# Argument Analytics:
# Next Steps for Argument Technology

Marcin Koszowy, Katarzyna Budzynska
& Chris Reed

Centre for Argument Technology (ARG-tech)
http://arg.tech
*Polish Academy of Sciences*
*& University of Dundee*

ARG-tech
Centre for Argument Technology

# Who are **we?**

Kasia Budzynska
(PL, UK)

Rory Duthie
(UK)

Marcin Koszowy
(PL)

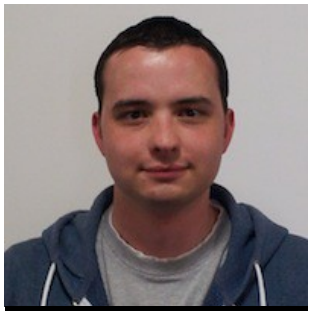
Brian Plüss
(UK)

Alison Pease
(UK)

Chris Reed
(UK, PL)

Mathilde Janier
(UK)

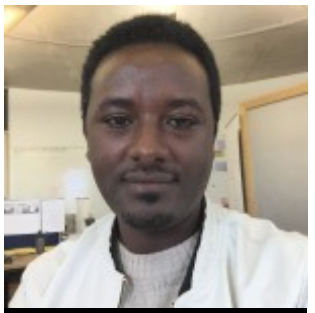
John Lawrence
(UK)



Mark Snaith
(UK)

Dominic De Franco
(UK)

Martín Pereira Fariña
(UK)



Debela Tesfaye
(UK)

Jacky Visser
(UK)

ARG-tech
Centre for Argument Technology

www.arg.tech

firstname@arg.tech

# Who are **we?**

Kasia Budzynska
(PL, UK)

Rory Duthie
(UK)

Marcin Koszowy
(PL)

Brian Plüss
(UK)

Alison Pease
(UK)

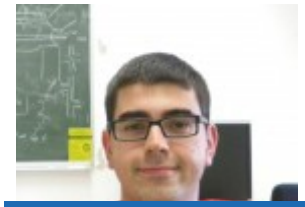
Chris Reed
(UK, PL)

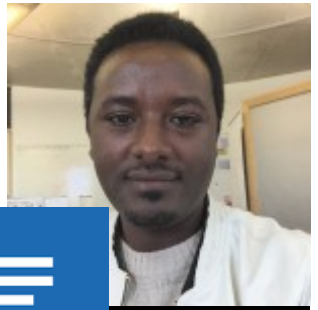
Mathilde Janier
(UK)

Jc
(UK)

Mark Snaith
(UK)

Dominic De Franco
(UK)





ela Tesfaye
(UK)

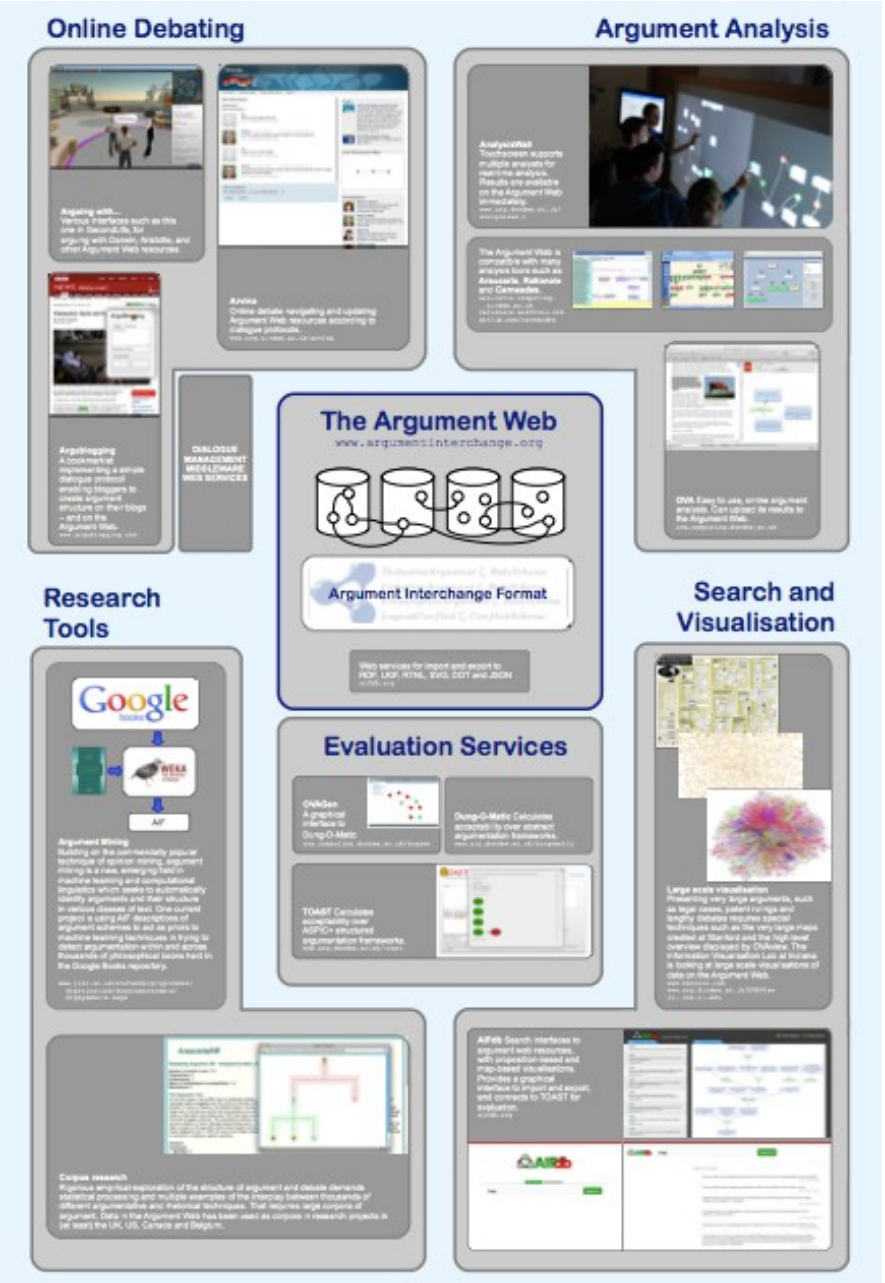
Jacky Visser
(UK)

