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Variations on the theme of structured data

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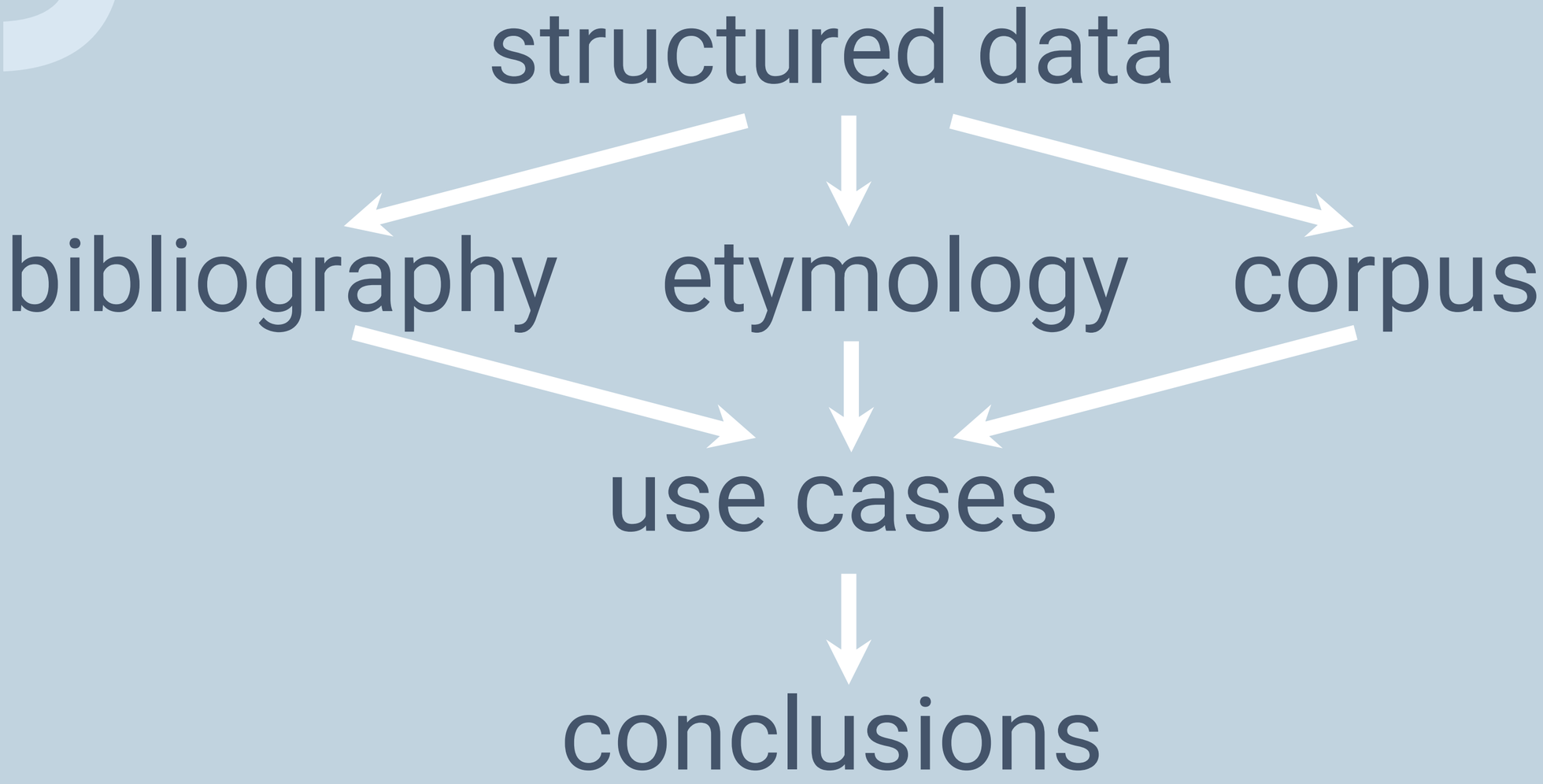
Eesti Keele Instituut | EKI

Digital Dictionary Database for Slovenian: unstructured, semi-structured and structured data in modern lexicography

