



# **Incorporating stakeholders in motion in scenario design**

## **Insights from defense extreme scenarios**

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### **Abstract :**

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While scenario literature suggests enhancing scenario analysis to incorporate stakeholders' perspectives, this paper proposes to design scenarios as moving action processes from the anticipation of stakeholders' acts over time. Discussing the growing interest in the concept of stakeholder in scenario literature, this paper will first stress the role of action in scenario design. In a second section, methodological proposals from defense extreme scenarios, including a pandemic scenario, suggest exploring stakeholders' acts within a set of four rules - action rule, institutional rule, operations rule, steering rule - to assess the design of scenario branches. Results address the assessment of the effects of stakeholders' acts over time, including the issues of sustainability of acts, of transgression, of incapacities to act, and of the challenge of the concept of scenario end-state.

**Keywords:** action, rule, scenario, stakeholder.

### **Résumé :**

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Alors que la littérature sur les scénarios suggère d'introduire la perspective des parties prenantes dans la construction des scénarios prospectifs, cette communication propose de concevoir les



scénarios comme des processus d'action à partir de l'anticipation des actes des parties prenantes au cours du temps. Discutant l'intérêt grandissant de la littérature prospective pour le concept de partie prenante, la communication met tout d'abord en avant le rôle de l'action dans la conception des scénarios. Dans une deuxième partie, des propositions méthodologiques issues de scénarios extrêmes militaires, incluant un scénario de pandémie, suggèrent d'explorer les actes des parties prenantes à partir de quatre règles (règle de l'action, règle institutionnelle, règle des opérations, règle de conduite) pour évaluer les ramifications des scénarios. Les résultats questionnent l'évaluation des effets des actes des parties prenantes au cours du temps, et en particulier les enjeux de la soutenabilité des actes, de la transgression, des incapacités à agir, ainsi que la remise en cause du concept d'état final des scénarios.

**Mots-clés :** action, règle, scénario, partie prenante.

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### **INTRODUCTION**

Whereas scenario literature suggests enhancing scenario planning through incorporating the concept of stakeholder (Cairns, Goodwin and Wright, 2016, Marchais-Roubelat and Roubelat, 2016, Cairns, Wright and Fairbrother, 2016), as well as stresses the importance of stakeholders' engagement (Crawford, 2019, Mukherjeea, Ramirez and Richard, 2020), this paper explores directions to include stakeholder analysis in scenario design from an action-based perspective. For the last decade, the concept of stakeholder, together with the one of action, has indeed become a core concern of future-oriented literature and a major issue for scenario design, witness the many papers published in *Technological forecasting and social change* and *Futures*. The question of stakeholders' involvement in the scenario process has been extensively discussed and refined since seminal Quist and Vergragt's paper on the "shift to stakeholder participation" (Quist and Vergragt, 2006). However, the design of scenarios through the lens of stakeholder analysis (Bradfield, Cairns and Wright, 2015) remains an emerging field of research in scenario literature. Within that second perspective, we propose in this paper to design scenarios from prospective stakeholders' acts to enhance the methodological framework of action-based scenarios (Marchais-Roubelat and Roubelat, 2008) and to discuss the contribution of strategic action scenarios developed with the French Ministry of Defense to developmental scenarios (van Notten, Rotmans, van Asselt and Rothman, 2003, Crawford, 2019). As a field of practice of scenario planning (Burmaoglu and Saritas, 2017), as well as a foundational field of the scenario approach (Kahn, 1962), the defense field offers a practical and theoretical framework to question the issues of the incorporation of a moving stakeholder perspective in scenario design.

In a first part (section 1), we will discuss the growing interest in the concepts of stakeholder and action in scenario literature. In a second part (section 2), methodological proposals from defense extreme scenarios suggest designing strategic action scenarios from stakeholders' acts within a set of four rules: action rule, institutional rule, operations rule, steering rule. Results address the implications for scenario design of the assessment of the effects of stakeholders'



acts over time, including the issues of sustainability of acts, of transgressive behaviors, of incapacities to act and of stakeholders' transformation.

