Annotating legal argument schemes

A parametric approach

Frank Goossens, Jean Wagemans & José Plug

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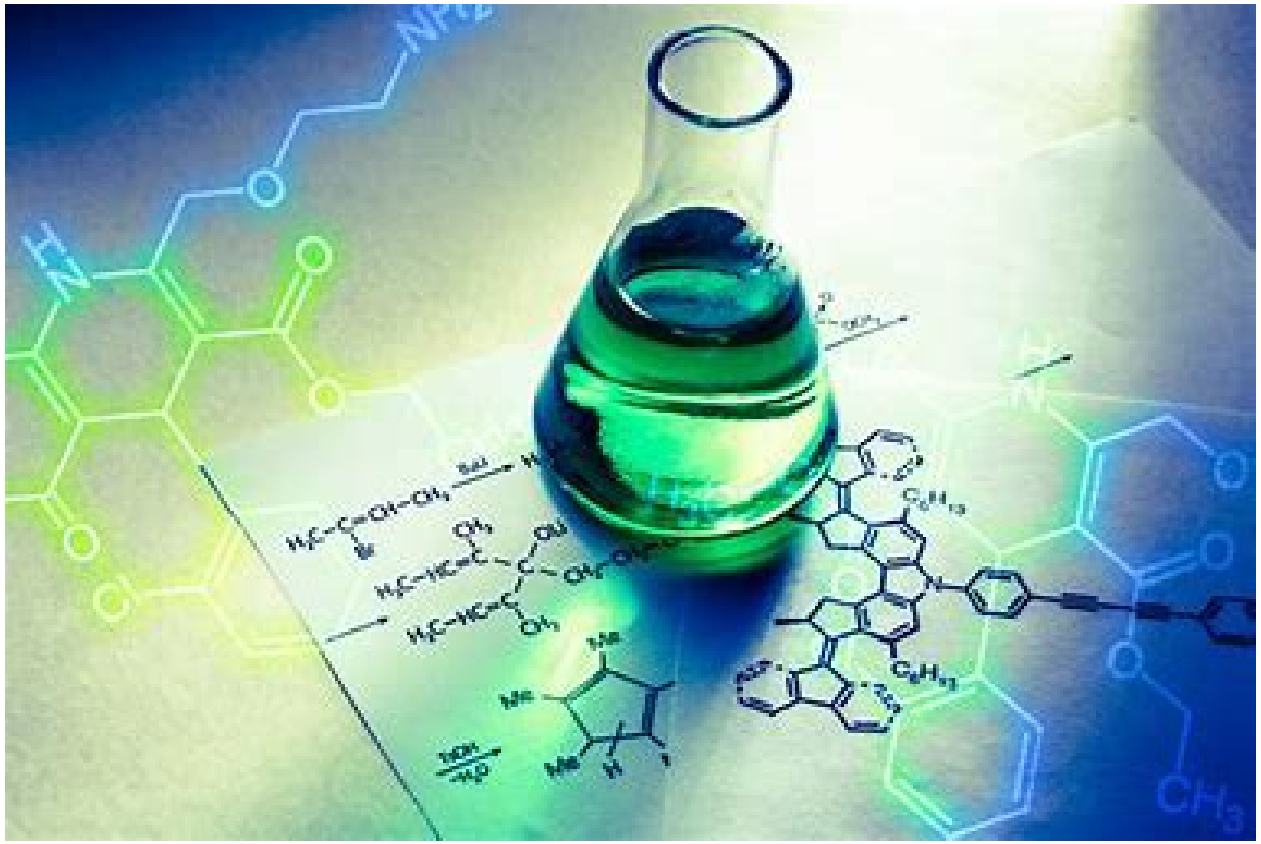
Motivation

Highlight the potential of the Periodic Table of Arguments as an alternative argument classification framework in the legal field compared to Walton's schemes

The Periodic Table of Arguments



The Periodic Table of Arguments

- Minimal conceptualization of argument types (premise and conclusion + lever)
- Parameters
  - Argument form (alpha, bèta, gamma and delta)
  - Argument substance (combination of fact, value and policy statements)
  - Argument lever (keyword)
- Argument type identification procedure (ATIP)

