

Language structures are unique but comparative grammar is nevertheless useful

MARTIN HASPELMATH

Max-Planck-Institut für evolutionäre Anthropologie

– each language is **structurally unique** – but we still want to **compare** languages (§1)

– but we don't know what the **universal primitive building blocks** might be (§2)

– so in practice, the categories of different languages are **incommensurable**, because they are defined by **language-particular** criteria (§3)

– general comparison must involve **types of forms**/expressions, or **meanings**, not **classes**/categories (§4.1)

– this allows us to use **the same criteria for all languages**, and to avoid diagnostic-fishing (§4.2)

– doing both of them together is useful for **transparency** and **inspiration**, but description and comparison cannot make use of the same concepts (§5)

(– when we compare two closely related languages, these limitations are not necessarily apparent, but they can sometimes become relevant even when comparing German and English)

I. Each language is idiosyncratic

• Some languages have a large number of words for snow, and others have an incredibly rich number of **verbs of dressing** (König & Gast 2018: 257):

German		English verb
verb	object	
<i>anziehen</i>	<i>Mantel, Handschuhe, Schuhe, Socken, Kleid, Hemd, Hose, Schürze, BH, Anzug, etc.</i>	<i>put on</i>
<i>aufsetzen</i>	<i>Hut, Krone, Perücke, Maske, Brille, Kapuze, Kopfhörer, etc.</i>	
<i>anlegen</i>	<i>Robe, Ornat, Rüstung (Panzer), Orden, Ohrringe, Schmuck, etc.</i>	
<i>umbinden</i>	<i>Krawatte, Kopftuch, Gürtel, Armbanduhr, etc.</i>	
<i>umlegen</i>	<i>Stola, Halskette, etc.</i>	
<i>anstecken</i>	<i>Ring, Brosche, etc.</i>	

Table 14.4 German verbs of dressing

- Some languages seemingly lack transitive clauses,
e.g. Lezgian (Mel'čuk 1988):

- (1) a. Алиди киц| кьена.
Ali-di kic' q'e-na.
 Ali-ERG dog die-AOR
 'Ali killed the dog.' (Mel'čuk: 'The dog died through Ali.')
- b. Киц| кьена.
Kic' q'e-na.
 dog die-AOR
 'The dog died.'

- Some languages seem to have “collective nouns” instead of plural nouns,
e.g. Welsh (Nurmio 2019):

- (2) *moron* 'carrots' *plant* 'children' *brics* 'bricks'
moron-en 'a carrot' *plent-yn* 'child' *brics-en* 'brick'

- Some languages seem to have a weird hybrid between an infinitive and a participle,
e.g. the German Gerundive:

- (3) *das Problem ist schwer zu lös-en* ,the problem is hard to solve'
ein schwer zu lös-endes Problem 'a hard-to-solve problem'

Especially the structuralist movement has emphasized the **uniqueness** of each language and made a point of describing **each language in its own terms**, with its own categories.

Many linguists have emphasized that in describing another language, we may be unduly influenced by what we know from some other language(s). In the worst case, we impose a **Procrustean bed** onto another language.

Boas (1911: 81):

