Chapter 13

BALANCE BETWEEN ORDER AND CHAOS AS EMERGING VALUE IN COMPLEXITY LEADERSHIP

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Leaders in modern societies are confronted with a paradox: simplicity in terms of goals and results are desired; they have to be achieved in a reality that is complex.. We elaborate on the question how three ‘professionals in charge’ reflect on the impact of their leadership actions on interaction patterns and on the change that results from actions and interactions. The hypothesis that they are balancing between the ‘self’ and ‘network’ drivers and between ‘self-referential’ (conservative) and ‘dissipative’ (adaptive) communication seems to fit their reality. They are balancing between the order of self and the chaos in interactions? Combining self interest and network needs and as well as self-referential knowledge and external knowledge seems to be the most effective style, but impossible to achieve for a longer period. Complexity leadership combined daily home based action and temporary uphill interactions that can create innovations.

THE LEADERSHIP PARADOX

In democracies, a voter’s choice is based on what he sees: a leader’s communicative abilities and stated ambitions. Leaders need to show that they are in charge and control. That creates attractiveness. At the same time, the existing complexity of their action field causes implementation gaps, and unforeseen and undesired side-effects. Complexity leadership theory suggests that leadership in terms of governing the results emerges
in networks, in which the actions of a variety of leaders generate leadership interaction patterns from which the results emerge (e.g., Uhl-Bien et al., 2007). This generates a paradox. Whilst voters tend to keep individual leaders accountable for the results they are confronted with, leader’s effectiveness depends on the interactions patterns that emerge in the networks they are confronted with.

We elaborate how leaders perceive the relationship between their own action and leadership networks. We assume that individual actions, network interactions, and the—more structural—interaction patterns within the network (which we define as Leadership Interaction Patterns, LIPs) reinforce or attenuate each other. Policy outcomes aiming to contribute to societal development result from this often unknown interaction. Synchronization of leadership actions and style toward actions and interaction patterns in the network, with the aim of achieving personal and joint network goals seems to become an important element of complexity leadership. If synchronization is part of a leader’s actions, the structure of these actions can be identified as a Complexity Accepting Leadership Style (CALS).

We expect to find complexity leadership ‘on the edge of chaos and order’: simple goals and actions make leaders understandable, but what looks simple in terms of aims and ambitions often will become complex in action in networks. Are leaders reflection on the possibilities to apply a complexity-accepting strategy, that focuses on the chain between action, interactions in networks and achieving system changes?

We assume that a first element of complexity-acceptance is dealing with one’s knowledge partiality. Leaders embracing ‘clear solutions’ tend to overestimate the known and desired impacts of the solution and underestimate the unknown and undesired impacts. Leaders accepting complexity try to adapt as soon as effects of preliminary actions emerge, already during the process of getting to and implementing a decision. They are open to new knowledge that comes to them from known near sources as well as from unexpected sources elsewhere in the network.

In search for indications of what complexity leadership can look like we elaborate a set of three leader’s subjective views. Do these leaders reflect on the leadership paradox? Do they develop expectations about the impact of their actions on interaction patterns, and how these patterns contribute to
a desired development in their action field? Do they adapt to the evolving patterns in their action field? Do they combine personal and network motives? Do they use knowledge about the action field that is new to existing leadership networks?

THEORIES OF COMPLEXITY LEADERSHIP

Interaction between a leader and his network is conceptualized in Complexity Leadership Theory (CLT) (Uhl-Bien et al., 2007; Uhl-Bien & Marion, 2009). CLT is grounded in complexity theory, and focuses on leadership in social Complex Adaptive Systems (CAS). CAS, which above we have termed ‘action field’, have an internal structure that allows leaders to be more influential than other agents. CAS are assumed to be composed of a large number of people, the most elementary agents, each of which can be member of several organizations. Each organization acts as a whole agent, having an internal structure. People have different roles: they act in organizations where they work, as citizens they influence politics, and as consumers they influence markets. Large CAS encompass these three types of subsystems (organizations, politics and markets), and rarely have a single leader at the top, controlling all its resources. They are not clearly bounded.

