IIa: Argument Schemes and Argumentation Dialogues

Topics:
- Argument Schemes
- Argumentation Dialogues

Goals:
- Understand the nature and role of argument schemes
- Understand the nature and role of argumentation dialogues

Literature:
- Van Eemeren et al. (in preparation). Sections 11.6, 11.7.

Main themes of Toulmin (1958)
1. Argument analysis involves half a dozen distinct elements, not just two.
2. Many, if not most, arguments are substantial, hence defeasible.
3. Standards of good reasoning and argument assessment are non-universal.
4. Logic is to be regarded as generalised jurisprudence.

Toulmin on logic
- Logic as psychology
  - Laws of thought, normal and abnormal (descriptive)
- Logic as sociology
  - General habits and practices, not individual (descriptive)
- Logic as technology
  - Recipes for rationality, rules of a craft, an art, like medicine (normative)
- Logic as mathematics
  - Formal relations, no connection to thinking (objective)
- Logic as jurisprudence
  - Critical, procedural function, from idealised to working logic
Toulmin on logic as jurisprudence

If the same as has long been done for legal arguments were done for arguments of other types, logic would make great strides forward. (255/235)

Walton

Walton & Krabbe around 1990

From the NIAS web site, where Commitment in Dialogue was conceived.

Classes of specific reasons

1. Deductive reasons
2. Perception
3. Memory
4. Statistical syllogism
5. Induction

Pollock 1995, Cognitive Carpentry

Argument schemes

1. \( P \), If \( P \) then \( Q \).
   Therefore \( Q \).
2. All \( P \)s are \( Q \)s. Some \( R \) is not a \( Q \).
   Therefore some \( R \) is not a \( P \).
3. Person \( E \) says that \( P \). Person \( E \) is an expert with respect to the fact that \( P \).
   Therefore \( P \).
4. Doing act \( A \) contributes to goal \( G \). Person \( P \) has goal \( G \).
   Therefore person \( P \) should do act \( A \).
**Argument schemes**

Argument schemes are
- context-dependent, not universal,
- defeasible, not strict, and
- concrete, not abstract.

Are argument schemes hence a useless tool of analysis?
No: take inspiration from knowledge engineering

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**Critical questions**

Argument scheme for witness testimony:
- Witness A has testified that \( P \).
  Therefore: \( P \)

Critical questions, for instance:
- Wasn’t A mistaken?
- Wasn’t A lying?

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**Walton on Argument schemes**

The *Ad hominem* fallacy:
- attack an opponent instead of the argument made

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**Walton on Argument schemes**

*Generic AH*
- a is a bad person.
  Therefore, a’s argument A should not be accepted.
  -> a semi-formal rule of inference

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**Walton on Argument schemes**

*Guilt By Association AH*
- a is a member of or is associated with group G, which should be morally condemned.
  Therefore, a is a bad person.
  Therefore, a’s argument A should not be accepted.
  -> a small semi-formal derivation

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**Walton on Argument schemes**

*Two Wrongs AH*
- Proponent: Respondent, you have committed some morally blameworthy action (and the specific action is then cited).
  Respondent: You are just as bad, for you also committed a morally blameworthy action (then cited, generally a different type of action from the one cited by the proponent but comparable in respect of being blameworthy). Therefore, you are a bad person, and your argument against me should not be accepted as having any worth.
  -> a small argumentative dialogue
Walton on Argument schemes

Note that Generic AH occurs in Guilt By Association AH and Two Wrongs AH (literally in the former, and with a minor adaptation in the latter).

Conclusions about Walton’s approach

- The specifications are much looser than in formal logic
- Use of the schemes requires interpretation
- For Walton’s goal, the analysis and evaluation of real arguments, this is not problematic, even right on the mark

Can’t Walton’s approach be further systematized?
Hypothesis: it can.

Idea:
approach the specification of Argument schemes as a knowledge engineering task, thereby finding a semi-formal middle-way between the formal and the informal

A format for Argument schemes

Consequent: \( P \).
Antecedent: Person \( E \) says that \( P \).
Person \( E \) is an expert with respect to facts like \( P \).
Exception: Person \( E \) is lying.
Condition: Experts with respect to the facts like \( P \) provide reliable information concerning the truth of \( P \).

Critical questions

1. Critical questions concerning the consequent of an Argument scheme.
   Are there other reasons, based on other Argument schemes for or against \( P \)?
2. Critical questions concerning the elements of the antecedent of an Argument scheme.
   Did person \( E \) say that \( P \)? Is person \( E \) an expert with respect to facts like \( E \)?
3. Critical questions based on the exceptions of an Argument scheme.
   Is person \( E \) lying?
4. Critical questions based on the conditions of use of an Argument scheme.
   Do experts with respect to the facts like \( P \) provide reliable information concerning the truth of \( P \)?:

Developing a set of Argument schemes

1. Determine the relevant types of sentences
2. Determine the conditional relations, i.e., the antecedents and consequents of the Argument schemes
3. Determine the exceptions, i.e., the arguments against the use of the Argument schemes
4. Determine the conditions of use for the Argument schemes

(Not necessarily in this order and perhaps sometimes going back to earlier steps)
The systematic specification of semi-formal argument schemes can be regarded as fulfilling a proposal made by ...?

