



# ADVANCED ANALYTIC RIGOUR

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- **Open up the discussion more**
- **Short examples and rabbit holes**
  - **Might be better to move on and try another example as we always have plenty in reserve.**

Today's seminar  
**Putting all the steps together**



1. RST Recap
2. Practice (with a focus on fixing flaws)
3. Apply the method to our own reasoning

# 1. RST Recap



# “Ideal” Reasoning Evaluation

## Perfectly understand the structure

Australian Strategic Policy Institute executive director Peter Jennings told The Australian it was “very clear” that China was behind the cyber attack on Australia [...]

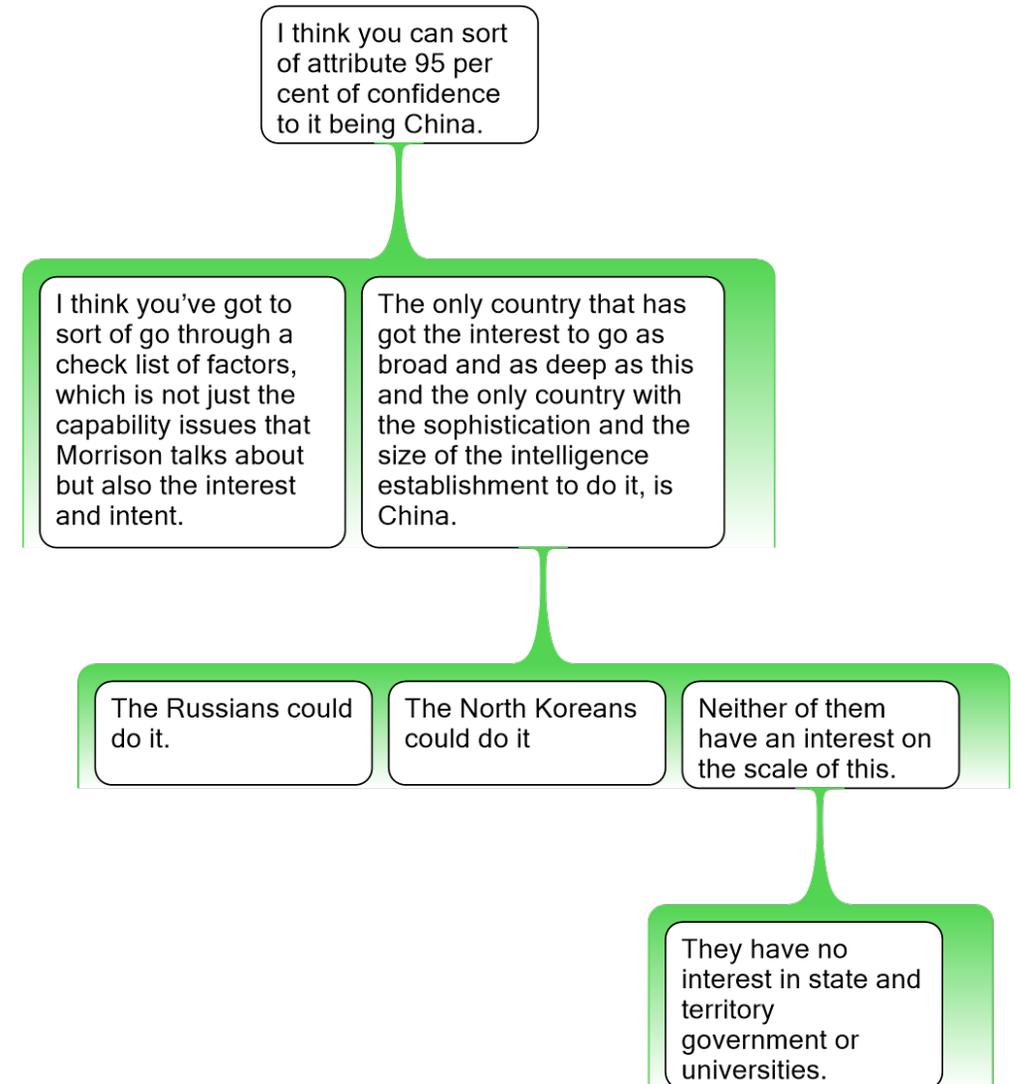
“I think you’ve got to sort of go through a check list of factors, which is not just the capability issues that Morrison talks about but also the interest and intent,” Mr Jennings said in the wake of the PM’s press conference announcing the attack.

“The Russians could do it. The North Koreans could do it, but neither of them have an interest on the scale of this. They have no interest in state and territory government or universities,”

“So that leads me to conclude that the only country that has got the interest to go as broad and as deep as this and the only country with the sophistication and the size of the intelligence establishment to do it, is China. That’s very clear.