ARG-tech
Centre for Argument Technology

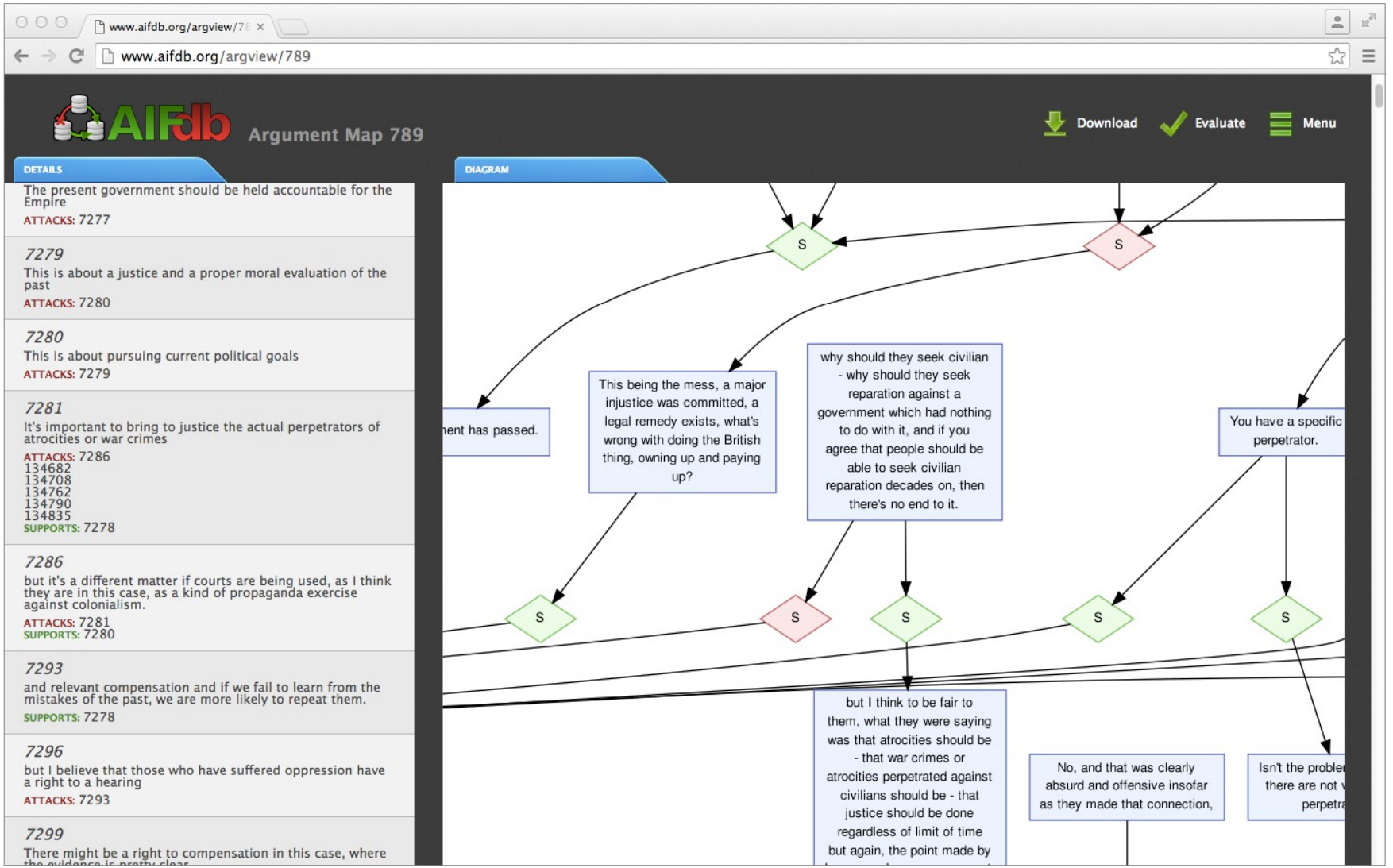
IBM

The Scottish Government

# The Argument **Web**

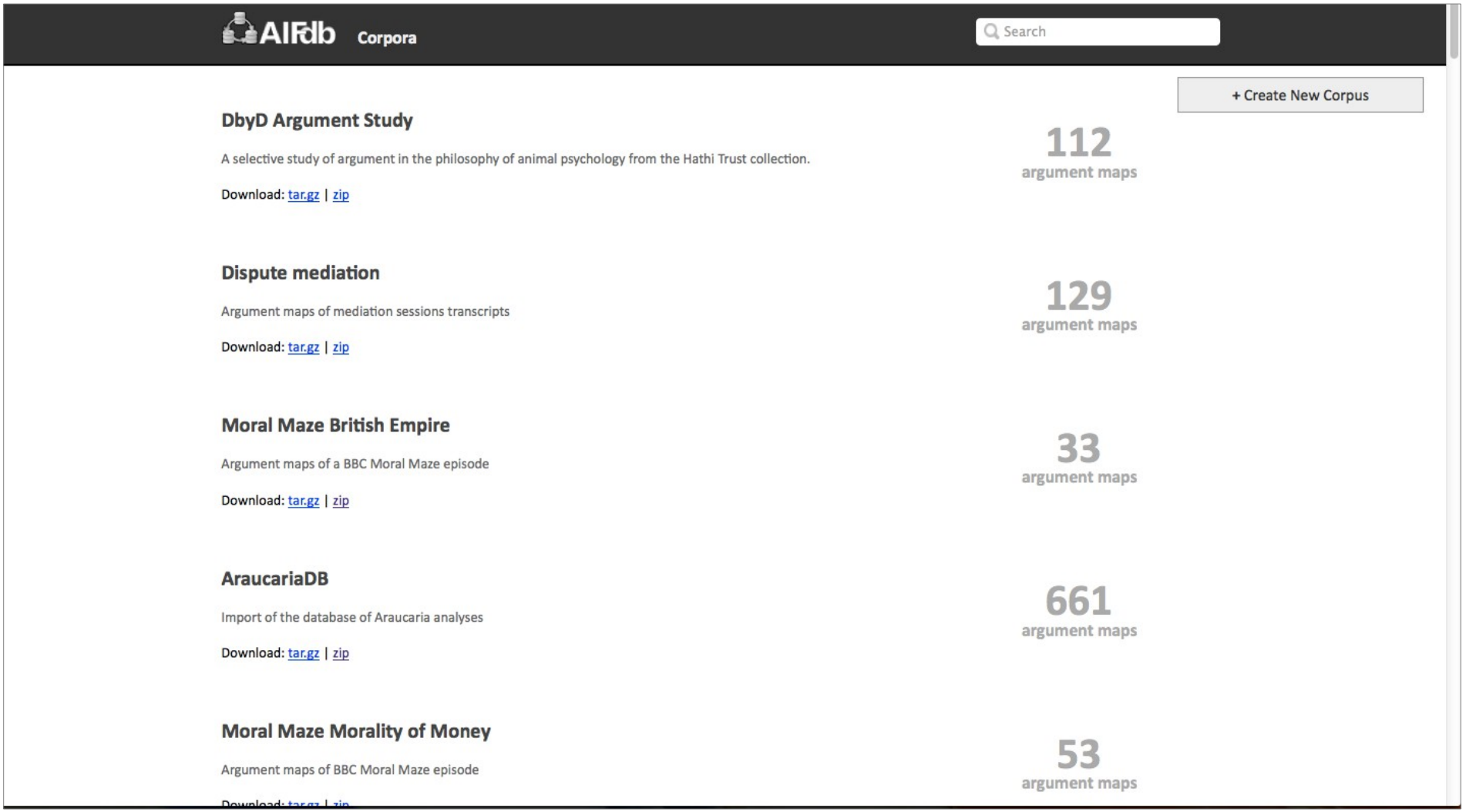


# The Argument **Web at ARG-tech**



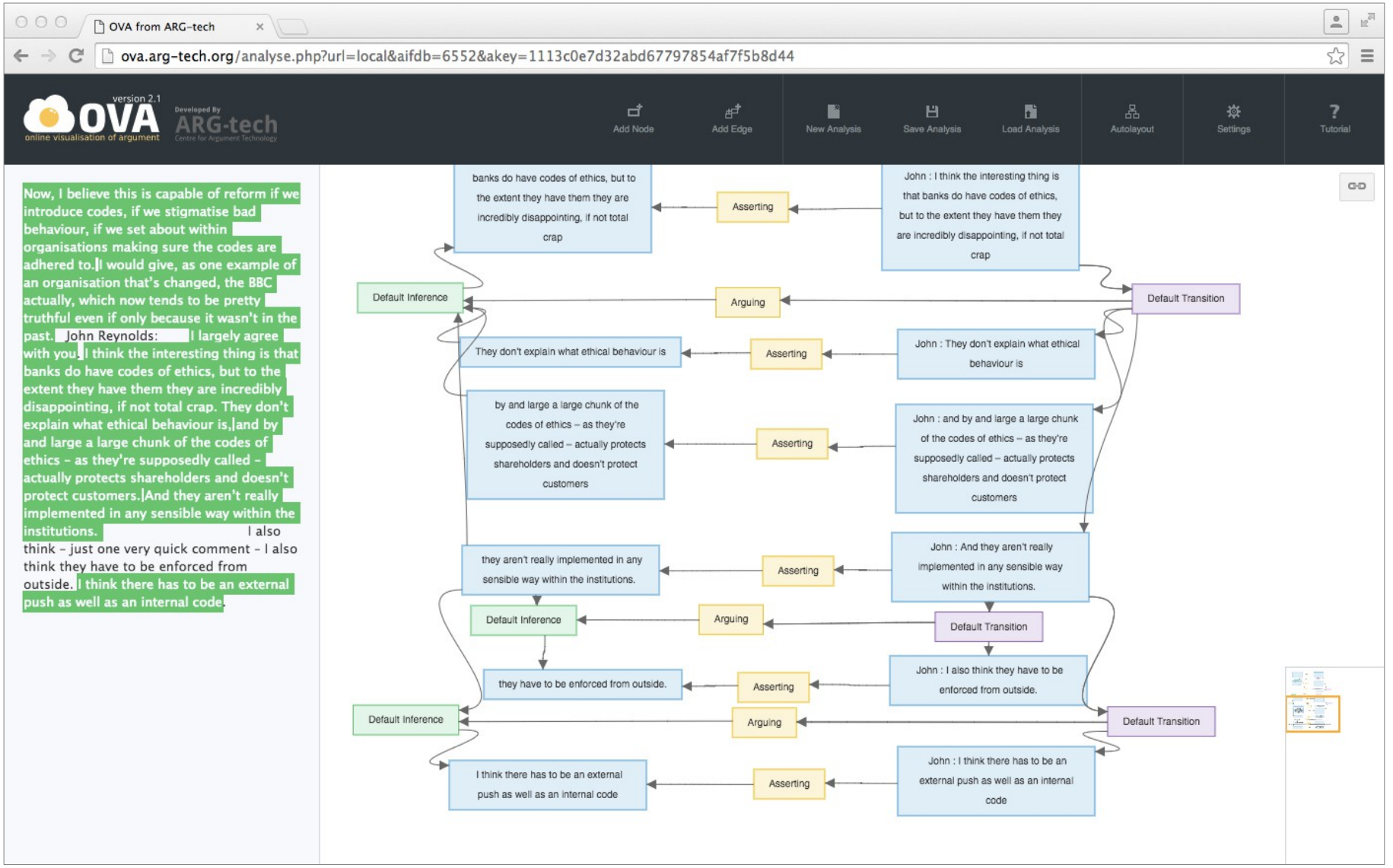

aifdb.org

# The Argument **Web at ARG-tech**




corpora.aifdb.org

