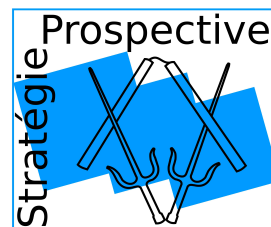


**Connecting ephemeral and sustainable futures
in scenario design:
Theoretical issues and lessons from the defence field**

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1. Introduction

Connecting scenarios, sustainability and ephemerality

Theoretical background

Scenarios, foresight and...

Ever moving rules (Berger, 1957, Marchais-Roubelat and Roubelat, 2015))

Pushing the boundaries of plausibility (Kahn, 1966, Sardar and Sweenay, 2016)

Enhancing scenario thinking to include stakeholders in scenario design (Wright and Cairns, 2011, Cairns, Wright and Fairbrother, 2016)

Introducing sustainability in futures thinking (Crivits et al., 2010, Vergragt and Quist, 2011)

Probing ephemeral futures (Roubelat, Brassat, McLean, Hoffmann, Kera, 2015)



2. Methodological proposals

Ruling scenarios: stakeholders in motion

What?

Designing scenarios from action

- ACTION RULE
- Looking for stakeholders' acts
 - and unsustainable ones

Why?

Framing scenarios from values

- INSTITUTIONAL RULE
- Justifying stakeholders' behavior
 - and what opposes the action

How?

Organizing scenarios in action

- OPERATIONS RULE
- Uncovering the constraints of the action
- And what organizes the action

What's next?

Challenging scenarios

- STEERING RULE
- Assessing scenario *sustainability*
- Finding out *ephemeral* distortions

3 Lessons from a case study: Defence Strategic action-based scenarios

The context of the case: connecting geostrategic and operations foresight

Defence foresight types	Action process scope	Sustainability issues
Geostrategic foresight	Anticipating geopolitical changes, new crises and threats	Sustainability of new technological powers and stakeholders, sustainability of the continuum between security and military technologies, duration of new technological threats (biotechnology, information technology...)
Operations foresight	Anticipating new strategic and operations theatres	Sustainability of new technologies (remote control weapons, cyber warfare, human augmentation...), diffusion of technologies among defence and security actors, military use of non-military technologies

3. Results. Lessons from the Defence field. Questioning « shattered bricks » scenario

On the sustainability of stakeholders' acts

Rule	Stakeholders' movements	Sustainability/ephemerality issues
<p><i>Action rule</i> Successively combating several military powers using armed force</p>	<p><i>What stakeholders are acting on</i> Regular war between coalitions organised around shattered BRIC countries</p> <p><i>What stakeholders are not acting on – Unsustainable acts</i> Avoiding strikes (<i>ephemeral acts</i>) on economic capacities and infrastructures, nuclear facilities, natural areas and agricultural land</p>	<p>Level of use by most of shattered BRICS of nuclear and technological capabilities (namely drones, combat robots, satellites, cyber technologies)</p>
<p><i>Institutional rule</i> Designating one or several enemies in response to military actions</p>	<p><i>What opposes the action</i> Shattered BRICs use conventional capabilities, as well as nuclear deterrence</p> <p><i>What justifies the action</i> One of the shattered nations from the BRICs requests the assistance against one or several of its neighbours</p>	<p>Economic and environmental consequences of the use of nuclear and conventional weapons</p>

3. Results. Lessons from the Defence field

Managing in time stakeholders' capabilities

Rule	Stakeholders' movements	Sustainability/ephemerality issues
<i>Operations rule</i> Managing the variability of the alliances on scattered theatres	<i>Constraints:</i> Varying conflict scales depending on the belligerent nations on variable theatres Intermittent combats over several years High intensity combats with substantial losses, both human and material <i>Organization:</i> Regeneration by new alliances, reorganization or by momentarily exiting the conflict	Regeneration of capabilities Ephemeral exit of the conflicts

3. Results. Lessons from the Defence field

Towards a moving end-state

Rule	Stakeholders' movements	Sustainability/ephemerality issues
Steering rule Designing changing military end states	<p><i>Transfer</i>: reconstitution of a BRIC, extension of the conflict, durable defeat in one of the theatres, refusal to designate the enemy</p> <p><i>Stalemate</i>: the scenarios lasts from several years: constant combat</p> <p><i>Oscillation</i>: The conflicts cease for several years then start again with the same actors: successive combat becomes alternative combat</p> <p><i>Phase lag</i>: increased variability of the alliances or incapacity to disengage theatres in time either through a lack of capacities or because the enemy's capacities have been strengthened</p>	<p>Unustainable stakeholder behavior</p> <p>Long-duration use of capabilities</p> <p>Short-term regeneration of capabilities</p> <p>Unaccepted decrease of capabilities by some stakeholders</p>

4. Discussion. Epistemological and methodological consequences

Tracking sustainability, uncovering ephemerality

Designing iterative sustainable scenarios

- Challenging paradigm shifts and paradigm dead-ends

- Navigating across scenarios

- Futurizing parallel scenarios

Designing pop-up scenarios

- Acting unacceptable and unlikely acts, behaviors or constraints

- Playing with gaps, rhythms, paces beyond scenario plausibility

Questioning scenario sustainability and ephemerality

- Designing scenarios from action: crisis management scenarios, emergency scenarios, strategic action scenarios

- Designing experience scenarios from stakeholders' acts: user scenarios, normative scenarios

5. Conclusion and further research

A fine moving disregard

...Ariadne's thread beyond sustainable endstates

Thinking sustainability and ephemerality in moving scenarios

Designing iterative sustainable and ephemeral scenarios

Experiencing ephemeral stakeholders' transformations

Exploring interstitial spaces and actions

Assessing ephemeral dominance in scenario design



6. References

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