CLT distinguishes three types of leadership: administrative leadership, adaptive leadership and enabling leadership. Administrative and adaptive leadership cover the basic dynamics of a CAS. Administrative leadership concerns the ability to make formal decisions within the boundaries of organizations. Adaptive leadership concerns the ability of CAS to deal with complexity and unforeseen dynamics in such a way that it generates results that satisfy many of its participating agents for a longer period of time and hence can be characterized as resilient. Organizational goals, produced in a complex process of goal setting, tend to be rigid, but may need to become flexible and constructive. Networked agents taking initiatives (i.e., adapt their personal actions) to help a CAS adapt, show adaptive leadership. However, they are only in control of limited resources. Resources for their actions are offered to them within the very goal structure they want to change by these same adaptations. Their adaptive actions therefore need to set in motion a coevolution with their structure. It starts with the autonomy of the adaptive leaders: they bring in means not under control by administrative leaders and coordinate their actions to increase their influence. They invite others, having complementary discretionary resources. In complexity theory, this is
identified as self-organizing capacity. One important resource is their time (e.g., time to explore new ideas), another is their influence on administrative leaders in their own organization. The CAS can only change if administrative leadership at some point adopts proposals from adaptive leadership. This can be done by an adaptation of official goals, which sometimes coincides with a replacement of leadership itself. In that sense, adaptive leaders are ‘unfaithful’ to the official goals, policies and habits within their own organizations. At the same time, adaptive leaders loose position in their own organization if they are not able to take sufficient care of the aims of its current administrative leadership. Enabling leadership entails specific behavior of administrative leaders. Enabling leaders give adaptive leadership the resources it needs, initially just by giving hope, before or behind the scenes, that administrative leadership can be influenced. They have some discretionary power to add new goals without a complex process to ask permission from their supporters. Since, in case of complexity, effective adaptive leadership has to emerge across organizational boundaries, so should enabling leadership. This implies that there must be administrative leaders who are aware of the need for adaptive leadership and to coordinate this in some way between administrative leaders across organizations. In other words, there need to be networks of enabling leaders in different organizations, synchronizing their support of adaptive leadership networks that cross their same organizations.

CLT shifts the focus to the boundary spanning ability of leaders. Adaptive and enabling leadership depend on the ability to ‘see’ the potential of synchronized emergence in several organizations from a common rationality. It then influences networks of administrative leadership, where it helps individual rationality coincide more with common rationality. Informal (adaptive and enabling) networks indicate the health of a social system. These networks occur behind the scenes of administrative leadership networks, whether or not these have formalized structures for network interactions (Folke et al., 2005). Complexity leadership depends not only on the classic formal powers, but also on the ability to build up reciprocal relationships outside the given relations of power in a formal system (e.g., Huber, 2009; Kahane, 2010). Without this capacity, the effectiveness of administrative leadership becomes a matter of luck, since these networks interact with struggle and negotiation (where distrust is rewarded), which is difficult to combine with synchronized adaptation from a common rationality (where trust is rewarded). The quality of the whole of relationships in a CAS depends on the number of relationships.
across boundaries in the CAS, but perhaps even more on the quality of these relationships. In a trusting relationship, agents rely on others, even if their joint effects, as these emerge behind the scenes, may never be defined, pinpointed and officially rewarded. Investing in this trust requires seeing the quality of the network as a self-standing prerequisite for timely adaptation of a CAS. Otherwise, the selfish drive dominates an administrative leadership network and their official goals may coevolve contrary to the joint interest.

Administrative leadership therefore require a variety of skills. Leaders need to communicate in simple terms with their supporters, and at the same time need to rely on information provided by informal networks behind the scenes. To assess reliability of these networks, they need skills such as systems thinking, listening to new views, leaving options open, and trust building. Then, administrative leadership may entangle with adaptive and enabling leadership. Official decisions become inspired by wider knowledge. Theories about autopoietic and dissipative capacities of self-organization suggest that the default origin of knowledge is the knowledge that has also produced the existing structure (e.g., Prigogine & Stengers, 1984). Complexity requires that leaders intuitively understand that, and accept complexity, so they can lead beyond the default.

