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A workflow for creating, analysing, and storing multi-layer corpora: Pepper, Atomic, ANNIS and LAUDATIO

Stephan Druskat[1,2], Thomas Krause[1], Carolin Odebrecht[1], Florian Zipser[1]

[1]Humboldt-Universität zu Berlin, [2]Friedrich-Schiller-Universität Jena

A workflow for creating, analysing, and storing multi-layer corpora

- The creation and analysis of corpus linguistic resources pose technical challenges: Different tools and formats have to be combined in a single workflow
- These challenges can best be faced with a generic architecture and metamodel, common to the complete tool chain
- We present an open source set of tools which support the conversion (**Pepper**, Zipser et al. (2011)), annotation (**Atomic**, Druskat et al. (2014)), analysis (**ANNIS**, Krause & Zeldes (2014)), and long-term accessibility (**LAUDATIO**, Odebrecht et al. (2015)) of corpora
- Our tools are well-aligned due to a common, generic graph-based data model, **Salt** (Zipser & Romary, 2010), which is theory-neutral and supports annotation types which can be represented as key-value pairs
- Our tools can be freely combined to represent a complete, iterative workflow for the creation of corpus linguistic resources (cf. central graphic)

Pepper

Pepper is a Swiss army knife for the conversion of corpora from one linguistic format into another. It comes to the rescue whenever your annotation tool produces a format your analysis tool cannot read.

- Converts corpora from and into **many linguistic formats**: Elan, CoNLL, MMAX2, ANNIS, Gate, RST, TCF, CoraXML, TreeTagger, Aldt, UAM, EXMARaLDA, generic XML, PTB, PAULA, TEI (subset), Tiger XML, txt, SaltXML, …
- **Merges corpora** from different formats into a single multi-layer corpus via its merging module
- Assists in the **documentation of your corpus** via its info module (Voigt et al., 2016)
- Uses Salt as a common meta model and is therefore **independent of tagsets or linguistic theories**
- **Extensible** for further formats and tasks via plug-in mechanism
- Available as **stand-alone** tool
- Can be integrated into your own tool as a **Java library**
- **Open source** and free (Apache License, source code on GitHub)
- Runs on **all major OSs** (written in Java)

Try it now!

