)	47 (**26.3%**)
Neue(s) 'new'	502 (**74.2%**)	175 (**25.8%**)

Table 2: *das* vs. *was* with nominlized positives (non-elliptical readings)

3.3 Non-elliptical readings: nominalized superlatives

(40) Abschließend gibt Angela Merkel ihrer Überzeugung Ausdruck,
as a last point expresses Angela Merkel her conviction
„dass der Blick von oben auf die Erde **das Schönste** ist,
that the view from above of the earth the most-beautiful is
was es gibt".
what there exists
(Berliner Zeitung, 21.07.2006, Ressort: Blickpunkt; „Wie klappt's mit dem Schlafen?")

- Nominalized superlatives (non-elliptical readings): strong preference for relativization by means of *was* (see also Cutting 1902).

	das	*was*
Beste(s) 'best'	413 (**6.6%**)	5838 (**93.4%**)
Schönste(s) 'most beautiful'	86 (**9.9%**)	783 (**90.1%**)
Neueste(s) 'newest'	11 (**16.9%**)	54 (**83.1%**)

Table 3: *das* vs. *was* with nominlized superlatives (non-elliptical readings)

3.4 Semantic effects linked to the variation between *das*/*was*

- Observation: In connection with nominalized positives, the use of *das* as opposed to *was* gives rise to subtle semantic effects (Sanders 1879:279f., Cutting 1902, Curme 1922):

  ❖ The use of *das* has an individualizing/particularizing effect on the interpretation of the nominalized adjective.

  ❖ In contrast, the use of *was* has a generalizing effect, leading to an interpretation of the deadjectival nouns in terms of a general property, or a totality/collection of things:

(41)   Ich verzeihe ihm **das Böse**, **was**   er   mir zugefügt hat
       I   forgive   him the evil   what he me inflict   has
       und künftig   noch   zufügen wird, in dankbarer Erinnerung an
       and in-the-future as well inflict will in grateful   memory   of
       das eine Gute, **das** (welches) er mir früher   erwiesen hat.
       the   one good that (which) he me previously bestow has
       (Sanders 1879: 279)

   "Hier bezeichnet *das Böse* allgemein eine ganze Klasse, eine Gesammtheit von Unbilden = *alles (das) Böse* und daran schließt sich ganz richtig als Relativpron. das allgemeine *was*, dagegen ist *das eine Gute* eine bestimmte Wohlthat, auf die sich ganz richtig das vereinzelnde Relativpronomen *das* oder *welches* bezieht." (Sanders 1879: 279)
   'Here *das Böse* 'the evil' signifies a whole class in general, a totality of rigors = *alles (das) Böse* 'all (that) evil', which is entirely correctly followed by the generalizing *was* as relative pronoun. On the contrary, *das eine Gute* 'the single good (thing)' is a certain good deed, which the particularizing relative pronoun *das* or *welches* refers to in an entirely correct way.'

- Further evidence – the impact of *alles*: If a generalized reading is made explicit by adding the quantifying element *alles* 'all, every' to a nominalized postive, the rate of relativization by means of *was* increases significantly:[16]

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[16] Interestingly, a similar effect can be observed in connection with mass nouns, which usually require relativization by means of *das* (> 99%). However, in cases where the mass noun is modified by the universal quantifier *alles* (e.g., *alles Wasser*/*Geld* etc. 'all water/money' etc.) the frequency of *was* drops to 80%.

(42) Für den Mundart-Dichter verkörpern die Früchte **alles Gute, was**
for the dialect-poet   embody   the fruit   all   good what
einem im Leben so passieren kann. Denn Zwetschgen bedeuten Glückseligkeit.
to-one in life   so happen can since plums   mean   happiness
(NUN12/NOV.00444 Nürnberger Nachrichten, 05.11.2012, S. 37; Bald regnet es
Zwedschgä - Dialekt-Dichter Fitzgerald Kusz stellt seinen neuen Lyrikband vor)

	das	*was*
(das, vieles) Gute/Schöne/Neue	681 (**84.6%**)	124 (**15.4%**)
alles Gute/Schöne/Neue	96 (**56.5%**)	74 (**43.5%**)

Tabelle 4: Impact of *alles* 'all' on the relative frequency of *das* vs. *was* with nominalized positives (non-elliptical readings)

- 'Implied definiteness' and the use of *das*: As noted by Curme (1922: 199), the qualitative difference between *das* and *was* can be used by the speaker to achieve certain communicative effects:

  „It is possible that there is often here an intentional use of **das** or **welches** by way of differentiation, to refer to something definite, definite at least to the speaker. [...] We cannot, however, in many cases on account of the lack of clearness in the thought absolutely determine whether the **das** or **welches** is used merely as a survival of older usage to indicate a collective idea or something indefinite or general, or is employed intentionally in accordance with modern usage elsewhere, to refer to something definite."

4. Towards an analysis

- The general availability of the relativizer *was* in connection with deadjectival nouns suggests that at least in German, relevant forms do not involve the presence of a silent noun (*pace* Kester 1996a,b, Panagiotidis 2002, Matushansky 2008, among others). Otherwise, we would expect obligatory insertion of *das*, contrary to facts. This is partially clear in the case of superlatives, where *was* emerges as the clearly preferred choice.

- Proposal: Relevant deadjectival forms are nominalizations formed by adding a category-defining nominal head to an adjectival structure (cf. e.g. Sleeman 2013, Alexiadou 2011, 2015, Alexiadou & Iordăchioaia 2014).