If the assumptions of CLT hold, complexity-accepting leadership styles (CALS) are crucially important for the future of societies. We are therefore interested in ways of ‘assessing’ their application, especially by those having relatively more influence, the administrative leaders themselves. As indicated, theoretically, individual complexity leaders seek two kinds of balance for three leadership network types to emerge. The first balance relates to their focus: investing in a trusting network versus investing for personal position. Such balance could be defined as ‘acting from the heart’. The second balance relates to accepting knowledge from outside the subsystem on which their power depends, whilst also leading that subsystem with simple, understandable communication, for which they expect to be rewarded enough to maintain their power base. Such balance could be defined as ‘acting from the head’.

1. Conflict then escalates more easily, and even negative-sum games may be the result. There are many regions and nations where leaders play these games with passion, generating economic, social and physical decline of their system. ‘Power play’ claims all attention of ‘leaders’ aiming to survive themselves.

2. Complexity leaders may hope that their CALS contribute to a healthy CAS by influencing the leadership interaction patterns (LIPs): the emergence of networks of adaptive and enabling leadership. This should lead to observable changes of patterns in administrative
When we map out both balances in a 3 by 3 matrix, a model of Leadership Interaction Patterns (LIPs) emerges. Leaders may then be classified as belonging to one of the cells of this matrix by asking administrative leaders to reflect on their actions in the past, the reasons for these actions and the expected results. In a semi-open interview we then may assess if they are able to explain their own efforts in terms of both balances (i.e., they show their CALS) as contributions to balance in the administrative leadership network in the CAS as a whole (i.e., LIPs). We don’t expect to find an even distribution of leaders over the cells. Research suggests that networks with selfish LIPs may be so consumed with their power play that leaders have no mental capacity to be open to knowledge from new, less trusted, sources, nor to invest in trust (Chabris & Simons, 2011).

Leaders are practitioners, not complexity theorists. They will not usually express their personal views about their own leadership in the terms of CLT. Rather, it is to be expected they will use metaphors and archetypes. These also illustrate the cells of the following matrix.

**RESEARCH QUESTION AND RESEARCH METHOD**

We address the following question:

*How do leaders believe that their own conduct (CALS) influences leadership interaction patterns (LIPs) and, indirectly, generate desired results in their action field (CAS)?*

We asked leaders in open interviews how they define their CAS and its challenges (1), the relevant LIP and its internal dynamics (2), and the link with their own conduct and the conduct of their peers (3). We also asked to reflect on motives of their peers and by whom they were inspired and how they acquired new knowledge. We asked them to document their case themselves, or with the help of a ghost-writer.

We accept that the interviewees may overestimate their personal impact on LIPs and the CAS. We aim to improve our understanding of their sense making of leaders in action, without having to reconstruct the case in which they are involved as a social system itself.

leadership networks: less conflict about positions and debate about ‘facts’, more cooperation and dialogue about ‘facts’.

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Dealing with simplicity and complexity in communication

1 Selfishness in action: **aiming to be the winner and take it all.**
Leaders are not concerned with helping other leaders. They are looking for new knowledge that helps them in their struggle for power. Political processes are polarized.

2 Selfish in combination: **aiming to apply sticks and carrots to generate success for 'self'.**
Leaders look for knowledge about others to invent effective incentives that might work on them. They are not open for debate about the purpose of these instruments. Interaction is mainly negotiation about rules and the spending of funds.

3 Selfishness in isolation: **me against the hostile outside world.**
Leaders stick to ideas emerging from their own organization. They try to convince others through a reiteration of arguments. Such networks may become paralyzed and the leadership may lose its legitimacy.

4 Mutual adjustment to changing conditions, without keeping course.
Leaders understand each other’s immediate needs. They take measures they think would help all, inspired by different experts. They cannot identify first steps that move their CAS as a whole in the right direction.

5 Creating clarity about what self needs, accommodating a variety of goals and resources, enabling coevolution and cocreation.
Leaders enable the flow of knowledge and look for joint images of a desirable future. They give influence to new groups and express doubts and intentions. They polarize on issues for the short term, but stay within limits of what they jointly think would contribute to a desirable future.

6 Having a good time together in an ‘old boy’s network’ without much change.
Leaders have a healthy empathy for their opponents as people, but they think in circles. One’s network is likely to help one’s career. They discuss the wider developments that touch them all. Yet, they make little effort to design joint perspectives of change.