# The Argument **Web at ARG-tech**

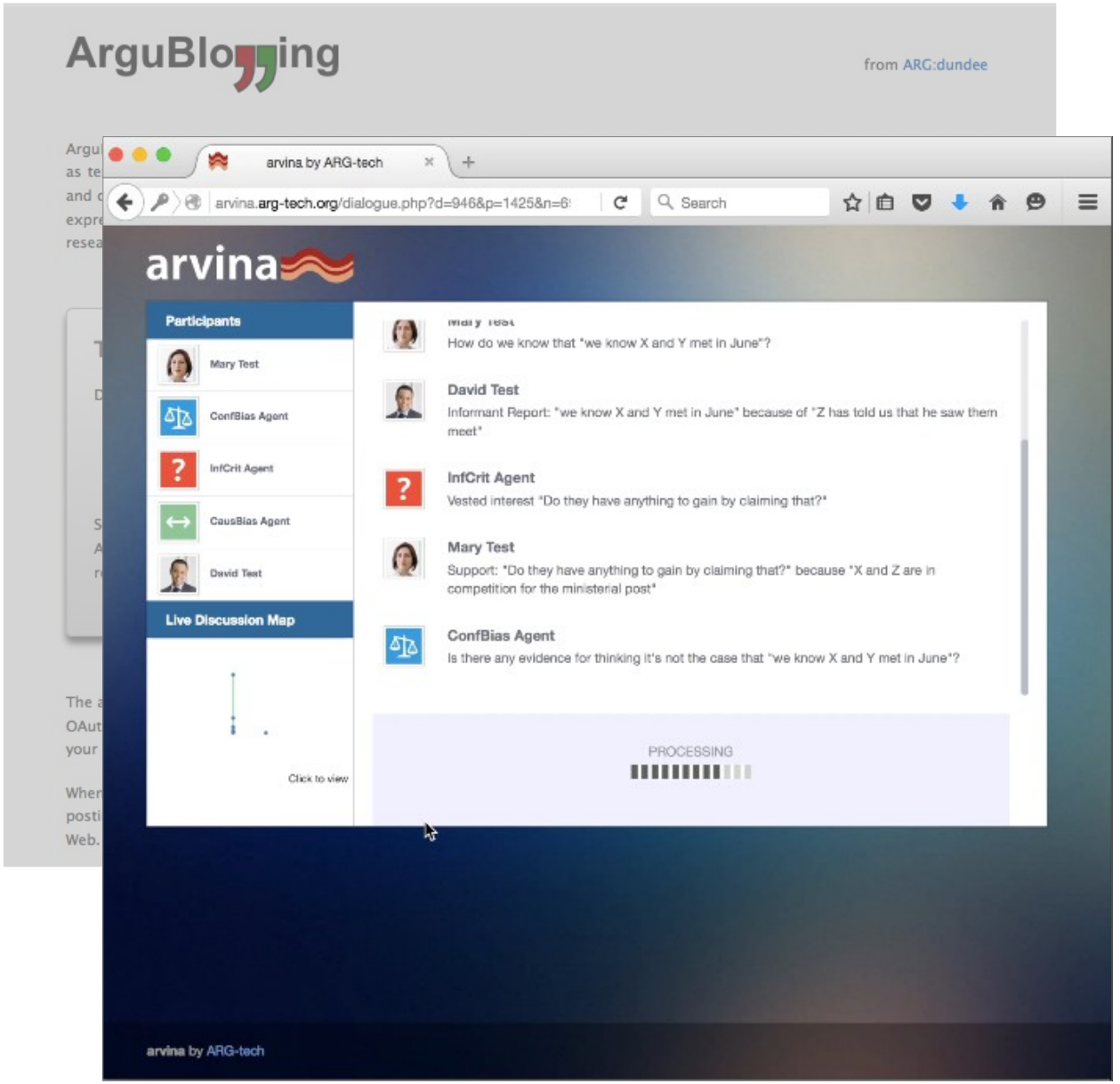



ova.arg.tech

# The Argument **Web at ARG-tech**

argublogging.com

# The Argument **Web at ARG-tech**




argublogging.com

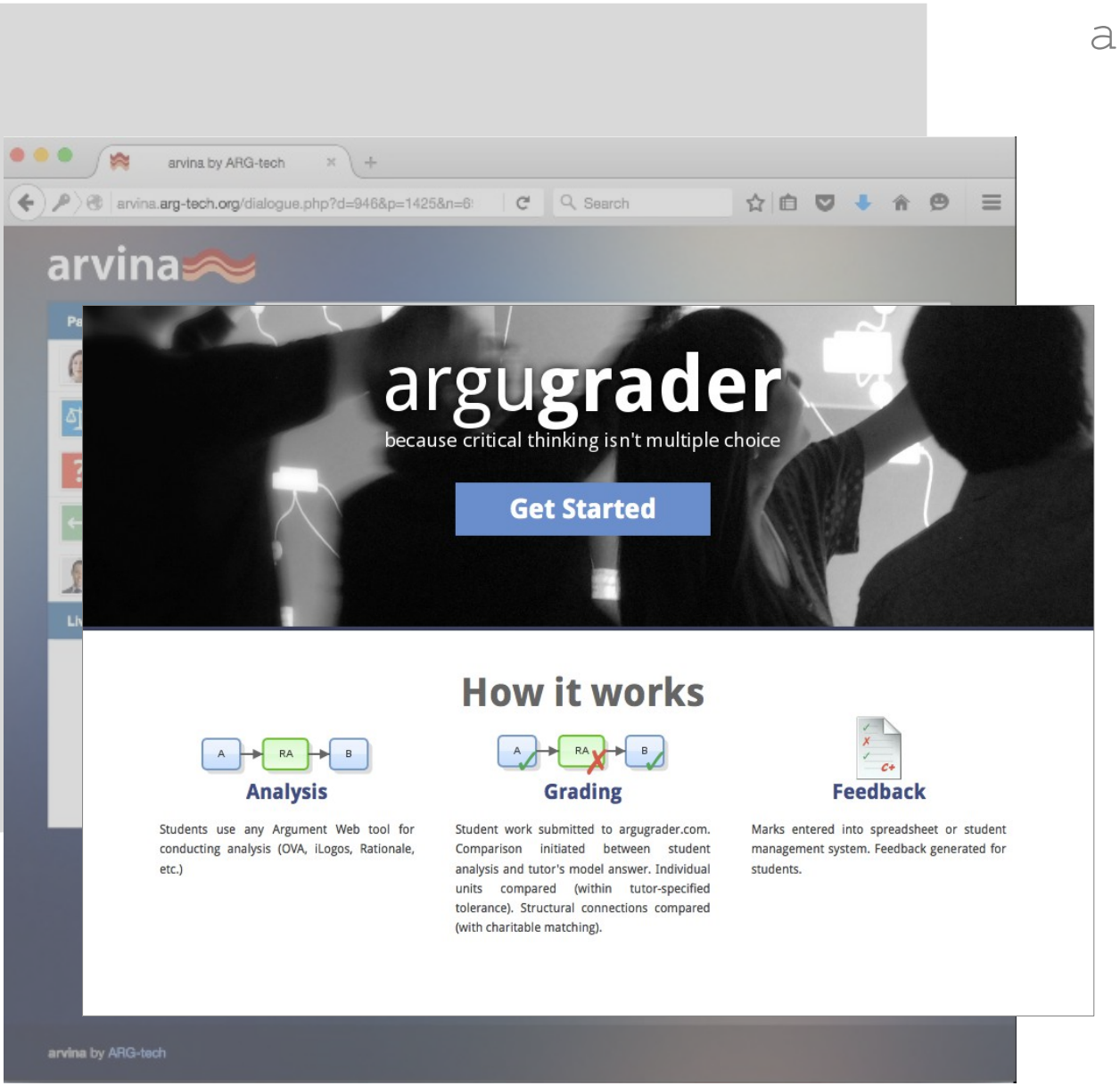
arvina.arg.tech

# The Argument **Web at ARG-tech**

argublogging.com

arvina.arg.tech

argugrader.com



