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# A COMPLEX ADAPTIVE STATE SYSTEM: NETWORKS, ARMS RACES AND MORAL HAZARDS\*

*Un sistema adaptativo complejo: Redes, carreras armamentistas y peligros morales*

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## ABSTRACT

Much of the debate over stateness in Latin America assumes that states should sustain basic levels of stability, and if they cannot, the question is why not. This article departs from the assumption of stability, by asking how the relationship between states and other actors has evolved over time. This departure requires a shift in focus: from stateness as referring to states and how they should operate, to stateness as referring to the relationships between states and other actors, and how they change over time. The article argues that such relationships can be understood as emergent complex adaptive systems (CAS), and considers three specific CAS mechanisms: networks, arms races, and moral hazards. This conceptual shift in how to think about states is especially challenging in a region historically accustomed to hierarchical governance.

**Key words:** States, Complex Adaptive Systems, Networks, Arms Races, Moral Hazards.

## RESUMEN

Buena parte del debate sobre la estatalidad en América Latina presupone que los estados deben mantener niveles básicos de estabilidad, y que si no pueden hacerlo, la pregunta es por qué no. Este artículo se aleja del supuesto de la estabilidad, al preguntar cómo la relación entre los estados y otros actores ha evolucionado con el tiempo. Esto requiere un cambio de enfoque: de estatalidad que se refiere a los estados y cómo debieran funcionar, a la estatalidad en referencia a las relaciones entre los estados y otros actores, y cómo éstas cambian con el tiempo. El artículo sostiene que este tipo de relaciones se puede entender como sistemas complejos adaptativos (SCA) emergentes, y considera tres mecanismos específicos de SCA: redes, carreras armamentistas y peligros morales (moral hazards). Este cambio conceptual en la forma de pensar acerca de los estados es especialmente difícil en una región históricamente acostumbrada a la gobernanza jerárquica.

**Palabras clave:** Estados, sistemas complejos adaptativos, redes, carreras armamentistas, peligros morales.

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## INTRODUCTION

Feldmann and Luna ask why Latin American states are unable to sustain “basic levels of economic, social and political stability” (Feldmann and Luna, 2011). The premise is that Latin American states *should* be able to sustain such levels of stability, and if they cannot, the question is *why not*. This question is an important part of the effort to understand “stateness” in Latin America, which a number of papers in this issue address. Yet there is a different and no less important question, which has received comparatively less attention, and which I consider here: namely *how* the relationship between states and other actors has evolved over time. This question departs from the premise of stability, which various states in the region may or may not be able to sustain. In departing from this premise, I argue for a shift in focus: from stateness as referring to states and how they should operate, to stateness referring to the *relationships* between states and other actors. Patterns of stability or instability do not depend on states alone, but rather on the systems of relationships with different actors that states are embedded in. In this sense, I argue that traditional state theory, based especially on the works of Weber and Marx, is of limited utility in understanding stateness. The complex relationships that embed Latin American states and a range of other actors are better understood as emergent complex adaptive systems (CAS). This conceptual shift in how to think about states is especially challenging in a region historically accustomed to hierarchical governance.

In the first part of the paper I consider some examples of innovation and adaptation in CAS that states and other actors are embedded in. This is followed by a discussion of how the CAS perspective sheds light on the limits of traditional state theory, grounded especially in the works of Weber and Marx, for understanding stateness in Latin America. The final parts of the paper consider the components of CAS –especially the mechanisms of networks, arms races, and moral hazards– and speculate on what governance might look like in a complex adaptive state system.

## INNOVATION AND ADAPTATION

Throughout Latin America and elsewhere, states contend with a wide range of challenges and challengers that force them to innovate and adapt. In some cases, states and their challengers co-evolve, changing not only their operations but their also their structure. Making sense of stateness as the relationships between states and the actors they are connected to requires understanding how such changes occur.

