Learning Terrorist Organizations

0. Introduction

At the time I am writing this, there seems to be a level of interest in terrorism only preceded by the months directly after the terrorist attacks of 9/11. The London attacks happened only weeks ago and the London Police are still busy investigating both attacks. The questions are many: where and when did these seemingly ordinary men radicalize? Did they act on their own, or is there some mastermind behind the attacks? Who taught them to build bombs?

The group that claimed the attacks has announced more strikes, not only in London, but in other European capitals as well. The question that bothers many is whether they can make up to their treat. Can they effectively strike in various nations' capitals at will? How big is the terrorist threat? Journals such as *Studies in Conflict and Terrorism* and *Terrorism and Political violence* feature many articles discussing the possible threat of terrorists acquiring weapons of mass destruction. This still seems to be the most deadly combination many can think of. Usually the articles in these journals consider one of two questions (on occasion both) (1) will terrorists be able to acquire or fabricate weapons of mass destruction and (2) are they willing to do so?

The attacks of New York 9/11 and London 7/7 have shown us that weapons of mass destruction are not the only things to fear. The increasing ability of terrorist groups to use conventional weaponry in new ways is more important if only because this threat seems much more immanent. Strangely, there is little literature on the ways in which terrorist organizations find 'new ways' to wage their war. Why do some terrorist groups come up with so many new ideas to cause havoc? Not only the weapons they use, but the targets they select and the strategies they seem to follow are various and ever-changing. These changes are said to be the result of the fact that organizations *learn.* Sadly, almost no one has taken a close look at how learning *actually works* in these organizations.

However, there is a lot of literature on how organizations learn *in general.* The study of *organizational learning processes* deals mostly with commercial organizations and often with non-commercial organizations as well. It is concerned with issues like conceptualizing organizational learning, the transfer of knowledge, obstacles to organizational learning and

factors that facilitate learning. These topics sound quite promising if one is trying to understand the way terrorist organizations evolve. The combination of this body of literature with 'the terrorist threat' is hardly ever made. In this work I will try to close this gap. I will explore the usefulness of the concept of organizational learning in analyzing the changing behaviour of terrorist organizations. More specifically, I will try to find out *how terrorist organizations learn, and what factors constrain or facilitate their ability to learn.* In answering this question I will sum up what little thoughts have yet been formed on the terrorist tendency to learn. This is likely going to leave huge gaps in any attempt to answer my research question. I will try to fill these gaps by combining empirical evidence on changing terrorist organizations with insights from the broader study of organizational learning.

In chapters, the structure of my thesis is the following: In the first chapter "Understanding Terrorist Organizations" I will introduce two perspectives on terrorism. According to most, terrorism is in essence a *method* of a political actor to reach certain political aims. This approach is called the *instrumental* approach. I will argue that relying solely on this perspective is not enough to understand terrorist organizations. The less common *organizational* approach is well fit to explain certain phenomena that are not understandable in the instrumental perspective. This perspective sees terrorism as a by-product of a group struggling for survival. Both of these perspectives are essential in understanding the behaviour of terrorist organizations, and since learning is part of terrorist behaviour, they are essential in understanding learning as well. These two approaches will serve as a basis for understanding the various mechanics that force terrorists to learn.

Chapter two, "Learning and Innovation" is dedicated to the concept of organizational learning. Before going into a theoretical view towards learning, I will first propose a crude distinction of the areas of learning in a terrorist organization. Learning in terrorist organizations takes many forms ranging from quite practical and tangible to abstract and elusive. A broad differentiation is essential to make the various forms of learning more 'visible'. I will continue to delve deeper into the theory on organizational learning, providing a definition of the term and clarifying some essential concepts for understanding the various types of learning. I will propose a model of organizational learning, which shows how learning individuals and learning organizations are related. I will continue to explain the importance of tacit knowledge in the learning process. Finally I will show that

terrorist learning is not only something that happens 'automatically' but is often actively sought after by terrorist organizations.

Although all terrorist organizations will learn, some will be better at learning than others. Explaining this is the essence of chapter three. By drawing on the model of organizational learning in chapter two I will introduce various perspectives that explain differences in learning ability. The first dimension deals with the role of leadership in explaining whether an organization can effectively learn new behaviour or not. The second perspective is closely related to leadership: it focuses on internal politics of an organization in explaining change. Since changes in the organization can influence members' relative position within the organization, proposed changes cause internal disputes. Apart from disagreeing on the content of the proposed change, members can object to a change because they see their power base affected negatively by the change. Thirdly, the organizational structure perspective perceives the structure of an organization as the major cause for inter-organizational differences in learning ability. Fourthly, organizational culture is another explanation for the fact that some organizations learn better then others. In short, this perspective highlights that every organization has a specific culture and that some of these cultures facilitate learning, whereas others constrain learning. Size, age and resources of an organization are the last explanatory variables that I will highlight in order to understand differences in organizations capacity to learn. I will end the chapter with a conclusion in which I will compare the various dimensions.

