

■ *Research Paper*

Terrorism, System Thinking and Critical Discourse Analysis

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Starting from a critical analysis of the US intervention in Afghanistan in response to the 11 September 2001 events, this paper seeks to propose a different approach to terrorism/counterterrorism analysis consisting in putting at the forefront the discursive dimension of the phenomenon through the lens of critical discourse analysis and in grounding it in a system thinking approach. The main argument is that 'terrorism' cannot be understood outside a context, language and culture, and that to be fully grasped as a dynamic phenomenon, it has to be framed in a systems perspective. Among the key elements of system thinking that can enhance the understanding of terrorism are boundary definition, casual loops and feedbacks, delays, emergent properties and overshoot-and-collapse. Copyright © 2013 John Wiley & Sons, Ltd.

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INTRODUCTION

Terrorism, it seems, is everywhere. It is widely present in daily conversations and political debates, in TV programmes, newspaper articles and books. With its associated narratives and interlinked discourses, it is articulated within academic, political, media and cultural productions up to the point that it has become so pervasive as to be found in popular jokes, tattoos, novels and even children books (see also Croft, 2006). Terrorism is also the object of many states' regulations and is frequently stated as one of the principal reasons for military interventions.

Nevertheless, often its pervasive influence goes unnoticed, despite the fact that its diffuse effects impact on several aspects of the public and private lives of individuals and groups, conditioning many dimensions of contemporary life (Bartolucci, 2012). Today, terrorism is also a major focus of scholarly research with thousands of books and articles published every year. Crucially, 'the fact that terrorism is not strictly an abstract academic field of study, but now infuses and impacts upon virtually every aspect of modern life' (Jackson et al., 2011, p. 2) demands a change of paradigm. This paper precisely seeks to propose a different approach to 'terrorism' that consists in putting at the forefront the discursive dimension of the phenomenon and in grounding its analysis in a systems perspective. Terrorism is here approached not as an objective, freestanding,

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self-evident phenomenon, but rather as a discursive construction that, although loaded with assumptions, cultural biases and moral charges, is often used uncritically and unreflectively with far-reaching consequences (Jackson, 2007; Jackson et al., 2011; Bartolucci, 2010, 2012). Approaching terrorism as a social construction embedded in a specific geographical, temporal and sociopolitical contextualization has obvious implications for the way it is approached as an object of study. In particular, it means that its study needs to be focused on the often complex relationship between the actual event labelled as 'terrorism', the representation of the same event and, following from that, the necessity or effectiveness of responses to terrorism, both at a theoretical as well as practical level. In this context, critical discourse analysis (CDA) seems to be the ideal framework to address the importance of the discursive dimension of terrorism by providing an analysis of discourses and discerning connections between language and other elements in social life that are often opaque (Fairclough, 2003). It is worth pointing out that to approach terrorism as a discursive construction, which is applied to certain acts (and not others) in a specific sociopolitical context as well as geographical and temporal settings, is not the same thing as arguing that terrorism acts are not real, that real people do not harm or kill other people. Rather, it is to say that the representation of real acts of violence as terrorism is conditioned by a complex series of political, social and discursive practices located in a specific context. In other words, 'the actions and pronouncements of politicians, academics, lawyers and others transform a particular act of violence – such as a bombing or murder – into an act of "terrorism"' (Jackson et al., 2011, p. 3). The awareness of the role of the context and of the many and diverse actors proper of CDA suggests the need to ground the analysis within systems theory as an epistemic theoretical framework. System thinking (ST) is an ideal approach, to understand complex phenomena and problems, by seeing reality as a system and taking into account the complex pattern of interrelations between its parts as well as their interactions with the environment (for an application of ST in conflict analysis, see Gallo, 2012).

The paper is structured in the following way. The section following the introduction contains a critical analysis of the US political framing of the 11 September 2001 events as terrorism and of the US intervention in Afghanistan. The Terrorism, Discourse and Context section proposes a different approach to terrorism and counterterrorism analysis that consists in putting at the forefront the discursive dimension of the phenomenon and in grounding it in an ST perspective. CDA is a mode of research traditionally associated with the academic field of applied linguistics. It is aimed both at providing an analysis of discourses and at discerning connections between language and other elements in social life that are often opaque (Fairclough, 1992). Operationally, CDA complements the linguistic analysis with an interdisciplinary approach directed at the deconstruction of the whole sociopolitical and historical contexts in which discourses are embedded. The Systems Theory and Critical Discourse Analysis section addresses the dynamics of terrorism, enlightening some key elements of ST that can enhance the understanding of terrorism, among which are causal loops and feedbacks, delays, emergent properties and overshoot-and-collapse. The discussion is enriched by a discussion on the Afghanistan war and the Peace for Galilee operation. The speeches reported in the text have been coded and reported in Appendix A.

