

Complex comparative correlatives across time and registers

Data & scripts:



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Stefan Hartmann

Comparative correlatives

je mehr ich esse,

'the more I eat'



Komparativphrase,
die das Relat (R) enthält

Protasis

desto dicker werde ich.

'the fatter I get'



Komparativphrase,
die das Korrelat (Korr)
enthält

Apodosis

Comparative correlatives

What makes CCs so interesting?

- Phraseme construction with a high degree of productivity (Stumpf 2015: 364)
- many idiosyncratic features
- high potential for variation

Comparative correlatives

Characteristics of CCs in German and elsewhere

- Fillmore, Kay & O'Connor (1988): Engl. *the x-er the y-er* as highly productive pattern with a number of **idiosyncratic features**, e.g.
 - deletion of copula *BE* possible:
The greater the demand is, the higher the price is.
 - omission of further elements possible – in the extreme case, the CC is stripped to its bones:
The greater ~~the demand is~~, the higher ~~the price is~~.

Comparative correlatives

Characteristics of CCs in German and elsewhere

- Although it is a comparative construction, it is impossible to add an *als ('than') phrase* (Beck 1997: 230):

*Je müder Otto ist *(als Hans), desto aggressiver ist er*

'The more tired Otto is *(than Hans), the more aggressive he is.

→ Basis of comparison remains implicit

- no specification of difference possible (Beck 1997: 233)

*je *(um eine Stunde) später es wurde, desto *(um drei Grad) heißer wurde es 'the *(by one hour) later it was, the *(by three degrees) hotter it became.'*

Comparative correlatives

Dimensions of variation

- **Clause sequence:**
 - Protasis > Apodosis vs. Apodosis > Protasis
- **Choice of connectors:**
 - *je – desto, je – umso, je – je, umso – umso, desto – desto*
- **Number of clauses:**
 - one protasis vs. multiple protases
 - one apodosis vs. multiple apodeses
- **Phrase type:**
 - AdjP (*je mehr*), NP (*je mehr Geld*), PP (*mit je mehr Erfolg*)
- **Realization vs. omission of the copula:** *je oller desto doller*

Previous research

- Much research on the syntactic status of the individual clauses (z.B. Reis 2009, Fortmann 2016)
- fairly comprehensive comparative research (z.B. Hoffmann 2016, den Dikken 2005)
- only recently in-depth diachronic and variationist studies on German comparative correlatives (Tharincharoen 2022, 2023a,b)

Overview of diachronic development

500/750

—
1050

Old High
German

1050
—
1350

Middle
High
German

1350
—
1650

Frühneu-
hochdt.

ab 1650
Nhd.

OHG so – so

So her iz mer forbot, so ie iz mer predigotun

'The more he forbade, the more he preached.' (Tatian, 86, 2)

MHG so – ie

also li ie hoher ltigen an den eren, so li lich ie tiefer neigten

'the higher in honors they climbed, the deeper they shall bow'

(David von Augsburg: Traktate, 16va,11 - 16va,12)

late MHG ie – je / fnhd. je – je

je näher wir zu der Linien kamen / je heißer es auch wurd

'the closer we came to the line the hotter it got'

(Americ. achter Theil; 22, 34)

nhd. je – umso/desto: je mehr ich esse, desto dicker werde ich

VL – VL
>>
VL – V2

Research questions

1. Which **overarching tendencies** in the development of CCs in NHG can be observed until c. 1900?
2. Can we find **text-type/register differences** and **individual differences** in the usage patterns of CCs and their diachronic development?
3. Which **usage-based explanations** can account for the observed variation phenomena?

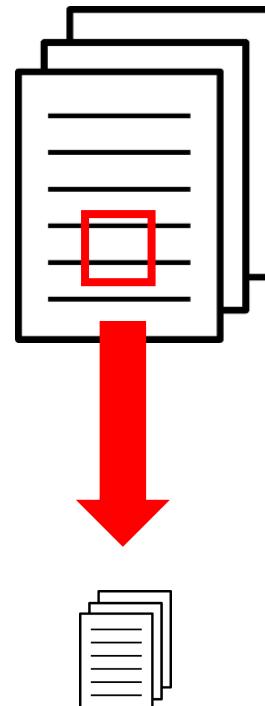
Methods

Database

**German
Text Archive
(DTA)**

Sample: DTAbaby
(Hartmann 2018)

→ 15 texts per time slice of 50 years for three text types (science, functional literature, fiction)