Consider some examples:

In 1993, a special operations unit in the Colombian police, with help from the United States, tracked down and killed Pablo Escobar. Drug traffic between Colombia and the US had risen sharply since the 1970s, and Escobar –the leader of the Medellín drug cartel– was a key target in the drug war. Killing Escobar and bringing to justice other similar drug lords was a victory against powerful drug cartels, yet it did not bring the drug

trade to an end. Instead, the drug traffickers adapted and innovated. With the Medellín cartel gone, old players adapted, new players emerged and the drug trade shifted from Colombia to new areas with softer law enforcement: Central America, the Caribbean, and Mexico. Not only have the players changed, but their mode of operations as well: instead of a few centralized cartels with relatively permanent organizations, the key players today are much more likely to be networks of traffickers, with flexible and adaptable organizations, whose membership structure is often ambiguous. Tracking down and eliminating the Colombian cartels was difficult. Doing the same with the wide range of new players and complex networked organizations is even more so.

In 2001, in response to the 9/11 terrorist attacks, the United States invaded Afghanistan and attacked Al Qaeda, which the Taliban regime had protected. The attack drove Al Qaeda out of Afghanistan, but it did not put an end to its operations. Instead, Al Qaeda regrouped, innovated, and adapted to its new circumstances. It not only found shelter in neighboring Pakistan, but also devolved and decentralized its operations (Manikkalingam and Policzer, 2007). Al Qaeda from the beginning was less of a centrally-run hierarchy than the Colombian drug cartels, but after being driven out of Afghanistan it became a much more decentralized network, with blurry boundaries, leading many to wonder about its continued existence. Osama bin Laden was assassinated a decade later, but the invasion of Afghanistan has not put an end to Al Qaeda or to armed insurgency in the region. Al Qaeda affiliates played a key role in bringing down the Gaddafi regime in Libya, and appear (as of writing) to be challenging the al-Assad regime in Syria.

Not all challengers to the state respond in this way. The Shining Path, a centrally-run organization, never recovered from the blow it was dealt by the capture of its leader, Abimael Guzmán. In Colombia, the FARC—historically also a centrally-run organization—has struggled to regroup after the loss of a number of its top leaders since the death of Manuel Marulanda in 2008. The losses have been a serious, possibly fatal blow, but the FARC's continued existence may signal its capacity to innovate and flexibly adapt to its changed circumstance, at least in some form.

States can also innovate and adapt. They have to contend with a wide range of challenges and constraints to how they operate, including how they exercise coercive force. In some cases, rebel challengers can overwhelm the state and overthrow its government. While there have been some examples of this recently in the Middle East and North Africa (as part of the "Arab Spring"), such revolutionary change has not occurred in Latin America since the 1979 Sandinista overthrow of the Somoza regime in Nicaragua. Yet even where states are not defeated in open revolt, they contend with challenges that force them to learn, innovate and adapt. For example, some states in Latin America during the 1970s and 80s openly captured and killed their political opponents. The Chilean dictatorship at first kept the large number of prisoners it took after the 1973 coup in makeshift places such as sports stadiums and military bases. This ad-hoc solution allowed the regime to hold large numbers of people, but opened it to international scrutiny and critique over the abuses it was committing. When such critiques became too politically costly, the regime innovated and adapted its coercive operations, creating a secret police force (the DINA) that secretly and selectively assassinated a narrower range of opponents,

by “disappearing” them. For a time, disappearances provided the regime with at least a degree of “plausible deniability” against its numerous critics, both domestically and—especially—internationally. When the DINA abuses became clearer it no longer provided the regime with plausible deniability. It was replaced with a different organization, which exercised coercion in a more targeted and restrained manner. The new secret police (the CNI) continued to torture opponents, but the number of assassinations dropped, and the disappearances stopped altogether. Innovating and adapting its coercive institutions in this way allowed the regime to challenge its critics, and to project itself into the future instead of collapsing into internecine conflicts (Policzer, 2009).

The kind of open massive repression against broad sectors of the population common under past authoritarian regimes is no longer practiced in Latin America. Yet states in the region, as elsewhere, are under continuous scrutiny over their coercive actions. Coercion is fundamental to politics, and arguably nothing else that states do is monitored as closely. In some cases, states adapt by incorporating and embracing the human rights, humanitarian and rule of law norms that form the basis of the scrutiny they are under. In other cases, states adapt through innovative ways to evade accountability, by using arm’s length organizations such as paramilitaries. In all cases, states are confronted with a broad range of challenges and challengers to how they conduct their operations.