# The Argument **Web at ARG-tech**

argublogging.com

arvina.arg.tech

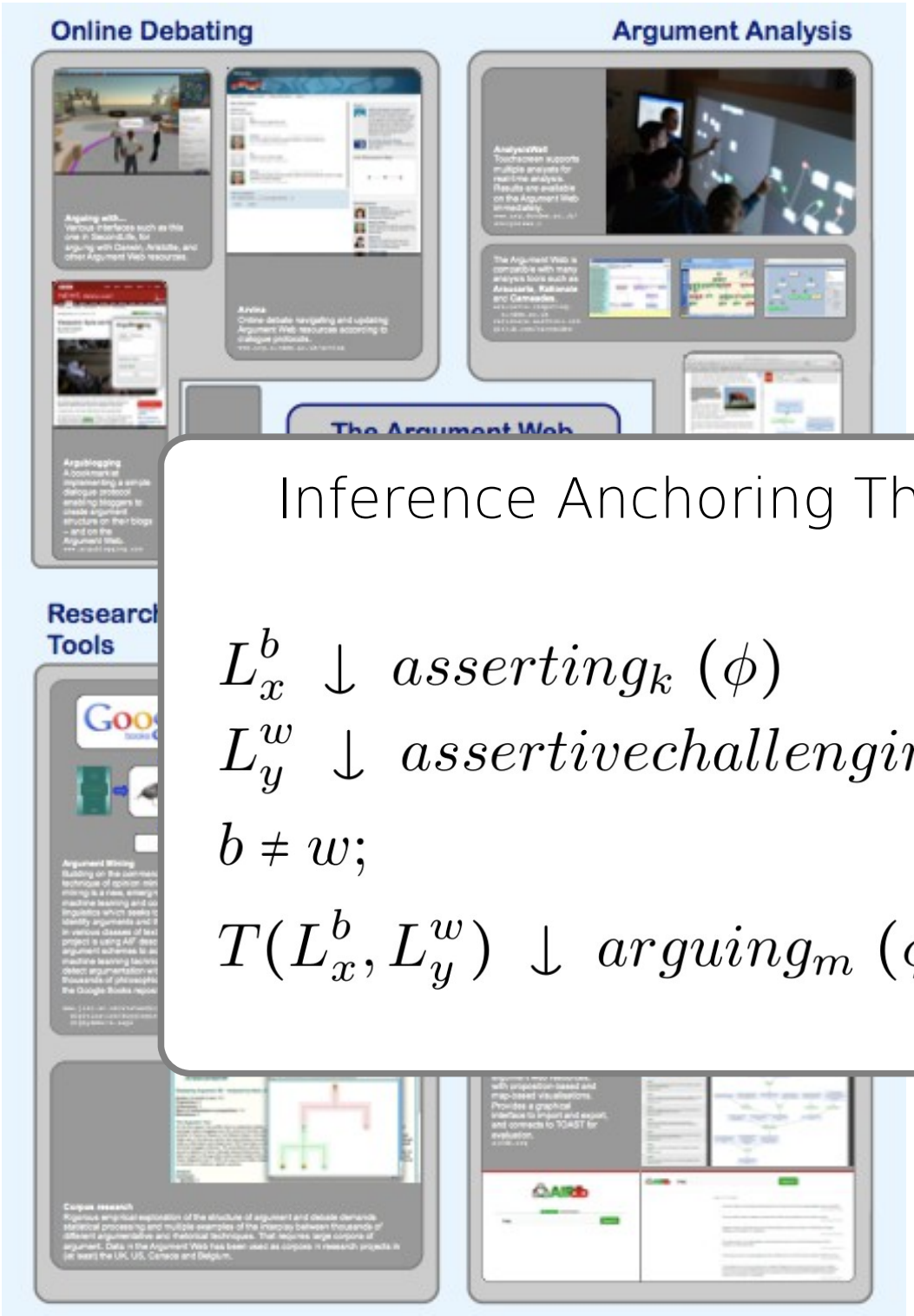
argugrader.com

analytics.
arg-tech.org

# The Argument Web at ARG-tech

On the AIFdb servers at ARG-tech:

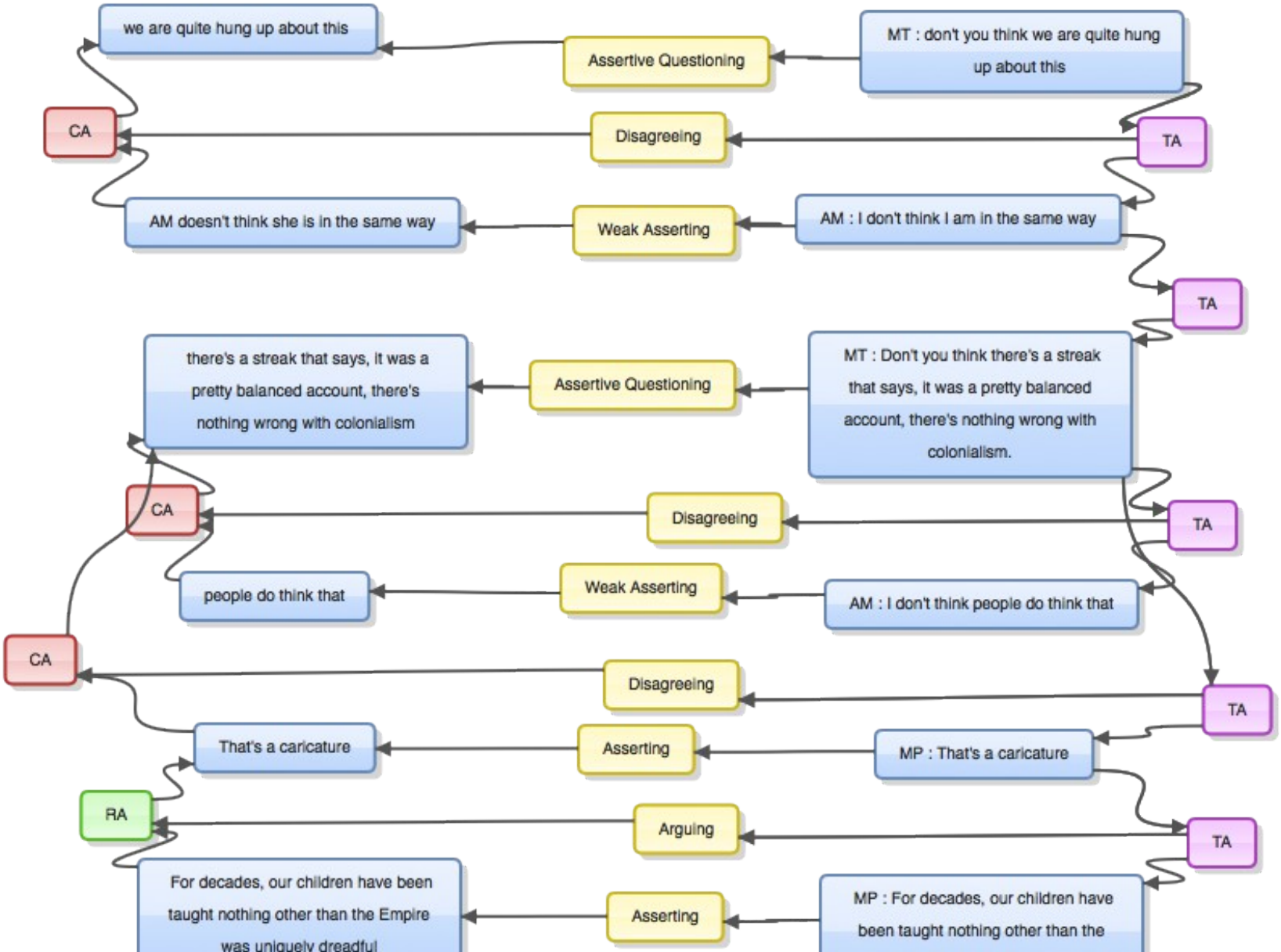
- Around 50 argument corpora
- 1.5m words
- 14 languages
- 50k annotated arguments
- 300-500 unique users per month