- Background: Word formation in Distributed Morphology (Marantz 1997, 2001, 2007; Arad 2005; Embick 2010): 'Lexical' categories are decomposed into a category neutral atomic root and a category defining functional head:

(43) a. 'N' = *n*   b. 'V' = *v*   c. 'A' = *a*

√DOG   *n*   √SEE   *v*   √NEW   *a*
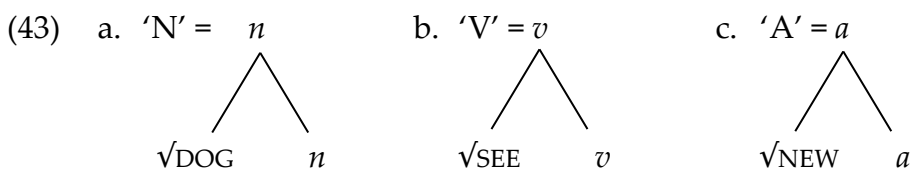
- Nominalizations: Category defining head *n* is added to internally complex words:

(44)

```
              n
            /    \
      {v, n, a}    n
        /  \
   √ROOT   {v, n, a}
```
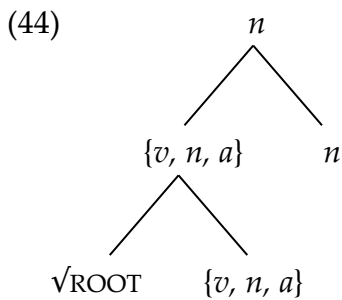
- Word formation from roots: potentially idiosyncratic/non-predictable lexical meaning, semi-productive (lexical gaps);
- Word-formation from words: meaning is compositionally derived from the meaning of the pieces put together; fully productive.

- ***Some remarks on gender...***
- Recall: Inherent/lexical gender features are the defining property of lexical nouns.
- Lexical gender on nouns results from the combination of category defining (functional) head (*n*) with a lexical root (√), cf. e.g. Lowenstamm (2007, 2012): In (45), *n*'s (non-interpretable) gender feature is valued/licensed under Agree with the lexical root.

(45)

```
                 nP
               /    \
    n[uGENDER]      √[GENDER]
```
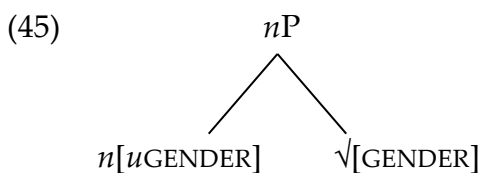
- Recall: Gender is interpretable on deadjectival nouns (conversions): masc./fem. forms refer to persons, while neuter forms refer to abstract/–animate entities (similar to wh-words).
- Proposal/word formation from words: If not merged directly with a root, a category defining functional head (*n*, possibly D) may host **interpretable** gender features (cf. Picallo 2008, Lowenstamm 2012 for related proposals)

4.1 Nominalized positives

- Recall: Deadjectival nouns (conversions) exhibit nominal as well as adjectival properties.
- Basic idea: 'Mixed' categorial properties result from the availability of different nominalization strategies that give rise to different degrees of 'nouniness' (Ross 1973)
  ⇒ **Variation between *das* and *was***
- Two syntactic strategies to derive deadjectival nouns (Alexiadou & Iordăchioaia 2014):
  (i) Merging *n* to an adjectival structure (trad. called morphological conversion);
  (ii) Merging D to an adjectival structure (trad. called syntactic conversion).

- <u>Nominalization via *n*</u>: External and internal syntax of nominals (adjectival modification, lexical gender features, individuation/plural possible, relativization by means of **das**)

- <u>Nominalization via D</u>: External syntax of nominals, but internal syntax of adjectives (adverbial modification, strong/weak inflection, no lexical gender features, no individuation/plural, relativization by means of **was**)

- <u>Problems</u>:
  i. Adjectival modification should co-occur with d-relatives, while adverbial modification should pair with wh-relatives – **not borne out by the facts** (a corpus study shows that there is no clear link between pronoun choice and type of modification):

(46) Wieder ist es das **vermeintlich ganz   Neue, das** heute entsteht,
      again it is the allegedly   wholly new   that today arises
      und wieder wird es von barbarisierenden Tendenzen begleitet.
      and again is   it by barbarizing   tendencies accompanied
      (Die Presse, 14.08.1998, Ressort: Spectrum; Neue alte Welt)

(47) Da   begann ich zu spielen. Das war   das **einzige Schöne,**
      then began I   to play   that was the only-ADJ beautiful (thing)
      was ich damals   erlebte.
      what I   at that time experienced
      (Neue Kronen-Zeitung, 31.03.2000, S. 22; Für geheime Leidenschaft fünf Millionen Schilling unterschlagen)

  ii. Deadjectival nouns may appear with both adjectival and adverbial modifiers at the same time:[17]

(48) Die Personalnachrichten dazu   waren denn auch das **einzige   wirklich Neue,**
      the staff news   to-that were PRT PRT   the only.ADJ real.ADV new thing
      was Daniel Rossellat, Verantwortlicher   für die Expo-Ereignisse, bekanntgeben
      what D.   R.   the one responsible for the Expo-events   announce
      konnte:
      could
      (Neue Zürcher Zeitung, 16.05.2000, S. 13; Zwischenbilanz mit optimistischem Grundtenor /Rochaix und Marthaler gestalten Expo-Ereignisse)

- Examples like (48), where the adverbial modifier is preceded by an adjectival form, are particularly problematic, since they should correspond to an (arguably imposssible) structure, where a lower DP (linked to adverbial modification) is embedded under a higher *n*P (linked to adjectival modification):

---

[17] The opposite order, where the adverbial precedes the adjective (*das einzig wirkliche Neue* 'the only.ADV real-ADJ new thing') should be ok from a theoretical perspective (the adverbial can be taken to modify the adjective, which in in turn modifies the nominalized adjective), but sounds decidedly odd to me (and seems to be very rare in the corpus).

