

A corpus-based analysis of pronoun choice in German relative clauses

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1. Introduction

- 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):¹
- (1)
- 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
- Certain (neuter singular) antecedents trigger relativization by means of the wh-pronoun *was* (cf. e.g. Duden 2009:1031f.; see Citko 2004 on light-headed relatives in Polish; Boef 2012, and Broekhuis & Keizer 2012 on *wat* in Dutch):
- (2)
- a. **indefinites/quantifiers**: *alles* ‘everything’, *eines* ‘one thing’, *vieles* ‘many things’ ...
 - b. **demonstratives**: *das* ‘that’, *dasjenige* ‘that thing’, *dem* ‘that.DAT’, ...
 - c. **deadjectival nouns (conversions)**: *das Gute* ‘the good (thing)’, *das Beste* ‘the best’ etc.
- (3)
- 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)

¹ 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.

- Questions/problems:
 - ❖ Must the alternation between *das* and *was* be described in terms of a list of exceptions (cf. Duden 2009: 1031f.), or is it possible to identify a property or rule that unifies the contexts in (2)?
 - ❖ Elements that trigger relativization by means of *was* do not behave uniformly with respect to pronoun choice – for example, **deadjectival nouns** and elements like *etwas* ‘something’ tolerate both *das*- and *was*-relatives and thus differ from both lexical nouns (⇒ *das*) and determiners/quantifiers (⇒ *was*):

- (4) 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
(SOZ06/FEB.03769 Die Südschweiz, 18.02.2006; «Gutmensch» - ein Unwort)

- (5) Menschen, die einen Vortrag hören, wollen später etwas mit nach Hause
people who a talk listen-to want later something to home
nehmen. **Etwas, was** sie neu gelernt haben, **etwas, das** sie bereichert.
take something what they newly learned have something that them enrich
(Bernd Wolfgang Lubbers. 2013. *Das etwas andere Rhetorik-Training oder “Frösche können nicht fliegen”*.
Wiesbaden: Gabler Verlag, p. 97)

- This talk:
 - (i) The alternation between d- and wh-relative clauses reflects categorial properties of the antecedent (Brandt & Fuß 2014):
 - a. Lexically nominal antecedents trigger relativization by means of *das*;
 - b. *was* is used as an underspecified default relativizer in contexts where *das* is not licensed.
 - (ii) Beyond the basic generalization in (i), variation between *das* and *was* may be due to
 - a. structural/subcategorical differences between different types of deadjectival antecedents, in particular (only nominalized superlatives trigger *was* across the board).
 - b. semantic/pragmatic factors conforming with more general patterns typical of conversational implicatures (typically in cases where pronoun choice is underdetermined by the grammar)
 - (iii) Method: Iterative reduction of the domain where variation obtains via subtraction of predictable classes of cases until virtually no free variation remains.

- Structure of the talk:
 - ❖ Section 2 motivates the idea that *was* functions as a default relativizer.
 - ❖ Section 3 discusses variation between *das* vs. *was* in connection with deadjectival nouns.
 - ❖ Section 4 deals with semantic/pragmatic effects of the *das/was* alternation.
 - ❖ Section 5 wraps up and provides a concluding summary.

2. *was* as a default relativizer

- Observation (Brandt & Fuß 2014): The absence/presence of a lexical-nominal antecedent is the most important factor governing pronoun choice in relative clauses (*das* vs. *was*).
- Corpus studies: Choice of *das* vs. *was* (as relativizers) and presence vs. absence of a lexical head noun:²
 - Aggregate numbers;
 - 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’:

	<i>das</i>	<i>was</i>
Antecedent without N	678	17006
Antecedent with N	36796	152

Table 1: Distribution of *das/was* dependent on the presence of a lexical head noun (aggregate numbers)