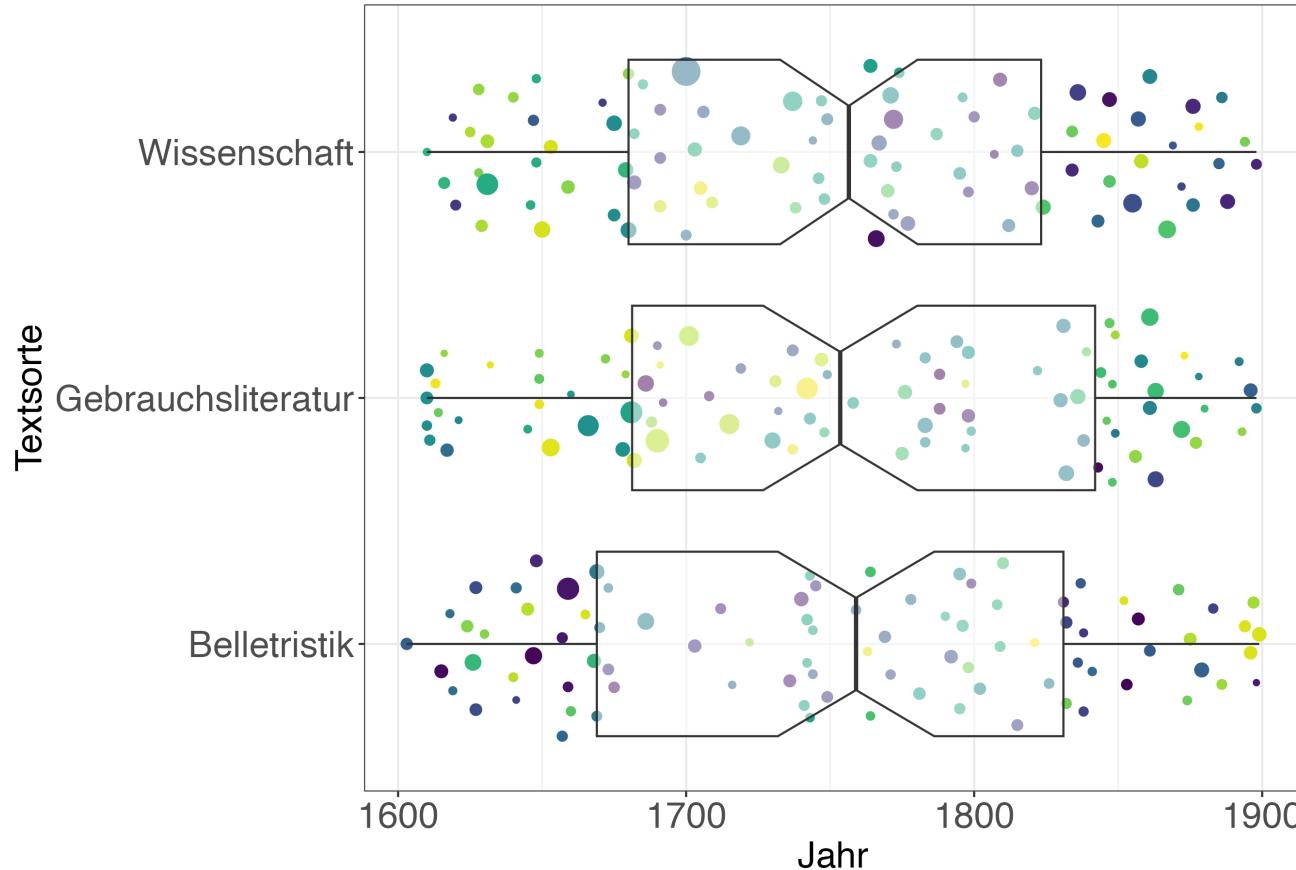
Daten & Skript:



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Methods

Textverteilung im DTAbaby-Korpus



Number of hits

Century	Fiction	Functional literature	Science	total
17	271	277	287	852
18	82	306	431	837
19	113	368	488	988
				2677

Methods

Constructions not taken into account

- CCs in which the protasis or apodosis does not contain a form of *je*, *desto*, or *umso/um so*
- 1) Vmb wie vil mehr Gunſt vnnd ehr du haſt inn diſem Leben / vmb ſo vil deſto gefährlicher iſts (Aegidius Albertinus, Der Landstoertzer, 1615)
 - 2) Sie werden immer nothiger, je ſchlechter das Ackerland und je mißlicher der Anbau der ergiebigſten Futterkräuter auf ſelbigem iſt. (Albrecht Daniel Thaer, Grundsätze der rationellen Landwirthſchaft, 1809)
 - 3) der Muskel wird Ø weniger leistungsfähig, je geringer der normale Inhalt seiner Primitivbündel wird. (Rudolf Virchow, Die Cellularpathologie in ihrer Begründung auf physiologische und pathologische Gewebelehre, 1858)