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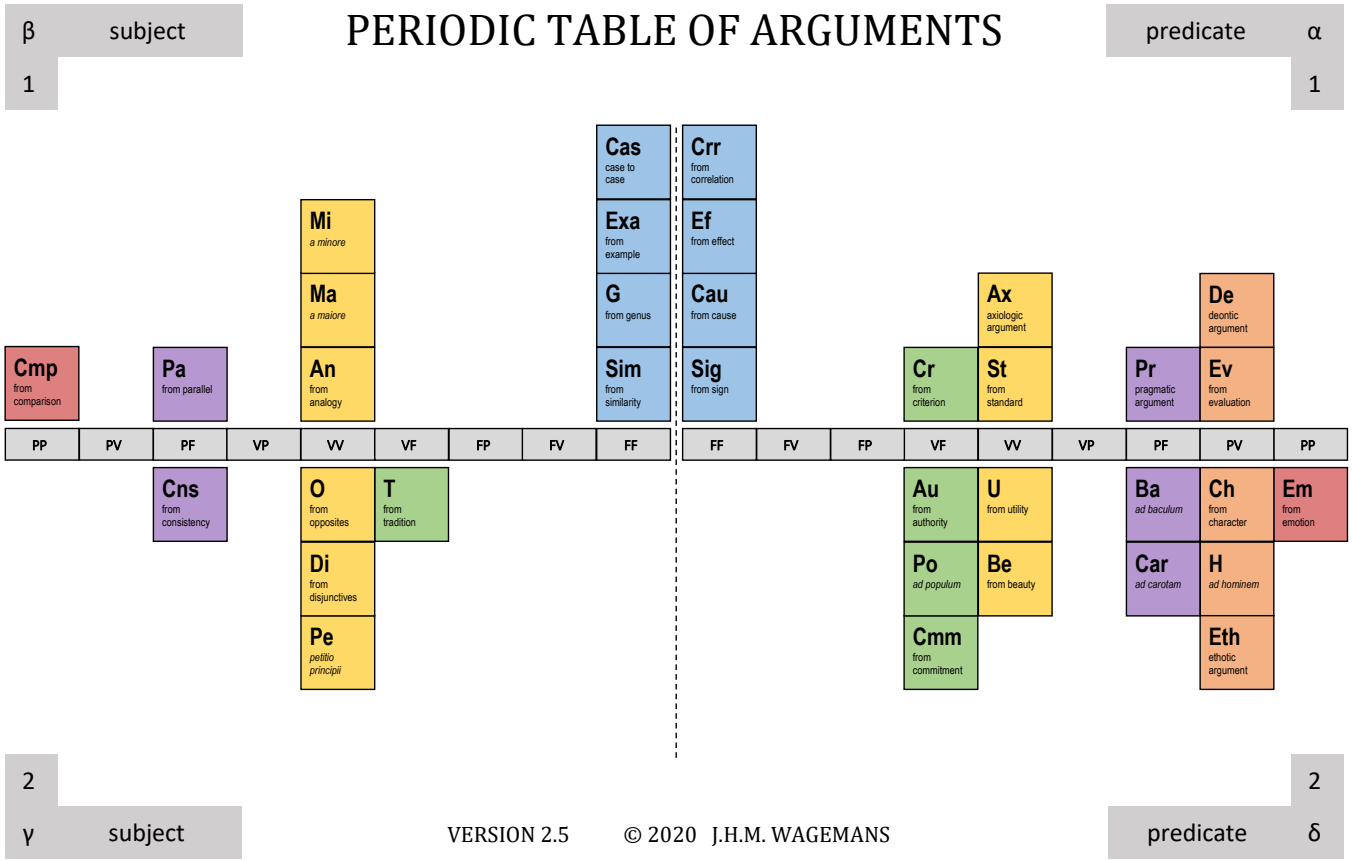

For more info please visit www.periodic-table-of-arguments.org

Benefits of the PTA

Visser et al., 2018 conclude that the annotations of both classification frameworks "provide invaluable training and test datasets for argument mining techniques. In particular, the US2016G1tvWAGEMANS corpus opens up new avenues in automatic scheme identification by providing the means to break down the objective into simpler classification tasks" [P. 323].