## **1. STAKEHOLDERS IN ACTION: DIRECTIONS FOR SCENARIO PLANNING**

Introducing stakeholders in scenario literature questions the status of action and of actors in scenario thinking. The literature can be divided into two parts, as the reference to stakeholders may either concern the participation and engagement of multiple stakeholders in the scenario process (Soste et al., 2015, Crawford, 2019, Mukherjeea, Ramirez and Richard, 2020) or the introduction of stakeholder analysis in scenario design (Bradfield, Cairns and Wright, 2015). As we pointed out in the introduction of the paper, the first group of papers has related to a now classically identified field of research since the seminal paper of Quist and Vergragt (Quist and Vergragt, 2006), while the proposal to include stakeholder analysis in scenarios still needs further research.

In the futures field literature, “actors” and “stakeholders” are often used without introducing a distinction between the two concepts as “to identify actors to include in the scenario there are a variety of methods used for stakeholder analysis” (Wangel, 2011). “The stakeholder analysis approach”, together with “the social network approach, the governance model approach, and the policy and change approach” offers for Wangel a methodological perspective to include “actors and governance as an object of study in backcasting studies”, while she states that there is “a lack of actors and governance” in such studies (Wangel, 2011). As a proposal, the actor-stakeholder matrix (both terms are used in the paper) serves to fill a combined “what-who table” that exhibits what actors do. Implementing Giddens’ structuration theory to the futures field, MacKay and Tambeau propose an iterative interaction over time between the “realm of structure” and “the real of action”. The concepts of actor (actors “express themselves as actors”, the authors quoting Giddens), as well as the one of rule (referring to “an actor's view of how things should be done and/or how they have always been done”) are key ones of this approach of scenario design, which looks for “behavioral regularities and uncertainties” by identifying “key actors and the rules and resources they draw upon in the scenario to enact or resist change” and by analyzing how “actors interpret, internalize and enact social norms” (MacKay and Tambeau, 2013).

In their “critical scenario method” (CSM), Cairns, Sliwa and Wright stress that “scenario method, as conventionally practiced, does not incorporate explicit consideration of the full range of involved and affected actors, or stakeholders” (Cairn, Sliwa and Wright, 2010). They also point out that stakeholder analysis has originally been considered as an “optional addition”



in scenario planning literature to be placed at the “centre of analysis”. According to Bradfield, Cairns and Wright, a “stakeholder analysis provides a counter to any over emphasis of the macro- environmental context with disregard for the actions of stakeholders at the micro-level” (Bradfield, Cairns and Wright, 2015), while Wright and Cairns invite to pay attention to disempowered and disadvantaged subjects, as well as to “disaffected context setters” (Wright and Cairns, 2011). The concept of action refers to “action groups” (Cairns, Sliwa and Wright, 2010), as well as, in a plural form, to the “actions of stakeholders”, as “although the traditional focus in scenario development with IL (intuitive logic) is on exogenous changes in the contextual environment, change can equally be brought about endogenously by the actions of stakeholders with power to affect the contextual environment” (Bradfield, Cairns and Wright, 2015). As a method, “action learning” includes for Bradfield, Cairns and Wright the role-playing of stakeholders by participants.

While futures literature connects the concept of transformation with changes in the rule of the game (Macdonald, 2012), action-based scenarios method (Marchais-Roubelat and Roubelat, 2008) proposes a rule-based approach to futures, in which scenarios are phases of action processes. To find out when and how successive movements will evolve, decision theory offers with the concept of rule a guideline to assess “what-if statements” from a player perspective (Baligh, 1990). Extending such a definition, action-based scenarios define a rule as a constraint on behavior or a relation between variables, which operates during a scenario. Action-based scenarios are designed from rules that may be transformed by stakeholders’ moves as well as by contextual changes beyond stakeholders’ acts and goals. Such scenarios are part of developmental or chain scenarios (van Notten, Rotmans, van Asselt and Rothman, 2003, Crawford, 2019) as they insist on temporal how scenarios evolve over time, especially through the transformations of dominance relationships (Marchais-Roubelat and Roubelat, 2016).

While the concept of actor is rarely defined - excepting Giddens’ recursive definition (MacKay and Tambeau, 2013), stakeholders’ definitions are numerous and variable over time, witness the definitions proposed by Freeman (Mitchell, Agle and Wood, 1997, Harrison, Freeman, Cavalcanti Sa de Abreu, 2015). Beyond this multiplicity, the key idea conveyed by the concept is that people, groups, organizations, can influence the future (for stakeholder theory: the strategic future of an organization) not only insofar as they can serve the specific interests of another group or organization, but on their own. Therefore, a crucial issue for the theory is “Who or What Really Count” (Freeman, 1994), the definitions being adapted to the way



scholars answer following its descriptive, instrumental or normative developments (Donaldson, Preston, 1995, Agle, Donaldson, Freeman, Jensen, Mitchell, Wood, 2008).