7 Network lurking: focusing on vested network interests, avoiding painful intervention.
Leaders protect their network as it is, not accepting that new friends replace old friends. Leaders are worried that people will not accept new steps, e.g., since tragedy only can be prevented by measures that are painful on the short term.

8 Plans getting stuck: joint network actions generating attractive proposals without enough selfishness to enable implantation.
Leaders suggest to society that they address long term issues, but actually do not see acceptable solutions, although they activate networks to develop new options based on internal and external knowledge.

9 Much fuss about little change: adapting to external desires, without changing ‘self’.
Leaders defend the position of the network as a whole. They think their own knowledge sources provide them with information that comfortably fits the existing status quo, in which little struggle for power is present.

Figure 1 *Dealing With The Need For Simplicity And The Reality Of Complexity*
The interviewed leaders were randomly chosen from a group of leaders whom we expected to accept complexity. We expected to find patterns of sense making that can help to indicate the balance act between looking for simplicity and accounting for complexity, along both theoretical dimensions.

THE EMPIRICAL REALITY OF LEADERSHIP GIVING INTERPRETATIONS OF COMPLEXITY

Leader A

For decades, governments had unsuccessfully applied investment programs to address neighborhood degradation. Fragmented national solutions were handed over to local authorities for implementation. Leaders of national and local government blamed each other for failures.

‘A’ became director of the national Neighborhoods programme in 2007. Her new approach was: all stakeholders in a neighborhood invited to join, with clear improvement targets and professional organization, putting residents at the heart of these targets (not ministries), facilitating mutual understanding, innovative and learning-oriented, and solidly based in the involved organizations. Professional moderators and independent knowledge organizations were invited to secure these principles. Neighborhoods were seen as laboratories.

Dozens of leaders invested time in relation-building between ministries responsible for ethnic integration, urban development and building, social security, health and education and between national level and municipalities. They focused on specific neighborhoods and the housing corporations and citizens within these neighborhoods. Measurable improvements occurred in the neighborhoods.

‘A’ opened dialogue with local government in terms of mutual added value, joint policy making and joint implementation. She offered help in specific neighborhoods, also in fields in which other ministries were competent. To that end, she developed relations with these other ministries as well. She invested in dozens of local gentrification projects, in which a variety of stakeholders and knowledge organizations participated. The different sectoral ministers enabled this process by making resources available—without certainty that these would lead to visible change that would be attributable to them.
personally. Her own consecutive ministers (responsible for neighborhoods) visited a neighborhood every week for years. She was able to make three consecutive ministers enthusiastic for her approach by explicitly discussing the dynamics in this network with them. She invited scientists to do an external review, keen on encouraging her partners to clarify how their actions contribute to improvements in terms of ethnic cohesion, quality of life and poverty issues. She perceived this as an exercise in communication about network dynamics.

The wider national political networks had not been willing to participate. When Cabinet demanded the recently privatized housing corporations to invest financially in the quality of neighborhoods, A did not avoid the issue, but managed to separate these tensions from the learning process. The cooperating networks were tested by hostile media and politicians who wanted to discredit Cabinet by indicating their policies were expensive and failing. This was countered by the goodwill that A had built up in her networks. Sufficient politicians remained willing to defend the programme despite its unclear contribution to large scale breakthroughs. A believes the results became widely visible at neighborhood level, whilst this remained contested in the public debate. The causal mechanisms only could be understood by those willing to reflect on interaction patterns rather than only on simplistic unilateral cause-effect mechanisms. Summary:

<table>
<thead>
<tr>
<th>CAS</th>
<th>Multilevel: Improve a dozens of neighbourhoods by a better collaboration of local and national actors.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network</td>
<td>Several ministries, municipalities, government agencies, scientists, consultancies, and housing corporations.</td>
</tr>
<tr>
<td>Earlier LIP</td>
<td>Ministers, expected to have clear stories about their own effectiveness, blamed each other and blamed municipalities and housing corporations. No focus on synergy.</td>
</tr>
<tr>
<td>CALS</td>
<td>A facilitated personal relations with several ministries and between national and local networks, and ultimately with citizens. She did that before reasoning toward any added value of specific organizations. She involved professional moderators and scientists to share problem analyses and ideas about positive impulses different government agencies could give in synergy to neighborhoods. She helped a complexity-accepting discourse, giving other ministries good publicity, with reduced credits for her own programme.</td>
</tr>
<tr>
<td>New LIP</td>
<td>Previously inactive networks became learning communities. Active mutual support between political and administrative layers. Organizations synchronized interventions. In wider politics, the programme became ‘tolerated’.</td>
</tr>
<tr>
<td>Drivers</td>
<td>Ministries, municipalities, housing corporations invested more in the network without immediate benefit for themselves.</td>
</tr>
<tr>
<td>Communication and knowledge</td>
<td>Interaction was organized throughout the CAS. New informal networks were set up. Contributions by knowledge organizations, mediators, etc. became meaningful to partners.</td>
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</tbody>
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Leader B

B was a prominent representative of small and medium enterprises (SMEs). He saw a bad fit between school education and skills required by the SMEs. Traditional politics had been shifting between a socio-democratic solution (better schools) and a liberal solution (more competition between schools, but how?). When B stated on television that the gap between education and SME’s needed closing, his peers challenged him to act, and he started an enterprise called ‘craftsman schools’. It develops courses which schools apply under franchise, and free of payment. In return, the enterprise supplies students with internship positions in the industries, for which the SMEs pay a small fee. Schools and the industries both hand over some of their autonomy.

B used his media exposure to create momentum, so that the required cooperation between schools and industries could grow. He bridged the gap between national policy and the local practices to which these policies relate by inviting the parties to share knowledge and to develop viable perspectives. Despite having no formal powers, he thought he was widely trusted as authentic leader acting for a larger good. When other leaders backed out of the deal without good reasons, he sometimes threatened them with bad publicity.

B deliberately wanted to be perceived as authentic, which gave him informal power. This is how he could set things in motion. In 2011, ‘craftsman schools’ has made franchise agreements with dozens of schools, and thousands of employees were trained. Summary:
Leader C

C, director-general for health, started in 2001, with his state secretary, an attempt of health sector reform. Several ministers before had failed in similar attempts.

C listened to the stakeholders outside government, insurance companies and the health sector at large. This broader network gave him the opportunity to explore accessible roads. The involvement of private sector insurance companies was crucial. Emerging ideas did not match traditional ideas in the ministry. C ‘de-idealized’ political discourse by frequently involving his state secretary who tested ideas in the political arena, even if no part of political programs.

A discourse gradually emerged that could withstand most criticism and overarched the responsibilities of several ministries, which at first felt little ownership. C made the change acceptable for civil servants who were clinging to old discourses. In 2006, a new semi-private health insurance system was implemented. Summary:

<table>
<thead>
<tr>
<th>CAS</th>
<th>Multilevel: Improving the fit between SMEs and the education system by way of an intervention by national government</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network</td>
<td>Management of enterprises and schools, the education ministry and socio-democratic and liberal politicians</td>
</tr>
<tr>
<td>Earlier LIP</td>
<td>Little interaction between the education system and the SMEs. Mainly accusations of a failing education system.</td>
</tr>
<tr>
<td>CALS</td>
<td>Drawing attention to new possibilities via the media and calling frontrunners together</td>
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<tr>
<td></td>
<td>Erecting a unique enterprise to connect both worlds</td>
</tr>
<tr>
<td></td>
<td>Persuading schools (and politicians responsible for education) and SMEs to work together via this enterprise.</td>
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<td></td>
<td>Exposing politicians backing out from commitments</td>
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<td></td>
<td>Building image as socially engaged liberal (bridging a political gap)</td>
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<tr>
<td>New LIP</td>
<td>Schools and SMEs better understand each other’s needs, and started seeing new perspectives. Socio-democrats and liberals accept more there is a third way.</td>
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<tr>
<td>Drivers</td>
<td>B’s authentic drive was contagious; other leaders accepted his authority despite his lack of formal power.</td>
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<tr>
<td>Communication and knowledge</td>
<td>Interaction was established between the education system and SMEs, and between the self-organizing activities on a local level and the interventions on a national level.</td>
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Emerging Patterns Of Leadership—A Case Comparison