TERRORISM, DISCOURSE AND CONTEXT

September 11 and Its Framing

In an interview given to the US correspondent of the Italian newspaper *La Stampa*,¹ less than 3 months after the 11 September 2001 events, the President of the World Bank, James Wolfensohn, using a metaphor, stated that the Twin Towers collapse was the 'Afghanistan landing in Wall Street, the World's South falling into the North cradle'. He added then that the Afghan war would not be won without tackling the problem

¹ 'Wolfensohn: la guerra al terrorismo si vince eliminando la povertà', *La Stampa*, 7 December 2001.

of poverty or the roots of discontent deriving from poverty and marginalization in the Muslim world.² Wolfensohn's argument, based on the north-south relations, or the one representing the 11 September 2001 events as acts of 'international crime', are only two among the possible narratives that could have been used to frame and to understand the nature of the 2001 attacks. Those, however, were not even taken into consideration in the dominant discourse at the time.

The chosen framing of the events as 'acts of terrorism', 'terrorism' or 'terrorist attacks' was not obvious, natural or based on some objective standard of common sense, neither was it the only one possible. In fact, such a framing was part of the attempt to make 'comprehensible' 'an event that seems to defy meaning' (Kaplan, 2003, p. 84) in giving a 'description' of *what* happened, *who* did it, against *whom*, and *why*, and describing the reaction to the attacks. The events could have been framed as suggested by Dalby as 'a disaster, and act of madness or perhaps most obviously as a crime' (2003, p. 65), but alternative framings were not even taken into consideration. Debates existed but interestingly only in terms of the appropriate response, types of tactics or modes of intervention, but not on the initial framing. For everybody, such an event was clearly *terrorism*.

Immediately after the collapse of the Twin Towers, Bush represented the events in a way that they appeared *logical, necessary, legitimate* and, ultimately, *unavoidable*. From the first words of his intervention, he quickly dismisses the initial doubt over the nature of the event (an *apparent* terrorist attack) replacing it with the still unchallenged categorization of the events as terrorism.

(1) Today we've had a national tragedy. Two airplanes have crashed into the World Trade Center in **an apparent terrorist attack on our country...** **Terrorism** against our Nation will not stand.

² A recent Foreign Policy article, in line with Wolfensohn's argument that a military approach cannot be the (sole) solution, concludes that 'America has not won this war on the battlefield, nor has the country ended it at the negotiating table. America is just washing its hands of this war. [...] Very likely, the Taliban will win Afghanistan again, and this long, costly war will have been for naught' (Vali Nasr, 'The Inside Story of How the White House Let Diplomacy Fail in Afghanistan', *Foreign Policy*, March/April 2013).

In the earlier extract, it is possible to see a move, in a very limited number of words, from hedging devices (e.g. 'apparent') to committed language (terrorism). Through the omission of 'apparent' and the subsequent repetition of the noun 'terrorism', the labelling of the events is quickly established. However, implicit in the act of labelling is the silencing of alternative framings. Cancelling the initial doubt, the framing becomes (overly) direct: what happened on that day is *terrorism* and '9/11' ('erasing' all historicity of the date) comes to represent the worst terrorist attack that ever happened. See, for example, the following extracts:

(12) This is a **new era... everything changed** on that morning.

(13) **The world changed** on that day.

The events were framed within two distinct, but in some cases coexistent and complementary, narratives. The first was to portray the attack as coming from an evil enemy—terrorism. Terrorism, according to this framing, acts out of hate for (9) 'our way of life, our very freedom'. It threatens stability, and therefore 'meeting the threat of terrorism is in the interest not only of the U.S., but also of the rest of the international community, requiring that all states collaborate to eliminate the danger'. The second narrative, based on Huntington's 'Clash of Civilizations' (Huntington, 1993), saw the event as part of a confrontation between the Muslim world and the Western-Christian world (with the USA as its leading power).

(7) **Americans** are asking, why do **they hate** us? **They hate** what we see right here in this chamber - a democratically elected government. **Their** leaders are self-appointed. **They hate** our freedoms - **our** freedom of religion, **our** freedom of speech, **our** freedom to vote and assemble and disagree with each other. (7) **These terrorists** kill not merely to end lives, but to disrupt and end a way of life. With every atrocious **they** hope that America grows fearful, retreating from the world and forsaking our friends. **They stand against us**, because **we** stand in their way. (14) I think **terrorists** will kill innocent life in order to try to get the world to

cower. I think – these are coldblooded killers. I mean, they'll kill innocent people [...], they have not only killed in Spain; they have killed in the United States; they have killed in Turkey; they have killed in Saudi Arabia. They kill wherever they can.

Furthermore, the gravity of the events is emphasized with the use of very connoted language: 'evil and despicable acts of terrorism', 'brutal attacks; despicable acts of war', 'barbaric acts; barbarism', 'senseless violence and senseless murder' (3, 4, 5, 6, 10).

After having defined the events as a major catastrophic attack and the country as being in an emergency, Bush then explicates the political position of the government facing the crisis by attributing the attacks to a (3) 'faceless enemy' that 'hides in shadows and has no regard for human life', very quickly identified in Al-Qaeda:

(7) Americans are asking, who attacked our country? The evidence we have gathered all points to a collection of loosely affiliated terrorist organizations known as Al Qaida.... This group and its leader, a person named **Usama bin Laden**, are linked to many other organizations in different countries...