The temporal dimension of the concept as well as the shift of perspective it allows give an opportunity to focus on the variability over time of the stakeholders and of their influences on future evolutions. For example, a strategic approach may use decision-makers' perceptions of what are salient stakeholders and their dynamic over time in order to better manage them while developing their strategies (Ackermann and Eden, 2011). In action-based scenarios, stakeholders' acts and their effects on the development of scenarios over time are directly integrated in the scenario design. Thus, individuals, groups or organizations are considered as stakeholders when the future or actual effects of their acts influence the evolution of the rules that define the main trends in the scenario, the aim being to explore the transformations of scenarios over time through interlaced action processes including the acts of stakeholders and their effects.

## **2. DESIGNING SCENARIOS FROM STAKEHOLDERS' ACTS: LESSONS FROM STRATEGIC ACTION SCENARIOS**

### **2.1. METHODOLOGICAL FOUNDATIONS OF DEFENSE SCENARIO PRACTICES AND RESEARCH DESIGN**

In seminal futures works, defense issues have been a major field of research and of methodological development, witness Kahn's scenarios (Kahn, 1962) and Dalkey and Helmer's Delphi method (Dalkey and Helmer, 1963). "Thinking about the unthinkable" is the common objective of the two approaches as Dalkey and Helmer's seminal case study concerned the assessment of the capacity of destruction of nuclear bombs and that Kahn's scenarios were about escalation and nuclear wars (Kahn, 1965). In the case under study in this paper, the reference to Herman Kahn is explicit, as the objective was the design of a method that would serve to think the unthinkable to the horizon 2030-2040 in scenarios where armed forces would be in operations. The scope of the research thus refers to extreme scenarios (Wright and Goodwin, 2009, Goodwin and Wright, 2010), with an action-based perspective as a specific stakeholder (armed forces) should act in the scenario, whatever the prospective organization and shape this stakeholder could take.

From a methodological perspective, such scenarios refer to Kahn's seminal definition, which considered that "a scenario results from an attempt to describe in more and less details some hypothetical sequence of events" (Kahn 1962). The concept of sequence induces that a scenario is a process, the example given by Kahn concerns "a crisis or other event which could lead to



war, the process of “escalation” of a small war or local violence into a larger war...”. For Kahn, “a relatively extensive scenario refers to the “events and the branching points dependent upon critical choices”, which suggests that the branching points and the critical choices are embedded in the scenario. If Kahn does not explicitly use the concepts of actor and of stakeholder in this seminal book, he states that “the focus of the scenario can be military events and activities, the internal dynamics of various countries, bargaining among enemies or inter-ally relations, and so on”, which suggests that scenarios focus on actors and stakeholders. Later, Khan will thus insist on “the question of who, whom and why?” (Kahn, 1965). His approach has however been criticized on this point, Coates considering that Kahn “generally had little or no regard for the broad range of stakeholders in any complex situation. We take stakeholders to be those who are affected by a system or who in turn affect it. Consequently, his analyses tended to lack any political, organizational or social subtlety” (Coates, 1996). The main issue of warfare foresight is thus to design scenarios as action processes and to be able to include a broad range of stakeholders, if not disaffected ones.

The research case includes methodological proposals for the design of extreme defense scenarios. The case was part of a defense foresight action research conducted by the two authors, who designed the methodological framework and the implementation process, in the years 2009 and 2010 for the French Ministry of Defense. Methodological proposals mainly focus on two directions. On the one hand, strategic action scenarios suggest considering the follow-up period of the event under study as a phase of an action process where stakeholders’ acts can be viewed through a set of rules. On the other hand, as critical choices are embedded in the scenario, branching points able to transform the scenario are then to be analyzed from stakeholders’ acts within the scenario. To refine the action-based scenario method (Marchais-Roubelat and Roubelat, 2008), we designed an experimental scenario - Shattered BRICs’-, with a steering committee of staff officers from three armies (land, air, navy), R&D weapons system engineers and a geostrategic analysis program manager (step 1, table 1). This strategic action scenario was designed to model a low plausibility scenario assuming a war between two military powers, involving the engagement of Western forces in scattered theatres. The method was then implemented with five focus groups to explore five critical issues (demography, economy, ecology, health, diplomacy) defined by the division for strategic affairs of the ministry. Each focus group involved from 8 to 12 members (staff officers, senior officials, scholars from the field of study, and military doctors for the health group), who were chosen with the head of the foresight unit of the strategic affairs division. The case is based on the





design of six strategic action scenarios and reports the making of the scenarios from scenario design sheets.