(49)　[$_n$P *einzige* [$_{n'}$ n [$_{DP}$ D [$_a$P *wirklich Neue*]]]]

- <u>Alternative proposal</u>: Nominalization via a category defining head $n_{conversion}$; presence of adverbial modification depends on whether $n_{conversion}$ is merged with an aP that contains an adverbial modifier (i.e., there is no direct link between pronoun choice in relatives and type of modification):

(50)　[$_n$P *einzige* [$_{n'}$ n [$_a$P *wirklich Neue*]]]

- <u>Variation between *das/was*</u>: Two sources for neuter gender on $n_{conversion}$:[18]

  (i)　Gender features ([–masc./–fem.]) are added pre-syntactically to n ($n_{conversion[+GENDER]}$)

  (ii)　Gender features ([–masc./–fem.]) are added post-syntactically to n (($n_{conversion[–GENDER]}$, repair via insertion of default feature values)

- <u>Both options lead to neuter gender at the surface, but...</u>

  (i)　$\underline{n_{conversion[+GENDER]}}$: the gender features on n are present throughout the syntactic derivation and can be accessed by an agreement relation between the relative pronoun and $n_{conversion}$ heading the deadjectival noun ⇒ **relativization by means of *das***

  (i)　$\underline{n_{conversion[–GENDER]}}$: $n_{conversion}$ lacks gender features in the syntax. Therefore, the relative pronoun cannot pick-up gender features in the course of the derivation ⇒ **insertion of the underspecified default relativizer *was***[19]

---

[18]　Similar to wh-words, the gender features of $n_{conversion}$ are interpretable and encode the distinction [±person]:

　(i)　$n_{conversion}$: gender specifications and referential properties
　　　a.　[masc./fem.] → person
　　　b.　else → abstract/non-animate entity

[19]　Note that this approach possibly provides a basis for explaining the observation that the use of a *das*-relative has an individualizing/particularing effect on the interpretation of the deadjectival head noun, if two further assumptions are made: (i) The difference between count and mass nouns is to be attributed to additional functional structure that is present with count nouns, that is, ClassP (Borer 2005), which is linked to individuation. (ii) ClassP requires the presence of gender features on n. This set of assumptions provides a link between relativization by means of *das* and individuated readings of deadjectival nouns, in the sense that only deadjectival nouns derived by n[+gender] (which trigger *d*-relatives) can acquire individuated readings via addition of ClassP (see also Alexiadou 2015).
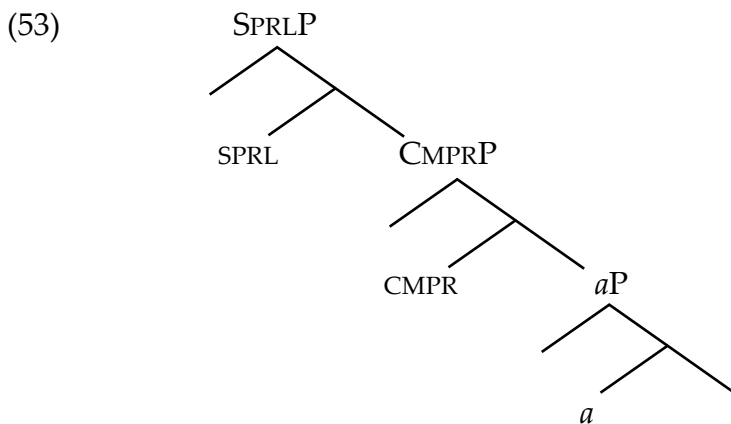
4.2 Nominalized superlatives

- <u>General consideration</u>: Superlatives contain more functional structure characeristic of adjectives and are therefore less 'nominal' than nominalized positives (note that presence of superlative morphology is often taken to be a defining trait of adjectives).

- <u>Theoretical proposal</u>: The use of *was* in connection with superlatives is to be attributed to the presence of a universal quantifier in the internal structure of superlatives (recall that *alles* 'all' (almost) obligatorily selects *was* as a relativizer).