The perpetrators of the attacks are represented as 'terrorist parasites', 'shadowy killers', 'cold blooded killers', 'faceless cowards', 'evildoers', 'evil people', 'enemies of freedom' and 'a group of barbarians'. 'Their' actions are invariably denoted as brutal and destructive, and the perpetrators invariably dehumanized as evils:

(8) I have told the Nation more than once that ours is a war against evil, against extremism.
(11) They obviously had a vast network on terrorist camps available to train extremists around the world.

In Bush's speeches, 'terrorists are wicked Islamists, religious fundamentalists and fanatics, who commit unspeakable acts of mass murder and mayhem against innocent civilians' (Ivie, 2007, p. 233). 'Terrorists' are depicted as 'blaspheming' their own God, 'perverting', 'defiling' and 'hijacking' Islam, having a false religion or no religion at all.

The Afghanistan War and Its Failure

On October 7th, less than 1 month after the attack, the armed forces of the USA, the UK, Australia and France launched 'Operation Enduring Freedom' to support the Afghan United Front (Northern Alliance) in its war against the Taliban-lead Afghanistan government. The stated goal was to dismantle the Al-Qaeda terrorist organization and stop its use of Afghanistan as a base. A linked objective was to remove the Taliban regime from power and to create a viable democratic state. Initially, the operation appeared to be a success, up to the point that by the first of May 2003, President Bush delivered his 'Mission Accomplished' speech. Indeed, 'there was a confidence in Washington that the Afghan War was over, that the Taliban would not reemerge and that European allies would bear the brunt of reconstruction and development' (Rogers, 2011). Al-Qaeda, the main target of the American attack, had apparently been dismantled, its logistic infrastructure destroyed, its militants disbanded and its cadres either killed or gone into hiding. Very quickly, however, it has become clear that the organization was still active and threatening. Some even suggest that currently Al-Qaeda is even stronger than before, and it is much more widely distributed in the Middle East, in the Maghreb and in sub-Saharan Africa (see also Hoffman, 2004; Jones, 2012). Furthermore, its structure has changed in a way that it is much harder to control it. Indeed, what was once a centralized and quite bureaucratic organization, with a well 'identifiable command and control apparatus' (Hoffman, 2004, p. 424), is now a kind of distributed and loosely networked transnational movement, more like a franchise operation, with like-minded local affiliates, sharing a common ideological core, but advancing its goals independently.

One of the reasons of its success precisely derives from the response to the 11 September 2001 events and the following intervention in Afghanistan, amplified by the media, that greatly enhanced Al-Qaeda prestige and allure within the Muslim world. As a consequence, new members joined its structure from all over the world, and several organizations pledged allegiance to Al-Qaeda, relabelling themselves, without

submitting to a central discipline (Wallerstein, 2012). The situation described earlier can be understood as a consequence of a problematic framing whose main drawbacks are identified as the following:

- (1) the narrow conceptual horizon that consists of a very limited number of interpretative keys;
- (2) the idea that reality is a closed system; and
- (3) a marginal attention to the dynamics of relations within the system under consideration.

To overcome these weaknesses, system theory, as it will be shown in detail in the next section, provides some analytical tools that can be useful to better grasp the complexity of a given situation.

The understanding of the system under analysis begins with the identification of its boundaries, that is, of all those elements that are deemed important for a suitable understanding of the system and for the planning of effective interventions. This requires a critical analysis consisting in a continuous dialectics between what is inside and what is outside the system. This is crucial in order to have a deep understanding not only of the many relations among the system's components but also of the interaction between the system and its context. Systems of human activities are essentially 'open systems', entities that take inputs from the environment, transform them and release them as outputs. The idea of open system contrasts the mechanistic and deterministic idea of a system looking like a clock,³ which has been seen with favour also in political science when, in the quest for a higher level of scientific rigour, 'it has tended to treat political events and phenomena as natural events lending themselves to the same explanatory logic as is found in physics and the other hard sciences' (Almond and Genco, 1977, p. 489). The analysis of the dynamics of the relations between its different components is essential to the understanding of a system and of its behavior, as it will emerge in the next section.

³ The clock metaphor was used by Karl Popper in his paper 'Of Clouds and Clocks: An Approach to the Problem of Rationality and Freedom of Man' (1972).

SYSTEMS THEORY AND CRITICAL DISCOURSE ANALYSIS

As mentioned earlier, a system of human activities 'is really the manifestation of a perpetual flow, an *open system* in a dynamic steady state [maintaining] itself in a non equilibrium state by taking in a continuous supply of energy and exchanging components with its environment' (Hammond, 2003, p. 116). A system is part of the environment in which it is situated and with which it has continuous interactions and interchanges. Disregarding this, it may lead to poor understanding and to misguided actions. Also within CDA, the context is of paramount importance. A discourse can only be understood as located in a specific context.