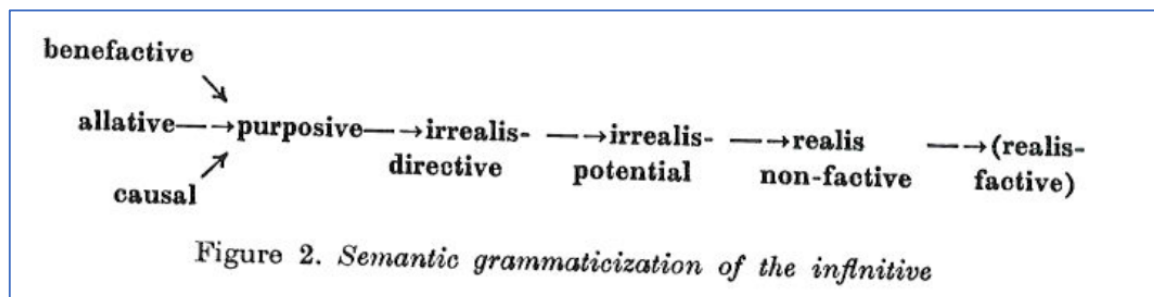
In accordance with the general views expressed in the introductory chapters, the method of treatment has been throughout an analytical one. No attempt has been made to compare the forms of the Indian grammars with the grammars of English, Latin, or even among themselves; but in each case the psychological groupings which are given depend entirely upon the inner form of each language. In other words, the grammar has been treated as though an intelligent Indian was going to develop the forms of his own thoughts by an analysis of his own form of speech.

e.g. Ščerba (1945: 186)

[Underdescribed languages should be studied] “concretely, without seeing them through the prism of the researcher’s native language, or another language with a traditional grammar, which distorts the grammatical reality...”

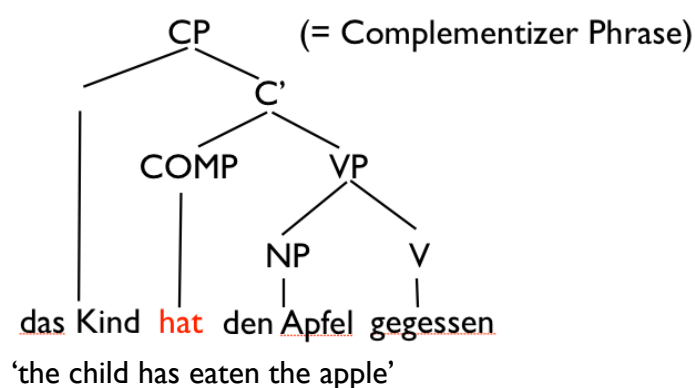
e.g. Wierzbicka (2014): *Imprisoned in English*

An example of **naïve adoption of a common term** for comparison:
Haspelmath (1989) on “infinitives”:



An example of a **Procrustean-bed description**:

German syntax with the Prefield as “Spec of CP”:



• The Boasian skepticism about traditional European concepts is as important as it was in the early 20th century

– linguistics is still full of stereotypes about language structures

(e.g. about wordhood; or about fusional vs. agglutinating vs. isolating languages)

2. We do not know what the universal primitive building blocks are

Linguists often assume that the building blocks of which grammars are made (architectures, categories, features) are innately specified, e.g.

„...children must be equipped with an innate Universal Grammar: **a set of plans for the grammatical machinery that powers all human languages.**” (Pinker 2007)

“Children are preprogrammed to adhere to these principles of linguistic analysis as part of the **blueprint** for their development.” (Crain & Thornton 1998: §3.6)

“UG is proposed as part of an innate biologically endowed language faculty... UG provides a genetic **blueprint**, determining in advance what grammars can (and cannot) be like.” (White 2003: 2)

These building blocks might be comparable to the five innate **tastes**, the five innate **emotions**, or the ingredients of “core knowledge” (e.g. Spelke 2007; 2022)



They might be comparable to the chemical elements in the **periodic table** (Baker 2001).

If we find these building blocks, we could use them also to compare languages.

But what are these innate building blocks for grammars?

We have concrete proposals for phonology (Chomsky & Halle 1968), where many textbook provide a list of phonological features (e.g. Hayes 2009: Chapter 4)

– but **no concrete proposals** for morphosyntax. We are far from a “periodic table of categories and parameters”

(We do not even know whether nominal expressions are NPs or DPs: Freywald et al. (2022); Pullum & Miller (2022))

3. The nature of categories of grammar: language-particular all the way down

Not only **forms** are idiosyncratic, such as English *put on*, or German *anstecken*, but **categories** (= form-classes) are idiosyncratic, too, e.g.