## THE CHALLENGE TO STATE THEORY

Traditional state theory is poorly equipped to make sense of these challenges. At the risk of reductionism, much of the literature on the development of the state, which provides our basic tools to make sense of problems such as state failure, is inspired by Marx and Weber. With the latter, we have a robust framework for making sense of the development of the state and its bureaucratic apparatus (which should ideally be governed by people with a clear “vocation” for politics, who understand the ethics of responsibility). Notwithstanding its importance in shedding light on the state as an autonomous set of institutions, a central problem in Weber is the assumption that states are (and should be) autonomous: self-contained, hierarchically organized bureaucracies, with clear lines of command. States impose policies from above, the top of the pyramid, through bureaucratic organizations that sharply distinguish insiders from outsiders: those who work for the state do so exclusively, and do not also operate outside the state. In other words, states are organized in a way comparable to the classic Fordist model: as hierarchies directed from above, which produce their goods (or policies) in-house. A key problem is that this “ideal-type” model often does not fit with how states operate. True, an ideal type is a heuristic device that is not meant to precisely fit each case. Yet the distance between the model and the cases it is meant to shed light on cannot be too great—or at some point the model ceases to be useful. The ideal type may have accurately reflected a particular state at a particular time—possibly the Prussian and later the German state in the transition from the 19<sup>th</sup> to the 20<sup>th</sup> centuries. But such a historically contingent institutional arrangement should not be reified into a general model. Many patterns of governance in Latin America (and elsewhere) point to very

different arrangements. Instead of autonomy, for example, states are embedded in society, with blurry boundaries between insiders and outsiders. Information, money, and even people flow from inside the state to outside, and vice-versa. It is not possible for the state to implement a wide range of policies without connections in critical networks of influence.<sup>1</sup> Weber does not provide us with good tools to make sense of this.<sup>2</sup>

Marx suffers from a different set of problems. On the one hand, a Marxian perspective allows us to make sense of how social actors influence and even control the state. Instrumental Marxism, especially, sees the state as simply the instrument of the powerful (e.g. the bourgeoisie). In this sense, Marx sheds more light than Weber on the embedded connections between the state and different actors.<sup>3</sup> The problem is that the networks of influence that matter are not always or necessarily reducible to economic interest. Many other groups in society besides the economically powerful also influence the state. By focusing on the overriding power of capital, Marxism blinds us to the multiple other interests and networks that matter for determining how states operate. Some variants of Marxism attempt to account for this multiplicity by arguing for the ultimate “structural” power of capital, even if the particular people in charge at any one time may vary. The problem with this account is comparable to the Weberian ideal type of the state: even if capital has exercised a strong pull on states at different times and places – a claim about which there can be little doubt – it is important not to reify such a historical contingency into a universal law.<sup>4</sup>

To obtain a clearer picture than either Marx or Weber provide, it is possible to shift focus on two fronts: First, Weber presupposes an ideal type with a stable state, a premise which leads to asking why there is instability in Latin America – a key question posed by Feldmann and Luna. A shift away from Weber involves a shift from asking *why* there is instability to asking *how* patterns of stability and instability vary across space and time, in different states and in different periods. And second, Weber’s premise of an autonomous state also does not square with the facts of networks and embeddedness. Marx provides somewhat better tools to make sense of state embeddedness, but the range of actors that states are connected to include not only economically powerful groups, but many others. In a way analogous to how predators can shape an ecosystem’s evolution, actors that challenge the state can shape how it operates. To grasp this aspect of “stateness,” the shift required is to change focus away from *states* to the *system* of states and the challengers and other actors they are connected to. This shift echoes Feldmann and Luna’s

<sup>1</sup> Evans (1995) argues that while it is important that government agencies be autonomous from society to some degree, they also cannot effectively govern without being embedded in networks of non-governmental actors through which, for example, they obtain critical information.

<sup>2</sup> It is also worth recalling that Weber’s ideal type is a *normative* as well as an analytical device – a statement of how states *should* operate. While a discussion of the normative desirability of the Weberian ideal is beyond the scope of this essay, the goal of understanding “stateness” in Latin America – as proposed by Feldmann and Luna (2011) – is an analytical and not a normative one. Norms should not blind us to the facts of how states operate.