The capacity to grasp the different components of a system is shaped by the observer's epistemic community. At this purpose, CDA provides the researcher with an effective interpretative tool to analyze language seen as a social practice and as embedded in a sociopolitical context. CDA draws on a functional theory of language and seeks to complement the linguistic analysis of texts with an interdisciplinary approach directed at the deconstruction of the whole sociopolitical and historical contexts in which discourses are embedded (Fairclough, 1992; van Dijk, 2001). The focus of CDA, as Wodak (1996, 17) states, is not 'upon language or the use of language in and of themselves, but upon the linguistic character of social and cultural processes and structures'. Specifically, CDA aims at critically investigating structural relations of power, control and domination as constituted, expressed and legitimized in discourse (Weiss and Wodak, 2003). Within CDA, discourses are not seen as neutral ways of describing the world but as ways of reproducing or challenging relations of power and dominance in society. Discourse is thus intended as 'a practice not just of representing the world, but of signifying the world, constituting and constructing the world in meaning' (Fairclough, 1992, p. 64). The assumption of the neutrality of language is challenged, and the attention devoted at exploring the implications deriving from the use of particular words

and grammatical forms in specific contexts (Taylor, 2001).

The response to the September 11 attacks, culminated with the Afghan war, stems from a narrow and limited vision of the events that could only be understood if it is analyzed as located in a specific discursive community,⁴ in this case the one expressed by President George W. Bush's discourse. The US presidential discourse on terrorism has been taken here as the framing discourse for its capacity of 'dictat[ing] its employment everywhere in the world' (Erjavec and Volcic, 2006, p. 298). Following the 11 September 2001 events, 'truth was asserted and obedience exhorted, with the administration imposing a lesser standard of evidence upon itself' (Wolf, 2003, p. 5).

The course of this conflict is not known, yet **its outcome is certain**: Freedom and fear, justice and cruelty have always been at war, and **we know that God is not neutral between them**.⁵

God told me to strike at Al Qaida and I struck them: **then he instructed me** to strike at Saddam, which I did; and now I am determined to solve the problem in the Middle East (Bush to Abu Mazen. In Blumenthal 2004).

The discourse, characterized by a limited range of effective rhetorical devices and quite simple argumentative structures, has been extremely successful, in being widely perceived as a self-evident truth towards which there is no room for discussion and in building the necessary consent around the administration. At the same time, its oversimplicity, unwarranted assumptions, cultural biases and heavy moral charges hampered the capacity to understand the complexity of the events and of the wider context in which they took place. The system was indeed seen as closed, and there was a lack of appreciation of the fact that it was actually a system in continuous dynamic exchange with a wider

Muslim area containing groups and individuals characterized by a common ideological base, outraged by the perceived oppression of Muslims and sharing the aspiration for a reconstituted caliphate of which Al-Qaeda has become the symbol.⁶ The situation proved to be much more complex than expected, and today, after 10 years from the 'Mission Accomplished' speech, the war is still going on, and few analysts harbour optimism about its final result.

A direct consequence of the idea of open system is that the analysis of a system implies the choice of the elements and of the relations deemed relevant with respect to the phenomenon under analysis. This is what is called the choice of the boundaries. The same context in which the event originates is not objectively given once and for all. It is us as observers who define it and its boundaries. Indeed, 'the boundary concept lies at the heart of system thinking: because of the fact that everything in the Universe is directly or indirectly connected to everything else, where the boundaries are placed in any analysis becomes crucial' (Midgley, 2000, pp. 128–29). In choosing the system's boundaries, it is not only necessary to look outward to the wider system of which ours is a subsystem but also to look inward to the diverse components that can be found within it, being well aware that each component is in itself a system containing other components. These two processes, the outward one and the inward one, are almost limitless: it is always possible to find new wider super-systems or smaller sub-systems. The outward process leads to the definition of the boundary between the system and its context, whereas the inward process leads to the definition of the level of granularity of the system.⁷ In this respect, the discursive community in which the

⁶ Some of these groups are well organized and, within the common motivation, have their proper agenda (see, for instance, the Salafi group Boko Haram in Nigeria or Pakistan's Tehrik-i-Taliban); others tend to be amateurish, if occasionally lethal. These groups and individuals represent what Jones (2012) calls the third and fourth tiers of Al-Qaeda. The more internal first and second tiers are formed by the Al-Qaeda leadership and operatives and by a growing list of officially affiliated groups, such as Somalia's al Shabab.

⁷ For instance, it is at this level that one decides whether a political organization should be considered as a unit in the system representation or whether it is necessary to go deeper in the analysis, considering smaller units, such as the different groups or factions that operate inside the organization.

⁴ This community is often referred to with the label of 'neo-conservative'.

⁵ Address before a Joint Session of the Congress on the United States Response to the Terrorist Attacks of September 11, 20/09/2001.

observer is located plays a crucial role. The same context in which the system is located is not objectively given once and for all. It evolves over time, and even small variations of it may have unpredictable and unexpected effects on the events unfolding within the system. Thus, the way the system's boundaries are chosen by the observer is of crucial importance for a proper understanding of the system and for a correct interpretation of the events within it. In particular, the choice of the boundaries shapes the idea we have of the situation in which a terrorist behavior arises and has deep effect in how we tackle it. In fact, the choice of the boundaries depends also on the objectives and on the value system of the researcher, being the analyst part of the wider system in which the events under analysis are located.

Boundaries have four dimensions:

A physical dimension—Which actors and parties (e.g. states, groups and individuals) should be considered in the analysis of a given set of terrorism events? Which are the concrete contradictions or complaints (e.g. territorial, economic and social) that may help in understanding them?