e.g. Latin **Infinitive** – not really comparable across languages (Haspelmath 1989; Cristofaro 2007)

in German,

- do we have two infinitives of each verb? (*lös-en, zu lös-en*)
- does the *zu*-infinitive have an adnominal form? (*das zu lös-ende Problem*)
- is the form with article an infinitive, too? (*das Lös-en des Problems*)

(B) **strange analyses** that run the risk of being ethnocentric

e.g. “**determiners**” in Mandarin Chinese

b. [DP D [NumP san ge xuesheng]]
 three CL student (Li 1998)

e.g. “**agreement**” in Italian

(4) English The girl[SG] sing-s[SG].
 The girls[PL] sing[PL].

 She[SG] sing-s[SG].
 They[PL] sing[PL].

(5) Italian La ragazza[SG] canta[SG]. ‘The girl sings.’
 Le ragazze[PL] cantano[PL]. ‘The girls sing.’

 Canta[SG]. ‘She sings.’
 Cantano[PL]. ‘They sing.’

Anglocentric analysis of Italian, with “pro-drop”:

(6) PRONOUN[SG] canta[SG]. ‘She sings.’
 PRONOUN[PL] cantano[PL]. ‘They sing.’

Describing Italian in its own terms:

(7) Cant-a[3SG]. ‘She sings.’ (affixal subject expression)
 Cant-ano[3PL]. ‘They sing.’
 Cant-o[1SG]. ‘I sing.’

(8) La ragazza[SG] canta[3SG]. ‘The girl sings.’ (double subject expression)
 Le ragazze[PL] cantano[3PL]. ‘The girls sing.’

Categories are **idiosyncratic**, and languages are **incommensurable**.

Similarly, the the categories of other cultural systems are idiosyncratic and incommensurable, e.g. mythical characters (such as angels or apsaras), or the sacred significance of water:



Hindu Holy Water fountain (Bali)



Holy Water container (Mannheim Jesuit Church)

Of course, languages exhibit many similarities in terms of substance, but the key structuralist insight is that they often **differ in structure** even when **the substance is similar**.

Fries (1955: 3):

(a) The *same phonetic differences* may have (and probably will have) entirely different structural values from language to language.

Since the 1970s, the structural incommensurability has been played down, and the similarities have been highlighted – often with the assumption that categories such as “adjective” or “transitive” are universal.

e.g. Miller (1973: 336) on Ščerba

The traditional Soviet account is not very satisfactory, since one either has to accept a new part of speech or some loose ends in one’s taxonomy. The question which now has to be answered is whether generative grammar offers any new insights

It will be assumed in this paper that verbs and adjectives are surface-structure categories which derive from a single deep-structure category

e.g. Haspelmath (1991: 24) on Lezgian

In conclusion, we can say one thing for sure: The hypothesis that all Lezgian verbs are intransitive-processual is wrong, and universal semantic theories of the conceptualization of events are saved. Instead, Lezgian is much like English:

But this approach was naïve, as it took the similarities at face value, much as in the pre-Boasian era.

“Adjective” and “transitive” are **traditional stereotypes**, and the differences between languages do not go away just because one focuses on the similarities.

Language-particular classes are defined by **language-particular** criteria, e.g.

- German Adjectives: (*schön, groß, vergnüglich, ...*)
defined by the inflection pattern *-er/-e/es*
- German Gerundive: (*zu lösen(d), ...*)
defined by the suffix *-en(d)* (plus adjective-like inflection)
- English Noun: (*tree, sister, wave, ...*)
defined by cooccurrence with definite article *the*
- English Double Object construction: (*She gave me the money*)
defined by occurrence in $[NP_1 - V - NP_2 - NP_3]$,
where NP_3 is referentially distinct from NP_2

Compare the Greek construction in (12) (cf. Anagnostopoulou 2005: 63):

- (12) *I Eléni éstile ti-s María-s ena yráma.*
the Eleni sent the-GEN Maria-GEN a letter
'Eleni sent Maria a letter.'