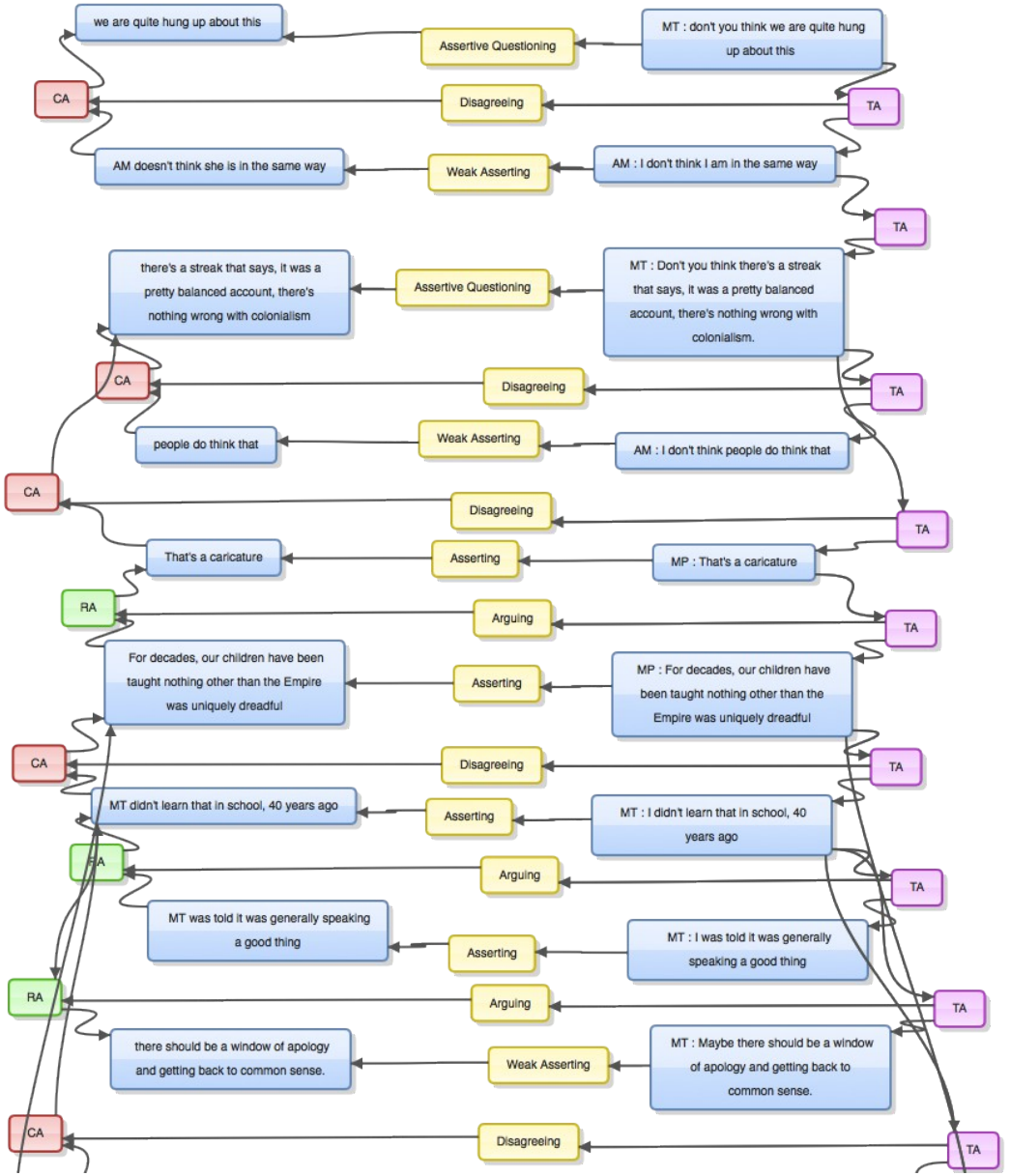

## Inference Anchoring Theory

$$L_x^b \downarrow asserting_k\ (\phi)$$
$$L_y^w \downarrow assertivechallenging_l\ (\psi)$$
$$b \neq w;$$
$$T(L_x^b, L_y^w) \downarrow arguing_m\ (\phi \vdash \psi)$$