A temporal dimension—This dimension is for example linked to the question: how far we have to go back to be able to fully understand the reasons or motivations of given terrorist actions? It may happen that today's violence is rooted in unresolved past grievances.

An ethical dimension—The way we define and represent the terrorist events does have quite often relevant ethical aspects. The ethical implications of the boundary choice are well illustrated by Pinzón and Midgley (2000) with reference to the Colombian guerrilla conflict.

A symbolic dimension—Sometimes terrorism finds its motivations in contradictions that are more symbolic than physical. Typical is the case of the growing role of the different religious fundamentalisms.

Several issues arise when defining the boundaries: the main ones reside in widening the system too much or, at the contrary, in narrowing it too much. Widening the system too much might lead to a model too clumsy to be really

useful. In that way, the behavior of the relevant⁸ variables is obscured by the excessive number of less relevant or irrelevant variables, which crowd the system. On the contrary, an oversimplistic system's representation may fail to provide insights on the behavior of main variables and to lead to wrong conclusions about the problem one is dealing with.

The Peace for Galilee operation is a typical example of poorly chosen boundaries. In 1982, the Israeli government wanted to get rid of the Palestinian Liberation Organization (PLO), whose headquarters were then in Lebanon. The main aim of Sharon, at the time Defence Minister of Israel, in launching a full-scale invasion of Lebanon, was to destroy the PLO's military infrastructure in Lebanon and to undermine it as a political organization so as to weaken its influence on the West Bank Palestinians.⁹ The war was harsh, with heavy losses on both sides. At the end, it 'had cost Israel 660 dead, had exacerbated its economic difficulties, subverted the national consensus on security, and tarnished Israel's image abroad' (Shlaim, 2001, p. 427). Actually, the PLO was dislodged from Beirut, but it did not took too much for it to reorganize in Tunis, and it was only a matter of a few years for the Palestinian front to become hot again with the start of the first intifada. Furthermore, the undermining of Yasser Arafat's Fatah movement in Palestine helped Hamas flourishing. But a further completely unforeseen effect materialized: the birth of a new nationalistic Islamist movement, Hizbollah (Party of God), who, with Iranian and Syrian support, engaged Israel first in a long attrition war and later, in 2006, in a full-scale one. Both Hamas and Hizbollah appear in the US State Department list of Foreign Terrorist Organizations. The boundaries drawn by Ariel Sharon included only the Israeli army and government, and the Palestinian leadership, which are the main institutional actors. However, Sharon did not fully appreciate how strongly rooted in the Palestinian

⁸ Relevant with respect to the researcher's objectives in defining the system.

⁹ A second objective was to help Bashir Gemayel, the chief of the Phalange, one of the Maronite militias, to become Lebanon's President, in order to arrive to a favourable peace treaty with Lebanon.

population were the nationalist feelings and the consensus towards the PLO, and how articulated and strong was the Palestinian resistance. Moreover, the complexity and the extreme fragmentation of the Lebanese society were completely disregarded, so were the subtleties of its politics, and the grievances of the Shi'a sector of the population, which are rather underrepresented at the political level in spite of being the relative majority of the population. Indeed, finding a good trade-off between simplicity and completeness is one of the challenges that the analyzer face.

The aforementioned considerations suggest a multiple interaction between systems theory and CDA. First, in a system, it is important what is within and outside; similarly in CDA, not only what is said in the discourse is important but also the silences. Second, there is a two-way functional interaction between ST and CDA:

- (1) The cultural context and the discursive community in which we are embedded limit in some ways our capacity to analyze a system.
- (2) The systems approach allows the researcher to understand the limits of a particular discourse, the reasons why that particular discourse was born and the ways to build an alternative one.

THE DYNAMICS OF TERRORISM

A system is not a static structure, but rather, as already pointed out, it is something in continuous evolution. Some of the key features that are important from the point of view of its dynamics will be discussed here, with a reference to terrorism analyses.

State and Activity Variables

It is well known that after the end of the Cold War there has been an increase in the number of ethno-political conflicts, some of them characterized by terrorism, either episodic or systematic. The Minorities at Risk (MAR) project, initiated by Ted Robert Gurr in 1986 (Gurr, 1994, 2000), examines and documents the status of ethnic

and religious minority groups in all the countries of the world over the contemporary period, since 1946. The number of minority groups that the project has studied has been growing during the years: from 227 in 1990 to 284 in 2003. One of the objectives of this analysis has been to develop a theoretical framework of the causes of ethno-political conflicts so as to be able to explain these social phenomena through causal mechanism. A system dynamics model¹⁰ representing a portion of the complex pattern of relations present in Gurr's description of the dynamics of ethnical conflicts is given in Figure 1.

