Can Structured Analytic Techniques Be Interpreted as Argumentation Protocol Profiles?

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Outline

Intelligence analysis and its procedures

Requirements for argumentative representation

A preliminary proposal concerning argumentation protocol profiles

Intelligence analysis

Decisions must be made with

- incomplete evidence
- competing explanations
- uncertainty and deception

We need reasoning that can be inspected and challenged.

Structured Analytic Techniques

SATs impose structure on how analysts

- expose assumptions
- compare alternatives
- challenge conclusions
- explore possible futures

They organise the analytic process.

SATs involve argumentation, but an argument map alone does not capture the entire procedure.
We should interpret SATs as **argumentation protocol profiles**: representing arguments, roles, phases, burdens, local contexts, closure conditions, and rules governing what may change the assessment.

1. Start from intelligence analysis

Example

A regional electricity operator detects an intrusion into systems used by engineering staff.

Analysts ask:

- Is this espionage?
- Is it preparation for disruption?
- Is it criminal monetisation?

Why this is hard

The same evidence can support several explanations.

A good assessment must show:

- evidence and assumptions;
- open objections;
- why a judgement changed or did not change.

The running case

Evidence

- spear-phishing of engineering staff;
- malware queries industrial files;
- state-linked attribution reports;
- ransom note on one host;
- no destructive payload found.

Initial line

- Espionage: leading explanation.
- Disruption: live alternative.
- Crime: possible, weaker.

Each evidence supports or weakens different hypotheses
The absence of a payload weakens Disruption but . . .

Could the review have detected a staged payload? (e.g. a hidden time bomb)

2. Why the Tradecraft Primer is useful

The Primer gives a catalogue of 12 procedures supporting the analyst's work

It gives guidelines to expose assumptions, check evidence, challenge a line, and explore possible future scenarios.

The procedures are grouped into three families

Diagnostic	Contrarian	Imaginative
Inspect the current line. E.g., Analysis of Compelling Hypotheses	**Argue against the current line** **Devil's Advocacy** **What If?** Team A/Team B	Generate perspectives and futures. E.g., Alternative Futures

3. A representation challenge

The procedures are inherently argumentative . . .

but some of them pose specific representation requirements

Devil's Advocacy

Someone is assigned to construct the strongest serious case against the prevailing judgement.

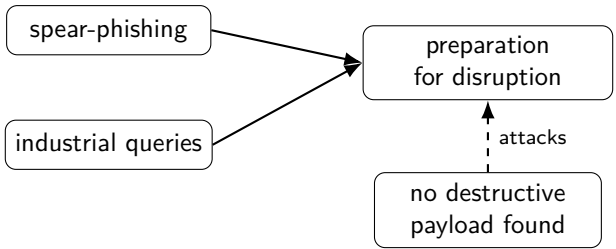
In the case: argue for disruption against the espionage line.

What If? Analysis

Participants assume that an unexpected event occurred, then reason backward and forward from it.

In the case: assume disruption succeeded and derive pathways and signs.

An argument map is useful, but incomplete



It captures content

claims, evidence, support, conflict.

It misses procedure

who is committed, under which role, in which exercise, with what burden.

4. Need for procedural status

The intrusion is preparation for disruption.

Baseline	Assigned *(Devil)*	Stipulated *(What if?)*
The analytic body currently accepts it for use.	An advocate must defend it for the exercise.	Participants assume it inside a scenario.

Procedural status = what a claim is allowed to do in the analytic procedure.

It's not a truth value nor an acceptability label.

5. Need for local validity scope

Local = valid only inside a bounded exercise context.

Local material

- advocate's assigned thesis;
- What If? stipulation;
- actor-relative belief in Red Team analysis.

Why locality matters

- It prevents accidental endorsement.
- It prevents scenario assumptions leaking into the baseline.
- It keeps useful outputs traceable to their source exercise.

A local claim may inform the baseline, but it does not enter it automatically.

6. The proposal: protocol profiles

Definition

A protocol profile is a descriptive specification of how a technique uses arguments: the roles, phases, moves, burdens, local contexts, closure conditions, and adoption rules of the exercise.

Argument layer

What supports or attacks what?
premises, warrants, claims, support, conflict.

Protocol layer

What is the exercise doing with those arguments?
roles, burdens, locality, closure, adoption.

What the profile lets an analyst ask

Without the protocol profile, these requests are ambiguous on an argument map

- Is disruption accepted, assigned, or merely stipulated?
- Who must answer the challenge on staged payload detection?
- Did the exercise close with an unresolved burden?
- Which outputs may enter the baseline?
- Why did the baseline assessment change?

The advantage is traceability: from claim, to exercise, to burden, to closure, to baseline change.