Since the dimensions in chapter four only deal with the internal dynamics that can explain changes in learning potential, the last chapter deals with the role of the external environment in the learning process. It describes the way other actors influence a terrorist organization' s learning process. I will describe the role of the most important actors, which are a terrorist movement's own constituency, friendly states, criminal organizations and other terrorist organizations.

My conclusion will highlight the findings of the various chapters and in doing this answer the research question. Finally I will note some of my on thoughts with regard to the future of terrorist learning.

Terrorism is difficult to combat. It only takes a few to frighten many. By understanding how terrorist organizations learn, we can better predict their actions and better respond to them. In writing this thesis, I hope to make a small contribution to this understanding.

Finally, I wish to thank Jan Mansvelt Beck, Gerd Junne and Willemijn Verkoren for their help in writing this thesis.

Thijs Turèl, August 2005

1. *Understanding terrorist organizations*

This chapter is about terrorism and terrorist organizations. Before I can proceed to have a look at what is involved in the terrorist learning process, it is necessary to first give some introduction to the phenomenon of the terrorist organization in general. Firstly I will deal with the question of the definition of terrorism. After this I will discuss two major theories on terrorist organizations. These theories differ in what they perceive to be the ultimate goal of a terrorist organization. This is important because learning cannot be studied independent of this goal. Learning occurs for a reason: something does not go as intended. This intention derives from the organization's goal. Normally studies of learning organizations are mainly focused at commercial organizations. Since the ultimate goal of commercial organizations is profit, the learning effort is thus conceived as an effort that is meant to increase profit. The goal of terrorist organizations is a bit more difficult to establish, but there exists a consensus that in some way all terrorists have a political goal. Terrorism is the method to achieve this goal. The organization learns so that it is better equipped to arrive at this goal. This is the essence of the first theory I will use.

A second theory claims that the ultimate goal of an organization is not its stated goal such as profit or political change. The ultimate goal of an organization is its survival and all other goals are of less importance. Terrorism is merely a by-product of an organization fighting for its survival. After explaining these theories at some length, I will proceed to explain how and when these theories can be combined and when they cannot. At the end of this chapter, I will use the two theories to highlight the various mechanics that force terrorist organizations to learn.

Defining terrorism and terrorist organizations

What is a terrorist organization? According to Daft an organization is "a social entity that is goal directed, is designed as a deliberately structured and coordinated activity system and linked to the external environment" (Daft 2001, p.12). A terrorist organization is an organization that is involved in terrorism. Now we turn towards the more complicated task of defining terrorism.

There is a great variety of definitions of the term 'terrorism'. There is but a limited amount of ways to deal with this variety, which is reflected in the fact that only a few main types of paragraphs on the term exist. There are witty paragraphs that stress the amount of trees sacrificed to the discussion of terrorism and the uselessness of the discussion (Laqueur 2003); there are paragraphs that scrutinize many definitions in the idle hope that these form a sort of riddle that can be solved leading to a true definition (Whittaker 2003); there are paragraphs that try to summarize the discussion on the definition (Hoffman 1999); there are paragraphs that focus on explaining the difficulties of defining the term 'terrorism' (Engene 1998, Cooper 2001) and there are paragraphs that refuse to go into the discussion at all either because it is fruitless, or not necessary (Muller et al. 2004).

This variety of ways to write a paragraph on the term obscures the fact that all paragraphs always seem to lead to one out of two options: The first option is the most conventional. The paragraph's argument leads to a conclusion: a definition that can serve as a working definition for the remainder of the text. The second option is that the author chooses to take the position that even a working definition is unnecessary or impossible in the discussion on terrorism.

So what option will I choose to settle the problem of writing a paragraph on the definition of terrorism? My thesis is about learning terrorist organizations. The purpose of defining terrorist organizations would be to separate them from quite similar organizations that we do not consider terrorist. The most obvious problems arise in finding the difference between terrorist organizations on the one hand and criminal organizations and guerilla movements on the other hand because all are illegal organizations that are characterized by their use of violence.

The border between terrorism and criminality is difficult to find: most terrorist organizations engage in illegal behaviour that is not directly related to their mission. Bank robberies, extortion, and kidnappings: these are examples of illegal activities that are undertaken to fund terrorist organizations. It is difficult to see how much of the acquired funds exactly are used for an organization's mission. In many cases self-enrichment too will be part of the motivation to engage in these illegal activities. But when does an organization cross the border from terrorist to criminal? There is no hard distinction to be found. All we can say is that, unlike criminals, terrorists have a political goal and their motivation is in a certain way altruistic (Hoffman 1999).