All three leaders consciously tried to balance drivers as well as communication and knowledge in their networks. Their LIPs started off as polarized ones and with little communication and knowledge sharing. Their analysis is congruent with a conscious—and in these cases in their view also successful—CALS to help move their LIP from dominant ‘selfishness in isolation’ toward ‘creating clarity’. We see four recurring patterns in their strategies to achieve balance between the need for order ad simplicity and the reality of chaos and complexity in their action fields:

1. They invested in relationships with the other actors in networks in order to achieve ongoing interactions, aware that actors have the ‘natural’ tendency to stay within the boundaries of their own system (often an organization, a task or a position). They looked for the ‘self-interest’ that is at stake for these actors and how they can link this with the need for a joint effort. Finding a combination of self-interest and joint action seemed to be their most important trust-building strategy.

2. They looked for missing links in the network, inviting new agents and experts. Complicating existing networks in order to achieve results seems to be a strategy not only considered but also applied.

3. They accepted that development often takes place in a messy process, where success is not even assured at the final stage of the process. They all are open for failure and at the same time open for changes coming along. These insights generated the energy needed to act in a network much broader than needed for ensuring their own organization, task and position to survive.
4. They attracted participants by making joint opportunities clearly visible to them. It is more than a formal goal. They added new attractor to the existing field of action. This ability helped to generate a robust result in terms of healthier neighborhoods, effective schools labour market relationships, and transparent and robust health insurance system.

CONCLUSION AND REFLECTION

Complex systems put conflicting demands on those who take responsibility for joint action in these systems. We presented an ideal typical model of dealing with complexity (Figure 1) and asked leaders to reflect on their challenge. What kind of style do they adopt, what kind of interaction do they devote their limited time to? We assume that each leader, who is facing complexity in terms of content, actors and processes, will tend to simplify these elements of complexity in some way. Simplicity is an important attractor to them. At the same time, there is evidence that many combined simple solutions and simple approaches do not automatically add-up to generate the results desired.

Paraphrasing Einstein, anyone can know that the complexity of a leadership approach has to fit with the complexity of the issue at stake. And if our modern Western world is mainly dealing with complex problems, a more complex leadership approach is needed. We are in search of leaders who can combine the need for simplicity with the need for complexity.

In this contribution we portray three leaders, telling their own stories. We try to find patterns in these stories from our frame of reference based on complexity leadership theory. Our three respondents explicitly reflected on the interdependency between leadership style, interaction patterns and CAS. They implicitly used the driver and communication dimensions for balance between order and chaos from our frame of reference.

The three studies stem from a broader project in search for complexity leadership. In a book recently published on this topic, we suggests that leaders share elements of a complexity accepting style and do in fact develop archetypical LIPs (Nooteboom et al., 2011). Several of the CALS and archetypes derived from CLT we presented here are observed by others in the recent past. For example, leader B’s strategy is described by Andreoni et al. (2003) and Avolio et al. (2005). It is worthwhile to look for CLT archetypes in the
management literature, and which of them act as strange attractors; values meaningful to—at least some—leaders.

We have tested the usefulness of the matrix with nine archetypical leadership interaction patterns. In interaction with the three cases presented we have found some confirmation that LIPs in the central cell are capable of dealing with complexity, but at the same time rather unreachable. It acts on the edge of chaos and order, creating a maximum of innovations chances without collapse. Our interviewed leaders are aware of that. At the same time they are aware that the balancing act on both dimensions requires so much extra time and resources, that it cannot be applied as a daily leadership strategy. It is like climbing the Mount Everest. You can only do if with the help of basic camps and support and only for a short period. There is a natural tendency of LIPs to move back to the corner cells.

Complexity leadership therefore looks like an uphill battle for a common future, where most time is spent in the lowlands, searching for an uphill route. Sometimes a CAS reaches the top, but staying there is difficult. And the landscape changes perpetually. To help complexity leaders, CLT should look for methods of observing these processes in more detail, clarifying interdependencies dynamics, self organization and appropriate boundary judgement.

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