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3. Standards of good reasoning and argument assessment are non-universal.
4. Logic is to be regarded as generalised jurisprudence.

Warrant

Warrant

W: A man born in Bermuda will generally be a British subject.

Harry was born in Bermuda

Harry is a British subject

A man born in Bermuda will generally be a British subject

Warrants are closely related to argument schemes.
**Warrant, generalized conditional, specific conditional**

A man born in Bermuda will generally be a British subject.

If Person was born in Bermuda, then Person is a British subject.

If Harry was born in Bermuda, then he is a British subject.

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**From warrant via generalized conditional to argument scheme**

A man born in Bermuda will generally be a British subject.

If Person was born in Bermuda, then Person is a British subject.

Person is born in Bermuda. Therefore: Person is a British subject.

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**Warrant**

\[
\begin{array}{c}
W \\
D \\
C
\end{array}
\]

\( W \rightarrow (D \rightarrow C) \)

\( W \): A man born in Bermuda will generally be a British subject.
\( D \): Harry was born in Bermuda.
\( C \): Harry is a British subject.

DefLog Verheij 2003

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**Warrant**

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\( W \): A man born in Bermuda will generally be a British subject.
\( D \): Harry was born in Bermuda.
\( C \): Harry is a British subject.

DefLog Verheij 2003

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**Warrant**

Harry was born in Bermuda → Harry is a British subject

A man born in Bermuda will generally be a British subject

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**Backing**

Harry was born in Bermuda → Harry is a British subject

The statutes and other legal provisions so-and-so obtain

A man born in Bermuda will generally be a British subject
Backing

B: The statutes and other legal provisions so-and-so obtain.
W: A man born in Bermuda will generally be a British subject.
B: If the statutes and other legal provisions so-and-so obtain, a man born in Bermuda will generally be a British subject.

Remarks on nesting

1. In the diagrams, the nesting of the conditionals passes almost unnoticed.
2. Logically, nesting can be as deep as deemed appropriate.
3. "Epistemologically", there is presumably not much need for deep nesting.

Walton & Krabbe’s dialogue types

<table>
<thead>
<tr>
<th>Type of dialogue</th>
<th>Initial situation</th>
<th>Participants’ goal</th>
<th>Goal of dialogue</th>
</tr>
</thead>
<tbody>
<tr>
<td>persuasion</td>
<td>conflict of species</td>
<td>persuade other party</td>
<td>resolve or clarify issue</td>
</tr>
<tr>
<td>inquiry</td>
<td>need to know what</td>
<td>find and verify evidence</td>
<td>prove (disprove)</td>
</tr>
<tr>
<td>discovery</td>
<td>need to find an explanation of facts</td>
<td>find and defend a suitable hypothesis</td>
<td>choose best hypothesis for testing</td>
</tr>
<tr>
<td>argumentation</td>
<td>conflict of interests</td>
<td>get what you most want</td>
<td>reasonable settlement both can live with</td>
</tr>
<tr>
<td>information seeking</td>
<td>need for information</td>
<td>obtain or give information</td>
<td>exchange information</td>
</tr>
<tr>
<td>elaboration</td>
<td>concerns or practical issues</td>
<td>co-ordinate goals and actions</td>
<td>decide best available course of action</td>
</tr>
<tr>
<td>debate</td>
<td>personal conflict</td>
<td>expose or hit out at</td>
<td>reveal deeper basis of conflict</td>
</tr>
</tbody>
</table>

Prakken’s four layers

The logical layer
Contradiction and support

The dialectical layer
Attack, counterargument, defeat

The procedural layer
Moves, dialogue rules, turn taking

The strategic layer
Heuristics, effective argumentation

Hage on dialogue models in the law

Reasons why dialogue models popular for law:
1. Legal reasoning is defeasible.
2. The law is an open system, and is established in concrete cases.

Functions of dialogues in the law:
1. Defining argument justification (‘battle of argument’ models)
2. Establishing shared premises
3. Establishment of the law in a concrete case
Argument schemes & critical questions

Argument scheme for witness testimony:

Witness A has testified that $P$.
Therefore: $P$

Critical questions, for instance:

Wasn’t A mistaken?
Wasn’t A lying?

Bonskeid 2000
Toulmin & Freeman on arguments in a dialogue

Why should I believe that premise?

Why is that reason relevant to the claim? How do you get there?

Can you give me another reason?

How sure do your reasons make you of the claim?
Argumentation in Artificial Intelligence,
With Applications in the Law

Course at the Institute of Logic and Cognition,
Sun Yat-Sen University

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