- The meaning of a superlative can be described as follows (cf. e.g. Bobaljik 2012):

(51)   more X than all others (X = a property)

- According to Bobaljik (2012: 5), the complex meaning expressed by (51) must be split into a component meaning 'more' (= a comparative head) and a component meaning (roughly) 'than all (others)' (= a 'superlative' head). The latter provides a standard of comparison containing a universal quantifier:[20]

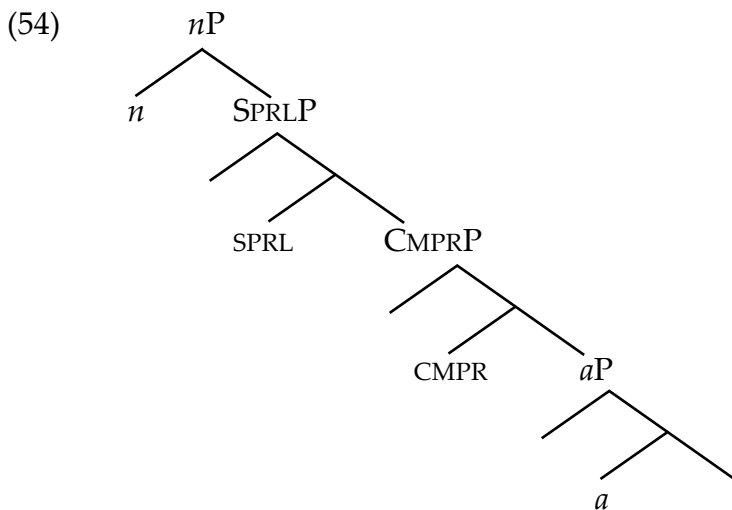(52)   superlative = comparative ('more than') + all (others)

- These two pieces of meaning correspond to a syntactic structure where the superlative head necessarily embeds the comparative (which in turn embeds an adjectival category):

(53)

- Relevant nominalizations are formed by adding a category-defining *n* head:

---

[20] In languages like Russian, this meaning is transparently coded in the syntax (Bobaljik 2012: 61):

(i)   positive: xoroš-ij   comparative: luč-še   superlative: luč-še   vse-go/-x
          good-MASK.SG   better-CMPR   better-CMPR all-GEN.SG/-GEN.PL

(54)

```
          nP
        /    \
       n     SPRLP
            /    \
         SPRL   CMPRP
               /    \
            CMPR    aP
                   /  \
                  a
```

- Preference for *was* in connection with nominalized superlatives: The relative clause modifies the universal quantifier, which is located in the superlative category:

(55) das Beste, was   ich kenne = 'etwas, das besser ist als [alles (andere), [**was** ich kenne]]'
     the best   what I   know   'some X which is better than all (others) that I know'

- In (55), the relative clause provides the lexical restriction for the universal quantifier.
- Question: Why must the relative clause attach to the universal quantifier (and not to the higher *n*P/DP)?
- Tentative answer: Higher attachment (to *n*P or DP) does not yield the correct interpretation.
- In examples like 'the best that I know', the relative clause does not serve to single out a 'best thing' from a set of other best things, but rather identifies a best element (i.e., the element which exhibits a certain property to the highest degree) in a set of elements defined/delimited by the (predicate expressed by the) relative clause:[21]

(56)   Of all things that I know, X is the best.

---

[21] Note that this analysis does not predict that [+masc]/[+fem] nominalizations such as *der Beste* 'the best.MASC' trigger relativization by means of wh-forms:
   (i)   *der Beste*, **den** *ich kenne*
       'the best.MASC that I know'
In cases like (i), the lexical restriction of the unversal quantifier is furnished by the feature [+person] on the deadjectival noun. Accordingly, examples like (i) can be paraphrased as in (ii). Note as well that the most nearby natural language paraphrase of (ii) in German contains the masculine singular quantifier *jeder* 'each person' which obligatory triggers relativization by means of d-pronouns.
   (ii)   Of all persons that I know, X is the best

5. Concluding summary

- The alternation between the relativizers *das* and *was* reflects categorial properties of the antecedent of the relative clause (Brandt & Fuß 2014):
  - ❖ *das* is inserted in the presence of a lexical head noun (characterized by specified gender features on *n*)
  - ❖ *was* is the underspecified elsewere case
- As a result, wh-relativizers are confined to contexts where the head acquires its gender specification via a post-syntactic repair (insertion of default values: neuter singular).
- Certain indefinites and quantifiers (e.g. *jedes* 'each', *keines* 'none') require the presence of an empty noun (a case of ellipsis) and therefore select ***das***.
- <u>Deadjectival nouns</u>:
  - ❖ Cases of noun ellipsis: ***das***
  - ❖ Nominalized positives allow both ***das*** and ***was***. The distinction between d- and wh-morphology can be used to express subtle semantic distinctions (e.g. individuation).
  - ❖ Nominalized superlatives select ***was***.
- The relativization facts provide an argument against analyses that posit the presence of a silent nominal head for deadjectival nouns.
- The different behavior of positives and superlatives w.r.t. relativization follow from structural differences in the internal make-up of the relevant nominalization structures:
  - ❖ <u>Nominalized positives</u>: two sources for neuter gender on $n_{conversion}$:
    - ○ pre-syntactic insertion of gender features ⇒ ***das***
    - ○ post-syntactic insertion of gender features ⇒ ***was***
  - ❖ <u>Nominalized superlatives</u>: relative clause provides lexical restriction for universal quantifier linked to the category SUPERLATIVE ('more than all (others)') – relativization facts in superlatives can be reduced to the behavior of *alles* 'every, all', which obligatorily triggers relativization by means of *was*.