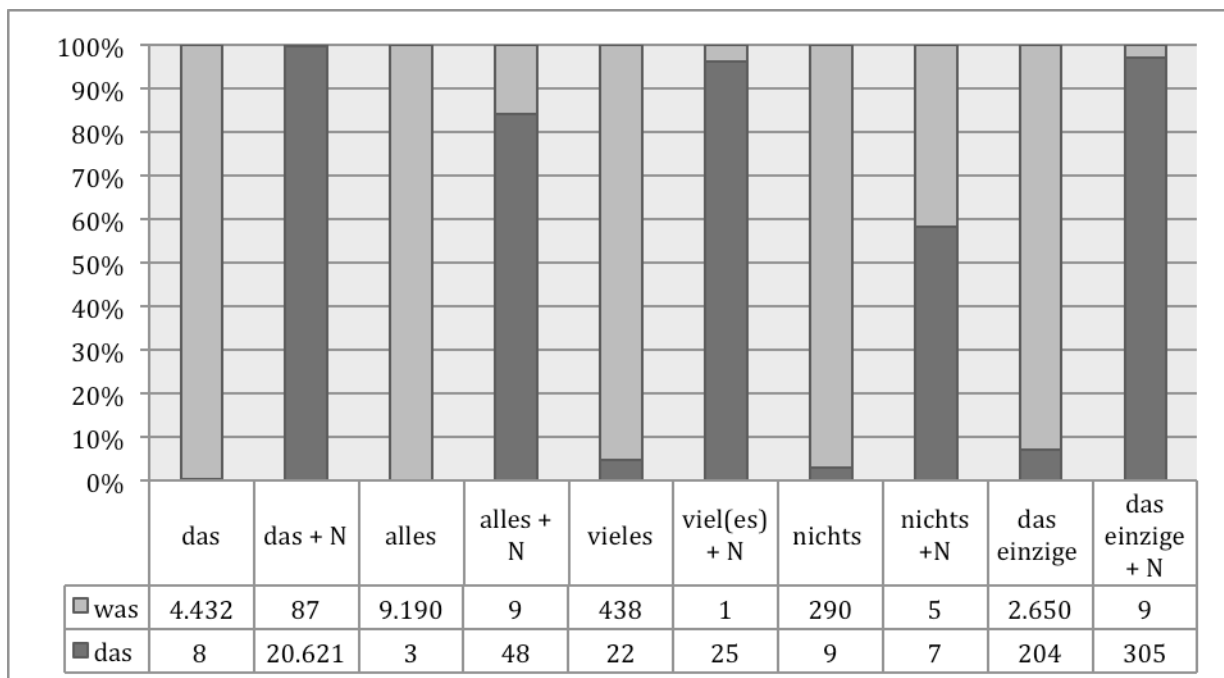


Figure 1: Impact of the presence/absence of N with elements that require the relativizer *was* (DeReKo, Connexor-Teilarchiv, June 2014)^{3,4}

(6) Generalization: Relativization by means of *das*

$N_{[\text{neuter singular}]} \rightarrow \textit{das}$

The presence/absence of a lexical head noun determines the choice between *das* vs. *was* in relative clauses.⁵

² Using the COSMAS web-interface to the *Deutsches Referenzkorpus* (DeReKo, around 20 billion words) at the IDS Mannheim (<http://www.ids-mannheim.de/cosmas2/>).

³ 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).

⁴ The distinction between restrictive and non-restrictive relative clauses does not seem to influence the choice between *das* and *was* (in contrast to Dutch, cf. Broekhuis & Keizer 2012).

⁵ Another corpus study showed that lexical-semantic properties of nouns (i.e., the distinction between mass and count

- Cf. already Behaghel (1928):

“Die Relativsätze, denen im Hauptsatz kein stützendes Glied entspricht oder deren stützendes Glied durch eine nicht individuelle Größe⁶ gebildet wird, werden im allgemeinen durch *was* eingeleitet, 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.)

‘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*, 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 [...]’

2.1 Analysis: Inherent gender features trigger *das*

- Basic proposal: 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 (Wiese 2013, Brandt & Fuß 2014; see also Boef 2012 on Dutch).⁷
- Core assumptions:
 - (i) (Inherent) gender is the defining characteristic of lexical nouns.
 - (ii) The more specified exponent *das* is used if the relativizer picks up a gender feature via agreement with a lexical nominal antecedent.
 - (iii) Elsewhere, *was* is inserted (as a default relativizer).