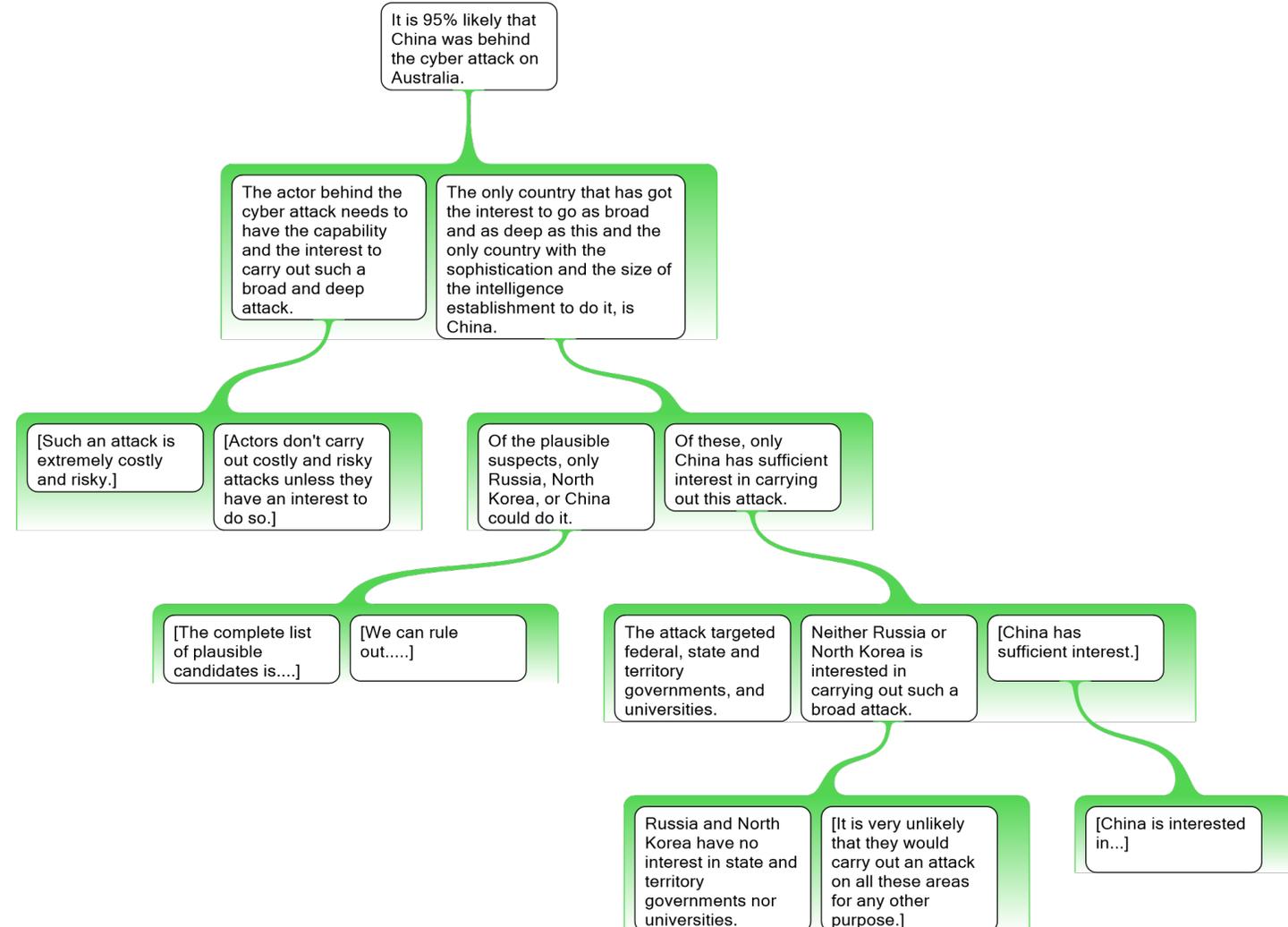
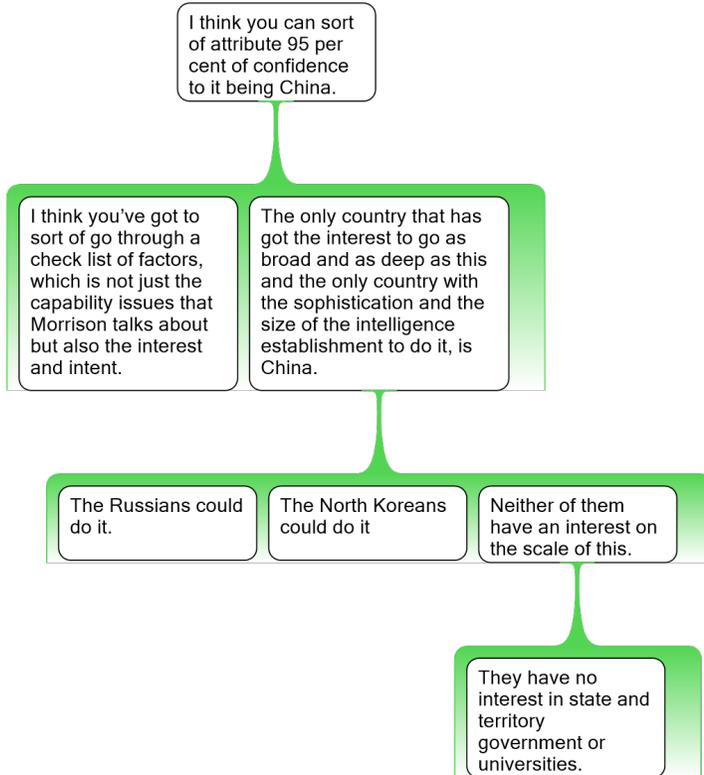
“I think you can sort of attribute 95 per cent of confidence to it being China.”