The aforementioned model suggests that there is a difference between a variable such as 'communal protest or rebellion' and a variable such as 'collective disadvantages'. The former variable has to do with an activity that can be performed or not, whereas the latter has to do with a structural aspect of the reality under analysis, something that does not correspond to a specific action performed by one of the actors and hence something that cannot be set to zero just by a decision. Instead, at least in principle, a decision can be taken to stop a rebellion. Communal protest or rebellion is an activity variable, whereas collective disadvantages is a state variable.¹¹ Another example of state variable in the model is 'group cohesion, identity': even if it is a state variable, it is different from collective disadvantages in the sense that it does not represent something concrete and relatively easily measurable like this latter, but rather something that refers to the attitudes and the deep feeling of the people involved. State variables are those that define the structural aspects of the conflict. From the analysis of the structure, it is possible to understand which state variables need change in order to have to a sustainable solution of the conflict and in which direction the change is needed. Rather, the only way to obtain the change is through the activity variables.

¹⁰ System dynamics is one of the systemic methodologies that are frequently used to model systems and to simulate their behavior. Born essentially as a quantitative methodology, it can be used also at a qualitative level.

¹¹ Sometimes, activity variables are called *flows*, and state variables are called *stocks* or *levels*.

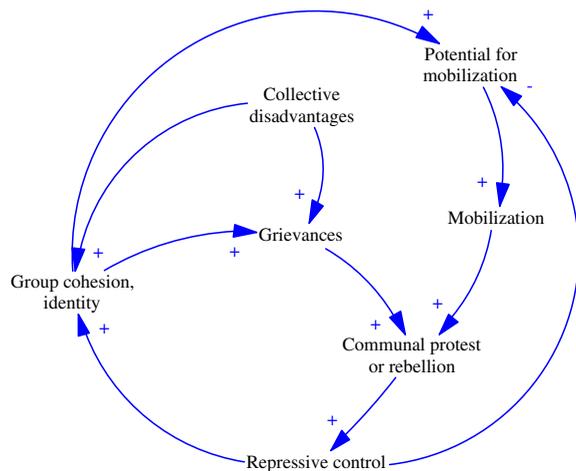


Figure 1 Dynamics of ethnic conflicts

Feedback

The concept of *feedback* or circular causality is crucial to understand the dynamic behavior of a system. Causal loops and feedback are typical of complex systems and are at the basis of the difficulty to devise the right actions to bring to a desired result. For instance, in the model of Figure 1, it is possible to see some of such loops. The rebellion of ethnic groups can bring the government to respond with repressive actions, but those same repressive actions have the effect to exacerbate the collective disadvantage of the ethnic groups, which in turn props up the 'potential for mobilization', which further strengthens the rebellion.

This is a case of positive feedback: an activity intended to curb the rebellion ends up propping it up. Of course, there are also negative feedback cycles. For instance, the effect of the repression can also hit the leadership of the ethnic groups, in a way to reduce their capacity of planning and implementing effective actions against the government (potential for mobilization). If this negative cycle is prevalent, then the repression will be successful (at least in the short term); otherwise, it will have the effect of fuelling violence.

Feedbacks may often lead to the turning of tactical victories into strategic defeats. This has been studied by Byman (2011) with reference to counterterrorism Israeli strategy. A typical example is the killing, in 1996, of Hamas's

master bomb maker, Yahya Ayyash, codename 'the Engineer'. It most likely dented Hamas's capabilities for some time, but it may also have contributed to a renewed wave of bus bombings. The results were additional terrorism victims in Israel and the defeat of Peres in that year's election in favour of the hawkish Binyamin Netanyahu. According to Byman, Israel's repressive measures against the populations in the West Bank and Gaza may have helped in catching or killing terrorists but helped also in breeding more of them. Byman's conclusions are confirmed by the in-depth statistical analysis performed by Kaplan *et al.* (2006) to analyze the relation between targeted killings and suicide attacks.

Delays

One of the features that make the behavior of complex systems so difficult to predict, in addition to the intricate pattern of relations and nonlinearities, is the presence of delays. Delays are present in all the components of a system. It takes time to take a decision, mainly if the decision involves not a single agent but a group of different people with possibly different opinions and agenda. It takes time to make a population to overcome the sentiments of hatred, frustration, resentment or fear resulting from years of violence, oppression or deprivation, in an ethnic conflict. It takes time for public diplomacy to work in antiterrorism policies, sometimes much more than expected. And it takes time for an action to produce its effects, sometimes a very long time. The case of the Hamas chief bomb maker Yahya Ayyash mentioned earlier is typical. Like many Palestinians who joined resistance organizations, he had some education, but he found his path to higher education blocked. Ayyash wanted to obtain his master's degree in Jordan, but Israel denied him an exit visa. Furious, he joined Hamas. Yaakov Peri, who headed Israel's domestic security service Shin Bet until 1994, later sighed: 'If we had known that he was going to do what he did, we would have given him permission to travel along with a million dollars' (Byman, 2011, p. 93). This is an example of a case in which

a generalized repression policy produced a growing sense of frustration and despair, leading eventually to violence and terrorism.

In the majority of cases, a system presents many different types of delay whose conflation may lead to counterintuitive behaviors or to striking differences between short-term and long-term behaviors.

Emergent Properties

One of the effects of complexity is that a system may present properties that are not easily derived from the analysis of its parts taken in themselves but derive from the interactions among all its parts. Emergent properties have to do with the system considered as a whole. 'An emergent property is one that results from the interaction of a system as a whole rather than from one or two of its parts in isolation' (Midgley, 2000, p. 40).

