

Paper Session 2 Argumentation & Progress meeting

Paul Klint, Jurgen Vinju, Paul Griffioen, Bas van Vlijmen

Today

- Argumentation
- Improve your scheme
- Prepare for final paper
- Progress meeting

Argumentation

- When is argumentation good?
- When is it bad?
- Different types of reasoning for different goals?

Reasoning

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- Logically arrives at a conclusion from earlier truths (deduction, used for proving)
- Arrives at a general conclusion even though not all instances have been observed (induction, used for making sense of reality)

Reasoning

- He held the gun while standing over the body, so he is the killer.
- $x = 1$, and $y = 2$, so (using basic arithmetic), $x + y = 3$.
- All cows are black and white.

Language

- Be aware when you are arguing
- If, when, then, because, why, consequentially, therefore, so, and, but, concluding, believe, assume, know, implies, ...
- Use the words to make explicit, step by step, what you are thinking
- Writing an argumentation often makes you discover that you do not understand yet. That's great!

Common sense

- Do not underestimate yourselves
- Be your own audience
- Use your common sense and your curiosity:
 - O really?
 - But I saw the opposite happening yesterday!
 - Why? Why? Why? and ... Why?

Assume

- Not all questions can be answered
- Stop where common sense allows you to assume
- For example: we (sometimes) assume that
 - better tools always lead to more efficiency
 - we have infinite amount of RAM
 - $P \neq NP$, etc.
- Just state your assumptions

Strong vs. Weak

- The difference between proof and evidence?
- How are arguments made stronger?
- How are arguments made weaker?
- The weakest link

Fallacies

- Know how to recognize logical fallacies
 - accidental fallacies are just errors
 - intentional fallacies are rhetorical tricks
- Who can give an example?

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- What is an alternative explanation?
- When pregnancy hormone levels are low, the mother is not feeling sick and so she is able to drink coffee without feeling nausea. The low hormone levels are also indicative of health issues for the baby.

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- What do the authors want/need to change here?

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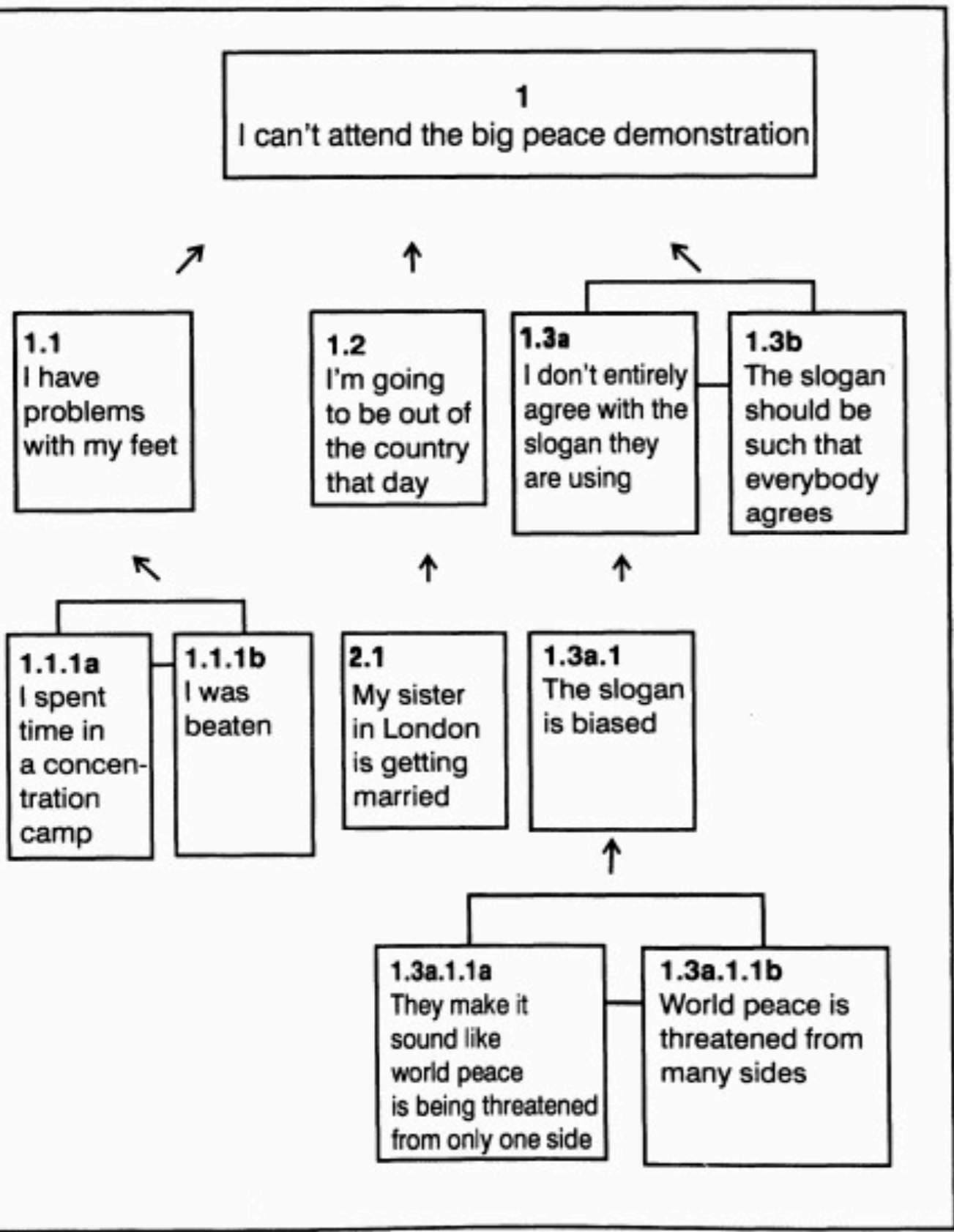
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- What’s wrong here?
- “My atoms are invisible. I am composed of atoms, so I am invisible.”



- Coordinative (conjunctive, &&)
- Subordinative (implication, =>)
- Single argument (fact/assumption)
- Watch out for hidden assumptions

Exercise

- Take somebody's argumentation scheme
 - detect logical fallacies
 - ask why? why? why?
 - help to improve
 - exceptions
 - hidden assumptions
 - additional arguments

Discussion

- Clones
- Metrics
- Design
- What is confusing?
- What is problematic?
- What must be assumed?

Next session

- Rewrite your argumentation as text
 - include motivation (improve it too!)
 - then put your argumentation
 - finish with a one-paragraph conclusion
 - max 3 pages. more will not be read.
- We improve it next session
- Then you submit for a grade, a.s.a.p.