- Peter Jennings, head of the Australian Strategic Policy Institute.



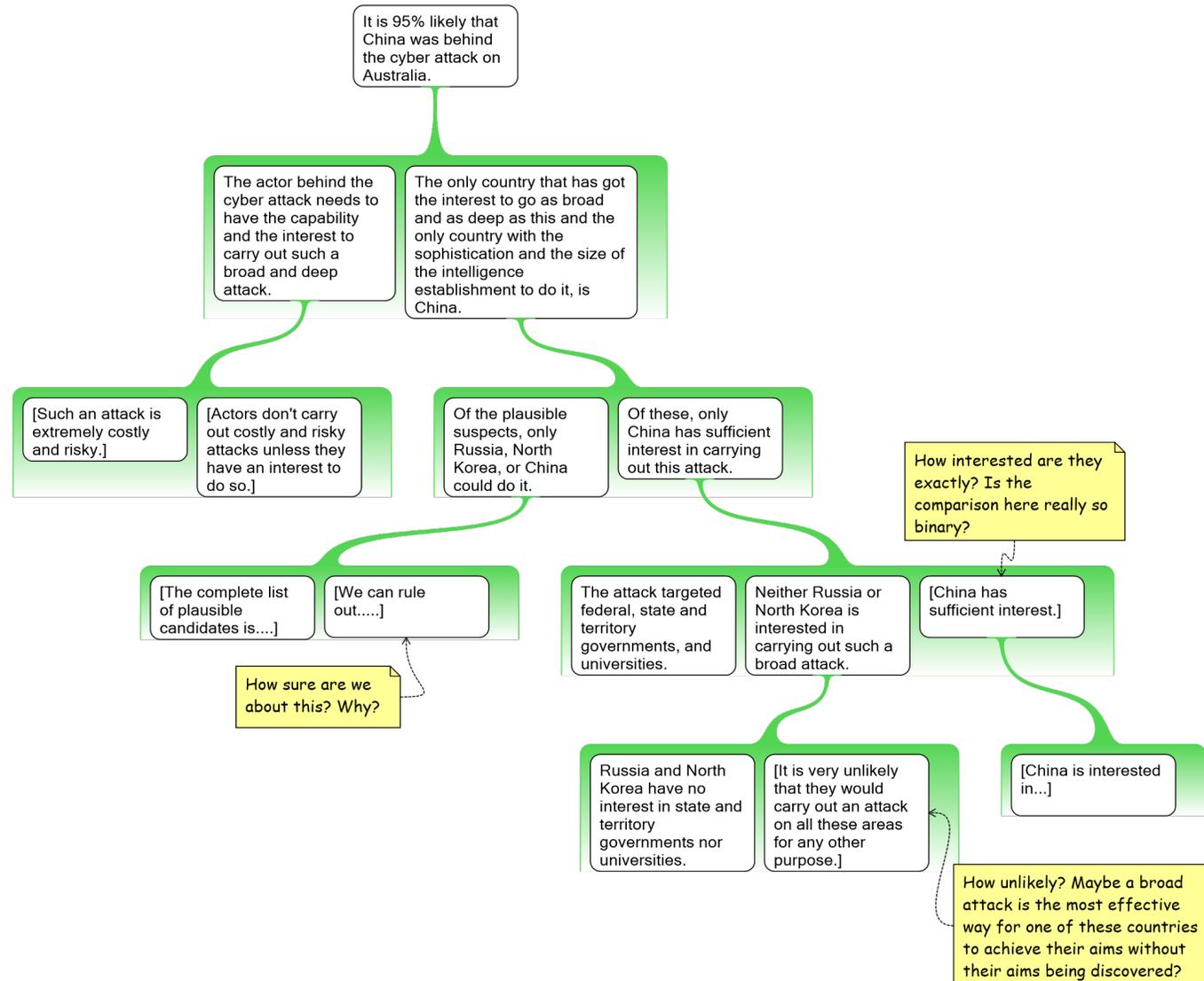
# “Ideal” Reasoning Evaluation

## Check for validity and fill in the underlying logic



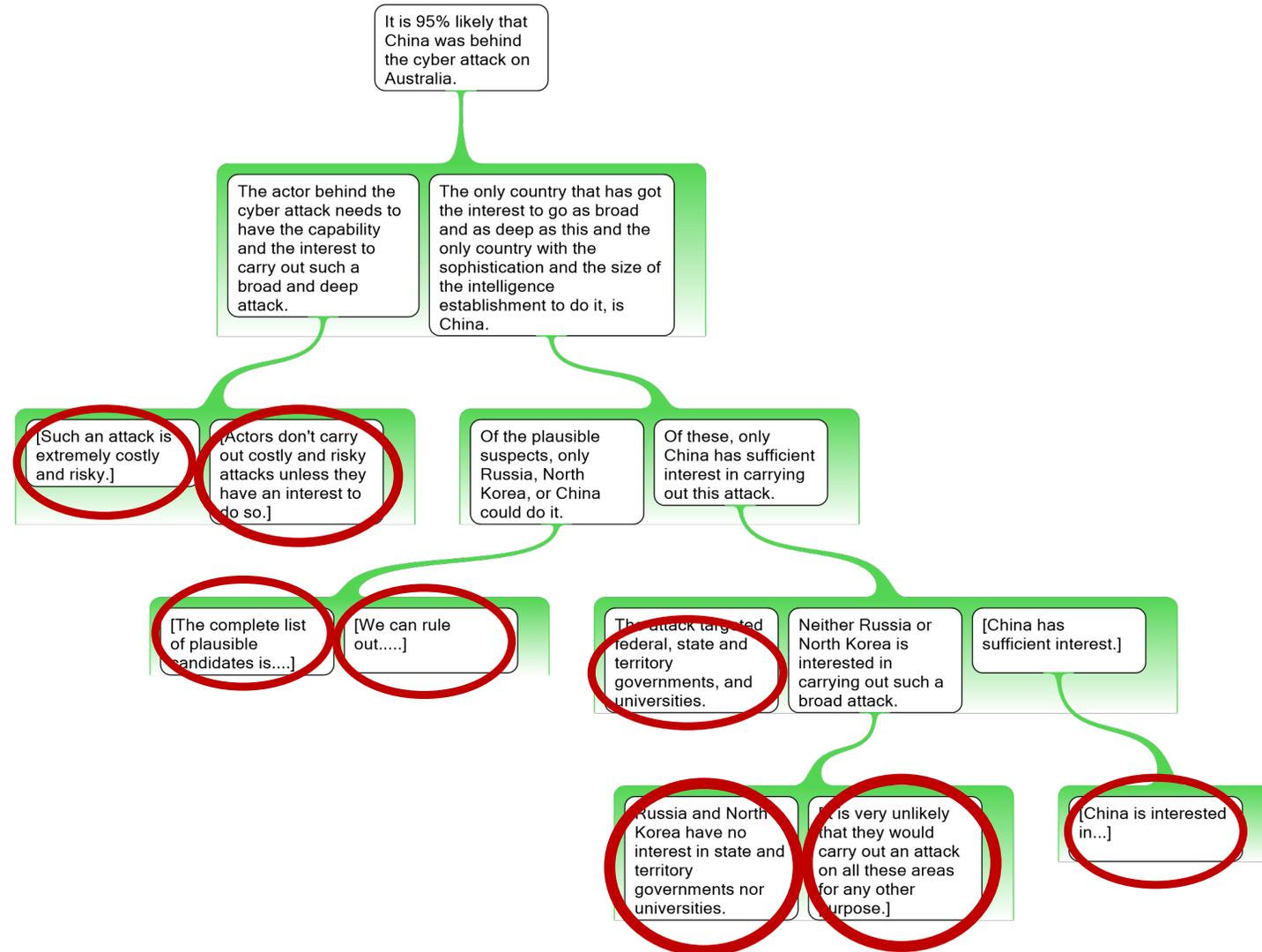