6. Further issues

6.1 Pronoun choice in cleft sentences

- As is expected, pseudo-clefts are introduced by a wh-pronoun (traditionally, the wh-clause is analyzed as a free relative):

(57) Was ich gekauft habe, war ein Buch.
      what I bought have was a book

- <u>*it*-clefts</u>: If the focus/matrix predicate is a full (neuter) noun phrase, the backgrounded part of a cleft sentence (traditionally analyzed as a relative clause) is introduced by a d-pronoun:

(58) Das Buch ist es, das den Menschen die Kenntnis der Religion
the book is it that the men the knowledge of-the religion
ebenso wie jene des Rechnungswesens vermittelt.
as well as that of-the accountancy teaches
(http://www.deutschlandfunk.de/eine-reise-durch-fremde-
welten.700.de.html?dram:article_id=83424, 10.06.2016)

- However, if the focus/predicate is a neuter d-pronoun, the backgrounded part is introduced by *was* (similar to 'normal' restrictive relatives clauses):

(59) Das ist es, was/??das ich will.
that is it what/that I want

- Interestingly, if the matrix part is turned into a question (with the wh-pronoun *was* as the focus/predicate), a d-relativizer is the preferred option (an instance of morphosyntactic haplology?).[22]

(60) Was ist es, das/?was du willst?
what is it that/what you want

6.2 The restriction to *was*

- The use of wh-pronouns in RCs is subject to a curious restriction: Only the neuter form *was* can be used as a substitute for d-type relative pronouns, while non-neuter wh-forms (which signal case distinctions more clearly) are generally absent in restrictive RCs, even in cases that seem to lack a lexical head noun:

(61) a. der/jeder/keiner, der/*wer das liest
the one/each.MASC/none.MASC that.MASC.NOM/who.NOM that reads

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[22] There is an interesting contrast between *das*, *was* and *welches* 'which'. While *welches* patterns with *das* in standard relative clauses, the use of *welches* in clefts with *das/was* as focus/predicate seems to give rise to marked results:

(i) a. ??Das ist es, welches ich will.
that is it which I want
b. ??Was ist es, welches du willst?
what is it which you want

This is expected for (ia), where *was* is the preferred choice, but comes as a surprise in contexts like (ib) where a d-form is normally used (note that this fact raises an issue for an analysis in terms of haplology). In historical stages of German (18th/19th century), *welches* seems to be more frequent in these contexts:

(ii) sich selber werden, **das ist es, welches** stirbt und immer wieder vergeht.
REFL self become that is it which dies and again and again passes away
(Gotthilf Heinrich von Schubert, 1839)

(iii) **Was ist es, welches** ihn darzu leitet?
what is it which him to-that leads
(Bernard de Mandeville, Anti-Shaftesbury oder die Entlarvte Eitelkeit der Selbstliebe
und Ruhmsucht, 1761 (translated by Just German von Freystein))

b. der/jeder/keiner,   den/*wen   du   kennst
   the one/each.MASC/none.MASC   that.MASC.ACC/who.ACC   you   know

c. der/jeder/keiner,   dem/*wem   du   vertraust
   the one/each.MASC/none.MASC   that.MASC.DAT/who.DAT   you   trust

d. die/jede/keine,   die/*wer   das   liest
   the one/each.FEM/none.FEM   that.FEM.NOM/who.NOM   that   reads

- This restriction is at first sight unexpected.

- <u>Possible solution</u>: elided nouns again...

- Above we have argued that there are good reasons to believe that in cases like (61) there is in fact a nominal head available that enters into an agreement relation with the relative pronoun.

- In support, note that quantifiers, similar to determiners and adjectives, agree in gender and number with their head noun:

(62)   a.   jeder   Mann
           every-MASC.SG   man.MASC.SG

     b.   jede   Frau
           every-FEM.SG   woman.FEM.SG

     c.   jedes   Pferd
           every-NEUT.SG   horse.NEUT.SG

- These facts suggest that quantifiers, again similar to determiners and adjectives, do not possess any gender and number features of their own, but always receive relevant phi-specifications as a result of DP-internal concord with a lexical noun.

The presence of non-neuter inflectional features on a quantifier always implies the presence of a (possibly silent) lexical noun that acts as the actual head of the RC:

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(63)   [DP *der (Einzige)/jeder/keiner* [NP N̶ [+MASC, -PL] [CPRel [DP DPRel [+MASC, -PL]]i ... ti ...]]]

- As a result, the gender feature of the RP can always be identified with the gender feature of the (silent) head noun, leading to the insertion of d-type relative pronouns.

- <u>A related question</u>: What is the source of neuter gender in quantifiers such as *alles*, which require *was*-relatives?

- <u>Recall</u>: In these cases, the RC merges directly with the D-element (leading to wh-morphology since the RP cannot pick up a gender feature):

(64)   [DP *alles* [CPRel [DP DPRel]i ... ti ...]]]]

- When a determiner fails to acquire gender features from a lexical noun as in (64), the resulting absence of gender specifications is automatically interpreted as neuter at the interfaces to the post-syntactic computation.[23]

Correlation between neuter gender and the availability of wh-pronouns: wh-pronouns are only possible in cases where the RC is directly merged with a head lacking inherent gender features. Due to the lack of a lexical head noun, the gender features of the D-element and the relative pronoun are identified with neuter gender by default (a postsyntactic repair operation).