Data result from the workshops organised with the steering committee of the research (step 1) and from the workshops organised with each focus group (step 2). Scenario design sheets were produced following a participatory process of selection of a starting stakeholder move for each scenario, of making a set of rules and of transformation of the designed scenario.

**Table 1. Research design**

Step	People engaged	Outcome	Data collected
1. Designing methodological proposals	Authors Members of the steering committee	Scenario design methodology (table 2) Implementation of the methodology on an experimental scenario	“Shattered bricks” experimental design sheets: <ul style="list-style-type: none"> <li>• trend and wildcards on stakeholders’ moves,</li> <li>• set of rules,</li> <li>• transformations.</li> </ul>
2. Implementation of the scenario design methodology	Co-author 1 Members of the focus groups (demography, economy, ecology, health, diplomacy)	Scenario design methodology (table 2) Implementation of the methodology on an experimental scenario (Shattered bricks)	“New Abo submerged”, “The citadel”, “Preferred patients”, “Precious land”, “Great Europe” scenario design sheets: <ul style="list-style-type: none"> <li>• trend and wildcards on stakeholders’ moves,</li> <li>• set of rules,</li> <li>• transformations.</li> </ul>

## 2.2. METHODOLOGICAL PROPOSALS

Strategic action scenarios propose a scenario design framework to shape sequences of stakeholders’ acts involving armed forces in operations. The design of a strategic action scenario is divided into three steps (table 2). First, the analysis and anticipation of stakeholders’ acts, combined with the analysis of trends and wildcards, serves as a basis to select branching stakeholders’ acts as sequence of events. In this exploratory step, to be of interest for the design of strategic action scenarios, new stakeholders’ acts - i.e. stakeholders do something new - should be played, either they concern stakeholders’ strategies or result from the macro-environment.

The second step develops from selected branching acts a scenario as a set of rules to be played over a period of the action process called phase, which thus comprises sequence of acts. Such strategic action scenarios combine three rules (action rule, institutional rule, operations rule), completed by a steering rule. The action rule explores the acts of the action: what stakeholders





actually do, what they are not acting on. The institutional rule looks for the triggers of the action process: what opposes and what justify the action. The operations rule analyses what constrains the action as well as how stakeholders organize the action process during the phase. The simultaneous functioning of these three rules enables the steering rule to be created: thereby enabling stakeholders to control the action. In practice, according to the branches and its relating acts, the design of the rule set starts with a different branching rule (marked with a star\*, table 3) pointing out the initial issues that the scenario addresses. The set of rules was designed to make a clear separation between the action itself (action rule), stakeholders' intentions (institutional rule) and organizational issues (operations rule).

The third step examines new critical issues within the scenario, looking for further branches in the action process. Shifts from a scenario set to a new one are analyzed by transfers. In a stalemate, stakeholders cannot quit the scenario, as they seem to be trapped in the set of rules. In oscillations, stakeholders go to and fro between different sets of rules. In a phase lag, some stakeholders do not follow the set of rules of the scenario where they are engaged, creating a gap between stakeholders of the action process.