Simon Krek, “Jožef Stefan” Institute, Slovenia


structured data
bibliography
etymology
corpus
use cases
conclusions

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STRUCTURED DATA

For every data element, we know what it is

- Each field contains a single piece of data
- Each piece of data is located on a single field

STRUCTURED DATA

piano – 1. *adj* flat, level, 2. *adv* quietly, 3. *n* plane (*geometry*)

piano – 1. *adj* flat, level, 2. *adv* quietly, 3. *n* plane (*geometry*)

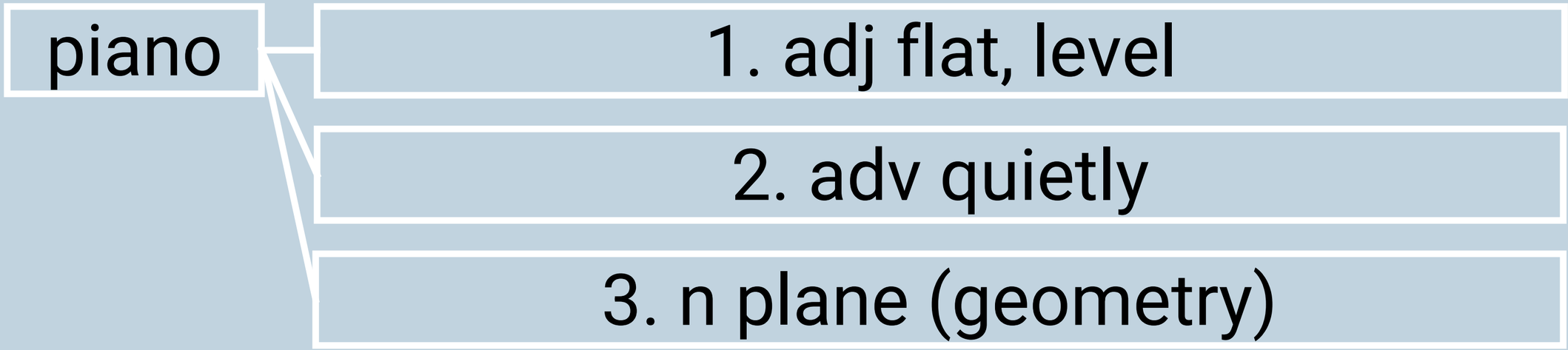
piano	1. adj flat, level, 2. adv quietly, 3. n plane (geometry)

piano – 1. *adj* flat, level, 2. *adv* quietly, 3. *n* plane (*geometry*)

piano	1. adj flat, level, 2. adv quietly, 3. n plane (geometry)

unstructured

piano – 1. *adj* flat, level, 2. *adv* quietly, 3. *n* plane (*geometry*)



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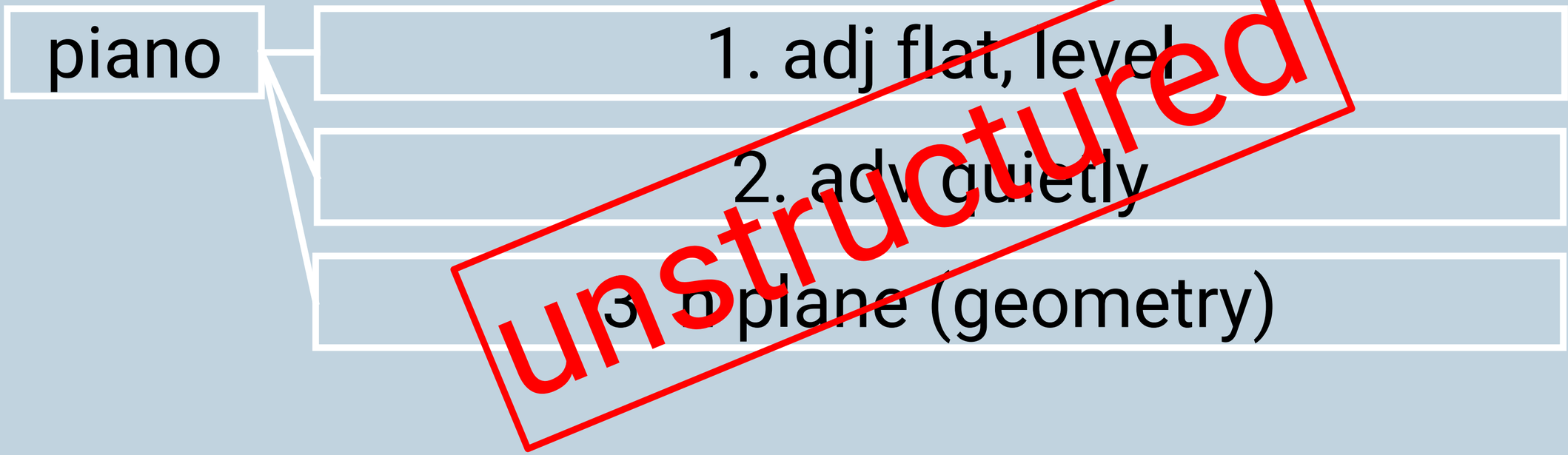