Research questions

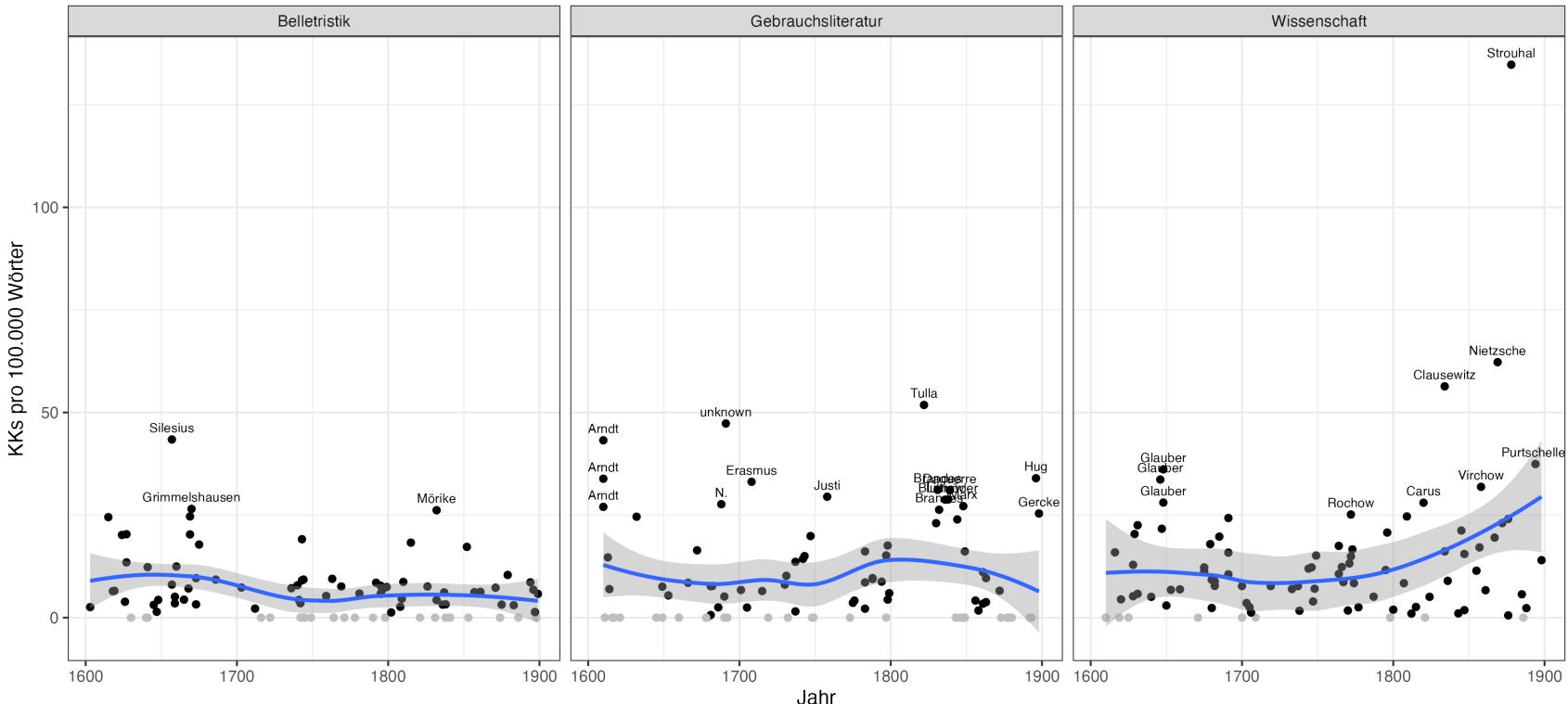
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Forschungsfragen

1. Which **overarching tendencies** in the development of CCs in NHG can be observed until c. 1900?

- Frequency development
- Clause sequence
- Connectors
- Phrase types
- Verb position and verb omission

Frequency development (by text type)



Verb position

VL – VL

je mehr man den Zunder blaſet / je weiter er glimmet.
(Bucholtz, Herkules, 1659)

VL – V2

Je älter er ward, desto abgeschnittener fühlte er sich von aller Gesellschaft.
(Goethe, Wilhelm Meisters Lehrjahre, 1796)

V2 – V2

Je weiter iſt der weg / je reicher iſt der Lohn
(Opitz, Deutsche Pöemata, 1624)

V0 - V0

je weiter weg, je besser! (Goethe, Wilhelm Meisters Lehrjahre, 1796)

Clause sequence

Protasis > Apodosis:

Je mehr der Himmel treufft / je schöner wächst die Blum.
(Paul Fleming, Teutsche Poemata, 1659)

Apodosis > Protasis:

Die Abplattung ist desto stärker, je schneller die Drehung wird.
(Heinrich Wilhelm Brandes, Vorlesungen über die Naturlehre, 1830)

Protasis > Apodosis > Apodosis:

Jemehr man sich in solchen Gefängen übte, je weiter brachte mans darinn: und desto lieber hörte man solchen Sängern zu.
(Johann Christoph Gottsched, Versuch einer christlichen Dichtkunst, 1730)

...

Phrasentypen

AdjP:

Das Restchen Leben ist wie das Zigarrenendchen, Je **näher** schon am Mund, je duftiger das Brändchen.

(Friedrich Rückert, Die Weisheit des Brahmanen, 1837)

NP:

je öfter der Schlag ertönet, **eine je bessere und lebendigere Antwort** ertheilen Sie in Herz, Geist und That auf die drei Fragen.

(Schauberg, Vergleichendes Handbuch der Symbolik der Freimaurerei, 1860)

PP:

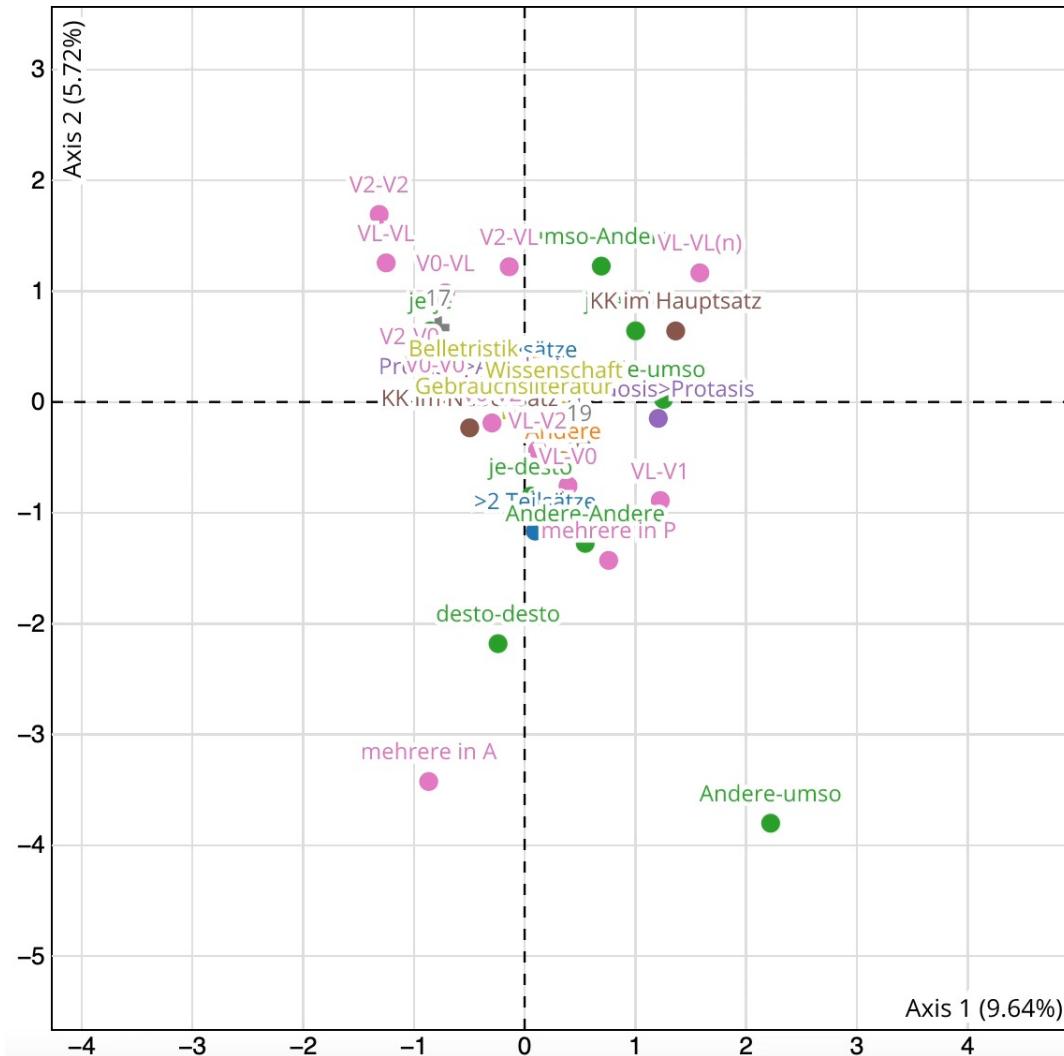
Auf je grösserer Stufenleiter der individuelle Kapitalist producirt, desto grösser die Arbeiteranzahl, die er gleichzeitig exploitirt.

(Karl Marx, Das Kapital, 1867)

(Multiple) Correspondence Analysis

- explorative method for dimensionality reduction for categorical datasets
 - co-occurrence matrices are transformed in a distance matrix – differences between rows and columns are converted to distances
- "Euclidean cloud" (points in n-dimensional space; usually n=2 or n=3)

	X1	X2	X3
Y1	20	10	25
Y2	5	35	41
Y3	9	29	13
Y4	43	13	5



Variable

- | | |
|---|------------------|
|  | Anzahl_Teilsätze |
|  | Century |
|  | Gemeinsamer_Bezu |
|  | Konnektor |
|  | Phrasentypen |
|  | Reihenfolge |
|  | Satztyp |
|  | Verbstellung |
|  | file_genre |

Type

- Active
 - + Supplementar

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Hypotheses

- non-canonical CCs are more likely to be used in conceptually more 'written' registers / text-types
- non-canonical CCs as 'extravagant' constructions (Keller 1994, Haspelmath 1999, Petré 2017, De Wit et al. 2020 Ungerer & Hartmann 2021, Neels, Hartmann & Ungerer 2023)
- non-canonical CCs as 'salient' constructions in the sense of Schmid & Günthers (2016) *salience by surprisal*

Non-canonical CCs as "extravagant" patterns

principle of extravagance

"Speak in such a way that
you are noticed"

Maxime der Konfirmität

"Speak like the
others speak"



- Extravagance has been proposed as an account for a number of language change phenomena, e.g. pertaining to progressive constructions (Pétré 2017, De Wit et al. 2020) or degree modifiers (Neels et al. 2023)
- close connection with concepts like indexicality or indexicalization/enregisterment (Silverstein 2003, Spitzmüller 2013, Androutsopoulos & Busch 2020)

Non-canonical CCs as "extravagant" patterns

- Hoffmann (2019), citing Hawkins' (2004) Performance-Grammar Correspondence Hypothesis: higher entrenchment of the iconic structure **Protasis>Apodosis** – hence less salient than **Apodosis>Protasis**
- higher **syntactic complexity** when there are more protases or apodoses (especially in combination with ellipses)

Je unbedeutender der Platz ist, oder **je weniger** es mit der Belagerung ernst ist, **je weniger** Vorbereitungen dazu getroffen sind, **je mehr** Alles en passant gemacht werden soll, **um so kleiner** wird dies strategische Ziel, **um so angemessener** ganz schwachen Kräften und Abfichten
(Clausewitz, Vom Kriege, 1834)