2.1.1 Syntax

- Standard assumptions: 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’).⁸

(7) 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).⁹

nouns) do not seem to have an impact on the choice between *das* and *was* (pace e.g. Curme 1922), that is, mass nouns trigger relativization by means of d-pronouns (similar to other nouns; but see below for some qualifications).

⁶ Behaghel’s notion of *individuelle Größe* ‘individual measurement’ seems to correspond to an individuatable lexical noun with descriptive semantic content.


⁷ 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 is 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 (2014) further assume that relative pronouns contain a slot for a referential index, which provides a criterion of identity and is identified with the referential index of the head noun of the RC. Under the present proposal, identity between the relative head and the RP is established via syntactic agreement in gender features.

⁸ [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 suggests 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.

⁹ See Zeijlstra (2012, 2013) for the idea that agreement involves a relation between a probe and a higher, c-

(8) head [_{CP} RP_i [_{C'} C [_{TP} ... t_i ...]]]


- 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:¹⁰

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

2.1.2 Spelling out RP

- Background: Realizational model of grammar (bundles of 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:

(10) 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).¹¹
- 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:

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).

¹⁰ 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), [\pm plural] for number, [\pm masculine, \pm feminine] for gender, and the following system of case distinctions based on the features [\pm oblique, \pm object]:

- (i) a. nominative: [-obl, -obj]
 b. accusative: [-obl, +obj]
 c. dative: [+obl, +obj]
 d. genitive: [+obl, -obj]

¹¹ An argument in favor of the existence of a separate series of relative d-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 that *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).

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

- (11a): RC is merged with a lexical noun. 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***.
- (11b): RC is merged with a determiner/quantifier (presumably of the category D). 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 that lack an appropriate (overt) nominal antecedent:
 - ❖ attributive *was*-relatives, e.g. (11b);
 - ❖ free relatives, (12);¹²
 - ❖ continuative relative clauses (“weiterführende Relativsätze”), which modify a matrix event or proposition, (13);
 - ❖ relative clauses referring to quote-like expressions (translations, in particular), (14):

- (12) [**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;)

- (13) 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
 (A09/OKT.06424 St. Galler Tagblatt, 23.10.2009, S. 52; Goldener Herbst im Simmental)

- (14) 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
 (A09/FEB.05129 St. Galler Tagblatt, 18.02.2009, S. 36; Geschichte prägt die Disziplin)

2.1.5 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)

¹² 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).

- 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).¹³
 - (ii) Gender distinctions have 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. Beyond the generalization

3.1 Distributive quantifiers: Cases of 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:

¹³ 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 everything 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)