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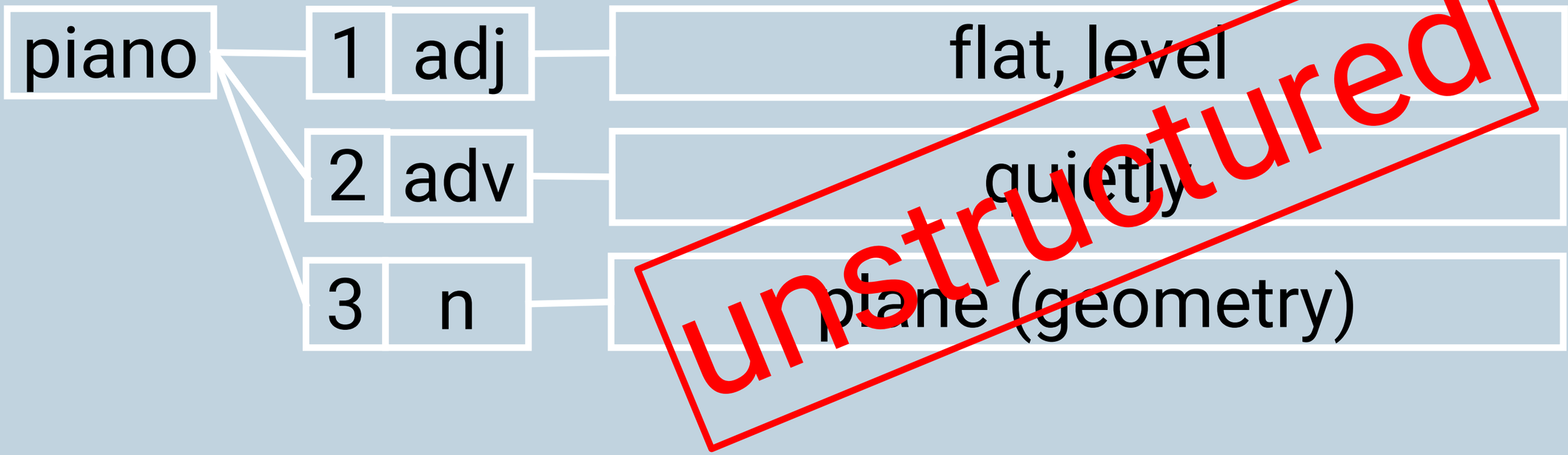