6.3 Dative case on the relative pronoun

- Observation: If the relative pronoun is assigned dative in the relative clause, it can no longer be spelled out by *was*. Instead, the dative d-form *dem* must be used:[24]

(65) „Bush kennt die roten Linien und macht **nichts, dem**   ich nicht zustimme",
       Bush knows the red   lines and does   nothing that-DAT I   not   agree-with
      verrät Olmert   der „Jerusalem   Post".
      tells   Olmert   the Jerusalem   Post
      (BRZ08/JAN.03547 Braunschweiger Zeitung, 09.01.2008; Lobeshymnen auf den besten Freund)

(66) Denn fast **alles, dem** die King's Singers auf ihrer Reise begegneten, wurde unter ihren Stimmen zum Kunstschatz und zum einschneidenden Erlebnis.
      (B97/OKT.02543 Berliner Zeitung, 17.10.1997; Sechs englische Sänger Die King's Singers sangen in der Philharmonie [S. 16])

(67) Differenziert äußerte sich die grüne Klubobfrau Madeleine Petrovic: "Einige Aspekte sind positiv, es gibt aber **vieles, dem** wir nicht zustimmen können."
      (P92/DEZ.38294 Die Presse, 19.12.1992; Umstrittenes Gewerberecht)

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[23] However, note that wh-pronouns introducing a free relative lack a nominal antecedent and thus cannot receive any phi-values from the immediate syntactic context. This suggests that the wh-pronoun enters the derivation with a fully specified phi-set (with the exception of case), similar to wh-interrogative pronouns. This seems to suggest that (relative) wh-pronouns differ generally from d-pronouns in that only the former carry an inherent gender specification. Alternatively, we may assume that both types of pronoun carry a gender specification, leading to a slight revision of the above analysis in that gender is now treated on par with number (i.e., phi-agreement between the head noun and RP does not value gender and number features, but rather checks whether the respective values are compatible). I leave this issue open for future research.

[24] A similar phenomenon can be observed in connection with genitival relative pronouns. However, it seems that in this case, *wessen* 'wh-genitive' is at least marginally possible (3 examples vs. 21 examples with *dessen* 'd-genitive'; DeReKo, W-gesamt, 12.11.2014):

   (i)   Im Wald treibt ein böser Zwerg sein Unwesen. Er stiehlt **alles, dessen** er habhaft werden kann.
        (M03/OKT.66020 Mannheimer Morgen, 08.10.2003; Märchenhaftes im Parktheater)

   (ii) Ich kann dich nicht dafür bestrafen. Du hast meine Worte nicht respektiert; ich verachte dich, das ist **alles, wessen** ich noch fähig bin.«
        (LES/DMS.00000 S. Lenz: Duell mit dem Schatten. Roman, (Erstv. 1953), In: Werkausgabe in Einzelbänden, Bd. 2. - Hamburg, 1996 [S. 25])

- Examples such as (65)-(67) are judged as marked by some speakers; however, they are the only possible variant, since *was* is incompatible with (verbal) dative (vgl. **alles, was ich zustimme* 'everything I agree to').[25,26]

- Above, I have assumed that *was* is incompatible with oblique case ([op, –obl]). As a result, it cannot be used when the relative pronoun is assigned dative. This situation leads to a dilemma:

    (i) wh-forms cannot be inserted (*was* is incompatible with dative, *wem* requires a [+human antecedent])

    (ii) d-forms cannot be inserted either (no lexical head noun that may provide gender features)

- <u>Speculation</u>: Upon Vocabulary Insertion, this conflict is resolved by inserting the 'more optimal' candidate *dem*, which satisfies an additional visibility condition for oblique case (another instance of post-syntactic repair).

References

Alexiadou, Artemis. 2011. Adjectival nominalizations: qualities and properties. Paper presented at the *Workshop on Nounhood and Adjectivehood*, Barcelona, March 23-24th 2011.

Alexiadou, Artemis. 2015. Encoding properties: The case of English 'nominalized' adjectives. Paper presented at *Roots IV*, NYU, June 29, 2015.

Alexiadou, Artemis & Gianina Iordăchioaia. 2014. Two syntactic strategies to derive deadjectival nominals. *Acta Universitatis Wratislaviensis* 3585, *Anglica Wratslaviensia* LII: 67-85.

Arad, Maya. 2005. *Roots and Patterns: Hebrew Morphosyntax*. Dordrecht: Springer.

Baker, Mark C. 2003. *Lexical Categories: Verbs, Nouns, and Adjectives*. Cambridge: Cambridge University Press.

Bayer, Josef & Eleonore Brandner. 2008. On wh-head-movement and the doubly-filled-comp filter. In Charles B. Chang & Hannah J. Haynie (eds.), *Proceedings of the 26th West Coast Conference on Formal Linguistics*, 87-95. Somerville: Cascadilla Proceedings Project.

Behaghel, Otto. 1923. *Deutsche Syntax. Eine geschichtliche Darstellung. Band I: Die Wortklassen und Wortformen*. Heidelberg: Carl Winter.

Behaghel, Otto. 1928, *Deutsche Syntax. Eine geschichtliche Darstellung. Band 3: Die Satzgebilde*. Heidelberg: C. Winter.

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[25] For some speakers, relevant examples improve when the head element is a dative as well:

    (i)   a.   ?alles,   dem   ich   zustimme
            everything-NOM/ACC   that-DAT   I   agree-to
        b.   allem,   dem   ich   zustimme
            everything-DAT   that-DAT   I   agree-to

[26] Note that the dative wh-form *wem* is equally impossible in these contexts since it is reserved for [+animate/human] antecedents (possibly because of an inherent gender specification).

Benveniste, Emile. 1950. La phrase nominale. *Bulletin de la Societé Linguistique de Paris*, 46, 19–36.