**Table 2. Designing strategic action scenarios**

Step	Purpose	Methodological proposals to incorporate stakeholders' acts in scenario design
1. <i>Exploring</i>	Selecting a branching move in stakeholders' acts	Analysis and anticipation of stakeholders' acts and strategies combined with trend and wildcard analyses
2. <i>Ruling</i>	Ruling the phase of action relating to the selected branch	Design of a scenario as a set of rules: - action rule: what stakeholders are acting on/what stakeholders are not acting on - institutional rule: what triggers/opposes stakeholders' acts - operations rule: what constrains/organizes stakeholders' acts - steering rule: what controls stakeholders' acts
3. <i>Transforming</i>	Stressing further branching critical stakeholders' acts within the scenario	<i>Analysis of four modes of transformation:</i> - transfer: shifts in stakeholders' acts - stalemate: traps from stakeholders' acts - oscillation: play back of stakeholders' acts - phase lag: gaps between stakeholders' acts



### 2.3. STAKEHOLDERS' ACTS IN STRATEGIC ACTION SCENARIOS

The six strategic action scenarios cover different focal issues and include various stakeholders: new countries resulting from BRIC fragmentations, private armed forces, governmental administrations, health experts, environmental NGOs. The actions that the different scenarios play stress polar processes: *Shattered BRICs* is a long duration succession of major wars, *New Abo submerged* explores the frontiers between defense and security in a small territory, *the Citadel* underscores the issues of budget cuts, *Preferred patients* points out the limits of compliance with orders in extreme situations, *Precious land* examines how ecological issues might change warfare actions, and *Great Europe* questions stakeholders' acts in a context of leadership crisis. Table 3 exhibits for each scenario the selected branching stakeholder act and table 4 presents critical branching acts for the scenarios.

*Shattered BRICs* is at its very beginning a classic warfare scenario with two countries resulting from the fragmentation of a BRIC going to war, but the scenario becomes over time a succession of wars on scattered theatres. Stakeholders of such a scenario are regular armed forces, with both conventional and nuclear capabilities (where nuclear capabilities had been previously developed). The scenario voluntarily excludes irregular warfare, which eliminates from the scenario irregular stakeholders. The operations rule stresses the question of the variability of alliances on scattered theatres, coalition being viewed as an alliance of different stakeholders. As a result, a phase lag may occur over time, when some allied decide either to withdraw or to reduce their engagement, stressing the issue of inter-ally relations over time, which were not at the beginning the main problem of the scenario. Because of the multiplication of conflicts, armed forces face regeneration difficulties, while the refusal of a return to conscription to solve the problem suggests a role for political and societal stakeholders in the action process.

**Table 3. Strategic action scenarios: acts and rules**

Scenario	Focal issue / branching stakeholders' acts	Rule set and branching rules
Shattered BRICs	warfare new countries resulting from BRIC fragmentations go to war	AR*: successively combating several military powers using armed force IR: designating one or several enemies in response to military actions OR: managing the variability of the alliances on scattered theatres SR: designing changing military end state



New Abo submerged	<i>demography</i> a coastal city-state secured by private forces is over submerged by flows of immigrants coming from neighboring countries	IR*: answering the request of the city state AR: restoring order in New Abo through a multinational intervention OR: following a UN mandate with air-sea access only SR: securing the city-state within the UN mandate
The citadel	<i>economy</i> governmental budget cuts specialize armed forces on core missions	IR*: optimizing defense resources AR: securing homeland through deterrence OR: focusing resources on homeland defense SR: minimizing engagements
Preferred patients	<i>health</i> armed forces secure the delivery of drugs to selected patients due to a shortage of treatments	OR*: engaging armed forces to adhere to priorities AR: securing the delivery of pandemic drugs to selected patients IR: prioritizing the access to treatments SR: treating selected patients
Precious lands	<i>ecology</i> a country armed forces invade its neighbor to control arable lands	OR*: managing military operations preserving food resources AR: exerting actions over adverse forces to take back control of arable lands IR: upholding the sovereignty of the invaded country and the free circulation of food resources SR: pushing adverse forces out of occupied territories
Great Europe	<i>diplomacy</i> US disengagement from international leadership gives rise to opportunistic actions	OR*: parcelling out world regions responsibilities AR: striking opportunistic countries and organizations IR: answering opportunistic threats SR: deterring opportunistic actions

(AR: action rule, IR: institutional rule, OR: operations rule, SR: steering rule)

In *New Abo submerged*, the role played by private armed forces and private security companies is of major interest, as they are the only local forces able to cooperate - or not - with multinational forces. One of the main issues of this scenario is about the future of such stakeholders within the scenario together with the future of the city-state. As *the Citadel* challenges armed forces “business model” to focus on homeland security rather than international engagements, critical branching acts concern either political and organizational innovations such as sharing nuclear deterrence or industrial irreversibilities with the abandonment of core competencies.