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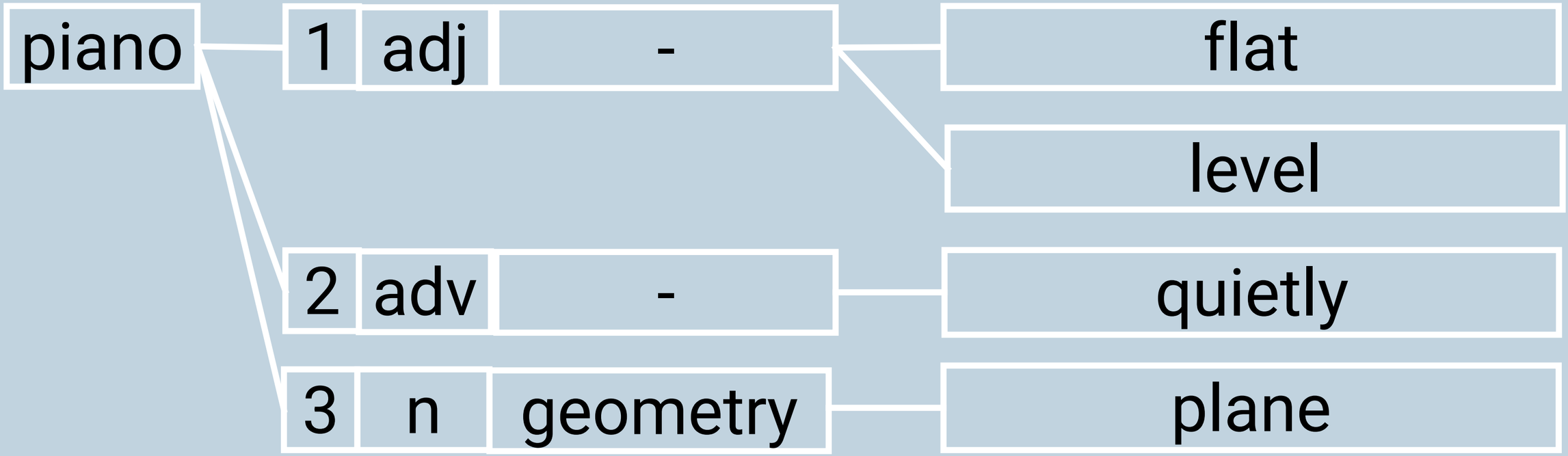

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BIBLIOGRAPHIC REFERENCES

Bamman, David, Jacob Eisenstein, and Tyler Schnoebelen. 2014. ‘Gender Identity and Lexical Variation in Social Media’. *Journal of Sociolinguistics* 18 (2): 135–60.

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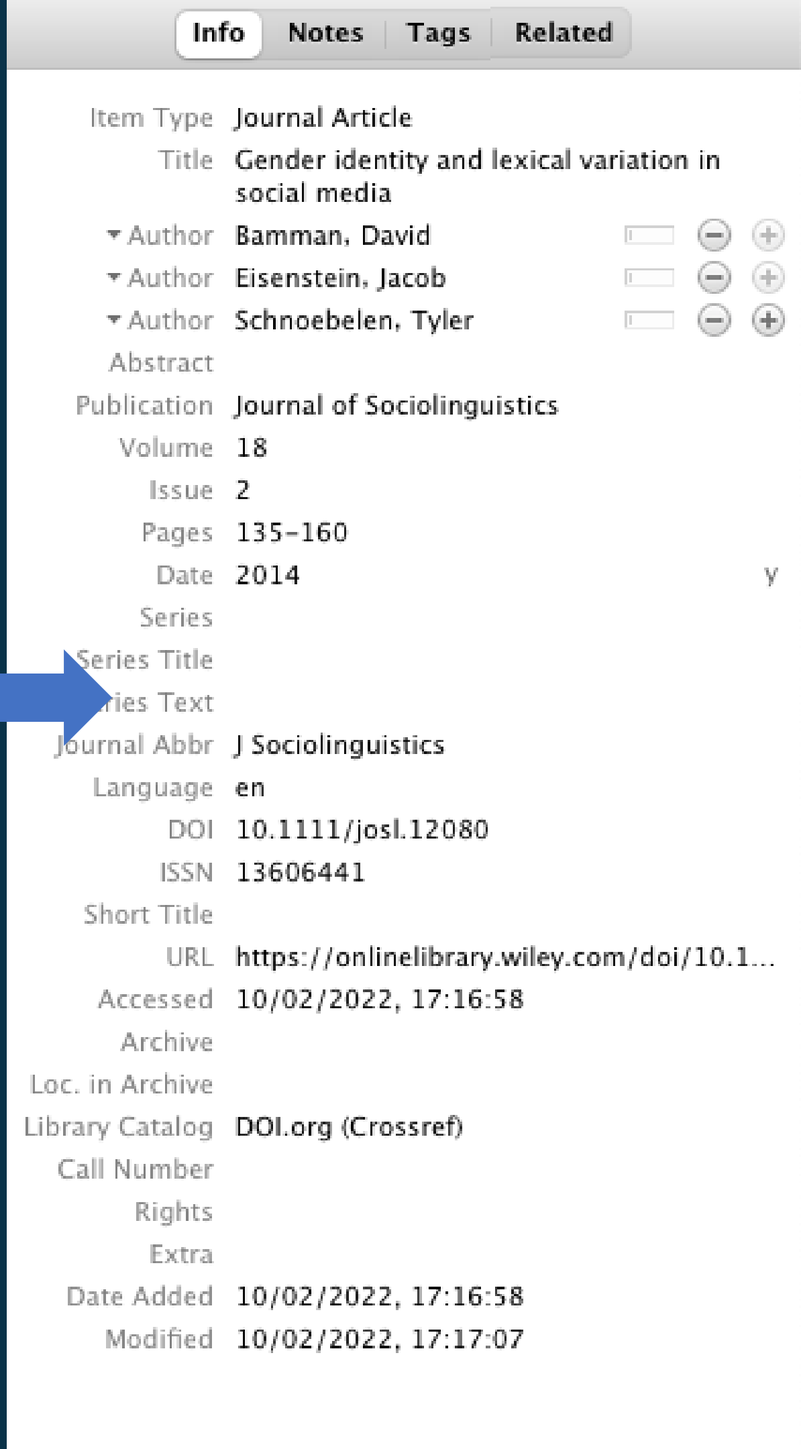