Is this a "double object construction"? Not in the English sense, because this is defined with respect to English categories.

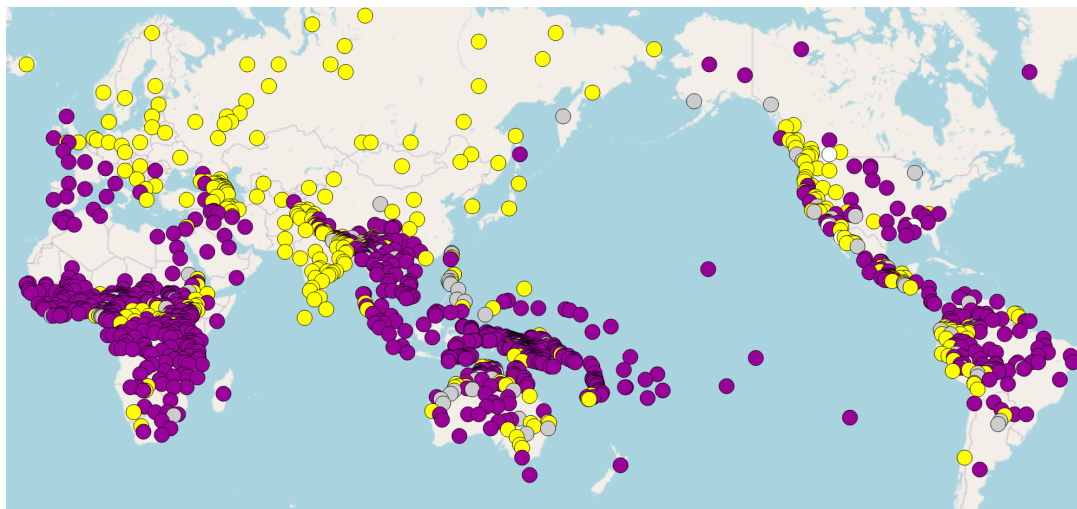
- French Clitic: an unstressed Subject or Object pronoun
(e.g. *je te vois* 'I see you')
- English Clitic: reduced auxiliary
(e.g. *she's going, we'll come, I'd come*)

4. Comparing languages in the face of incommensurability: Using the same criteria for all languages

4.1. Meanings and forms, not categories

Obviously, languages can be compared – but not with respect to their categories.

Cf. maps of the *World atlas of language structures*, e.g. Dryer (2005/2013), on the order of noun and adjective:



Greenberg (1963: 59):

I fully realize that in identifying such phenomena in languages of differing structure, one is basically employing semantic criteria. There are very probably formal similarities which permit us to equate such phenomena in different languages. However, to have concentrated on this task, important in itself, would have, because of its arduousness, prevented me from going forward

Levinson & Evans (2010: 2738)

“Language-specificity of categories raises problems especially for [cross-linguistic studies], as the typologists have become increasingly aware (Dryer 1997; Haspelmath 2007; 2010). It doesn’t follow that comparison is impossible, only that it has to be undertaken **in an auxiliary language** designed to generalize over language-specific categories.”

Comparing **adjectives**:

semantic definition (property concepts: age, dimension, value, ...)

Comparing **articles** (not: “determiners”)

discourse-functional definition (bound form used for specificity/definiteness)

Comparing **nouns**:

semantic definition (object and person concepts: ‘tree’, ‘woman’, ...)

Comparing **uniplex and multiplex noun forms**:

(Haspelmath & Karjusz 2017)

semantic definition: **uniplex:** carrot, **piece** of furniture, Welsh *moron-en*
multiplex carrots, furniture, Welsh *moron-Ø*

Comparing **ergative** and **accusative**:

(Haspelmath 2022)

semantic definition: **ergative** marker = a marker occurring on the agent of a transitive clause
accusative marker = a marker occurring on the patient of a transitive clause

Comparing **transitive**:

(Haspelmath 2011b)

semantic definition: **transitive** construction ≈
 a combination of change-of-state verb
 with agent- and patient-denoting forms

- (1) a. Алиди киц| кьена. (Lezgian)
Ali-di kic' q'e-na.
 Ali-ERG dog die-AOR
 'Ali killed the dog.' (Mel'čuk: 'The dog died through Ali.')