- Download: **corpus-tools.org/pepper**
- Join the project and contribute

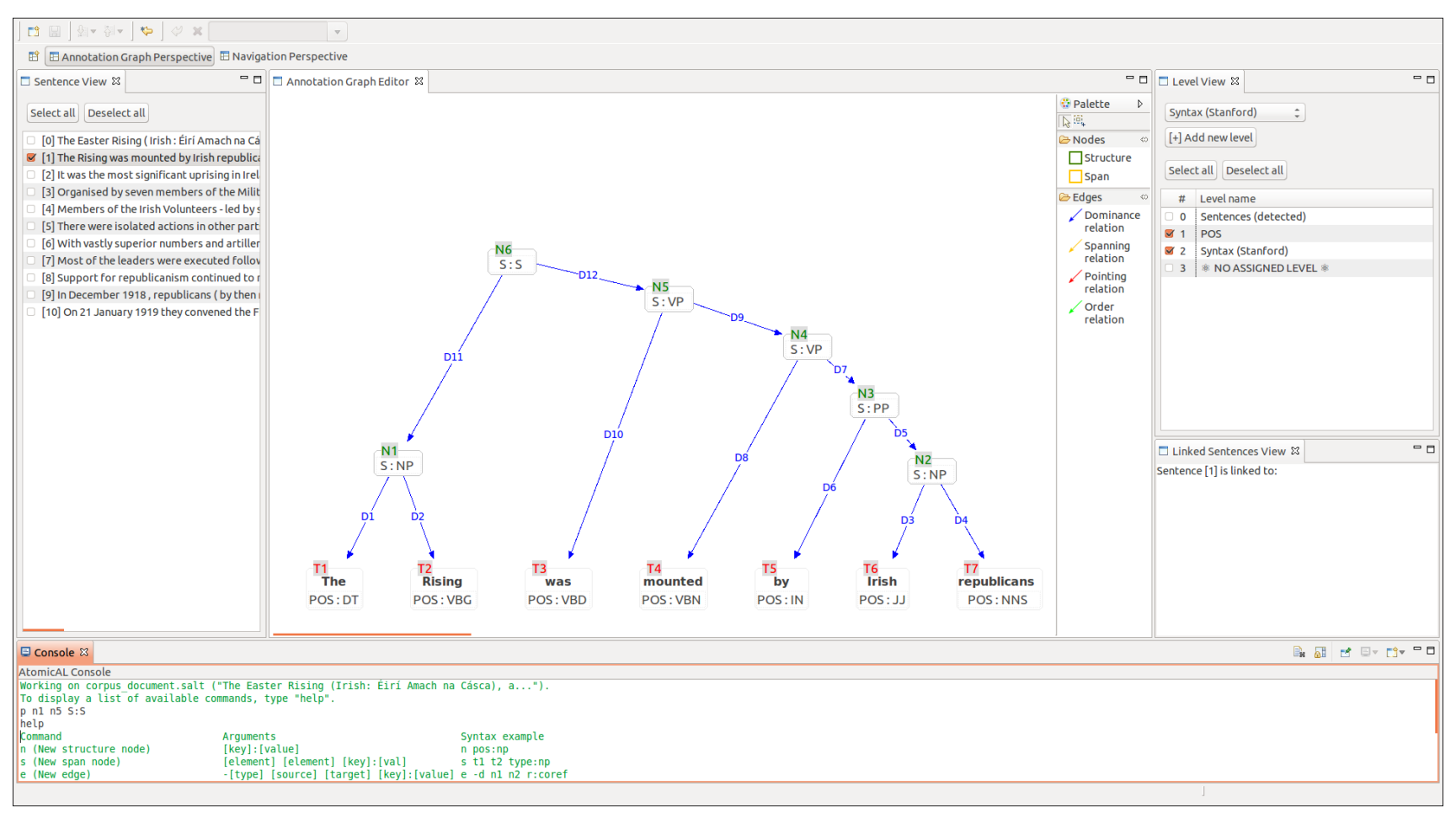
Atomic