# Inference Anchoring Theory (Budzynska & Reed 2011)

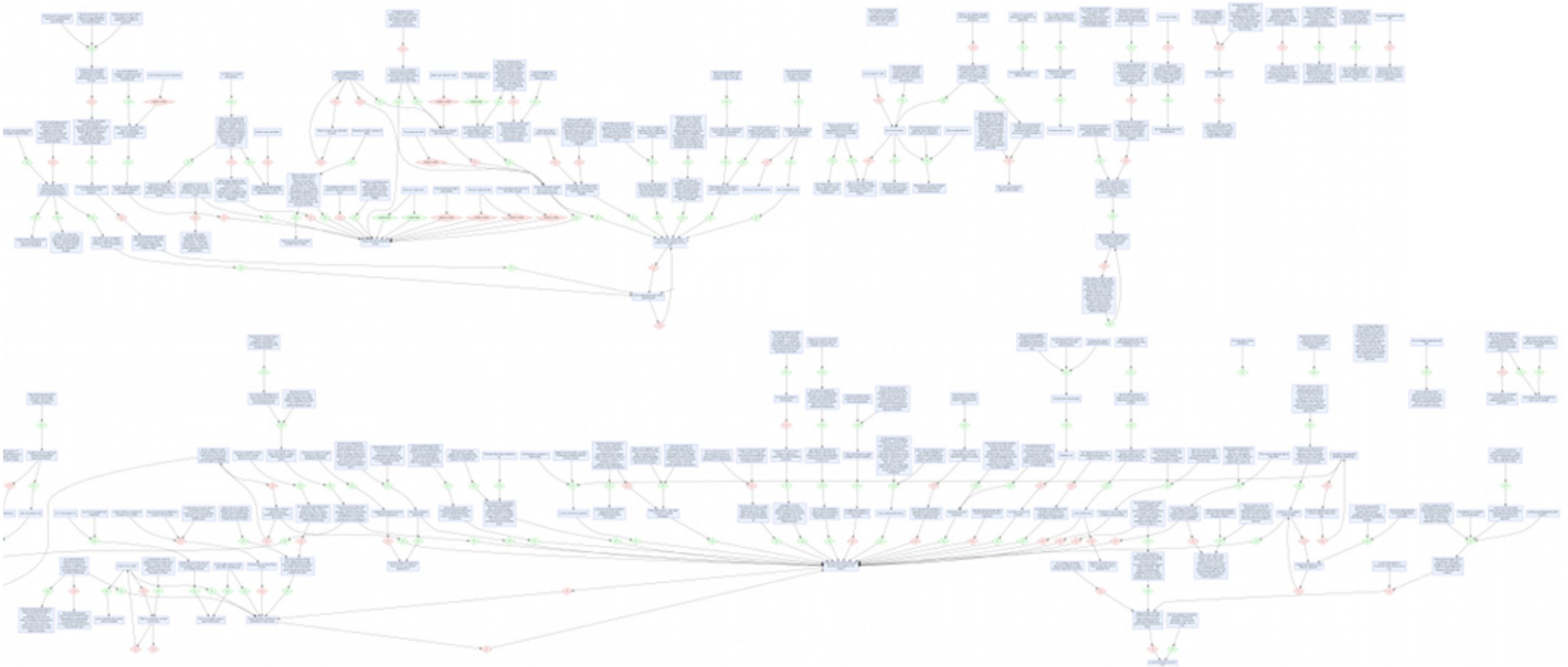


# Dialogical context + argument graph



# MORAL MAZE TRANSCRIPT

## 18/07/2012 – The British Empire

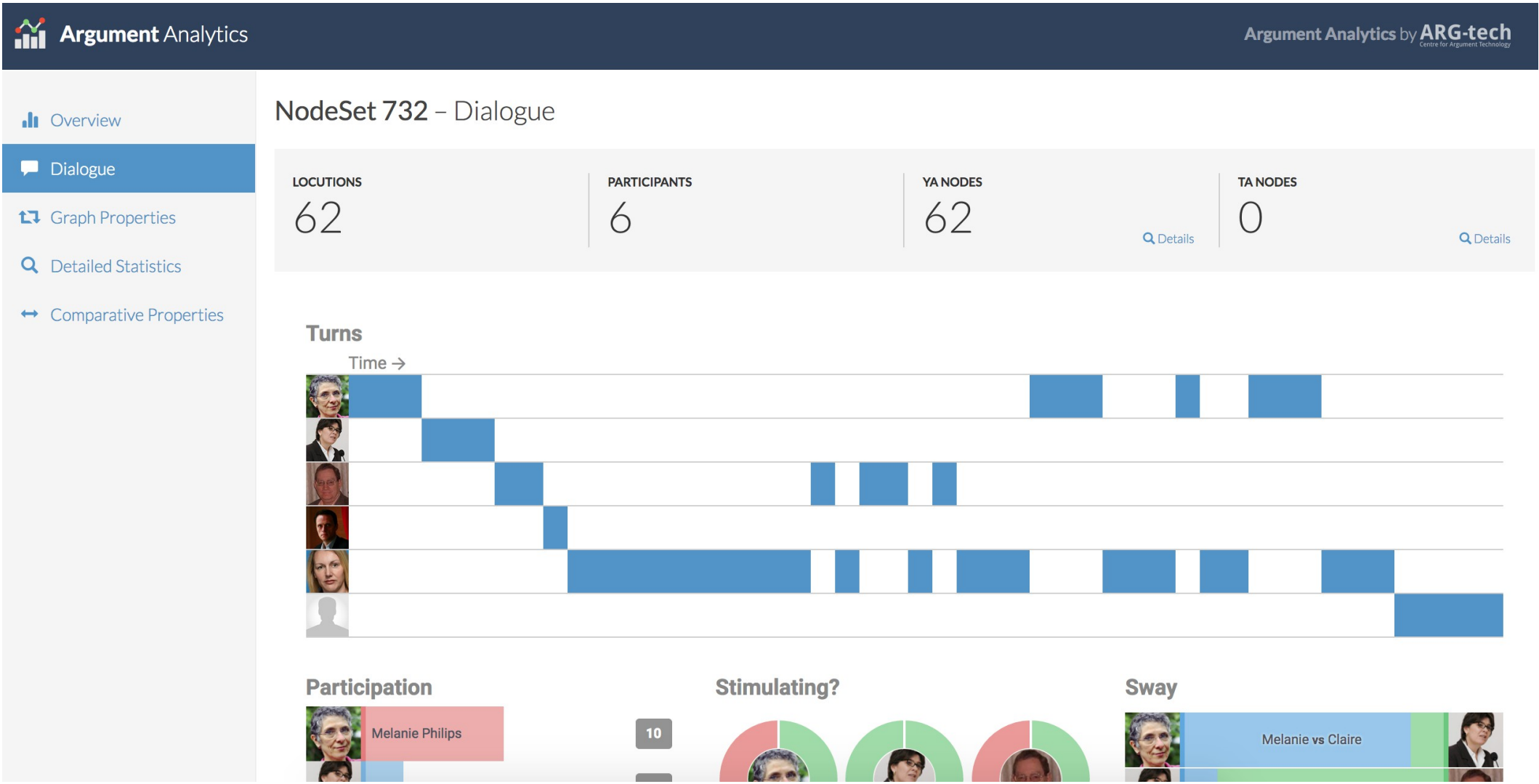