<sup>3</sup> See Evans (1995).

<sup>4</sup> For a comprehensive discussion and critique of Marxism as a “deep structure” social theory, see Unger (1987), pp. 96-120.

proposal to “refine our understanding of the attributes of the state, by incorporating relational conceptualizations” (2012: 2), but goes one step further: the state changes as part of a complex system that includes not only powerful challengers such as criminal or rebel groups, but also a wide range of other domestic and international actors such as corporations, advocacy groups, the media, and other states.

## THE COMPONENTS OF COMPLEXITY

The literature on complex adaptive systems is vast, and I will make no attempt to synthesize it here.<sup>5</sup> Instead, I draw attention to two salient characteristics of these systems:<sup>6</sup> First, that they are greater than the sum of their parts: they have “emergent” properties, not reducible to their particular components. And second, that they are composed of adaptive agents, which learn through the interactions and relationships they are embedded in. In other words, CAS suggest an epistemological perspective situated in between structural or systemic perspectives (of Durkheim or Parsons, for example), on the one hand, and methodological individualism (of Adam Smith or rational actor models, for example), on the other. CAS can in this way be understood as having micro-foundations, but at the same time allow analysts to make sense of the broader systemic perspective (cf. Schelling, 2006). The interactions among the agents constitute the system, but patterns of interactions can change and evolve over time, in sometimes unpredictable ways, especially as agents innovate and adapt to different circumstances.

Networks, arms races and moral hazards are key CAS mechanisms, and can shed light on the relationships between states and other actors.<sup>7</sup> I discuss each one in turn:

*Networks:* A network<sup>8</sup> is an organizational option available to non-state groups (as suggested by the drug gangs and Al Qaeda examples above), as well as to states. In some cases, hierarchically organized states confront a network of challengers, who organize as a network to make it difficult for the state to target them. Centrally-run, hierarchically organized states have found it difficult to respond to networked challengers since antiquity.<sup>9</sup> In the New World, Spain quickly overthrew the centrally-run and hierarchically-organized Aztec and Inca empires, but never managed to completely defeat a wide range of other groups organized as networks, with loosely connected alliances and constantly evolving leadership (e.g. the Apache in the north, and the Mapuche in the south).

<sup>5</sup> See, for example, Waldrop (1992), Axelrod (1997), Lewin (1999), Jervis (1998), Axelrod and Cohen (2001), Johnson (2001), and Miller and Page (2007).

<sup>6</sup> This section draws on Gutiérrez Sanin and Policzer (2012).

<sup>7</sup> Other CAS mechanisms include tipping points, cascades, power laws, variation, interaction, and selection, among others. I focus on networks, arms races and moral hazards because they are useful and help shed light on state systems, but other mechanisms can (and should) be considered in the future. Cf. Kauffman (1993), Axelrod (1997), Jervis (1998), Barabási and Albert (1999), Axelrod and Cohen (2001), and Johnson (2001).

<sup>8</sup> On networks in CAS, see Strogatz (2001).

<sup>9</sup> Greece vs. the Scythians, Rome vs. the Sarmatians, among others.

But the Weberian ideal of a hierarchical, bureaucratic organization is rarely the norm even for states. A core faulty premise of that ideal is a clear distinction between insiders and outsiders. In some cases, state employees may “moonlight” in other areas even closely connected to the work they do for the state. Police officers in parts of the region, for example, sometimes work as private security guards or vigilantes (e.g. Huggins, 1991; Chevigny, 1995). In other cases, even where state employees do not receive salaries from other sectors, the work they do depends on a network of people and information that straddles the boundary between the state and other institutions. This is true even for a strong and highly institutionalized state, such as Chile’s, in which “public-private partnerships” are common ways to deliver public services (e.g. Economist Intelligence Unit, 2010). Even in the provision of security, a core public good, the Chilean police in some cases depend on networks of actors and information that flow across the public/private divide.<sup>10</sup> Instead of the Weberian ideal of a hierarchical pyramid, a more accurate metaphor to describe the way states in fact operate may be a Moebius strip: an organization where the boundaries between the inside and the outside are malleable, where people and information flow from one side of that divide to the other.<sup>11</sup> In an open society, a number of institutions monitor the state and its operations, creating a continuous Moebius strip flow of information.