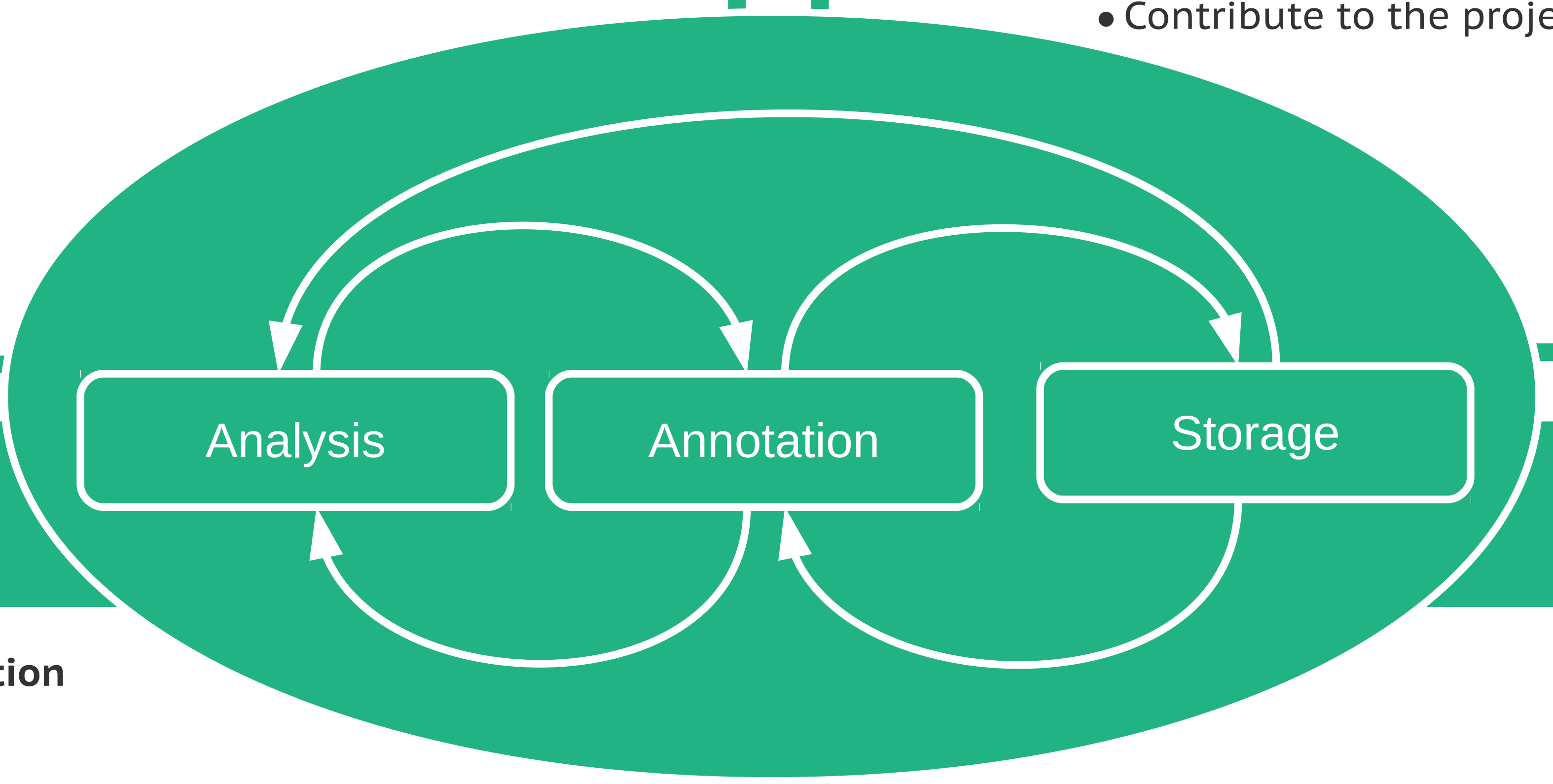
Atomic is a cross-platform multi-layer corpus annotation tool – and extensible platform – for the desktop.