**Table 4. Critical branching acts in strategic action scenarios**

Scenario	Main critical branching acts
Shattered bricks	Transfer: reconstitution of a BRIC, stakeholders refuse to designate a country as an attacker Stalemate: armed forces engage in regeneration problem solving Phase lag: withdrawal or reduction of engagement of members of the coalition
New Abo submerged	Transfer: the end of the city-state (international administration, no-go zone, reintegration in the hinterland) Oscillation: illegal immigration networks are back at work
The citadel	Transfer: two countries or more decide to mutualize nuclear deterrence, attack of a NATO country Stalemate: industrial stakeholders abandon some core competencies
Preferred patients	Stalemate: armed forces do not adhere to priorities, dispute among experts about the side-effects of the treatment
Precious land	Transfer: new countries invade precious lands all over the world Phase lag: settlers progressively colonize precious lands
Great Europe	Transfer: USA is back again, the making of a European citadel including Russia

*Preferred patients* and *Precious land* both pay attention to responsibility in stakeholders' acts. The Preferred patients branching rule (operations rule), which stresses a need of adhesion to priorities, is not that obvious to manage, as - either at a global or local level - individuals or groups could not accept to give the priority to selected patients. As a result, the scenario questions the empowerment process of stakeholders supposed to obey orders in an extreme scenario with an unclassic battlefield where death blindly strikes. The branching rule of *Precious land* is the operations rule, as this scenario is about a "clean" war. Water and food resources are so scarce that they should be preserved and enhanced. As a result, settlers - including farmers able to organize armed militias - can actually become crucial stakeholders of such a scenario.

*Great Europe* simultaneously assumes the withdrawal of a major leader and the opportunistic actions of stakeholders, who could be nation-states, political or industrial stakeholders, taking benefit of the disorganization of international affairs. In such a scenario, the emergence of a new global leader was excluded, which explains the branching operations rule of the scenario (parcelling out world regions responsibilities). But while new regional leaders could emerge - such as *Great Europe* -, some crucial branching acts within the scenario are still US focused, with the possibility for America to come back very quickly to restore its leadership or on the contrary with the disintegration of the US, suggesting a branching towards a renewed Shattered BRICs scenario.



### 3. DISCUSSION AND IMPLICATIONS. ASSESSING STAKEHOLDERS' ACTS OVER TIME

Incorporating stakeholders' acts in scenarios within the proposed set of rules underlines the various faces of such acts. The six strategic action scenarios unveil four directions resulting from each rule viewpoint. First the action rule questions the sustainability of stakeholders' acts. Secondly, the institutional rule stresses the problem of transgressive acts. Thirdly, the operations rule queries capacities and incapacities to act. Finally, the steering rule, together with critical branching acts, challenge the salience and sometimes the existence of stakeholders over the action process, as well as the concept of end-state.

While paying attention to what stakeholders are acting on and to what they are not acting on, many strategic action scenarios actually explore the sustainability or the unsustainability of acts. While Kahn investigated nuclear warfare to think the unthinkable, scenarios such as *Shattered BRICs*, where stakeholders exert nuclear deterrence, questions the sustainability of such acts, as nuclear deterrence is primarily conceived to avoid a war. Such scenarios entail an irreversibility effect, which explains that a "clean scenario" like *Precious land* should find new forms of warfare to preserve the environment, introducing the issue of long-range responsibility for the effects of stakeholders' acts in scenario design. When examining strategic action scenarios in detail, the incorporation in scenarios of stakeholders such as NGOs or agro-food industry appears as a question that sustainability issues uncover.

When stakeholders choose unsustainable acts or to deliberately break an institutional rule, such branching acts transgress the paradigms that rules stakeholders' acts. Transgressive acts are of interest for scenarios as they might serve as anomalies to challenge paradigms (Roubelat, 2006, Wayland, 2015, Sardar and Sweeney, 2016, Wayland, 2019). When a scenario is associated with a paradigm, stakeholders involved in the related action processes are members of a community with a common system of beliefs, according to Kuhn's conceptual framework (Kuhn, 1962). Either a transgression can be treated by stakeholders' acts through the action rule, or stakeholders should change their systems of beliefs and the related sets of rules. When in *Precious land* a country armed forces invade its neighbor to control arable lands, the main issue of the scenario is the ability of other stakeholders to manage such a transgression and the anticipation of the next prospective branching acts with the occupation of these precious lands by settlers.