# “Ideal” Reasoning Evaluation

## Check the validity of each step revises as necessary



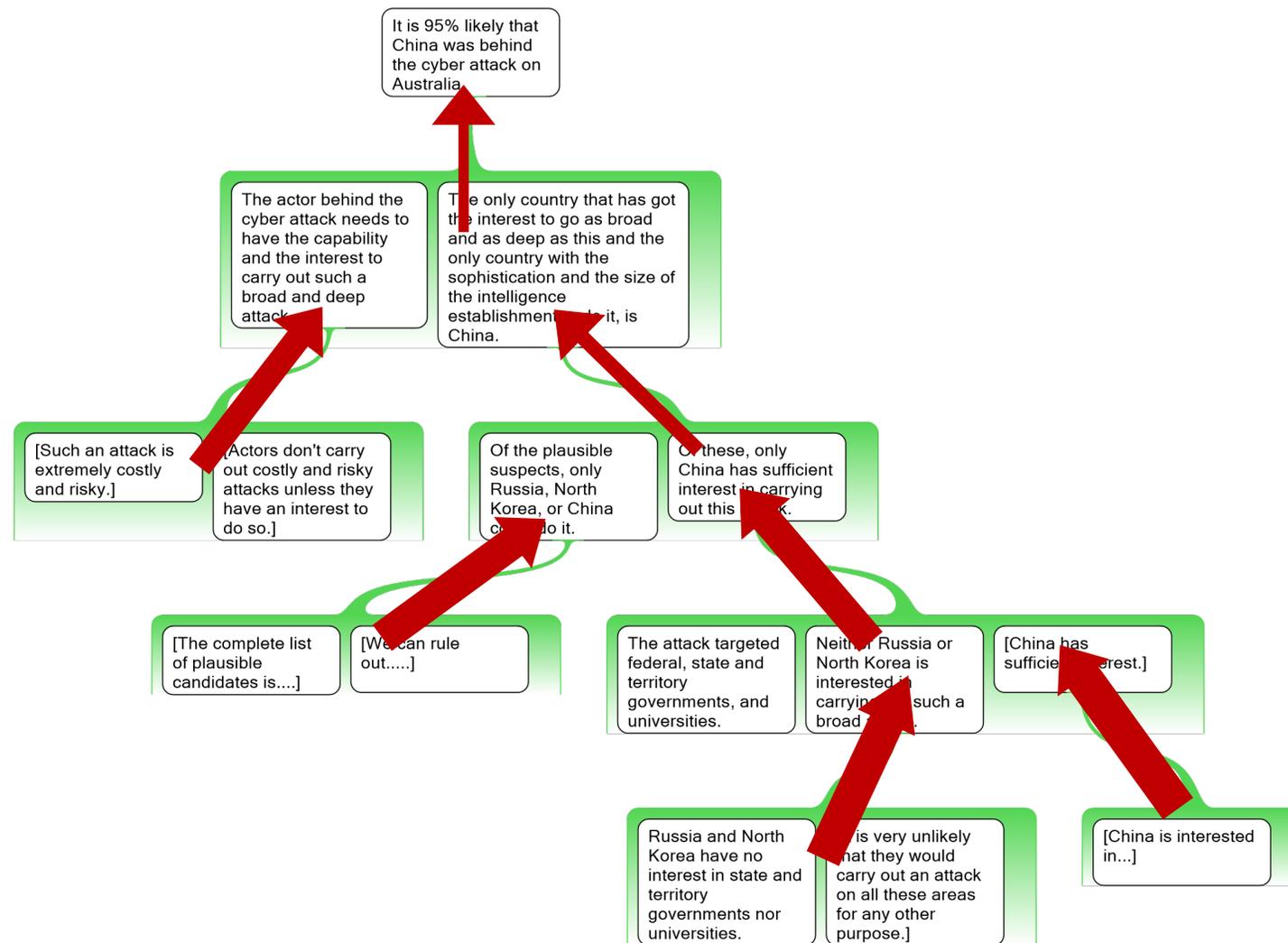
# “Ideal” Reasoning Evaluation

## Establish the acceptability of all the foundational premises



# “Ideal” Reasoning Evaluation

## Check how much of the acceptability of the premises flows to the conclusion



# “Ideal” Reasoning Evaluation Complex reports



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History

## Christopher Andrew and the Strange Case of Roger Hollis

1st April 2010 Comments (0)