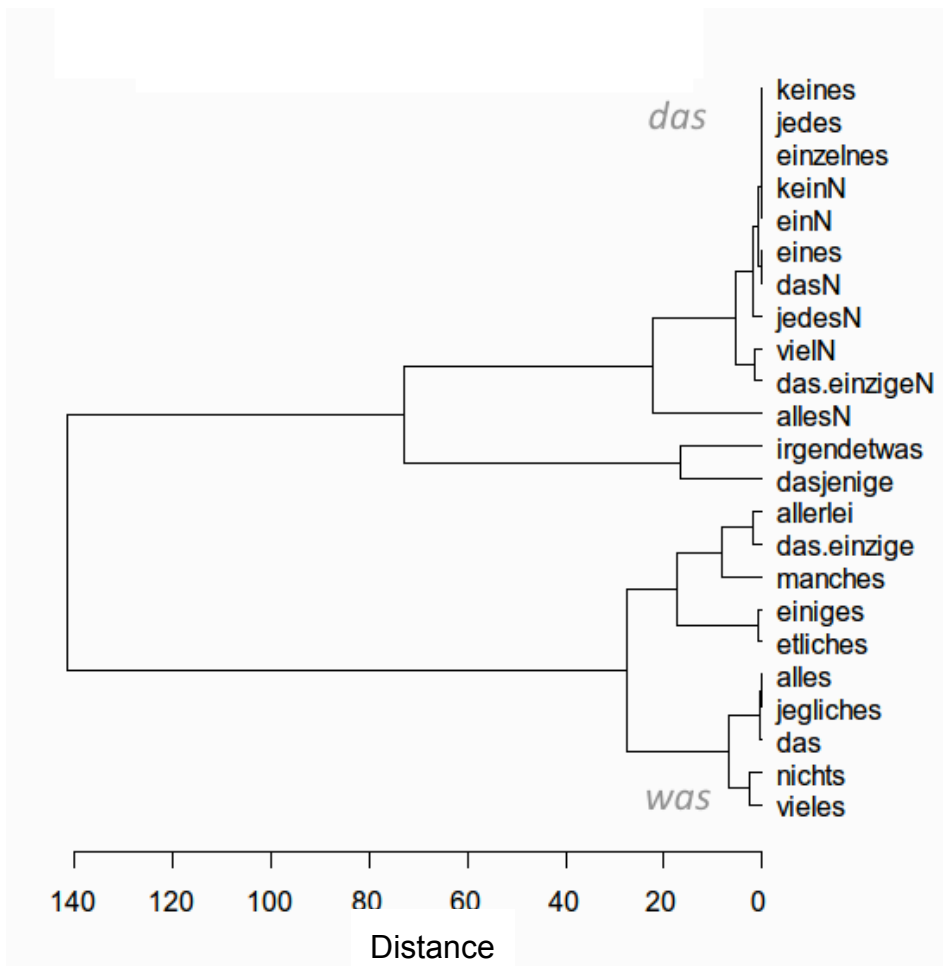


Figure 1: Dendrogram – hierarchical clustering of selected antecedents based on the ratio of *das/was* (normed frequencies)

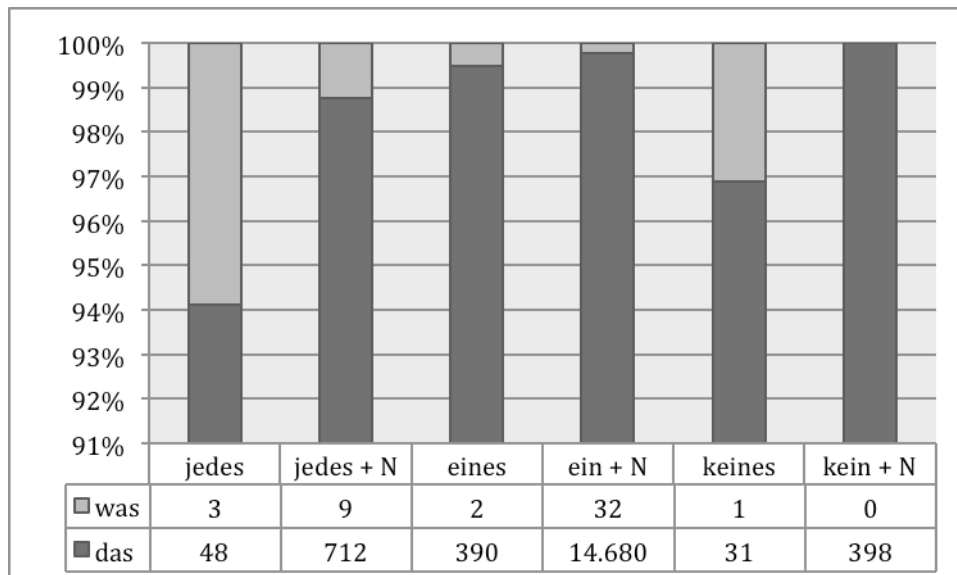


Figure 2: D-elements that always trigger *das* (DeReKo, Connexor-Teilarchiv, June 2014)

- 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):

- (15) Ein richtiges Fußballspiel. **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* always select a (silent) lexical noun, the identity of which can be reconstructed from the discourse context (an instance of noun ellipsis):¹⁴

- (16) ... 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***

- Independent evidence for the presence of a silent noun: Only distributive quantifiers allow for (post-nominal) attributive genitives (which arguably can only attach to N):

- (17) a. *alles des Präsidenten
 all of-the president
 b. jedes ~~N~~ des Präsidenten
 each of-the president
 'each of the president's (children, horses...)'