With the operations rule, strategic action scenarios question stakeholders' capacities and incapacities to act. In *Preferred patients*, the shortage in treatments to stop the pandemic



stresses incapacities to achieve some acts in the scenario. Incorporating capacities and incapacities to act in strategic action scenario invites to assess strategic options within the scenario, as the development of capacities to act change the action. When in *Shattered BRICs* armed forces look for regeneration problem solving skills, the scenario is to be challenged, so that the classic dichotomy between scenarios and strategic options (Schoemaker, 2002) is for strategic action scenarios irrelevant. Implementations of strategic options are indeed stakeholders' acts to be incorporated in scenarios as prospective branching acts likely to transform the action process. As a result, the choice to extend or to reduce the capacities and incapacities to act within a scenario is of prime interest, coping with the research questions of ripples of capabilities in strategic studies literature on the one hand (Erickson, 2012) and the implicit future orientation of the capability approach on the other hand (Poli, 2015). More specifically, ripples of capabilities introduce geography to assess where stakeholders are in capacity to act and where they are not, which adds a spatial dimension to the temporal one.

Looking for unsustainable or transgressive acts, as well as pointing out incapacities to act, may lead to challenge the steering rule, as the action process may thus be out of control. Beyond changes within the set of rules, critical branching acts refer to changes in stakeholders' acts, and to the evolution of stakeholders' salience over time, as stakeholders become salient according to their acts rather than according to a status of actor. Like private armed forces in *New Abo Revisited*, stakeholders' salience evolves over the action process. Some stakeholders may disappear and come back, or can be dismembered, like US institutions in *Great Europe* or BRICs in *Shattered BRICs*, not to mention a disintegrated Europe involving conflicts between NATO members, to change dominance relationships in the action process.

Designing scenarios as moving action processes questions the concept of end-states, which is still considered as a core concept of developmental and chain scenarios (Crawford, 2019). In a normative stance, the steering rule may be viewed as an end to be achieved by the acts performed in the scenario. The case stresses that extreme scenarios can hardly be captured by such a normative stance, as moving stakeholders' acts challenge the end-state, as well as the rules to be performed in the scenario. As, like change processes (Van de Ven et Sun, 2011), action is endless, strategic action scenarios are condemned to be questioned by stakeholders' capacities to act and to be transformed over time.

## CONCLUSION AND FURTHER RESEARCH

Literature review exhibits that stakeholder analysis has been for the last decade of growing interest in scenario literature. While the concept of actor is rarely defined in literature, the





definitions of the one of stakeholder stress the temporal issue of the concept inviting to focus on the variability over time of the stakeholders and of their influences on future evolutions. In an action-based perspective it offers the opportunity to assess moving power relationships from the analysis of acts over time, considering a scenario as a process. Designed in the perspective of developmental scenarios, strategic action scenarios propose a conceptual framework to incorporate stakeholders' acts to design scenario rule sets. Lessons from defense extreme scenarios invite to assess stakeholders' acts considering four perspectives: the sustainability or unsustainability of acts, the impact of transgressive acts on paradigms, the capacities and incapacities to act, the transformations of stakeholders over time.

The specificity of strategic action scenarios is however to be questioned. As Kahn considered that “scenarios can emphasize different aspects of ‘future history’” (Kahn, 1962), it makes sense to investigate connections between scenarios and history (Bradfield, Derbyshire and Wright, 2016) and the importance of stakeholders' acts in both scenarios and history. Beyond defense extreme scenarios, a stakeholder-based approach of scenario design suggests questioning the role of individuals in a scenario performance. As “experience based scenarios” (Bas and Guillo, 2015) propose a human-centered perspective of futures thinking, further research on stakeholders' transgressive or disruptive acts, as well as on their capacities and incapacities to act, would indeed not only focus on organizations and institutions, but also on individuals. Beyond stakeholders' acts, this individual perspective invites to investigate the ability of people to become salient in scenarios, as opened up by the introduction of personas in scenarios (Fergnani, 2019, Vallet, Puchinger, Millonig, Lamé et Nicolaï, 2020). Over time, personas would not only be of interest to anticipate individual acts in a scenario whose rules would rhythm action, but also to assess their capacities to create new rhythms beyond end-states.

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