Benveniste, Emile. 1966. *Problèmes de linguistique générale*. Paris: Editions Gallimard.

Bierwisch, Manfred. 1967. Syntactic features in morphology: general problems of so-called pronominal inflection in German. In: *To Honor Roman Jakobson: Essays on the Occasion of His Seventieth Birthday*, 239–270. The Hague: Mouton.

Blevins, James P. 1995. Syncretism and Paradigmatic Opposition. *Linguistics and Philosophy 18*, 113–152.

Bobaljik, Jonathan, 2012. *Universals in Comparative Morphology*. Cambridge, MA: The MIT Press.

Bock, Karl Nielsen. 1933. *Niederdeutsch auf dänischem Substrat. Studien zur Dialektgeographie Südostschleswigs*. Kopenhagen/Marburg.

Boef, Eefje. 2012. *Doubling in Relative Clauses. Aspects of Morphosyntactic Microvariation in Dutch*. Utrecht: LOT.

Borer, Hagit. 2005. *In Name Only*. [Vol. 1 of *Structuring Sense*]. Oxford: Oxford University Press.

Brandt, Patrick & Eric Fuß. 2014. Most questionable pronouns: Variation between *das-* vs. *was*-relatives in German. *Linguistische Berichte* 239, 297–329.

Brandt, Patrick & Eric Fuß. 2015. Relativpronomenselektion und grammatische Variation: *was* vs. *das* in attributiven Relativsätzen. Ms., IDS Mannheim.

Broekhuis, Hans & Evelien Keizer. 2012. *Syntax of Dutch. Nouns and Noun Phrases. Volume 1*. Amsterdam: Amsterdam University Press.

Caha, Pavel. 2009. The nanosyntax of case. PhD Dissertation, University of Tromsø.

Chomsky, Noam. 1965. *Aspects of the Theory of Syntax*. Cambridge, Mass.: The MIT Press.

Chomsky, Noam. 2000. Minimalist inquiries: the framework. In: R. Martin, D. Michaels & J. Uriagereka (eds.), *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, 89–155. Cambridge, Mass.: MIT Press.

Citko, Barbara. 2004. On headed, headless, and light-headed relatives. *Natural Language and Linguistic Theory* 22, 95-126.

Curme, George O. 1922. *A Grammar of the German Language. Second revised edition.* [Ninth printing 1964]. New York: Ungar.

Cutting, Starr Willard. 1902. Concerning the Modern German relatives, „das" and „was", in clauses dependent upon substantivized adjectives. *The Decennial Publications of the University of Chicago*, Vol. VII, 113–131. Chicago: The University of Chicago Press.

Dudenredaktion (Hg.). 2009. *Duden: Die Grammatik*. 8. Auflage. Mannheim/Leipzig/Wien/Zürich: Dudenverlag.

Embick, David & Alec Marantz. 2008. Architecture and Blocking. *Linguistic Inquiry* 39:1, 1–53.

Embick, David. & Rolf Noyer. 2001. Movement operations after syntax. *Linguistic Inquiry* 32, 555–595.

Embick, David. 2010. *Localism versus Globalism in Morphology and Phonology*. Cambridge, MA: The MIT Press.

Fleischer, Jürg. 2005. Relativsätze in den Dialekten des Deutschen: Vergleich und Typologie. *Linguistik Online* 24, 171-186.

Fuß, Eric & Günther Grewendorf. 2014. Freie Relativsätze mit d-Pronomen. *Zeitschrift für Sprachwissenschaft* 33.2, 165-214.

Grewendorf, Günther. 2012. Wh-movement as topic movement. In: Laura Brugé, Anna Cardinaletti, Giuliana Giusti, Nicola Munaro & Cecilia Poletto (eds.), *Functional Heads: The Cartography of Syntactic Structures, vol. 7*, 55-68. Oxford: Oxford University Press.

Hachem, Mirjam. 2013. D- and w-pronouns in the left periphery of German and Dutch relative clauses. Paper presented at the *Relative Clause Workshop*. Konstanz University. 26.04.2013.

Halle, Morris & Alec Marantz. 1993. Distributed Morphology and the pieces of inflection. In Kenneth Hale & Samuel J. Keyser (eds.), *The View from Building 20*, 111-176. Cambridge: The MIT Press.

Halle, Morris. 1997. Distributed Morphology: Impoverishment and Fission. In: B. Bruening, Y. Kang, and M. McGinnis (eds.), *MIT Working Papers in Linguistics 30: PF: Papers At the Interface*, 425-450. Cambridge, Mass.: Department of Linguistics and Philosophy, MIT.

Harley, Heidi & Elizabeth Ritter. 2002. Structuring the bundle: A universal morphosyntactic feature geometry. In: Horst J. Simon & Heike Wiese (eds.). *Pronouns – grammar and representation*. Amsterdam: John Benjamins, 23-39.

Heck, Fabian & Juan Cuartero. 2011. Long distance agreement in relative clauses. In: A. Alexiadou, T. Kiss & G. Müller (eds.), *Local Modelling of Non-Local Dependencies in Syntax*, 49–83. Berlin: de Gruyter.

Holler, Anke. 2005. *Weiterführende Relativsätze. Empirische und theoretische Aspekte*. Berlin: Akademie Verlag.