# **Argument** Analytics

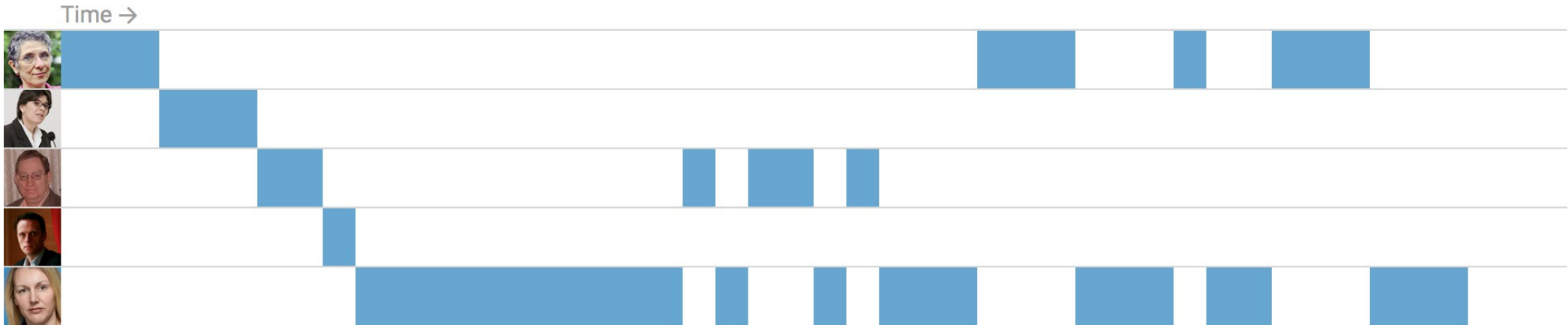
Argument Analytics

NodeSetID or Corpus Name

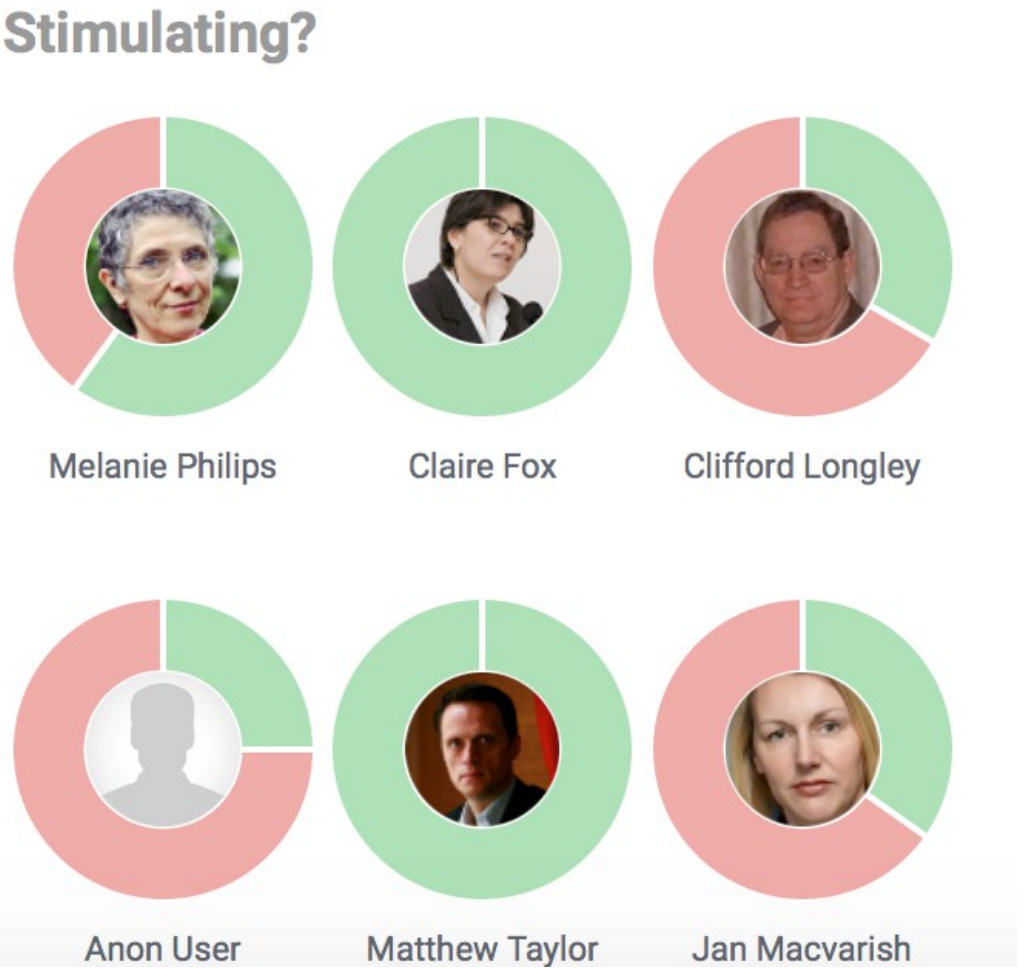
# Dialogically oriented analytics



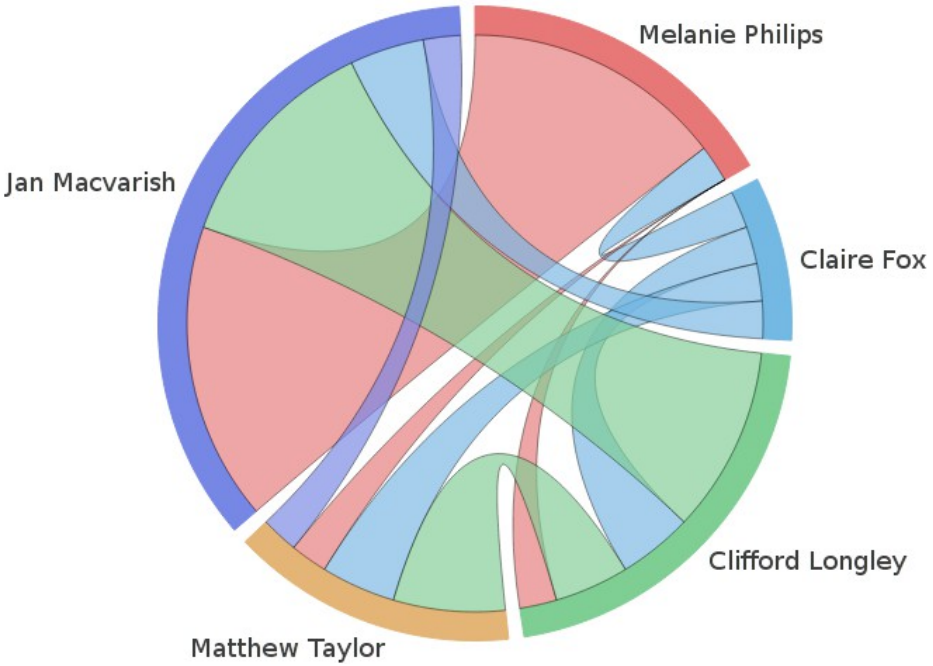
# Dialogically oriented analytics: Turn structure