- **NPs and PPs** as comparative phrases highly infrequent, hence very salient

"salience index"

default 0

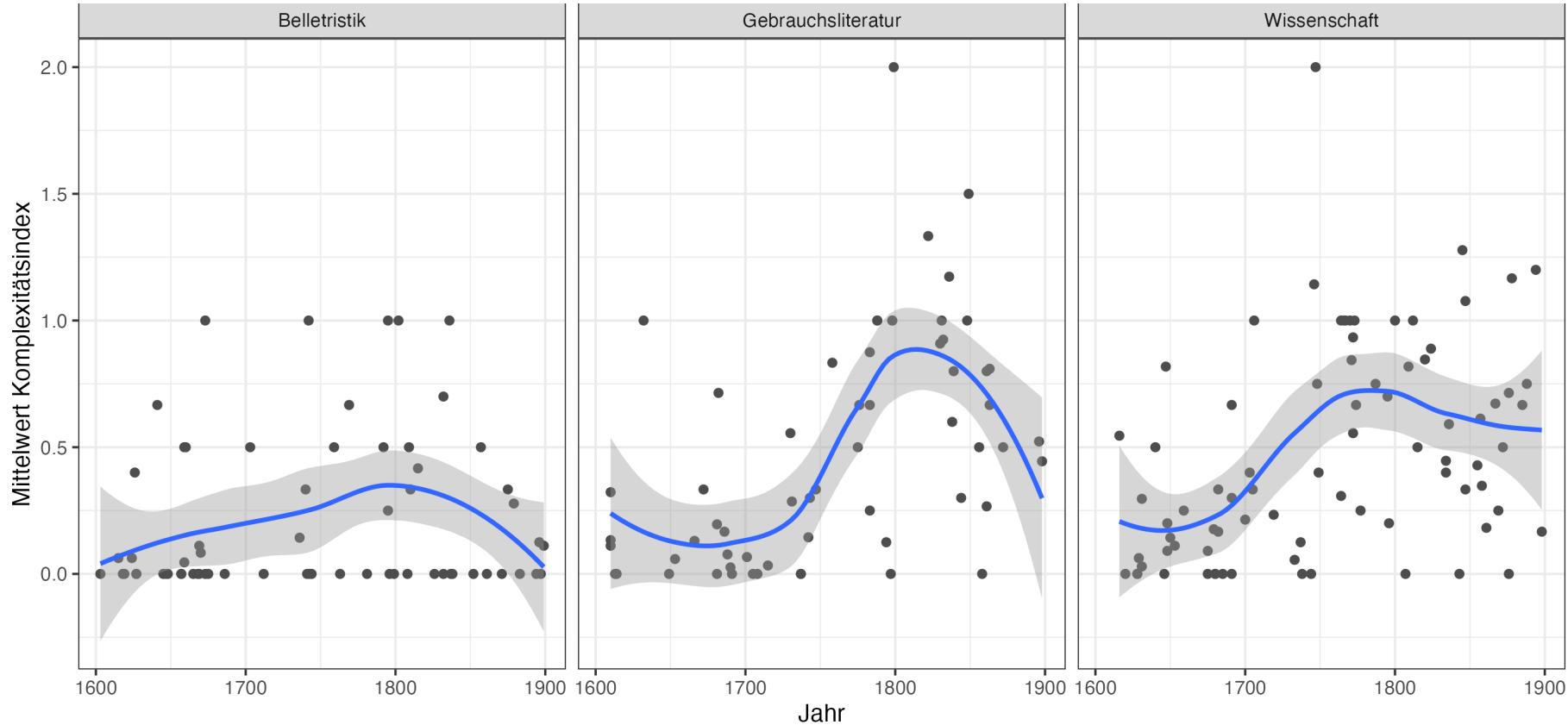
apodosis in pre-position +1

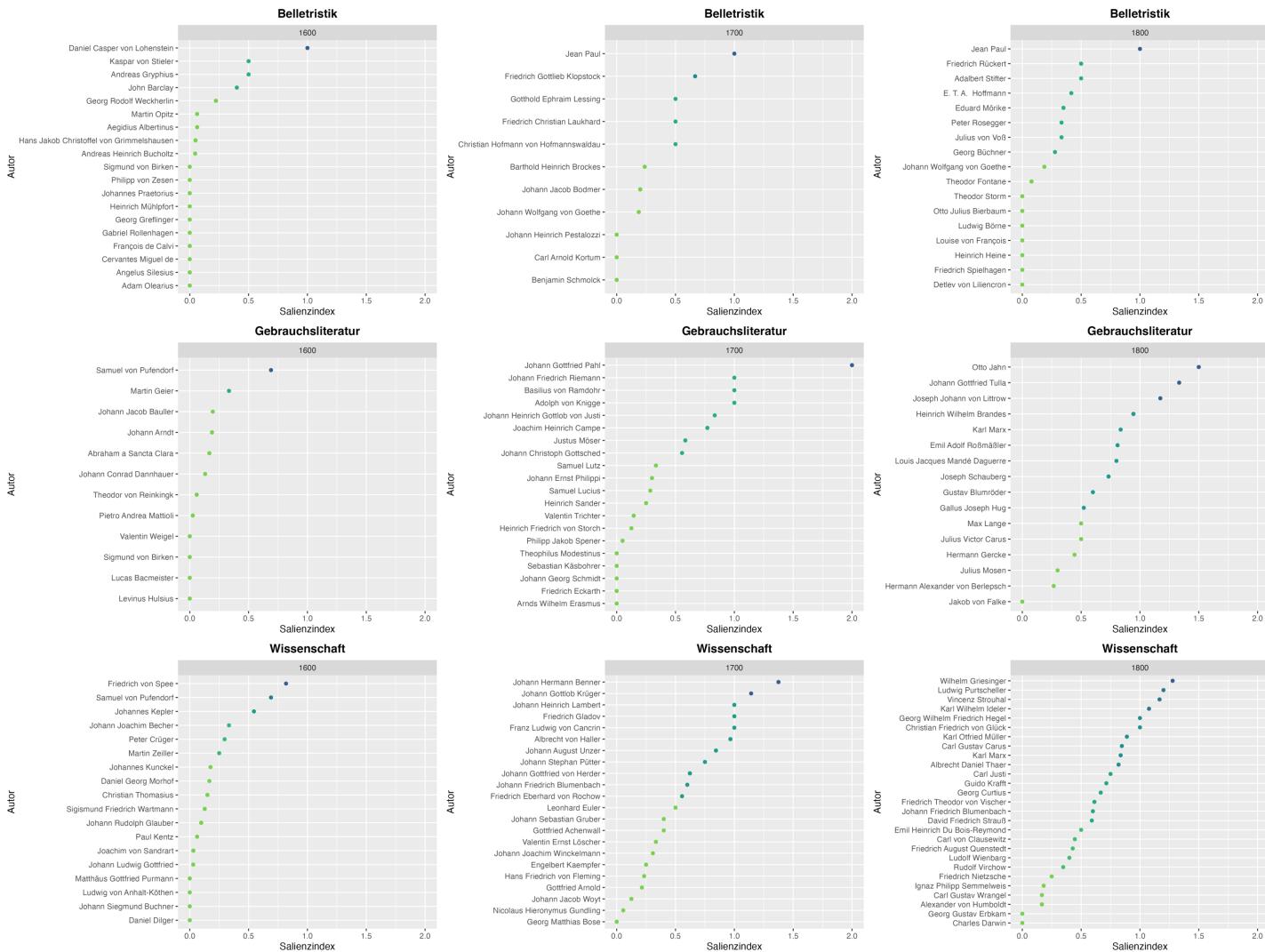
more than one apod./prot. +1

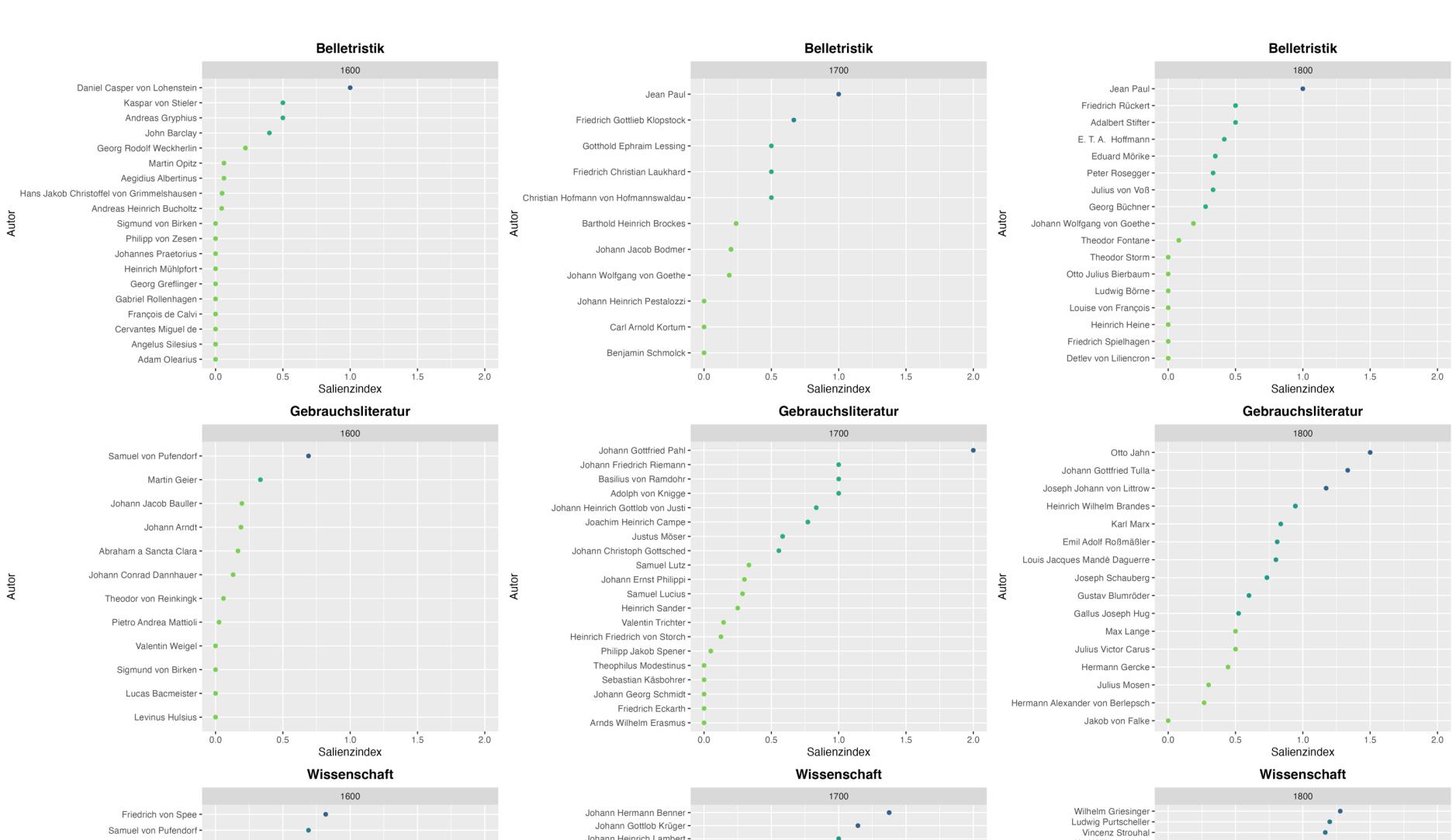
phrase type other than AdjP +1

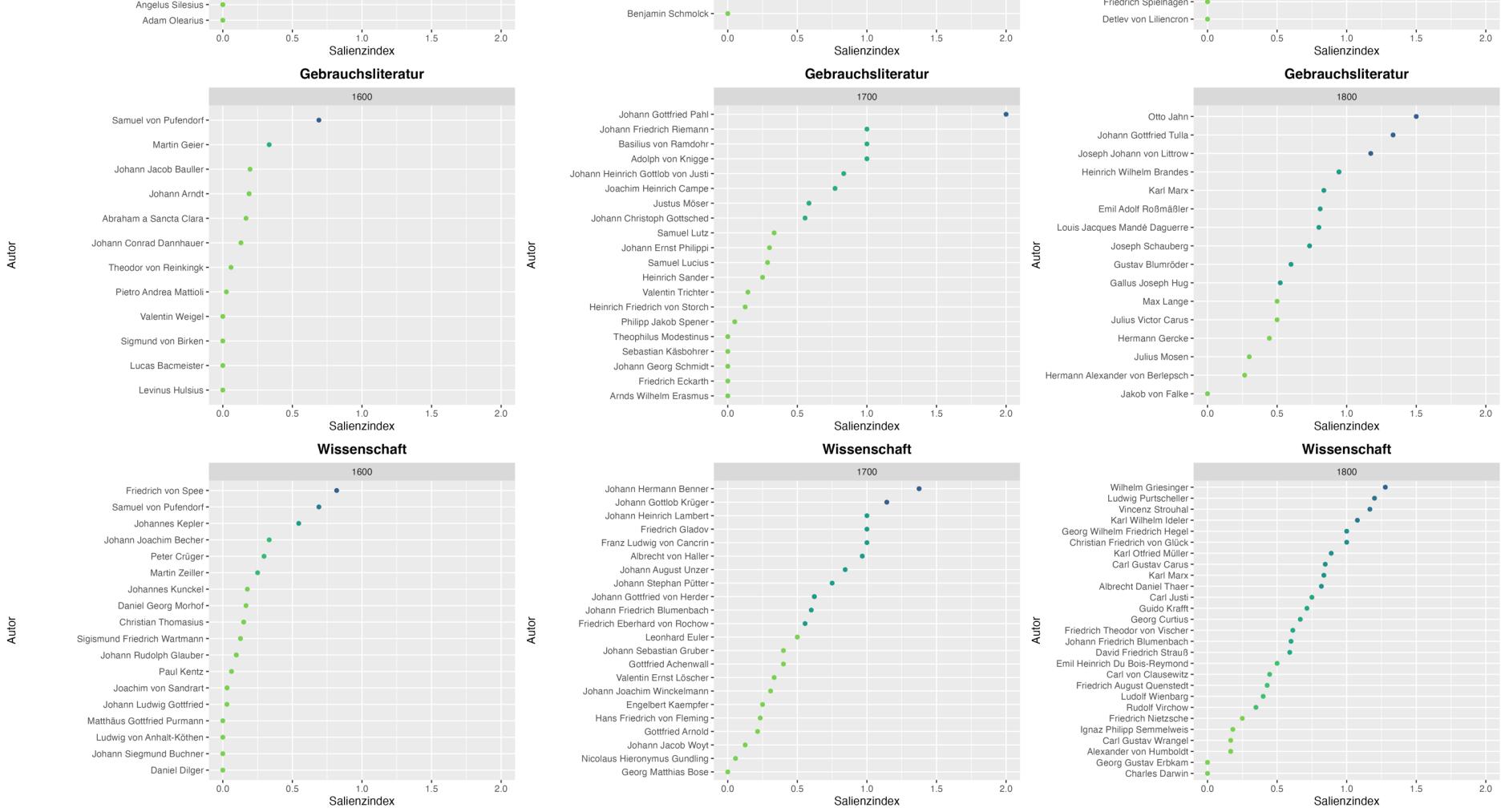
→ scale from 0 to 3

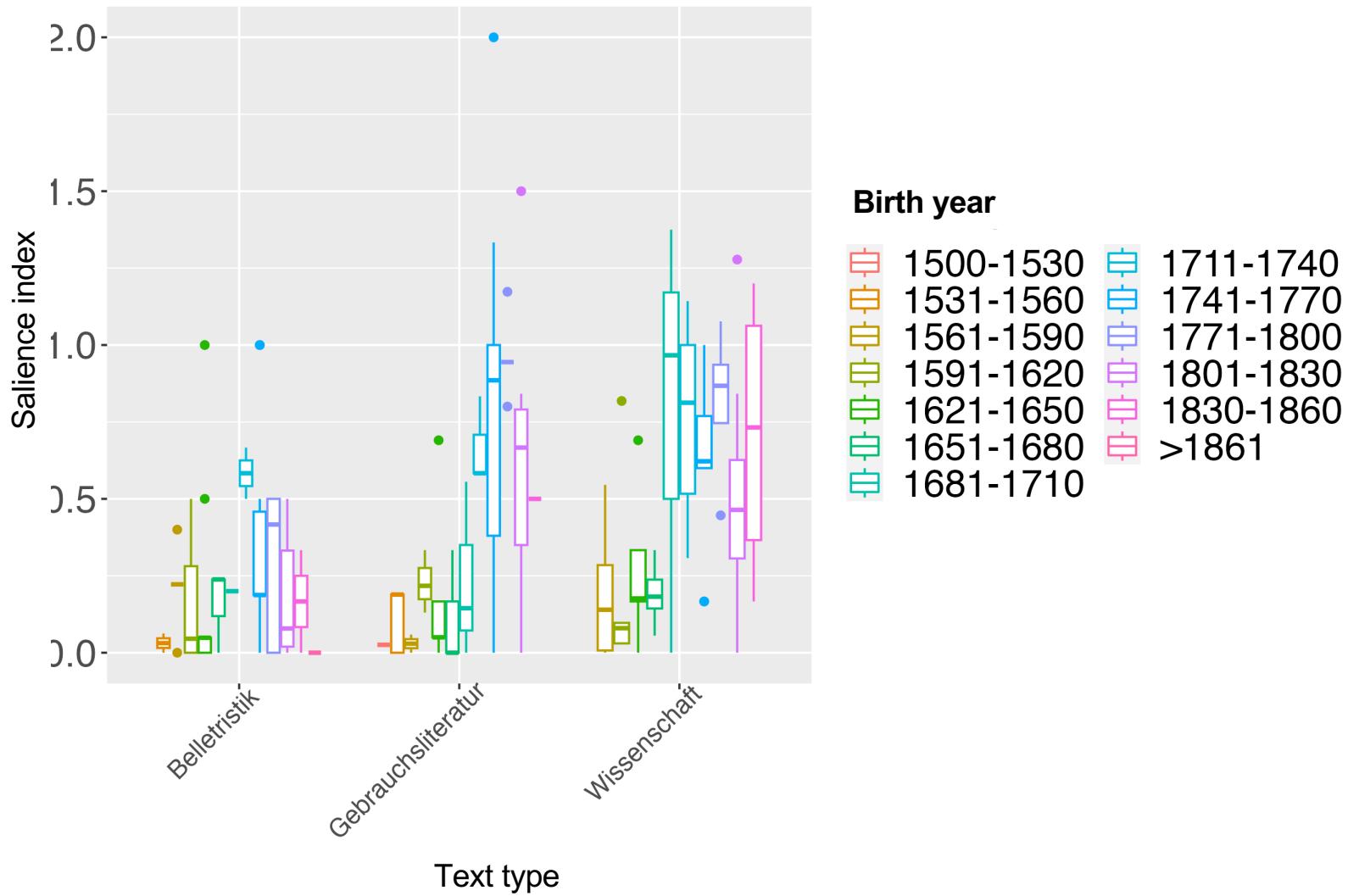
"salience index"











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Nicht-kanonische KKs

- Dero Uhrsprung und Beschaffenheit etwas genauer zu untersuchen **desto mehr** für die Mühe lohnet / **je größere Influence** dieselbige so viel hundert Jahr in die Staats-Geschäfte von Europa gehabt / und **je mit größerem Eifer** die Souverainität von einem angefochten / von andern verantwortet wird / worbey auch die Ursachen angeführt werden / (Pufendorf, Historie der Vornehmsten Reiche und Staaten, 1682)