*Arms races:* The sub-discipline of international relations has long studied the phenomenon of arms races among global superpowers or regional powers. But arms races also occur elsewhere. Evolutionary biologists, for example, understand the importance of arms races as mechanisms in shaping the patterns of evolution among predator-prey relationships (e.g. Van Valen, 1973; Dawkins and Krebs, 1979). A predator develops a new way to capture a prey, while its target defends itself by developing a stronger poison, greater speed, or a new way to avoid being seen. It is not possible to understand why one species’ poison is so toxic, or its camouflage so effective, without understanding the evolutionary arms race that poison or camouflage are a part of and a response to.

Similarly, states or their challengers may adopt particular policies or strategies as a response to different sorts of arms races they may be involved in. These need not only be with a well-armed neighboring country. There can be arms races between police forces and criminal groups, or between military forces and rebel challengers. And arms races need not only involve competition over weapons and stockpiles, or necessarily result in violence. They may also involve competition over resources, power and influence of different types. Just as with the camouflage example, a player in an arms race may respond by hiding, making itself harder to find, or by adapting its organization—for example as the drug traffickers did after the crackdown on the Colombian cartels. Organizations are weapons, and organizational adaptation is part of the arsenal at stake

<sup>10</sup> The institution of the *alguacil*—civilians who collaborate with the police forces—is an example.

<sup>11</sup> See Sabel (1991). A political economy literature has made substantial advances in understanding the different types of organizational options available for firms and for work (e.g. Coase, 1937; Williamson, 1975; Sabel, 1982; Piore and Sabel, 1984; McDermott, 2002). The distinction I am making is analogous to that between the hierarchically and centrally-organized Ford Motor Company, and the flatter and more decentralized Toyota, in which production networks are critical.



in an arms race. Arms races in this way may be connected to networks, insofar as they are embedded relationships, which shape different actors' behavior as a response to what competing actors may do.

*Moral hazards:* In economic theory, a moral hazard is the encouragement of risky behavior by one party when another party attempts to curb risk through mechanisms such as insurance protection (e.g. Arrow, 1971; Holmström, 1979). Bank bailouts, for example, can encourage banks to over-leverage in order to become "too big to fail," and force governments to bail them out in the future (e.g. Dam and Koetter, 2011). Moral hazards occur in a broad range of relationships, beyond the banking or insurance industries. For example, increasing managers' accountability for project mistakes can result in projects designed to make accountability more opaque (Holmström, 1979). Increased project complexity, in such cases, can be traced to accountability patterns. In general, moral hazards involve an effort to make things safer, through insurance or accountability, which produces more risky or less accountable behavior.

States are involved in numerous moral hazard relationships. Three examples bear mentioning:

The first is that states must respect, and are held accountable for, a wide range of laws. Human rights and humanitarian laws, for example, aim to make states more accountable for their use of force –arguably the fundamental state power. In the past, some states could kill with impunity, but over the past half century, especially, a wide range of human rights and humanitarian laws, along with numerous organizations which monitor and report on how different states either comply with or fail to meet these standards, have made armed and police forces more accountable. This robust accountability system has made the world less violent and more peaceful in general (e.g. Human Security Centre, 2005; Pinker, 2011). But it has also produced numerous moral hazard problems, including the incentive for states to use special arm's length organizations, places and weapons to conduct warfare and policing. As the DINA and CNI were designed to provide plausible deniability, so the use of paramilitaries, private military contractors, or legally ambiguous sites such as Guantánamo, can be understood as a moral hazard-type of response to the robust human rights and humanitarian law system of accountability developed since the middle of the twentieth century. Each case is motivated by the incentive to put legal distance between the state and those who execute its coercive policies.