(This is thus by definition transitive; Haspelmath (1991) was on the wrong track.)

Comparing **affix** and **clitic** (and **grammatical marker**)

formal definition: an **affix** is a bound morph that is not a root and that always occurs on roots of the same class (Haspelmath 2021)

a **clitic** is a bound morph that is neither a root nor an affix (Haspelmath 2022)

a **grammatical marker** is an affix or a clitic

(French Clitics are affixes by this definition; cf. Miller 1992)

Comparing **ditransitive constructions**:

(Haspelmath 2015)

semantic definition: a combination of transfer verb with agent-, theme- and recipient-denoting forms

meaning-and-form definitions:

double object construction: a ditransitive construction with equal marking of theme and recipient

indirective construction: a ditransitive construction with theme **marked** like monotransitive patient

Consider Greek again:

- (12) *I Eléni éstile ti-s María-s to-n aðelfó tis.*
 the Eleni sent the-GEN Maria-GEN the-ACC brother her
 'Eleni sent Maria her brother.'

This is a ditransitive construction, of the indirective type (not the double object type): the Greek Genitive is a special **marker** of the recipient, corresponding to the English preposition *to*.

4.2. No diagnostic-fishing

Comparing languages in terms of **meanings and forms, rather than categories**, allows us to avoid **diagnostic-fishing**,

i.e. the use of different criteria for different languages

Diagnostic-fishing is a widespread practice, but it leads to **subjective test batteries** (discussed earlier).

The use of different criteria for different languages is often justified, e.g. by Cheng & Corver (2013: 12):

“...one should not rely too much on a single diagnostic test. **A rich diagnostic procedure consisting of several tests** contributes greatly to one’s understanding of the ‘hidden structure’ of a syntactic phenomenon or construction”

Chierchia (2010) on the **mass-count** distinction:

“The idea is that **each language will have specific** morphosyntactic generalizations that distinguish mass from count (just like, say, every language has criteria to tease subjects from objects).” (Chierchia 2010: 105)

Mel’čuk (2013) on the notion of **subject**:

“...the [syntactic subject is] cross-linguistically universal. However, in a different sense, the [subject] is language-specific in so far as syntactic privileges are **different in different languages**: thus, in many Indo-European languages the main privilege of a clausal element is to impose agreement on the Main Verb, while in Malagasy it is to occupy the clause-final position.”

Diagnostic-fishing with different tests for different languages is not a rigorous method (Croft 2009: “methodological opportunism”).

THUS:

- Language description **does not depend on language comparison** (but merely on language-internal criteria);
- and language comparison **does not have to rely on definitive language-particular analyses** (but merely on the correct facts)

→ description and comparison are relatively independent enterprises

5. Comparative grammar helps language description in two ways: Transparency and inspiration

Doing both of them together is useful for **transparency** and **inspiration**, but description and comparison cannot make use of the same concepts (Haspelmath 2020).

5.1. Transparency

It is of course more transparent if similar categories in different languages have names that sound familiar.

Lehmann (2018: §1.1) writes:

“Since at least some of the linguistic elements and categories of [a] language are unlike those of any other language, it has often been claimed that every language must be described in its own terms, **implying that concepts used in the description of one language are useless in the description of another language**. This is a *non sequitur*.”

This is evident, for example, in interlinear glossing – as in the contributions to the *Dictionaria* dictionary series, e.g.