- Denn eine Sprache ist unstreitig **desto vollkommener und charakteristischer**, je mehr und **je mehr** andere Wörter mit einem vorgegebenen Worte zugleich gegeben sind . (Lambert, Neues Organon, 1764)
- ... dass alle solche Tabellen **um so unzuverlässigere und nichtigere Resultate** geben, **je unbestimmter und abstracter** gehalten die einzelnen Rubriken sind und **je unsorgfältiger** der Idiotismus von den übrigen Geisteskrankheiten getrennt wird. (Griesinger, Pathologie, 1845)

A usage-based account

- Non-canonical CCs as an "extravagant" stylistic feature
 - marking register and text type
 - in tandem with more general syntactic developments since Early New High German, including
 - increase in sentence complexity (von Polenz 2021: 212), especially in scientific/technical contexts (Ágel 1998);
 - development from "aggregative" to "integrative" structures (e.g. Ágel & Hennig 2006, Czicza & Hennig 2013), in combination with higher literacy

Open questions and next steps

- Which factors drive the variation on a more local level? Are they compatible with an extravagance/salience-based account?
 - Possible follow-up study based on Petré (2017) and Kempf & Hartmann (2022): Do texts with a high proportion of salient CCs also show many other "extravagant" constructions?
 - How exactly are the salience factors and omission patterns connected (ellipsis, omission of further elements to the extent that there are "barebone" CCs)?
 - How meaningful are the text type differences observed in the present study? → possible follow-up: *bottom-up* text type detection
 - Potential role of language contact phenomena? → potential follow-up: CCs in translated texts
-

Conclusion

- High degree of text type variation but also individual differences in the use of CCs
- especially clear differences between fiction vs. functional literature / science, partly because of conceptually written nature of the two latter text types
- stylistic factors as well as "extravagance" probably played a key role in the emergence and spread of non-canonical CCs
- However, the exact factors determining the use of non-canonical CCs will have to be studied in more detail.

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Thanks for your attention!

And thanks to **Jiabin Yao** and **Lynn Froben** for annotating large parts of the data as well as to **Jirayu Tharincharoen** for helpful comments!