Legal field

"Walton's notion of argumentation schemes has had a profound influence on AI and Law" (Atkinson & Bench-Capon, 2021)

Reconstruction

- Analogy arguments statutory interpretation (Macagno & Walton, 2017)
- Constructive reconstruction

Walton *Analogia legis*

Argumentation scheme 3a: Argument from *analogia legis*

PREMISE 1 (RULE)	If x is P, then x has the right/is A.
PREMISE 2 (BORDERLINE)	It is not clear whether a (a borderline case) is P.
SIMILARITY PREMISE	a is similar to b.
PREMISE 3 (PRINCIPLE OF CLASSIFICATION)	b was classified as P because of the factors $f_1, f_2, \ldots, f_n$.
REDEFINITION PREMISE	If x has the factors $f_1, f_2, \ldots, f_n$, then x is P.
PREMISE 4 (FACTORS)	a has $f_1, f_2, \ldots, f_n$.
CONCLUSION	Therefore, a is P.

Example Walton's *analogia legis*

Similarity premise	Catching a ball is analogous to wounding an animal
Premise 3	Wounding an animal is possession, because one establishes partial dominion
Redefinition premise	If x establishes partial dominion and control, then x is possession
Premise 4	Catching a ball is establishing partial dominion
Conclusion	Catching a ball is possession

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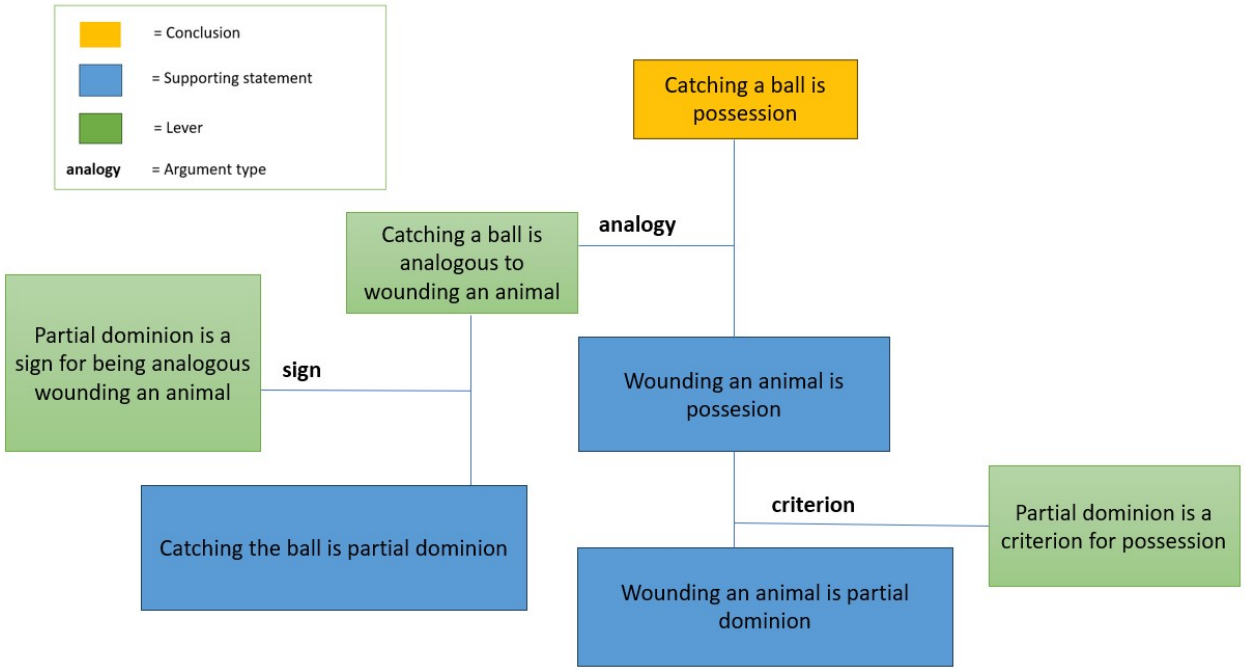

Contributions

- Reconstruction of Walton's schemes into PTA structures

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- Highlight potential use of PTA
  1. More explicit representation of argument types and functions
  2. Systematic classification of argument schemes

Reconstruction steps

1. Determine main argument
2. Identify common terms
3. Remaining premises function as argument or lever support in reasonable position (Gamma arguments)