Palula (Liljegen 2016):

gáaɖu kučúru ta ʃheení bhaašáanu, lhoóku kučúru ba gúči bhaašáanu.

gaɖ -u kučúru ta ʃháan -í bháaš -án -u lhoók -u kučúru ba gúči bháaš -án -u

big -MSG dog DS know -CV bark -PRS -MSG small -MSG dog TOP without.reason bark -PRS -MSG

‘A big dog barks because of recognition, but the small dog barks for nothing. [Proverb]’

Boas (1911: 82)

Owing to the fundamental differences between different linguistic families, it has seemed advisable to develop the terminology of each independently of the others, and to seek for uniformity only in cases where it can be obtained without artificially stretching the definition of terms. It is planned to give a comparative discussion of the languages at the close of these volumes, when reference can be made to the published sketches.

And transparent terminology is useful for high school students who are studying the grammatical systems of multiple languages – in fact, this has long been a concern of politicians in Germany (e.g. Hennig 2012; Hennig & Langlotz 2020).

The screenshot shows the 'grammis' website interface. At the top, there is a search bar and navigation links for 'Forschung', 'Grundwissen', 'Ressourcen', and 'Anmelden'. Below the search bar, there is a list of grammatical terms (Termini) with a checkbox for 'Registertermini einblenden'. The list includes: 1. Adjektiv, 2. Adjektivgruppe, 3. Adjunkt, 4. Adjunktgruppe, 5. Adverb, 6. Adverbgruppe, 7. Adverbial, 8. Affix, 9. Aktiv, 10. Artikel, 11. Attribut. To the right of the list, there is a section titled 'Verzeichnis grundlegender grammatischer Fachausdrücke' with a description of the digital version of the glossary. Below this, there is a 'Download' button and a small image of a book cover. The bottom part of the page shows the beginning of the '1. Zielsetzung' section.

5.2. Inspiration

There is no doubt that by considering the phenomena of other languages, we can be **inspired** to ask questions about our own language that we wouldn't have thought about otherwise.

Himmelman (2022) gives the example of “NP-final Articles” in Wooi, an Austronesian language of Indonesia:

Table 1. (Incomplete) list of formal and semantic properties that are crosslinguistically attested for pronouns in determiner-like function

Crosslinguistic property	Applies to Wooi NP-final article
occurs NP-finally	+
same number and person values as free pronoun	+
complete paradigm of pronouns used in NP-final position	– (1s excluded)
distinction between long and short forms	–
used with pronouns	–
used in all NPs	–
additive plural readings	+
associative plural readings	+
partitive reading	–
used with proper names	+
used in expressions for unique referents	+
used in first mentions	+
...	

Himmelman offers a harsh critique of the approach outlined by Haspelmath (2010; 2018), calling it “disastrous”, and claiming that

“language description and comparison are closely interlinked and cannot be sharply distinguished from each other.” (2022: 156)

But I don't think that any disaster has occurred – Himmelman has simply misunderstood the important **inspirational role** of comparative investigations. Of course, this role leads to close links between comparison and description.

For language-particular analyses, only language-particular criteria are **decisive**.

6. Concluding remarks

- The nonhistorical comparison of language structures still presents us with **conceptual challenges** – especially in worldwide typology, but probably also in smaller-scale contrastive linguistics.
- Language description relies on **categories**, which are defined in language-particular terms (by language-particular contrasts).

- Comparison relies on **general semantic concepts** and **general formal concepts** which can be applied in all languages (“comparative concepts”).
- Neither particular linguistics nor general-typological linguistics is **dependent** on the other – they can learn from each other, but there is no relation of dominance.