- **True multi-layer support** due to its generic data model (Salt)
- **Theory-neutral annotation** independent of tagsets & annotation types
- Includes Pepper – controlled via a GUI – and is thus **compatible** with many linguistic formats
- **Annotation graph editor**, controllable via mouse and interactive command line
- Highly **extensible** due to its plug-in architecture (Eclipse RCP)
- Many **plug-ins available** (e.g., XML editors, SCM, real-time collaboration)
- **Experimental release** available, stable 1.0 version later in 2016
- **Open source** and free (Apache License, source code on GitHub)
- Runs on **all major OSs** (written in Java)

Try it now!

- Download: **corpus-tools.org/atomic**
- Contribute to the project





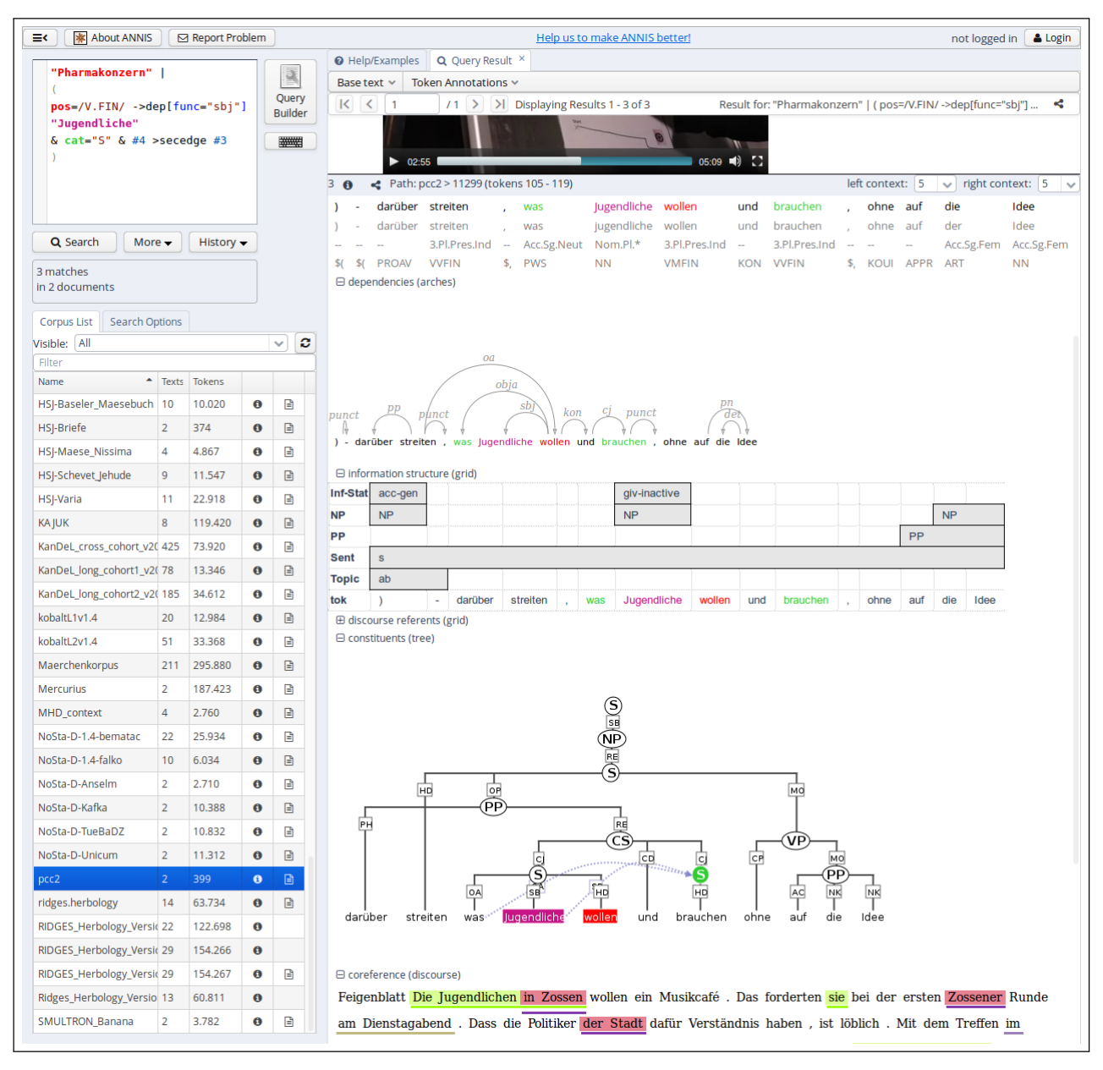
ANNIS

ANNIS is a web browser-based search and visualization tool for complex multi-layer linguistic corpora with diverse types of annotation.

- Addresses the need to **query and visualize** data from such varied areas as syntax, semantics, morphology, prosody, referentiality, lexis and more
- Support for **text** as well as **audio and video** corpora
- Generic, **native query language** which supports, e.g., tokens, spans, word forms, annotations, trees, pointing relations, regex searches, …
- Queries can be entered directly or constructed with an **intuitive graphical query builder**
- **Visualizations** for different annotation types: KWIC, trees, grids, grid trees, discourse views, dependencies, graphs; further visualizations can be added as plug-ins
- **Frequency analysis** using corpus metadata or annotations
- **Uses Salt** as interchange format between front- and backend, and for different visualizations
- Installable **locally or on a server**
- **Open source** and free (Apache License, source code on GitHub)
- Runs on **all major OSs** (written in Java)

Try it now!

- Download: **corpus-tools.org/annis**
- Join the project and contribute



LAUDATIO

The LAUDATIO repository is an open access, interdisciplinary research data repository for historical data.

- Allows for **interdisciplinary exchange** of data from historical linguistics
- Aims at a **unified description for corpora** from diverse disciplines and their different registers, languages, annotations, and formats
- Takes into account the **requirements of historical corpora**: non-standard variety data, transcription levels, etc.
- Extensive, technically abstract **metadata schema**, capturing the data's complete lifecycle, and accounting for language, places, dates, text types, data preparation methods, tools, formats, annotation guidelines, bibliographic metadata, research context, etc.
- Flexible and appropriate **documentation schema** with a subset of TEI customized by TEI ODD in a RELAX NG schema
- Includes an **interface with ANNIS** for complex and comprehensive search
- Accepts corpora licensed under a **Creative Commons** license
- **Open source** and free (Apache License, source code on GitHub)

Try it now!

- Browse **laudatio-repository.org**
- Consider submitting your own corpus

References

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http://corpus-tools.org

DFG

SFB 632 "Information Structure"

http://laudatio-repository.org