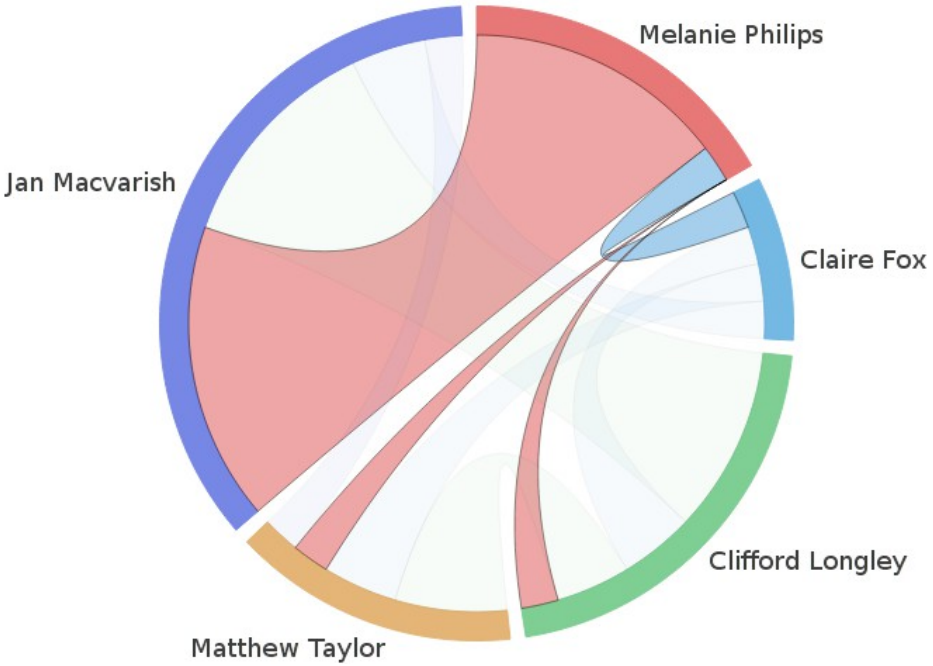


# Dialogically oriented analytics: Participants details

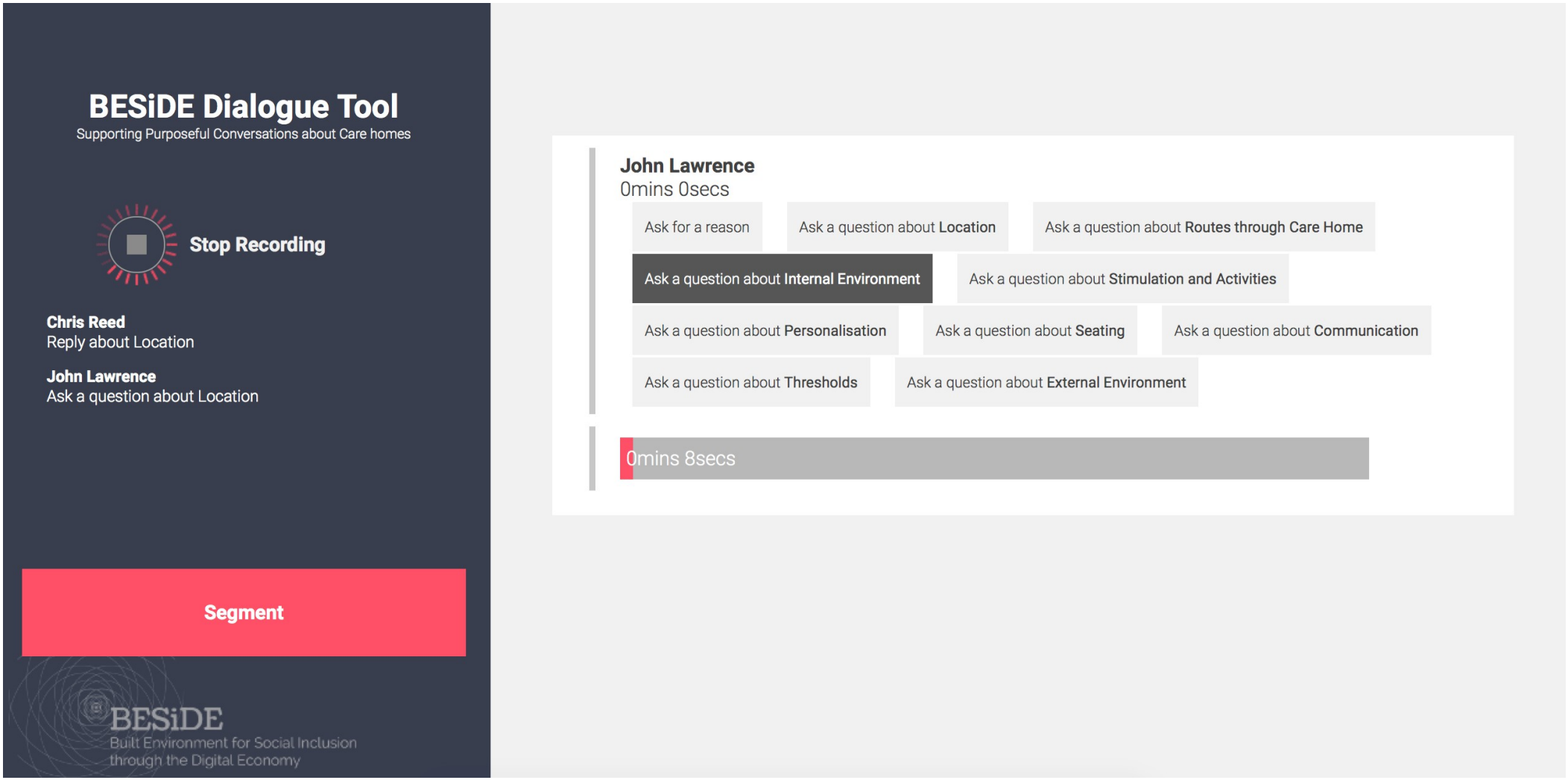


# Dialogically oriented analytics: Interactions

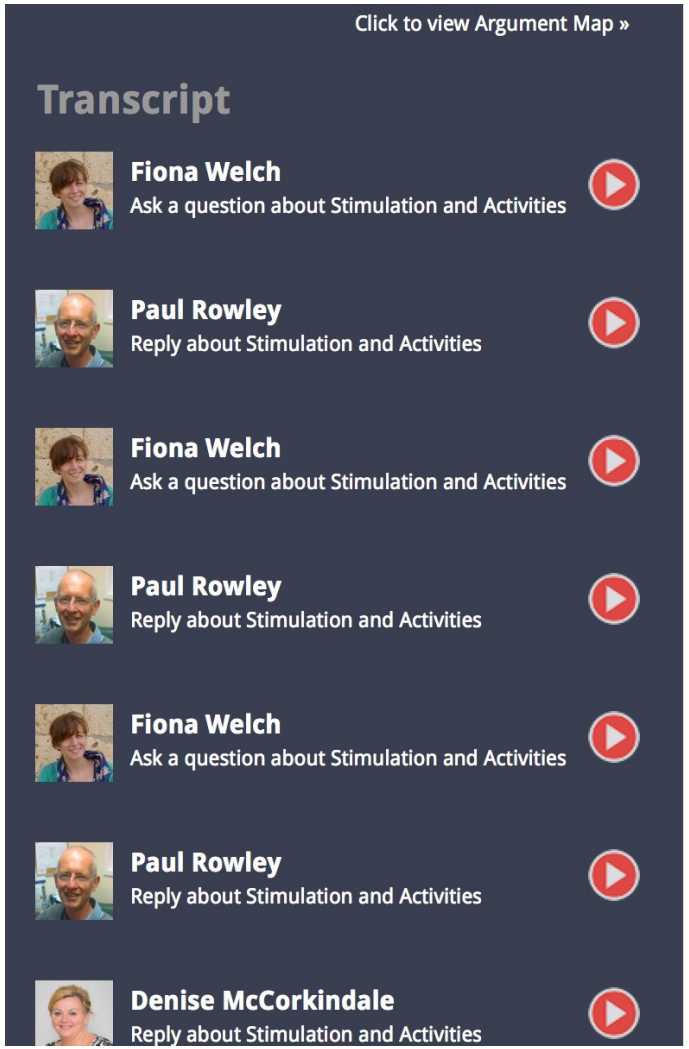


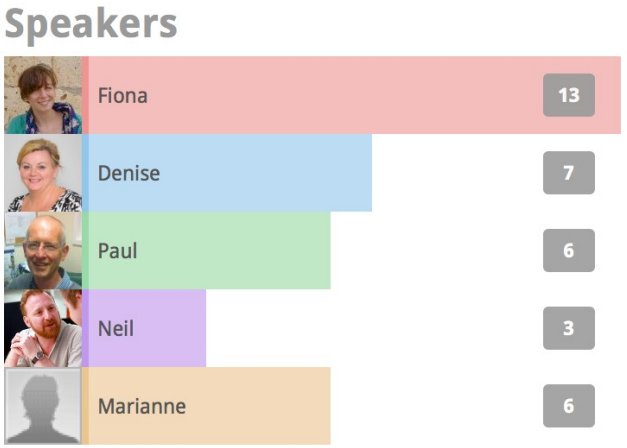



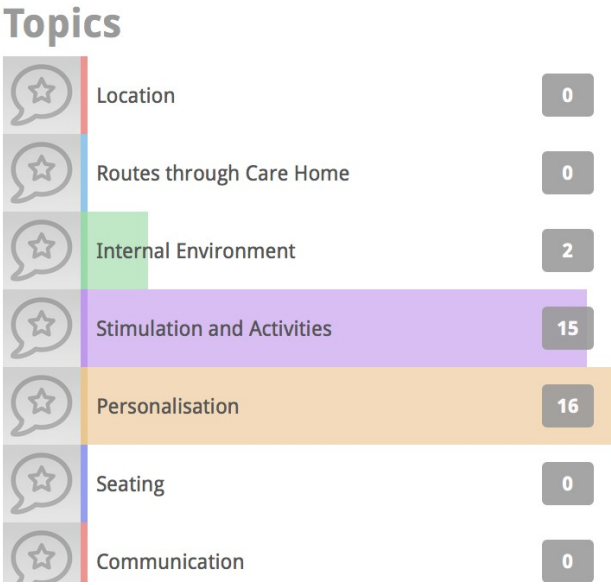
# Real-time statistics



# Real-time statistics



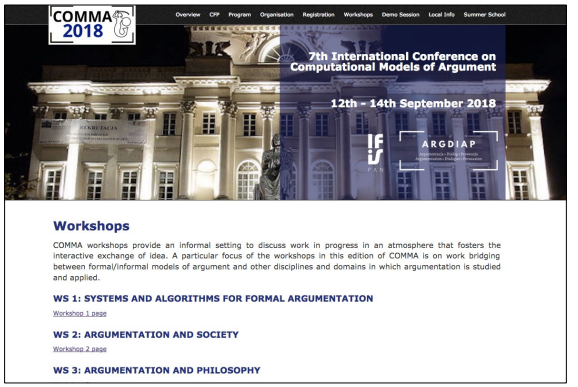


# Summary

- **Foundations**
  - Inference Anchoring Theory: Dialogical context of structured arguments
  - Argument Web: Online ecosystem of argument technologies
- **Argument analytics**
  - Automatic visualisation and sense-making of argument structure in dialogue
  - Variety of applications: debates in media, deliberative democracy, legal proceedings
  - Ethos analytics: authority in legal argumentation

# Thank you!




Find out more at
http://arg.tech

Try Argument Analytics
http://bbc.arg.tech
& watch behind the scenes
http://bbc.arg.tech/bts

*Warsaw Argumentation Week* WAW 2018
comma2018.argdiap.pl

marcin@arg.tech
kasia@arg.tech
chris@arg.tech

ARG-tech
Centre for Argument Technology