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Author	Eisenstein, Jacob
Author	Schnoebelen, Tyler
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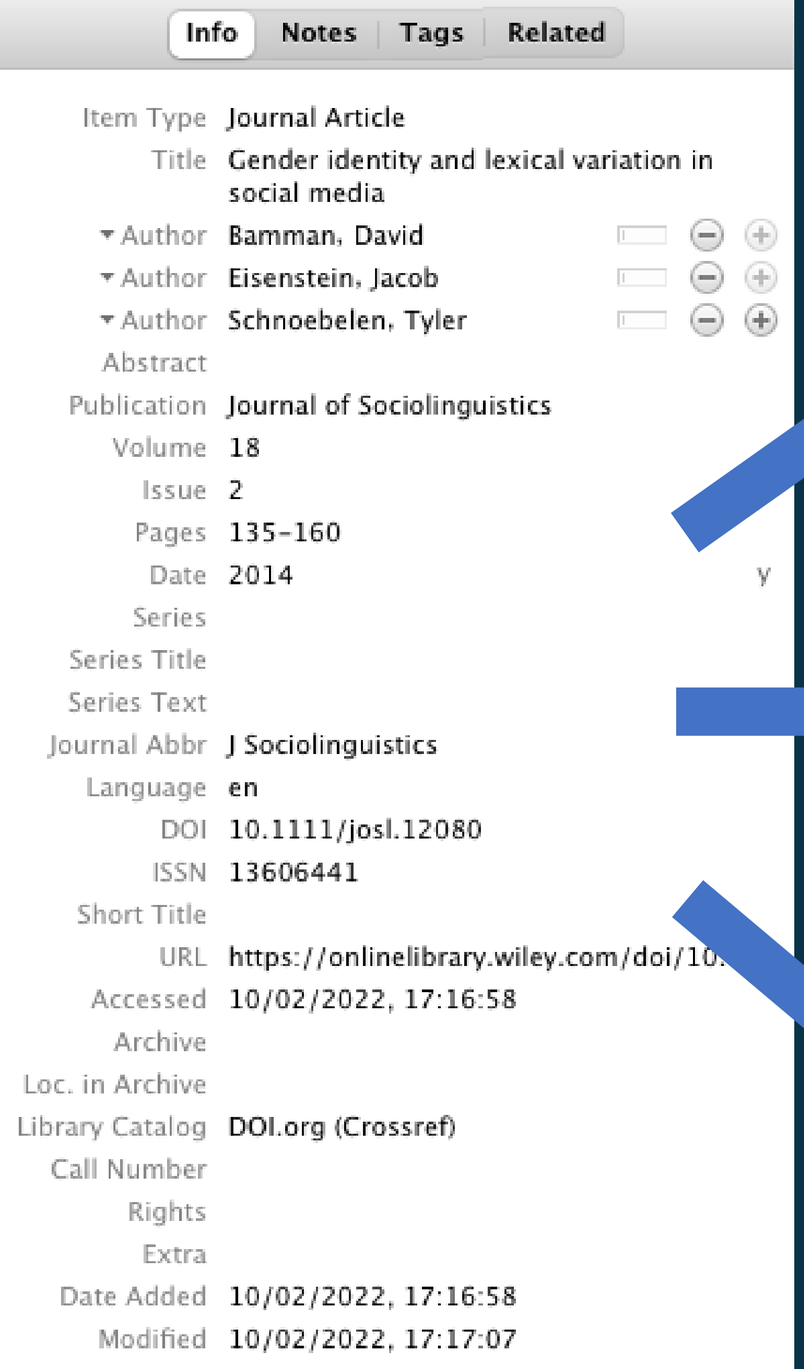