Jakobson, Roman. 1936 [1971]. Beitrag zur allgemeinen Kasuslehre: Gesamtbedeutung der russischen Kasus. Reprinted in: *Selected Writings* (vol. II: *Word and Language*). The Hague: Mouton (originally in *Travaux du Cercle Linguistique de Prague* VI, 240-299).

Kester, Ellen-Petra. 1996a. The nature of adjectival Inflection. PhD dissertation, Utrecht University.

Kester, Ellen-Petra. 1996b. Adjectival inflection and the licensing of empty categories in DP. *Journal of Linguistics* 32(1), 57-78.

Kiparsky, Paul. 1973. 'Elsewhere' in phonology. In: , S. Anderson & P. Kiparsky (eds.), *A Festschrift for Morris Halle*, 93-106. New York: Holt, Rinehart and Winston.

Kiparsky, Paul. 1982. Word-formation and the lexicon. In: F. Ingemann (ed.), *Proceedings of the 1982 Mid-America Linguistics Conference*, University of Kansas.

Lowenstamm, Jean. 2007. On little n, ROOT, and types of nouns. In Jutta Hartmann, Veronika Hegedus, Henk van Riemsdijk (eds.), *The Sounds of Silence: Empty Elements in Syntax and Phonology*, 105-144. Amsterdam: Elsevier.

Lowenstamm, Jean. 2012. Feminine and Gender, or Why the feminine profile of French nouns has nothing to do with gender. In: Eugeniusz Cyran, Henryk Kardela, and Bogdan Szymanek (eds.), *Linguistic Inspirations. Edmund Gussmann in memoriam*, 371-406. Lublin: Wydawnictwo Katolicki Uniwersytet Lubelski.

Marantz, Alec. 1997. No escape from syntax: Don't try a morphological analysis in the privacy of your own lexicon. In: A. Dimitriadis, L. Siegel, C. Surek-Clark & A.

Williams (Hg.), *University of Pennsylvania Working Papers in Linguistics, vol. 4.2, Proceedings of the 21st Annual Penn Linguistics Colloquium*, 201–225.

Marantz, Alec. 2001. Words. Ms., MIT.

Marantz, Alec. 2007. Phases and words. In: S. H. Choe et al. (Hg.), *Phases in the Theory of Grammar*, Seoul: Dong In.

Matushansky, Ora. 2008. On the attributive nature of superlatives. *Syntax* 11.1, 26–90.

McNally, Louise and Henriëtte de Swart. 2015. Reference to and via properties: the view from Dutch. *Linguistics and Philosophy* 38.4, 315-362.

Panagiotidis, E. Phoevos. 2002. *Pronouns, Clitics and Empty Nouns. 'Pronominality' and Licensing in Syntax*. Amsterdam: John Benjamins.

Paul, Hermann. 1919. *Deutsche Grammatik, Band III, Teil IV: Syntax*. Halle: Max Niemeyer.

Paul, Hermann. 1920. *Deutsche Grammatik, Band IV: Syntax*. Halle: Max Niemeyer.

Picallo, M. Carme. 2008. Gender and number in Romance. *Lingue e linguaggio* VII (1): 47–66.

Pirk, Kurt. 1928. *Grammatik der Lauenburger Mundart. Ein Beitrag zur niederdeutschen Sprache in Ostpommern*. Greifswald.

Platzack, Christer. 2000 A complement-of-N account of restrictive and non-restrictive relatives: The case of Swedish. In: A. Alexiadou, P. Law, A. Meinunger & C. Wilder (Hg.), *The Syntax of Relative Clauses*, 265–308. Amsterdam: John Benjamins.

Ross, John R. 1973. Nouniness. In: O. Fujimura (Hg.), *Three Dimensions of Linguistic Research*, 137–257. Tokyo: TEC Company Ltd.

Sleeman, Petra. 2013. Deadjectival human nouns: conversion, nominal ellipsis, or mixed category? *Linguística: revista de estudos linguísticos da Universidade do Porto*, 8, 159 -180.

Sauerland, Uli. 1998. The meaning of chains. PhD. Doctoral dissertation, MIT.

Sauerland, Uli. 2003. Unpronounced heads in relative clauses. In: Kerstin Schwabe & Susanne Winkler (eds.), *The Interfaces: Deriving and Interpreting Omitted Structures*, 225-226. Amsterdam: Benjamins.

Sternefeld, Wolfgang. 2008. *Syntax. Eine morphologisch motivierte generative Beschreibung des Deutschen, Band 1*. Tübingen: Stauffenberg.

Weise, Oskar. 1917. Die Relativpronomina in den deutschen Mundarten. *Zeitschrift für deutsche Mundarten*, 64–71.

Wiese, Bernd. 1999. Unterspezfizierte Paradigmen. Form und Funktion in der pronominalen Deklination. *Linguistik Online* 4 (http://www.linguistik-online.de/3_99)

Wiese, Bernd. 2013. Relativpronomina: Flexion und Wortfelder. Ms., IDS Mannheim.

Wiesenhann, Tjabe. 1936. *Einführung in das ostfriesische Niederdeutsch*. Leer.

Wiltschko, Martina. 1998. On the internal and external syntax and semantics of (relative) pronouns. *Journal of Comparative Germanic Linguistics 2*, 143–181.

Zeijlstra, Hedde. 2012. There is only one way to agree. *The Linguistic Review* 29, 491–539.

Zeijlstra, Hedde. 2013. Upward Agree is superior. Ms., Unversity of Amsterdam.