References

- Anagnostopoulou, Elena. 2005. Cross-linguistic and cross-categorical variation of datives. In Stavrou, Melita & Terzi, Arhonto (eds.), *Advances in Greek generative grammar*, 61–126. Amsterdam: Benjamins.
- Baker, Mark C. 2001. *The atoms of language*. New York: Basic Books.
- Boas, Franz. 1911. Introduction. In Boas, Franz (ed.), *Handbook of American Indian languages*, 1–83. Washington, DC: Bureau of American Ethnology.
- Cheng, Lisa Lai Shen & Corver, Norbert. 2013. Syntactic diagnostics in the study of human language. In Cheng, Lisa Lai Shen & Corver, Norbert (eds.), *Diagnosing syntax*, 1–17. Oxford: Oxford University Press.
- Chierchia, Gennaro. 2010. Mass nouns, vagueness and semantic variation. *Synthese* 174(1). 99–149. (doi:10.1007/s11229-009-9686-6)
- Chomsky, Noam & Halle, Morris. 1968. *The sound pattern of English*. New York: Harper & Row.
- Crain, Stephen & Thornton, Rosalind. 1998. *Investigations in universal grammar*. Cambridge, MA: MIT Press.
- Cristofaro, Sonia. 2007. Deconstructing categories: Finiteness in a functional-typological perspective. In Nikolaeva, Irina (ed.), *Finiteness: Theoretical and empirical foundations*, 91–114. Oxford: Oxford University Press.
- Croft, William. 2009. Methods for finding universals in syntax. In Scalise, Sergio & Magni, Elisabetta & Bisetto, Antonietta (eds.), *Universals of language today*, 145–164. Dordrecht: Springer.
- Dryer, Matthew S. 2005. Order of adjective and noun. In Haspelmath, Martin & Dryer, Matthew S. & Gil, David & Comrie, Bernard (eds.), *The world atlas of language structures*, 354–357. Oxford: Oxford University Press.
- Freywald, Ulrike & Simon, Horst J. & Müller, Stefan (eds.). 2022. *Headedness and/or grammatical anarchy? Language Science Press*. Berlin: Language Science Press. (doi:10.5281/zenodo.6973523)
- Fries, Charles C. 1955. American linguistics and the teaching of English. *Language Learning* 6(1–2). 1–22. (doi:10.1111/j.1467-1770.1955.tb00828.x)
- Greenberg, Joseph H. 1963. Some universals of grammar with particular reference to the order of meaningful elements. In Greenberg, Joseph H. (ed.), *Universals of language*, 73–113. Cambridge, MA: MIT Press.
- Haspelmath, Martin. 1989. From purposive to infinitive: A universal path of grammaticalization. *Folia Linguistica Historica* 10(1–2). 287–310.
- Haspelmath, Martin. 1991. On the question of deep ergativity: The evidence from Lezgian. 44/45(1–2). 5–27. (doi:10.5281/zenodo.225289)
- Haspelmath, Martin. 2007. Pre-established categories don’t exist: Consequences for language description and typology. *Linguistic Typology* 11(1). 119–132.
- Haspelmath, Martin. 2010. Comparative concepts and descriptive categories in crosslinguistic studies. *Language* 86(3). 663–687. (doi:10.1353/lan.2010.0021)
- Haspelmath, Martin. 2011a. The indeterminacy of word segmentation and the nature of morphology and syntax. *Folia Linguistica* 45(1). 31–80. (doi:10.1515/flin-2017-1005)
- Haspelmath, Martin. 2011b. On S, A, P, T, and R as comparative concepts for alignment typology. *Linguistic Typology* 15(3). 535–567.