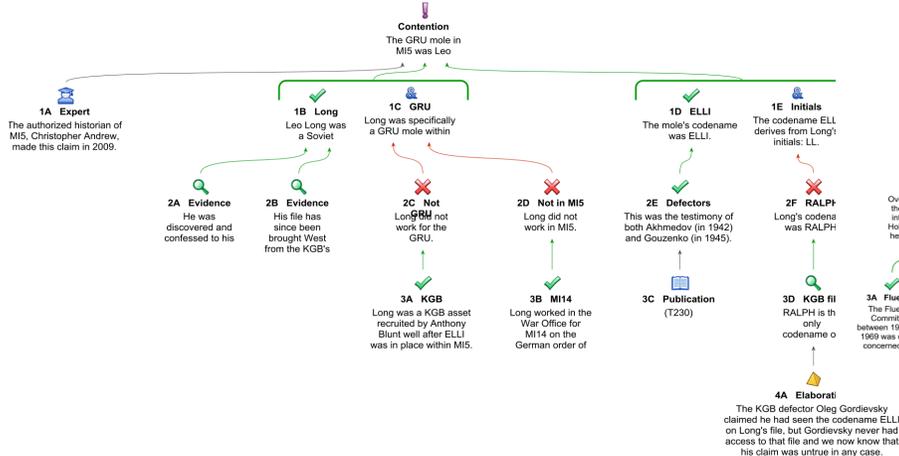


Paul Monk

This text has been edited by the author for online publication

When Christopher Andrew's *Defence of the Realm: The Authorized History of MI5* was published in late 2009, the *Australian*'s European correspondent, Peter Wilson, hailed it with a short piece headed "Mentally ill spycatcher more dangerous than KGB". The spycatcher in question was Peter Wright, whose book, *Spycatcher*, the British government made strenuous efforts to suppress, only to be foiled in the Australian courts by the young Malcolm Turnbull. The book was published in Australia in 1987 (not 1985, as Wilson reported) and became a best-seller. Wilson's piece was an eye-catcher, because it concentrated exclusively on the question of Wright's work and, in particular, his famous claim that Roger Hollis, Director General of MI5 between 1956 and 1965 (and before that Deputy Director General 1953–56), had been a Soviet mole—a claim the authorised

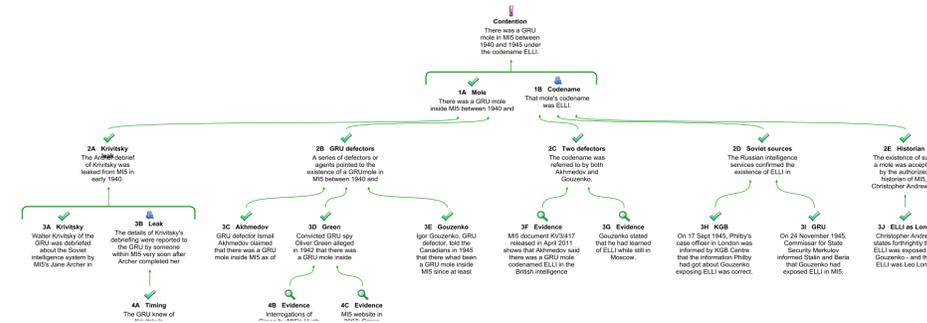
### Map #2: The GRU mole ELLI in MI5 between 1941 and 1945 was NOT Leo Long



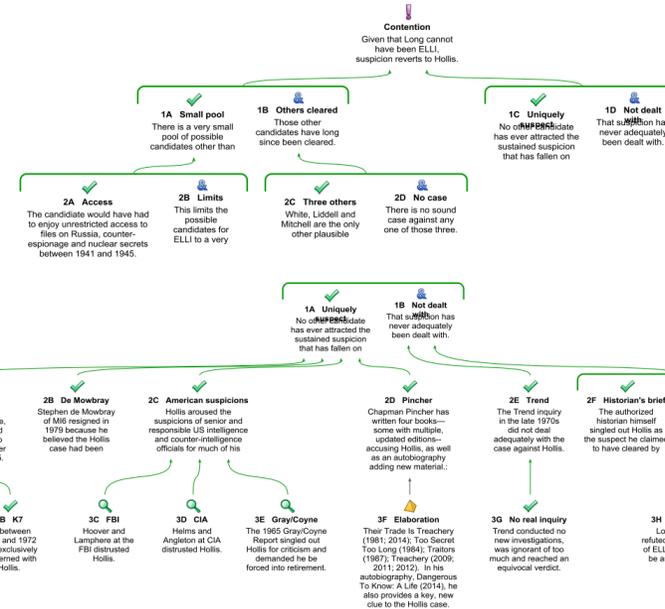
### Map #1: There was a GRU mole codenamed ELLI in MI5 between 1941 and 1945

(NOTE: Items marked with a "T" followed by a number refer to a page in Chapman Pincher's *Treachery*, Mainstream Publishing, 2012 (updated, paperback edition).