- '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:

- (18) 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.

- (19) **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])

3.2 Deadjectival nouns

- As already noted, deadjectival nouns (derived by conversion) seem to be compatible with both *das* and *was*, cf. the following statement in the Duden grammar (2009: 1032):

¹⁴ Note that the form of the quantifier in (15) 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

„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.

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

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

- a. anaphoric/elliptical readings ⇒ ***das***
- b. (non-anaphoric) nominalized positives (*das Gute* ‘the good (one)’) ⇒ ***das & was***
- c. (non-anaphoric) nominalized superlatives (*das Beste* ‘the best’): ⇒ ***was***

3.2.1 Anaphoric/elliptical readings

- No variation, *das* is used without exception:

- (21) Das bisher bestehende Kraftwerk ist bekanntlich völlig überaltet
 the yet existing power plant is as-is-known completely outdated
 und muß schon allein aus Umweltgründen erneuert werden.
 and must not alone for ecological reasons renewed be
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 und bis zu 90 Prozent
 will-be according to the latest state of technique built and up to 90 percent
 weniger Schadstoffe an die Umwelt abgeben.
 less pollutants to the environment release
 (N93/MAR.08195 Salzburger Nachrichten, 05.03.1993; Heizkraftwerk Nord 88 Mill. S teurer)

- Analysis: The use of *das* is to be attributed to the presence of an elided lexical head noun:

- (22) ... *Kraftwerk*... [*Das neue Kraftwerk* [S_{Rel} *das* ...]]

- Upshot: Elliptical readings do not present relevant cases; the adjective does not undergo nominalization, pronoun choice is determined by the presence of a lexical head noun.

3.2.2 Non-elliptical readings: nominalized positives

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

- Nominalized positives (non-elliptical readings): **Variation between *das* and *was*** (a quantitative analysis shows that *das* is actually more frequent than *was* in this context):

	<i>das</i>	<i>was</i>
<i>Gute(s)</i> ‘good’	490 (74%)	172 (26%)
<i>Schöne(s)</i> ‘beautiful’	132 (73.7%)	47 (26.3%)
<i>Neue(s)</i> ‘new’	502 (74.2%)	175 (25.8%)

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

Analysis: positives

- Nominalized positives (conversions) exhibit nominal as well as adjectival properties:

Nominal properties

- syntactic distribution typical of nouns
- presence of determiners/determiner-like elements, cf. (24)
- adjectival modification (adjective agrees with deadjectival head noun), similar to nouns, cf. (25)

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

- (25) 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. (24)
- possibility of adverbial modification, cf. (26)
- retention of case-assigning properties (complements carry dative/accusative case instead of genitive), cf. (27)

- (26) 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

- (27) *die* *dem* *König* *Treuen*
 the.PL the.DAT king faithful.PL

- Variation between *das/was*: Nominalized adjectives are ‘mixed categories’ that are compatible with both *das*- and *was*-relatives (see the appendix for a theoretical analysis).¹⁵

¹⁵ This approach is in line with proposals by Sleeman (2013), Alexiadou (2011, 2015) who argue that the ‘mixed’ categorial properties of certain deadjectival nouns follow from the presence of both nominal and adjectival functional structure in the internal make-up of these forms (giving rise to the impression of different degrees of ‘nouniness’ at the surface). Alternative analyses that posit the presence of silent head noun (cf. e.g. Kester 1996a,b) face a number of problems. For example, they cannot account for the relativization facts, and do not provide an explanation for the observation that 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:

3.2.3 Non-elliptical readings: nominalized superlatives

- (28) 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
 (B06/JUL.52314 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).