- Haspelmath, Martin. 2015. Ditransitive constructions. *Annual Review of Linguistics* 1. 19–41. (doi:10.1146/annurev-linguist-030514-125204)
- Haspelmath, Martin. 2021. Bound forms, welded forms, and affixes: Basic concepts for morphological comparison. *Voprosy Jazykoznanija* 2021(1). 7–28. (doi:10.31857/0373-658X.2021.1.7-28)
- Haspelmath, Martin. 2022. Types of clitics in the world's languages. *Linguistic Typology at the Crossroads* (to appear).
- Haspelmath, Martin & Karjus, Andres. 2017. Explaining asymmetries in number marking: Singulatives, pluratives, and usage frequency. *Linguistics* 55(6). 1213–1235. (doi:10.1515/ling-2017-0026)
- Hayes, Bruce. 2009. *Introductory phonology*. Malden, MA: Wiley-Blackwell.
- Hennig, Mathilde. 2012. Grammatische Terminologie in der Schule: Einladung zur Diskussion. *Zeitschrift für Germanistische Linguistik* 40(3). 443–450. (doi:http://dx.doi.org/10.1515/zgl-2012-0028)
- Hennig, Mathilde & Langlotz, Miriam. 2020. Das “Verzeichnis grundlegender grammatischer Fachausdrücke 2019”: Anliegen, Konzeption, Perspektiven. *Sprachreport* 36(2). 20–31.
- König, Ekkehard & Gast, Volker. 2018. *Understanding English-German contrasts* (Grundlagen der Anglistik und Amerikanistik). 4., neu bearbeitete Auflage. Berlin: Erich Schmidt Verlag.
- Lehmann, Christian. 2018. Linguistic concepts and categories in language description and comparison. In Chini, Marina & Cuzzolin, Pierluigi (eds.), *Typology, acquisition, grammaticalization studies*, 27–50. Milan: Franco Angeli. (https://www.christianlehmann.eu/publ/lehmann_ling_concepts_categories.pdf)
- Levinson, Stephen C. & Evans, Nicholas. 2010. Time for a sea-change in linguistics: Response to comments on ‘The myth of language universals.’ *Lingua* 120(12). 2733–2758.
- Li, Yen-hui Audrey. 1998. Argument determiner phrases and number phrases. *Linguistic Inquiry* 29(4). 693–702.
- Mel'čuk. 1988. *Dependency syntax: Theory and practice*. Albany: SUNY Press.
- Mel'čuk, Igor A. 2013. Syntactic subject, once again. In Apresjan, Valentina & Iomdin, Boris & Ageeva, Ekaterina (eds.), *Proceedings of the 6th International Conference on Meaning-Text Theory, Prague, August 30-31, 2013*, iii–xxxiii. Prague.
- Miller, Jim. 1973. A generative account of the “category of state” in Russian. In Kiefer, Ferenc & Ruwet, Nicolas (eds.), *Generative grammar in Europe* (Foundations of Language 13), 333–359. Dordrecht: Reidel.
- Miller, Philip H. 1992. *Clitics and constituents in phrase structure grammar*. New York: Garland.
- Nurmio, Silva. 2019. Grammatical number in Welsh: Diachrony and typology. *Transactions of the Philological Society* 117(S1). 1–272. (doi:https://doi.org/10.1111/1467-968X.12157)
- Pinker, Steven. 2007. *The stuff of thought: Language as a window into human nature*. New York: Viking.
- Pullum, Geoff & Miller, Philip. 2022. NPs versus DPs: why Chomsky was right. *LingBuzz*. (https://ling.auf.net/lingbuzz/006845)
- Ščerba, L.V. 1928. O častjax reči v russkom jazyke (Reprinted in Ščerba, L. V., 1957, *Izbrannye raboty po russkomu jazyku*, Moscow). *Russkaja Reč' (Novaja Serija)*.
- Ščerba, L.V. 1945. Očerrednye problemy jazykovedenija. *Izvestija Akademija Nauk SSSR* 1945. 173–186.
- Spelke, Elizabeth. 2022. *What babies know: Core knowledge and composition* (Oxford Series in Cognitive Development). New York: Oxford University Press.
- Spelke, Elizabeth S. & Kinzler, Katherine D. 2007. Core knowledge. *Developmental Science* 10(1). 89–96.
- White, Lydia. 2003. *Second language acquisition and universal grammar*. Cambridge: Cambridge University Press.
- Wierzbicka, Anna. 2014. *Imprisoned in English: The hazards of English as a default language*. Oxford: Oxford University Press.