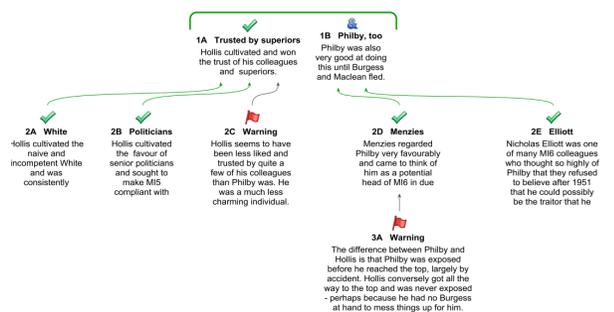
References marked by a number followed by a capitalized letter identify a specific nodal element within each argument map.)



### Map #3: Given that Leo Long was not ELLI, suspicion reverts to Hollis



### Map #9: Parallels between the careers of Hollis and Philby (Parts 2 – Treatment by superiors)



## **RST – an efficient and simple method**

# RST Recap

## The steps



# RST Recap

## Review Reasoning



- What is the conclusion/assessment?
  - State it as precisely as possible, including the uncertainty assigned to it.
- How does the reasoning try to establish the conclusion?
  - What is the structure of the argument?
  - Consider what is explicitly said, and what needs to be added for that to imply the degrees of uncertainty attributed to the conclusion
  - Consider if it contains any identifiable reasoning stratagems.
    - E.g. Inference to the best *explanation*,
    - Most likely outcome to be *caused* by observed factors
    - Generalisation from *cases*
    - *Forecast* based on indicative factors
- Don't get distracted, focus on the core moves in the argument.

# RST Recap

## Review Reasoning



		Type of Justification						
Type of Conclusion		Best explanation	Predictive indicators	Causal factors	Case studies	Analogy	Sources	Data
	Explanation (X explains Y)							
	Causal (X caused Y)							
	Generalisation (All X are Y)							
	Specific (This X is a Y)							
	Forecast (X will happen)							
	Comparison (X > Y)							

# RST Recap

## Identifying Flaws



- Do the flaws weaken the argument? What the reasoning needs to do to successful establish the conclusion, and does it falls short in any way.
- Use the flaw taxonomy to help
  - Is it hard to identify a clear argument?
    - Check Primary Judgements.
  - Does the argument use a reasoning stratagem poorly?
    - Check the relevant category to do with Sources, Causal or Explanatory reasoning, Probability and Statistics, Predictions, or Evidence such as case studies and examples.
  - Is there a more general problem with the logical consistency of the argument?
    - Check Logic, Assumptions, Uncertainty
- If there are several ways of describing the flaw pick the most precise or useful description. (The one that would most help the person fix it.)

# RST Recap

## Evaluating Impact



- Prioritize Flaws
  - A fatal flaw might mean it is beyond help
  - Best to fix the flaws that will involve the most serious revision first
  - Too much feedback can be counterproductive
  - Quality feedback over quantity

# RST Recap

## Evaluating Impact



- Does the flaw weaken the argument?
- In other words:
  - Does the flaw prevent the reasoning from establishing the conclusion as stated?
  - Does the flaw mean that reasoning doesn't imply the level of certainty the author attributes to the conclusion?
  - Does the flaw undermine the support the author intends the argument to provide to the conclusion?
- E.g. If the conclusion is "It is 90% likely that X", but the flaw means it should say 70%, then that is a serious flaw
- E.g. If the conclusion is "X is true come what may", but the flaw means that it should say "X will happen if Y does" then that is a serious flaw

# RST Recap

## Fixing Flaws



- What is the best way to fix the flaws?
  - Should the flaws be fixed by changing the reasoning that supports the conclusion, the conclusion itself, or both?
  - If you are changing the reasoning that supports the conclusion, what part of the argument should be changed?
  - Do you currently have sufficient information to fix the flaw in question?
    - If so, suggest the required fix
    - If not, make recommendations as to what the author needs to determine, find out or consider ahead of fixing the flaw

# RST Recap

## Worked Examples



### LFG PLANNING ATTACK ON ABADDON MILITARY BASE

Assessment: It is highly probable (80-95%) that the LFG insurgency group is planning to attack the Abaddon Military Base.