	<i>das</i>	<i>was</i>
<i>Beste(s)</i> ‘best’	413 (6.6%)	5838 (93.4%)
<i>Schönste(s)</i> ‘most beautiful’	86 (9.9%)	783 (90.1%)
<i>Neueste(s)</i> ‘newest’	11 (16.9%)	54 (83.1%)

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

Analysis: superlatives

- General consideration: Superlatives contain more functional structure characteristic of adjectival elements and are therefore less ‘nominal’ than nominalized positives (note that presence of superlative morphology is often taken to be a defining property of adjectives).
- Theoretical proposal: 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.
- Bobaljik (2012): The meaning of a superlative can be described as follows:

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

- According to Bobaljik (2012: 5), the complex meaning expressed by (29) 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.¹⁶

(30) superlative = comparative (‘more than’) + all (others)

- Preference for *was* in connection with nominalized superlatives: The relative clause modifies the universal quantifier, which is located in the superlative category (recall that *alles* (almost) obligatorily selects *was* as a relativizer):

(31) 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 (31), 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 NP/DP)?
- Tentative answer: Higher attachment (to NP or DP) does not yield the correct interpretation.

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

¹⁶ 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

- 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:¹⁷

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

4. Semantics/pragmatics and choice between *das* vs. *was*

- In specific classes of cases beyond the basic generalization that a lexically nominal antecedent triggers relativization by means of *das*, semantic/pragmatic factors can be observed to influence the choice of relativizer.

4.1 Reference to objects as opposed to properties or propositional meanings

- In (33), reference of *was* in so-called predicate-nominal function is not to concrete individuals falling under the nominal restriction *Kleinkind* ‘toddler’ but to the corresponding property.

(33) Wie soll sich **ein Kleinkind**, **was** 4-jährige sind, über einen
 How should REFL a toddler what 4-year-olds are over a
 so langen Zeitraum konzentrieren?
 so long time concentrate
 (A08/OKT.08813 St. Galler Tagblatt, 29.10.2008, S. 31; Kinder werden überfordert)

- A corpus research in KoGraDB showed an altogether balanced frequency of *das* and *was* respectively as relativizers of *etwas*. A closer manual investigation revealed that in the *was*-cases, reference to properties or propositional meanings is overrepresented compared to the *das*-cases in highly significant manner. (34) gives further authentic examples for property/proposition reference.

(34) a. Ich erfuhr, wie wichtig es ist, die Hypotheken der Vergangenheit
 I learned how important it is the mortgages of.the past
 anzuerkennen, überhaupt einen Gaumen für die Bedeutung von
 to.appreciate in.the.first.place a palate for the meaning of
 Vergangenheit zu zeigen - **etwas**, **was** mein literarisches Vorbild nicht tat,
 past to show – something what my literary idol not did
 nicht tun konnte.
 not do could
 (Siegfried Lenz: Mein Vorbild Hemingway. In: Werkausgabe in Einzelbänden, Bd. 19. Hamburg, 1997)

b. Also war da **etwas**, **was** ich nicht wissen soll?
 thus was there something what I not know should
 (Rolf F. Schütt: Die Irren sind auch nicht mehr die einzig Normalen. Oberhausen, 1997)

¹⁷ 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 universal 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 obligatorily triggers relativization by means of d-pronouns.

(ii) Of all persons that I know, X is the best

- The raw numbers of the survey are given in the following table; selection of *das* vs. *was* depends in a manner that is highly significant on the way of referring ($p = 1.774e-07$, Cramer's $V = 0,304$).

	<i>etwas, das</i>	<i>etwas, was</i>
Total number of cases	141	154
Property/proposition reference	12	53
object reference	129	101

Table 4: Impact of the reference of *etwas* 'something' on the distribution of *das/was*

- Elements like *dasselbe* or *das gleiche* 'the same' that are ambiguous in the same way lead to analogous results.

4.2 Particularization by means of *das* vs. totalization by means of *was*

- According to our analysis, *das* and *was* form a Horn scale as the possible interpretations of *was* subsume those of *das*.