Emergent properties arise at different levels, from macro to micro. Sometimes we are not able to understand directly the structure of a system, but through the analysis of its emergent properties, we can derive useful information on it. An interesting example has been provided by Alvarez-Ramirez *et al.* (2010). They analyze the casualties data in the Iraq War trying to derive from them an idea of the structure of the different insurgent groups. The idea is that the casualties pattern over time derives from the way the insurgency is structured. The main assumption is that a truly random behavior suggests that there is not a strongly organized insurgency. Rather, insurgency groups are scattered, loosely connected and poorly coordinated in their actions. On the contrary, a behavior presenting an autoregressive structure suggests the presence of a well-structured resistance. Paradoxically, this last case, although in the immediate much more harmful, is preferable. In fact, a well-structured resistance is more easily countered and dismantled, whereas a loosely organized resistance is less harmful in the immediate, but it can endure over time.

Different types of conflict systems in which one of the parts' organization has the structure of a loosely connected network have been studied by Arquilla and Ronfeldt (2001). A typical case

is the one of Al-Qaeda, whose network structure makes it particularly elusive and difficult to defeat. Going back to the analysis on the Afghanistan war and Al-Qaeda restructuring (p. 9), it is apparent that the new four-layer network structure (the central leadership and operatives, the officially affiliated groups, the groups sharing with Al-Qaeda the motivations but maintaining a proper agenda and the constellation of amateurish small groups and individuals) this organization has given itself is not the result of design, but rather the unplanned result of the relations among the different components of the system formed by the organization and its environment and of its responses to external inputs.

Overshooting and Collapse

The behavior of a system may present quite different patterns. In systems characterized by a reasonably high degree of stability, key variables change continuously over time, with their value adjusting slowly in response to the overall dynamics of the system, with patterns that may be of either increasing or decreasing or in some cases of oscillatory type.

Oscillatory behaviors are usually the results of threshold phenomena or overshooting. This happens when a variable reaches a value that is higher than the equilibrium value.¹² In stable systems, as a result of overshooting, corrective actions are taken, mainly because of the many feedback loops the system contains, and the system, possibly after some oscillations, goes back to its equilibrium state. In some cases, we may have a kind of stable oscillatory behavior, with oscillations around the equilibrium value.

However, overshooting does not always lead to oscillations, possibly dampened. In some cases, it leads to persistent instability or to a possible collapse of the whole system. Actually, in analyzing terrorism, we are often interested in those conditions that make a system to break

¹² In social systems, equilibria do not connote static or stagnant situations, but rather dynamic situations in which forces balance in such a way to maintain approximately stationary the variables of interest. This is the case for instance of a stationary population, which is the result of balancing death and birth processes.

down losing its stability, thus leading to an outbreak of violence and terrorism, that is, we are interested in threshold phenomena. 'Threshold phenomena like violence are difficult to study because they represent "breaks" in system rather than uniformities. Violence, whether between persons or organizations, occurs when the "strain" of a system is too great for its "strength". The metaphor here is that violence is like what happens when we break a piece of chalk. Strength and strain, however, especially in social systems, are so interwoven historically that it is very difficult to separate them' (Boulding, 1977, p. 84).

Considering the conflicts that may arise within a given society, we may say that there is in most cases an unstable equilibrium between strains, arising from several internal and external factors, and the adaptation capability of the society, that is, its resilience. When the strains overshoot the limits beyond which the society is unable to adapt, or the speed of strain growth outpace the adaptation capability, then the society may enter into a phase of instability and eventually may collapse. And this is where terrorism may start to appear. The recent uprisings in Arab countries provide a clear example of instability leading to regime collapse. In some cases, the breakdown led to a substantially nonviolent struggle, although a bloody one due to the governments' harsh repression. In others, it leads to civil wars, providing space for the infiltration of terrorist organizations.¹³

Systems as Multifaceted and Evolving Structures

Terrorism is not a true/false variable. Past and present events show many cases in which terrorism has been adopted as one of the tools that complex and articulated organizations have occasionally used to reach their goals. Examples are the Zionist organizations in the pre-Israel Palestine, the African National Congress in the Apartheid South Africa and some Irish republican parties. Not much different is the case of the anti-Israel organization in Palestine and in

¹³ For instance, in the case of Syria, 'While the earliest protests were nonviolent, as elsewhere in the Arab Spring, the regime immediately succeeded in militarizing the conflict for its own interests' (Robinson, 2012, p. 333).

Lebanon. 'Groups like Hamas, Hizballah, and Fatah, however are difficult to categorize. All regularly use or used terrorism. Yet these groups operate on many levels: they run schools and hospitals, they represent large political movements, and they count hundreds, even thousands of guerrillas who, in their eyes, are defenders of their people as well as armies to use against Israel's military forces' (Byman, 2011, p. 7). The fact that the dominant discourse on terrorism most often does not make distinctions, labelling as terrorist a complex organization just because of the activities of a minority group, not only makes difficult to devise effective counterterrorism strategies but gives such minority groups a disproportionate power.¹⁴

CONCLUSIONS

Despite the complexity of the phenomenon that the paper has tried to show, too often, when terrorism is analyzed or when decisions are taken about an actual or potential terrorism threat, the kind of reasoning adopted is simplistic and linear. Complexity is too often disregarded, let alone the need for systemic thinking. That is true both at level of theoretical analysis and at level of practical decision making. This is something that has relevant practical consequences. These two cases of the 2001 Afghanistan war and of the 1982 Lebanon invasion provide the reader with clear examples of linear and mechanistic thinking.