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Bamman, David, et al. 'Gender Identity and Lexical Variation in Social Media'. *Journal of Sociolinguistics*, vol. 18, no. 2, 2014, pp. 135–60.

Modern Language Association 9th edition

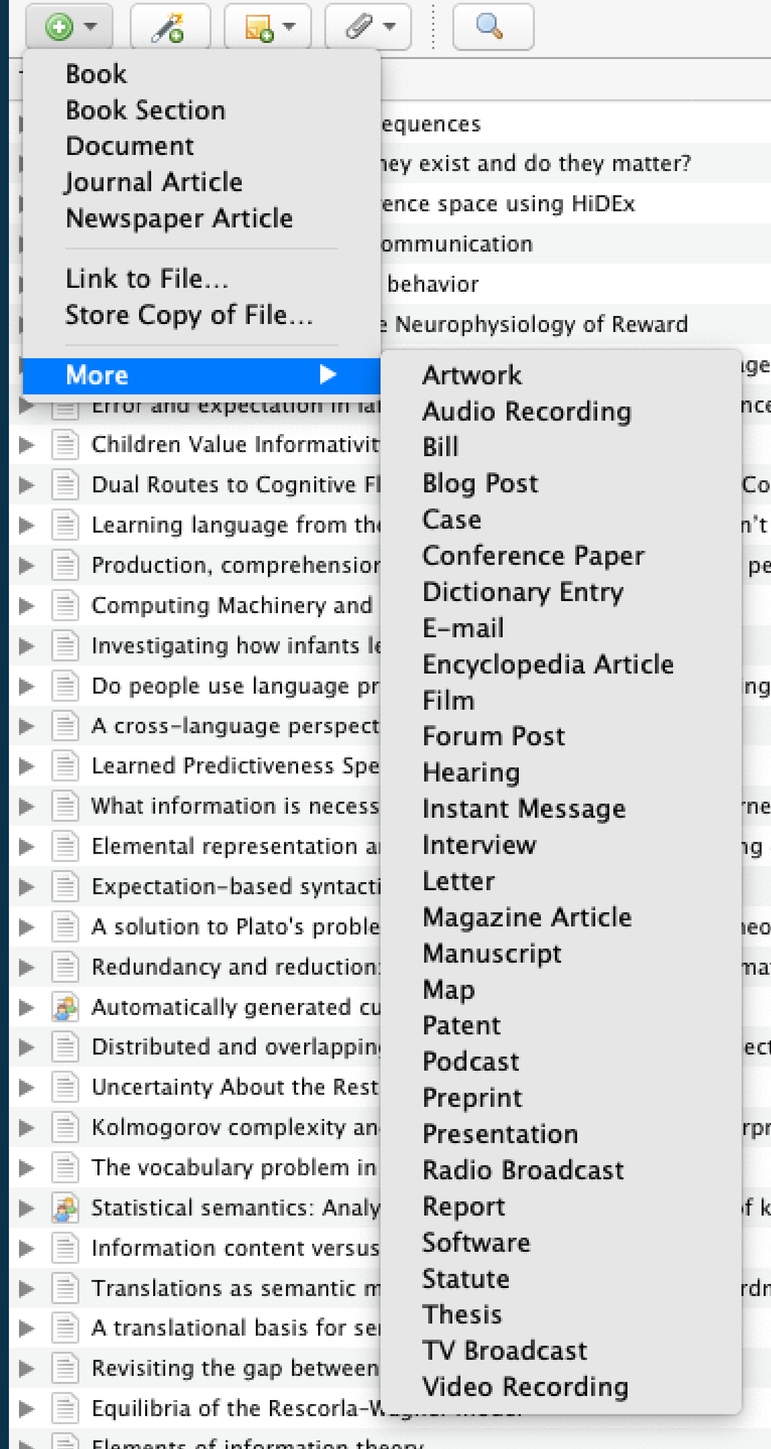
Bamman, D., Eisenstein, J. & Schnoebelen, T. Gender identity and lexical variation in social media. *J Sociolinguistics* **18**, 135–160 (2014)