A second example involves states creating moral hazards on others through the effect of their policies. Making firms more accountable through the rule of law creates incentives for managers to create projects with much more diffuse lines of accountability. Deciding to bail out a troubled industry can encourage others to take greater risks. Or, as in the examples highlighted at the start, the attempt to reduce the risk associated with the drug trade or terrorism by attacking the leadership of the drug cartels or Al Qaeda increases insecurity and makes future accountability more difficult. The attempt to reduce the risk associated with crime or terrorism created incentives for others to devolve their organization, to become more decentralized and difficult to attack, and to increase overall system insecurity.

Humanitarian intervention offers a third example. This policy, articulated in particular through the *Responsibility to Protect* (R2P) doctrine, promises a forceful response against states that commit mass crimes against their populations. On the one hand, R2P imposes a strong disincentive for states to commit such crimes. On the other, humanitarian intervention also creates incentives for weak groups, who may be oppressed by the state, to invite attacks on their own population(s) in order to trigger a forceful international response against their enemy. This kind of dynamic is visible in a number of cases of civil war and other internal conflict (e.g. Kuperman, 2008; Crawford and Kuperman, 2006). It is also arguably present in cases of sub-state conflict that fall below the threshold of civil war. State attacks need not involve mass killings in order to trigger forceful responses by outsiders against the state. Such responses can include political and diplomatic pressure, economic pressure in the form of sanctions, or legal consequences where domestic or international laws are violated. For democratic states that care about their reputation, such pressure can be costly. In Latin America, a number of sub-state groups are victims of state violence in the form of police abuse. No doubt evidence of police abuse is compelling throughout many parts of the region, and should be forcefully opposed where it occurs. But at the same time it would be a mistake to ignore the moral hazards created when a forceful response in the form of political, diplomatic, economic or legal pressures against state abuse is guaranteed.

## GOVERNANCE IN A COMPLEX ADAPTIVE SYSTEM

Often, states make policies with the intention of producing particular outcomes. System thinking –through concepts such as networks, arms races and moral hazards– can shed light on how state policies may produce outcomes different from those intended. In many cases, outcomes that contradict states' intentions can result from systems that are stable and self-reproducing. State policies rarely have linear consequences, in the sense of producing a direct effect. As part of a system, their causes and effects are often non-linear, and change over time.

With regard to challengers to states' power, whether in the form of criminal groups or groups with political goals, states have three broad policy options:

The first option is the use of force, to fight. States often respond to coercive challenges with force, whether through police or military power. In some cases states are able to swiftly and effectively eradicate the challenger. In other cases, a well-organized rebel group is stronger than a state and can defeat its forces in open battle, thus becoming the new state. While such revolutions have not happened recently in Latin America, many states in the region face a series of lower-level, yet prolonged challenges to their coercive monopolies from rebel and/or criminal groups. In some cases, especially when a group has a clear, hierarchical command and control structure, a state can remove the group's leadership. Yet as noted above, some actors can innovate and adapt, and respond by turning a hierarchy into a network. The evolved system can make the problem –such as drug traffic or terrorism– in some ways more difficult to address. Arms races are an

obvious part of any policy that involves the use of force. But this example suggests that how groups (and states) organize themselves and adapt to changing circumstances are also weapons involved in arms races.

There are also moral hazards associated with fighting. The fact that states are under constant scrutiny over the use of force creates powerful incentives for their enemies to “trap” them into using excessive force against them. The key agents in this system are not only states and their challengers, but a wide range of groups, including NGOs, the media, politicians, other states or international organizations.

The second policy option available to states is based on the “root causes” idea that people are more likely to engage in criminal activity or to take up arms against the state when they lack core public goods, such as education, health care and opportunities for economic development. From this perspective, states respond to criminal or political challengers indirectly: by providing such public goods, in order to discourage people from supporting criminals or rebels in the first place.