(35) The utterance of ...*W*... (containing an unembedded occurrence of a weak scalar value) will Q(uality)-implicate that the speaker was not in a position to affirm ...*S*... (Where ...*S*... is informationally stronger than, i.e. unilaterally entails, ...*W*...) only if *S* is *at least as lexicalized* as *W* within the relevant domain.

(Horn 2000:306)

- In (36), reference of *das*, *das* is restricted to pictures, unlike the reference of *das*, *was* in (37); Duden (2009:1031) singles out the former as an elliptical use, cf. (15), (16) above.

(36) Das Bild, das Peter gekauft hat, war teurer als **das, das** Maria gekauft hat.
the picture that Peter bought has was more.expensive than that that Mary bought has
'The picture that Peter bought was more expensive than the picture that Mary bought'

(37) Das Bild, das Peter gekauft hat, war teurer als **das, was** Maria gekauft hat.
the picture that Peter bought has was more.expensive than that what Mary bought has
'The picture that Peter bought was more expensive than the thing(s)/stuff that Mary bought'

(36') ... als [**das Bild**, [**das** Maria gekauft hat]]

(37') ... als [**das**, [**was** Maria gekauft hat]]

- In a similar vein, it can be observed that the use of *das* has an individualizing/particularizing effect on the interpretation of a nominalized adjective (Sanders 1879:279f., Cutting 1902, Curme 1922, Behaghel 1928). 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:

(38) Ich verzeihe ihm **das Böse**, **was** er mir zugefügt hat
I forgive him the evil what he me inflicted 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 bestowed has
(Sanders 1879: 279)

“Hier bezeichnet *das Böse* allgemein eine ganze Klasse, eine Gesamtheit 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*: Adding the totalizing element *alles* ‘all, every’ to a nominalized positive significantly increases the rate of relativization by means of *was*:

(39) 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)

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

Table 5: Impact of *alles* ‘all’ on the relative frequency of *das* vs. *was* with nominalized positives

- 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%:

	<i>Das</i>	<i>was</i>
<i>Geld, Wasser</i> etc.	5.297 (99.3%)	38 (0.7%)
<i>alles Geld, Wasser</i> etc.	329 (80%)	82 (20%)

Table 6: Impact of *alles* ‘all’ on the relative frequency of *das* vs. *was* with mass nouns

- Modification by *einzig* ‘only’ yields an analogous effect.
- 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.“

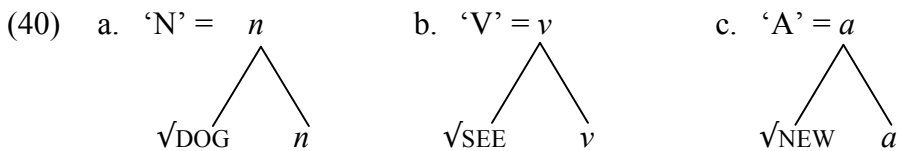
5. Concluding summary

- 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 elsewhere case
- 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*.
- Deadjectival nouns:
 - ❖ 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 different behavior of positives and superlatives w.r.t. relativization follow from structural differences in the internal make-up of the relevant nominalization structures:
 - ❖ Nominalized positives: ‘mixed categories’ that exhibit both nominal and adjectival properties
 - ❖ Nominalized superlatives: 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*.
- Beyond the basic generalization, the variation between *das* vs. *was* points to semantic and pragmatic distinctions related to the question of what it takes to be a noun.
- In the domain investigated here, the crucial distinction is that between ‘ordinary individuals’ going with *das* and everything else, in particular, property instantiations and propositional meanings going with *was*.