The LFG are clearly planning an attack in the Quazar region in the near future. Our agents on the ground report a clear influx of men of fighting age into the LFG stronghold city of Puktragar. (Special Operations Brigade. Tactical Intelligence Report #547OP, 2019. Classified.) Furthermore, imagery from surveillance drones also shows approximately 40% more people at a nearby training camp. At this time of year there is no other explanation for this build-up, and our agents don't report any event or activity that would explain it.

Furthermore, our surveillance of the digital communication of the Dreger criminal organisation confirms that the gang has been selling weapons, including RPGs and grenades, to the LFG. Recently intercepted ZeeChat communication between the groups shows that the LFG is purchasing drastically more munitions than they have previously. This arrangement with the Dreger gang has also been verified with our informant within the gang, and to date his information has generally proved to be correct. (Signals Intelligence Bureau. Dreger Gang Intercepts. Classified 2019; Special Operations Brigade. Informant 254 Report, 2019. Classified.)

Lastly, and perhaps most importantly, our assets in the regional villages and towns report that the LFG contacts are increasing active intel collection, collecting intel on our military bases in the area and on our recent operations, and reinforcing their connections with the local people.

Thus, our assessment is that it is highly likely (90-95%) that the LFG is planning an attack in the Quazar region.

As for the actual target, there are 3 military bases in the Quazar region: Abaddon, Orlando, and Damour. There are no other targets of strategic importance. Abaddon and Orlando are the closest bases to the LFG city of Puktrager, and as such are the most heavily fortified, but also the most strategically important. Furthermore, a recently recruited informant (Special Operations Brigade. Informant 213 Report, 2019. Classified.) claims that Damour is not a top priority for the LFG, so it appears that their current strategic planning is not to attack Damour anytime soon. The open terrain surrounding Orlando would make any assault extremely costly. Additionally, attacking Orlando would require crossing territory held by the warlord Brion Ruikzer, who regards the LFG with great suspicion, and there have been minor firefights between LFG scouting parties and Ruikzer's men. Even with the influx of men, it is hard to imagine that the LFG would have the strength to mount more than one major attack, and so far the LFG has proved to be a very cautious adversary (Special Operations Brigade. Tactical Assessment 45A - Orlando, 2019. Classified.). Given these considerations, we therefore believe that if an attack is carried out, it is close to certain (90-95%) that Abaddon will be the target.

Thus, our primary finding is that it is highly probable (80-95%) that the LFG insurgency group is planning to attack the Abaddon Military Base.

As an aside, while we lack the information required to determine when the LFG will be able to carry out their plan, or if anything is likely to interfere with it, recent analysis suggests that it is extremely unlikely that the LFG will abandon any planned attack because it is abundantly clear that a quick victory is required to boost the morale of their supporters and revive their PR campaign to attract more support. (LFG Strategic Assessment, #6757, 2019, Classified).

## 2. RST Practice



Effect of secondhand smoking on children's dental health: see exercises file [here](#)

Apply the RST method to the example by filling in the **form** in the file:

1. Note down what the reasoning is attempting to do
2. Identify any flaws present (use the [flaws taxonomy](#))
3. Assess the impact of any flaws present
4. Fix any flaws present by amending the text

## Example: Secondhand smoking (amended)



Children exposed to secondhand smoke have twice as many cavities as those who are not, according to a study. The research, published in yesterday's edition of the Journal of the American Medical Association, adds to the litany of woes caused by smoking and gives more ammunition to proponents of smoking restrictions. "Reduction of passive smoking is important not only for the prevention of many medical problems, but also for the promotion of children's dental health," said Andrew Aligne, a paediatric researcher at the University of Rochester and lead author. **The study, conducted with over 10,000 participants over a period of a number of years, controlled for diet, prior dental health and access to dental health, the factors which according to Dr Aligne constitute the other alternative causes for tooth decay.** He noted that tooth decay is the single most common chronic childhood disease, so any measure that would reduce cavities would have a significant economic impact. The researchers estimated that at least one quarter of children's cavities would be eliminated if they were not exposed to secondhand smoke.

### 3. Applying the method to our own work



Apply the RST method to the example by filling in the **form** in the file:

1. We will send you your open source text **and map**
2. Use the [form](#) to apply the RST method to your own work
  1. What is the structure or intended reasoning of your text?
  2. What are some potential flaws in the text? (use the [flaws taxonomy](#))
  3. What is the impact of these flaws on the overall reasoning?
  4. What are possible/suggested fixes for these flaws?
3. Email us the file! [tpri@unimelb.edu.au](mailto:tpri@unimelb.edu.au)