Nature

Multiple document types

Multiple contributor types:

- author
- editor
- editor-in-chief
- but no publisher-in-charge (vastutav väljaandja)



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ETYMOLOGY

Etymology module

DMLex standard (ver 1.0 working draft 01), as well as Ekilex: unstructured AND structured

Päritolu LAENSÕNA

et *duodeenum*
qat *duodenum* 'kaksteistsõrmik' lühenenud kuju keskladina meditsiinikeelendist *duodenum* digitorium 'kaheteistkümne sõrme ruum', mis on tõlkelaen kreeka sõnast *dodekadaktylon* 'kaksteist sõrme pikk'. Keskladina väljendi tõi käibele *Canon* Avicennae tõlkija Gerard Cremonast (u 1114-1187)

Päritolu LAENSÕNA

et *safiir* Piiblisõnavara hulka kuuluv varane kirjakeelne laen
de *Saphir* 'safiir'
la *sapphīrus* 'safiir'
el *sappheiros* 'safiir'
he *sappīr* 'safiir'

Päritolu LAENSÕNA

et *kohv*
de *Koffee* 'kohv'
en *coffee* 'kohv'
it *caffè* 'kohv'
tr *kahve* 'kohv'
ar *qahwah* 'kohv'

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CORPUS DATA

**People don’t like the corpus,
because it contains real language**

Ondřej Matuška, Lexical Computing

Corpus queries: “real” language?

Veebilauseid

⚠ Veebilaused on automaatselt valitud ning võivad sisaldada vigu.

Must vari lume valgel **tasutal** koputab uksele.

Vesi ja **tasutal** ilusad Alpid, mida rohkemat tahta?

Paslik on meelde tuletada ja kuulata tänases maailmas toimuva **tasutal** spetsialisti soovitusi käitumiseks antud olukorras.

Põõsad lisavad kodusele **tasutale** rohelise ja looduslähedase tausta.

Eestisse püütakse lasta vaid kristliku **tasutaga** pagulasi, kel oleks lihtsam meie ühiskonda sulanduda.

Tegime veel kiriku **tasutal** pilti, ning lõpuks keerasime auto kodu poole.

Kokkuvõtteks, kui soovid endale sõpra, kellega rääkida aktiivselt ja huvitava **tasutaga**, siis kirjuta.

Peamat ise oli armastusest, moraalist, ihast

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WHAT IS A DICTIONARY FOR?

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Possible use cases

Use case	Unstructured	Structured
What is the source of this example	✓	✓
Where does this word come from	✓	✓
Show examples with sources published earlier than 1960	✗	✓
Show words derived from Greek via French	✗	✓
Help for avoiding mistakes	✗	✓
Help for avoiding duplicates, conflicts and inconsistencies	✗	✓
Easy to enter non-standard values	✓	✗
Can be automatically converted to the opposite	✗	✓
Data model complexity is manageable	✓	✗

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Two types of users

Human

- Tolerates ambiguity
- Can easily make inferences
- Can correct mistakes on the fly
- Does it need to be correct?

Machine

- Needs to be told explicitly
- Believes everything verbatim
- Does it need to know?

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Structured or not? The answer depends on the use case