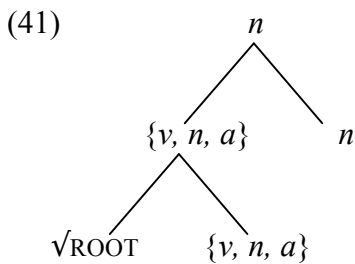
Appendix: Further issues

A.1 Nominalized positives as ‘mixed categories’: The role of gender specifications

- 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 particularly 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 *n* to an adjectival structure (cf. e.g. Sleeman 2013 on Dutch, Alexiadou 2011, 2015).
- 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:



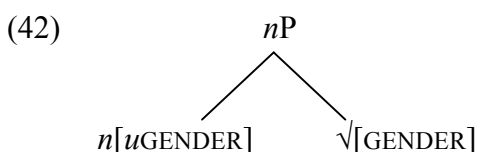
- Nominalizations: Category defining head *n* is added to internally complex words:



- 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 *n* + √ROOT (cf. e.g. Lowenstamm 2007, 2012): *n*'s (non-interprettable) gender feature is valued/licensed under Agree with the lexical root.



- Observation: Gender is interpretable on deadjectival nouns (conversions): masc./fem. forms refer to persons, while neuter forms refer to abstract/–animate entities:

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

- Proposal/word formation from words: If not merged directly with a root, *n* may host interpretable gender features (cf. Picallo 2008, Lowenstamm 2012 for related proposals)
- $n_{\text{conversion}}$ comes in two variants linked to different interpretations:

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

- Variation between *das/was*: Two sources for neuter gender on $n_{\text{conversion}}$:
 (i) Gender features ([–masc./–fem.]) are added pre-syntactically to *n*;
 (ii) Gender features ([–masc./–fem.]) are added post-syntactically to *n* (repair via insertion of default feature values)
- Both options lead to neuter gender at the surface, but...
- In the case of (i), the gender features on *n* are present throughout the syntactic derivation and can be accessed by an agreement relation between the relative pronoun and $n_{\text{conversion}}$ heading the deadjectival noun ⇒ **relativization by means of *das***
- In case (ii), $n_{\text{conversion}}$ 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***¹⁸

A.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:

(45) a. der/jeder/keiner, der/*wer das liest
 the one/each.MASC/none.MASC that.MASC.NOM/who.NOM that reads
 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.
- Possible solution: elided nouns again...

¹⁸ Note that this approach possibly provides a basis for explaining the observation that the use of a *das*-relative has an individualizing/particularizing 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 $n[+\text{gender}]$ (which trigger *d*-relatives) can acquire individuated readings via addition of ClassP (see also Alexiadou 2015).

- Above we have argued that there are good reasons to believe that in cases like (45) 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:

- (46) 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:

- (47) $[_{DP} \textit{der (Einzig)e/jeder/keiner} [_{NP} \mathbf{N}_{[+MASC, -PL]} [_{CPRel} [_{DP} \mathbf{DP}_{Rel} [+MASC, -PL]}]_i \dots t_i \dots]]]$

- 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.
- A related question: What is the source of neuter gender in quantifiers such as *alles*, which require *was*-relatives?
- Recall: In these cases, the RC merges directly with the D-element (leading to wh-morphology since the RP cannot pick up a gender feature):

- (48) $[_{DP} \textit{alles} [_{CPRel} [_{DP} \mathbf{DP}_{Rel}]_i \dots t_i \dots]]]$

- When a determiner fails to acquire gender features from a lexical noun as in (48), the resulting absence of gender specifications is automatically interpreted as neuter at the interfaces to the post-syntactic computation.¹⁹

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).

¹⁹ 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.

A.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:²⁰
- (49) „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)
- (50) Denn fast **alles, dem** die King's Singers auf ihrer Reise begegneten,
 since almost all that.DAT the King's Singer's on their journey met
 wurde unter ihren Stimmen zum Kunstschatz und zum einschneidenden Erlebnis.
 became under their voices to-a art treasure and to-a incisive experience
 (B97/OKT.02543 Berliner Zeitung, 17.10.1997; Sechs englische Sänger Die King's Singers sangen in
 der Philharmonie [S. 16])
- Examples such as (49)-(50) 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’).^{21,22}
 - Above, we 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)
 - Speculation: 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).

²⁰ 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])

²¹ 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

²² 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).

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