While there is of course nothing wrong with providing public goods, this policy also has system consequences. For example, security is arguably the core public good. Many states provide security for groups threatened by criminal or political challengers, including landlords or industries whose property may be threatened. Yet the provision of security can create moral hazards, by making explicit the biases that aggrieved groups feel are inherent in the system the state is protecting. The state takes sides with one group against another. Economic goods, such as development and other forms of assistance, can create similar moral hazards: by pitting one group against another or providing resources which groups can learn to divert for their own purposes in their battle against the state providing the resources in the first place.<sup>12</sup>

The third policy option is direct engagement with challengers through dialogue. States often take a stand of “no dialogue with terrorists or criminals”. If they are able to defeat the challenger by force, then no dialogue may be necessary. Yet throughout the world, and certainly throughout Latin America, states have been unable to enforce a clear monopoly of coercive force, and have to contend with multiple political and/or criminal challengers. The system perspective can shed light on this. For example, dialogue is easier with hierarchies than networks. It is possible to engage the leadership of hierarchically organized groups like the IRA, PLO, ANC or FARC in peace negotiations. Sometimes these are successful, other times not, but it is (usually) clear who to engage. But how does a state engage a networked group like Al Qaeda? Who does it talk to and what difference would it make if were even possible to engage the core actors? While some would dismiss the possibility out of hand, it is possible to think through how it may work. This is discussed at length elsewhere (Manikkalingam and Policzer, 2007), but essentially involves redefining what engagement means: it is not necessary to engage the core of the network in order to engage its periphery, and it not necessary to address

<sup>12</sup> This is a problem familiar to peace operations in places such as Iraq, Afghanistan, Kosovo, Haiti, or Liberia, but not unique to post-conflict situations.

the whole of the issues dividing the state and its challengers in order to address some of them. A separate work extends this framework to the challenge of engaging criminal networks (Policzer, 2011). We know that the boundaries between political and criminal groups sometimes overlap extensively, and that some states and non-state organizations are adept at directly engaging criminal groups to resolve specific, local problems.<sup>13</sup>

Dialogue also involves moral hazards. For example, the insistence on a ceasefire as a condition for dialogue can create incentives for groups to undermine the dialogue, or put an end to it altogether, through violence.<sup>14</sup> Any dialogue policy requires attention to the creation of such veto points and veto players. In addition, dialogue can be a reward –in the form of attention– that some groups might crave. Dialogue as a response to crisis can create the incentives for groups to foment crises in order to obtain this sort of attention: the problem of “the squeaky wheel gets the grease”.

In brief, the systems perspective suggests the importance of understanding how states and their challengers create systems of incentives and behaviors through their policies, which in many cases may be the opposite of what they intend. States may implement policies to deliver public goods such as security, but the system –which includes the state, its challengers, and a wide range of other actors– may in fact create powerful incentives for insecurity, instability, and criminality. Systems rarely produce linear consequences in the form of “eliminate the leader, stop the problem”. More often, when actors can innovate and adapt, they change the nature of the problem, in unanticipated ways which may become deeply, systemically entrenched.

Finally, and much more speculatively than even the preceding speculations, it may be necessary to rethink what governance means in a complex adaptive state system. In a hierarchy, the top of the state pyramid makes policies, and the rest of the organization implements them. In a networked, complex adaptive system, even hierarchically organized states cannot necessarily do this. The system continuously evolves as different actors innovate and adapt to changing circumstances. The nature of the problems that need to be addressed also changes. Governance in such a system requires being like the Red Queen in Lewis Carroll’s *Through the Looking Glass* –who needs to run just to stay in the same place.<sup>15</sup> Solutions to past problems no longer work, and can create new problems of their own. Governance requires flexibility, adaptation, experimentation, and continuous re-evaluation: learning by doing, and by monitoring what others are doing.<sup>16</sup> Governments are less final deciders than coordinators and facilitators in Latin American societies historically accustomed to hierarchical governance, this conceptual shift may be the greatest challenge.

<sup>13</sup> For example, the NGO Viva Rio in Brazil regularly engages gangs to resolve problems relating to economic development and security. The Brazilian contingent in the U.N. Mission in Haiti (MINUSTAH) drew on this experience to inform its approach to security and development, and engage a complex set of Haitian armed actors (Moestue and Muggah, 2009).

<sup>14</sup> See Manikkalingam (2008) for an argument in favor of dialogue without ceasefires, of talking while fighting.

<sup>15</sup> For a discussion of the Red Queen hypothesis in evolutionary biology, see Van Valen (1973).

<sup>16</sup> See Dorf and Sabel (1998) for a discussion of decentralized governance involving networks of state and non-state actors.

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