It is here argued that a systemic approach is essential for a correct understanding of the characteristics and of the dynamics of those conflicts in which terrorism is involved and, as a consequence, for the decisions taken in the midst of them. A systemic approach is fully consistent with the main assumptions underpinning CDA and represents a useful tool for complementing and strengthening their analyses. Moreover, ST is fundamental from an operational point of view, namely in providing the base knowledge for taking sound decisions, through a better

¹⁴ With reference to the terrorist attacks against Israel of minority or splinter Palestinian groups, in the 1970s, Byman (2011, p. 52) writes that Abu Iyad (one of the Fatah main leaders) was 'correct in his conclusion that the small groups practically strangled the Palestinian cause'.

understanding of the structure and the dynamics of specific systems.

Both approaches stress the importance and role of contextualization in analyzing terrorism. Terrorism does not exist *per se* independent of the context and of those who support or counter it. Moreover, the very definition of terrorism depends on those who analyze it, on their culture, beliefs, values and objectives. Particularly important is the role of language and of power relations in any discourse on terrorism. This is one of the main contributions of CDA.

System thinking focuses mainly on the complexity, claiming that one of the weaknesses of mainstream terrorism studies is a tendency to oversimplification and the use a deterministic/mechanistic paradigm in its analyses. However, states, social groups and individuals cannot be seen as single points, disregarding the complexity deriving on the one side from their multifaceted reciprocal interactions and on the other side from their internal structure. As such, it is here argued that, when talking of terrorism, oversimplistic models of the reality are of little use and that it makes little sense to escape from considering the complexity of the realities in which terrorism as a phenomenon arise. Indeed, the systemic paradigm is an essential tool to tackle complexity and to have a better understanding of the characteristics and of the dynamics of the conflicts in which terrorism is involved. Furthermore, ST can be fundamental from an operational point of view, namely through a better understanding of the structure and the dynamics of specific realities, in providing the basic knowledge for taking sound decisions.

A systemic approach is fully consistent with the main assumptions underlying CDA, as it represents a useful tool for complementing and strengthening CDA's analyses. Furthermore, the full awareness of the discursive dimension of a phenomenon is essential for the full understanding of a system. In conclusion, it is here claimed that these two approaches, CDA and ST, are essential to gain a deeper and better understanding of terrorism as a political and social phenomenon and also to make the discourse on terrorism less ideological and more useful from a practical point of view. In

particular, whereas a CDA can be crucially important to clarify the goals, biases and power relations that are hidden behind any discourse, the systems paradigm can be seen as an analytical frame to tackle the complexity that characterizes any real-life phenomenon, and terrorism is no exception. It also suggests the need to use a multiperspective approach to analyze current events.

Finally, effective antiterrorism strategies need to be grounded in a systemic representation of the reality in which events labelled as terrorism rise and unfold. Otherwise, the risk that they backfire is high, as for instance happened with some Israeli antiterrorism operations: 'In over sixty years of fighting terrorism Israel has at times empowered radicals at the expenses of moderates, tarnished its diplomatic image, allowed terrorists to use propaganda to turn defeat into victory, and otherwise failed at strategic level. Such failures are in part due to the difficulty of the challenge Israel has faced and continues to face. But many of these mistakes must be laid at the door of the country's poor national security decision-making system' (Byman, 2011, p. 344).

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- (1) Remarks in Sarasota, Florida, on the terrorist attack on New York City's World Trade Center, 11/9/01.
- (2) Remarks following meeting with national security team, 12/9/01.
- (3) Letter to the Speaker of the House of Representatives, 12/9/01.
- (4) Proclamation 7462—National Day of Prayer and Remembrance for the Victims of the Terrorist Attacks on September 11, 2001, 13/9/01.
- (5) Maryland: Remarks in a Meeting with the National Security Team, Maryland, 15/9/01.
- (6) Remarks on Arrival at the White House, 16/9/01.
- (7) Address before a Joint Session of the Congress on the United States response to the terrorist attacks of September 11, 20/9/01.
- (8) Remarks Prior to Discussions with Muslim Community Leaders, 26/9/01.
- (9) President Bush Addresses the UN, *Washington Post*, 10/11/01.
- (10) Remarks Following a Meeting with Governor George E. Pataki and Mayor Michael Bloomberg, 1/4/02.
- (11) Remarks on Humanitarian Aid to Afghanistan, 11/10/02.
- (12) Remarks on improving counterterrorism intelligence, 14/2/03.
- (13) Remarks at the Marine Corps Air station in Miramar, California, 14/8/03.
- (14) Remarks following discussions with Prime Minister Jan Peter Balkenende of the Netherlands and an exchange with reporters, 16/3/04.