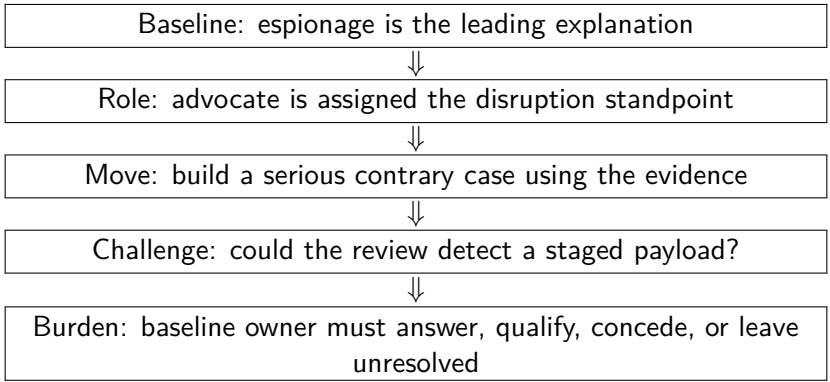
Elements of the protocol layer (a first proposal)

Element	Function	Running example
Roles	Identify the responsibilities under which participants act.	A baseline owner maintains the current assessment; an advocate constructs the contrary case; a facilitator manages the exercise; a reviewer records the outcome.
Phases	Divide the exercise into stages with different purposes.	Participants construct a case, raise challenges, provide replies, review the result, and close the exercise.
Moves	Specify what a participant may do in a phase.	An advocate advances an argument or challenge; the baseline owner answers, qualifies, or concedes; the reviewer records a disposition.
Burdens	Record questions that require an answer and identify who must respond.	The question whether e_5 was observable creates a burden concerning the use of negative evidence.
Contexts	Separate baseline commitments from assigned, attributed, team-relative, and hypothetical commitments.	The disruption hypothesis may belong to an advocate or scenario without entering the baseline.
Closure	State when the exercise ends and what unresolved matters remain.	The exercise closes after material challenges receive a recorded disposition and any outstanding inquiry tasks are assigned.
Adoption	Record an authorised decision to create a baseline item from a local result.	A caveat about e_5, an indicator, or a collection question may enter the baseline with provenance to the exercise.

Results and locality

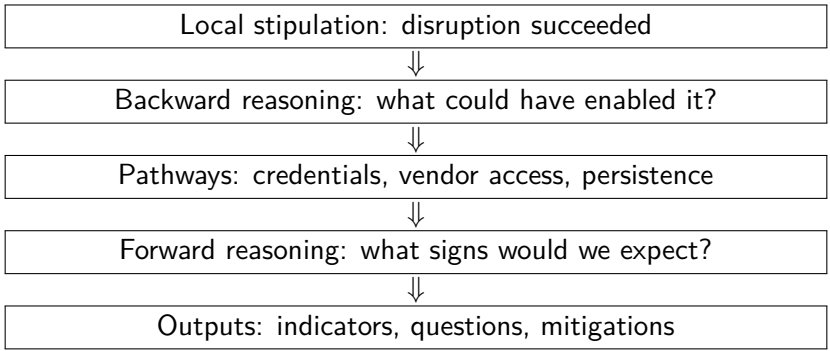
Local result	Default treatment	Condition or reason
Stipulated event	Remains local	It defines the hypothetical exercise and does not express the baseline assessment.
Assigned standpoint	Remains local	A position defended by an advocate or team is not automatically an endorsed commitment.
Attributed actor belief	Remains local	Reasoning from an actor model does not establish the actor's actual belief or intention.
Indicator	May be adopted	Its relevance, observability, and connection to a baseline concern must be independently supported.
Collection question	May be adopted	It must receive an owner, purpose, and review point.
Mitigation or action	May be adopted	It requires a baseline argument concerning goals, feasibility, costs, and risks.
Argument	May be adopted	Its premises and warrant must remain available and acceptable outside the source context.

Devil's Advocacy as a protocol profile



Local: the advocate's thesis.
Possible adoption: caveat, confidence revision, or investigation question.

What If? as a protocol profile



Local: the stipulated event and unsupported scenario conclusions.
Possible adoption: an indicator or investigation question.

Adoption: the controlled bridge to the baseline

Local exercise result		Baseline item
Advocate exposes uncertainty about review coverage	→	Caveat: negative evidence is weaker
What If? derives unusual safety-system queries	→	Indicator to monitor
Scenario suggests vendor access pathway	→	Investigation question with relevant responsibilities

Adoption requires an authorised decision and support that still works outside the local context.

What the two profiles show

	Devil's Advocacy	What If?
Local start	assigned standpoint	stipulated event
Main burden	answer the contrary case	justify pathways and signs
What stays local	advocate's thesis	stipulated disruption
What may be adopted	caveat	indicator

Conclusion

Main claim

Structured Analytic Techniques organise both argument content and analytic procedure.
A system that represents only the argument graph loses information needed to answer review questions about the exercise.

- Procedural status says what a claim is allowed to do.
- Locality prevents assigned or stipulated material from leaking into the baseline.
- Protocol profiles record roles, burdens, closure, and adoption.

Next step: turn descriptive profiles into executable protocols and test whether the extra record improves analytic review enough to justify its cost.