The line between a terrorist and guerilla campaign is also vague. According to Hoffman (1999 p.41) guerilla movements are bigger then terrorist organizations and have (at least) a small measure of territorial control. Size is a difficult matter, however. Aum Shinrikyo and al-Qaeda are thought to have thousands of members and according to this should be classified as guerillas, although everybody names them terrorists. Territorial control is also hardly a good ground for a distinction because it too is gradual. Sometimes terrorist movements can also have territorial control. One example is the ETA, commonly seem as a terrorist organization. In some regions in Basque country, the ETA has such territorial control that it can effectively forbid cafes to serve the Guardia Civil. It can also ensure that newspaper stands display ETA-related newspapers in the best places in their stand. Individuals who refuse to follow these rules can expect attacks on their property. The Spanish authorities are in no position to offer any effective protection against this ETA violence and can thus hardly be said to be in territorial control of Basque country. (Mansvelt Beck, interview on 1-7-2005).

These considerations show that it is impossible to work according to strict rules that separate 'terrorist' from 'non-terrorist' criminals and guerillas. For my purpose, this does hardly matter. Since I want to study differences in learning ability, I do not mind a relatively broad variety of organizations to investigate. Too strict a definition might rule out interesting 'grey area' organizations, and all interesting facts they can show us about learning behaviour.

Ergo, there is no reason why I should need a strict definition of the word terrorism. In view of the fact that I have my doubts on the existence of a 'right' definition in any case, I will follow Walter Laqueur in not providing a definition at all.

My thesis is perfectly understandable when 'terrorism' is simply understood in its everyday meaning, vague as that sometimes may be. No definition I choose will in any way make this work more valuable, understandable, fruitful or consistent. So why should I choose one? Whenever you encounter the word 'terrorism' in this text it simply means 'terrorism' as it would in the newspaper.

However there is one point on which I wish to be explicit. Since I want the organizations I study to be broadly comparable, there is one group of possible perpetrators of terrorist acts that I will not look into. I will not incorporate state terrorism in my studies. States are not comparable to terrorist organizations for several reasons: They have vast human and material resources and are not under threat in the same way as terrorist organizations (there is no state that is actively trying to uncover and arrest them). They have a totally different type of social capital then terrorist organizations. Studying innovation in state-terrorism is something different than what I will do here. Since totally different mechanics are at work, it is of no relevance to my work here. Although I will not provide a definition of the concept of terrorism, in the next paragraph I will elaborate on two approaches that can be used to understand the phenomenon.

Rational approaches

In a rational approach, a radical political organization is seen as an actor with a collective rationality. This group has certain values and preferences and selects the strategy of terrorism from a range of options. This selection happens by "a reasonably regularized decision making procedure used to make an intended choice, in conscious anticipation of the consequences of various courses of action or inaction." (Crenshaw 1998, p.8). The strategy is chosen on basis of the expected costs and benefits. The rationality Crenshaw writes about will not be perfect but always limited or bounded. This is because there are limits to the actor's ability to use the information correctly.

Is the option of resorting to terrorism rational in general? This is a matter for debate. Abrahms (2004, p.546) challenges the assumption of terrorist rationality. He does so by pointing out that terrorist organizations almost never reach the goals they claim to fight for. Based on this information a rational actor would not opt for the strategy of terrorism. Hence, he argues, terrorists are not rational. Pape (2003, p.2) on the other hand, after researching the rise of suicide terrorism, claims that this strategy is very rational behavior from the perspective of the organization. Suicide terrorism spreads so fast because it works so well. It is impossible to definitively settle this debate here. On the lighter side, it is also unnecessary. Because for researching learning, what is of importance is to ascertain that at least some rationality exists in the organization's decision process. If terrorists would behave totally irrationally, it would indeed prove very hard to understand the reasons why they learn. They are not wholly rational either: many psychological and ideological factors modify the ability to reason strategically. But within their own psychological an ideological frameworks, terrorists are surprisingly rational (Crenshaw 1998, p.10); most people will agree that terrorism is more than just mindless violence, there is most often some purpose behind it, however warped the logic that leads to this purpose may be.

In the following sections, I will explain two rationalist visions on terrorism. The first, the instrumental approach, is most common. The second one, the organizational approach is somewhat less common, but essential in understanding terrorist action.

The instrumental perspective

According to Edwin Bakker, Clingendael specialist on terrorism, perhaps the only consensus on the definition of terrorism is that it is a *method* (speech at VU University, 18-03-2005). Even when it is in doubt who can be considered terrorists, which acts exactly can be named acts of terrorism, the word terrorism refers to a method that can be used to further certain political goals. Many academics agree (Whittaker 2004, p.2; Laqueur 2002, p.79; Muller et al 2003, p.3; to name a few).

In this broadly accepted perspective, the use of terrorist methods is seen as a deliberate choice by a political actor (Crenshaw 2001, p.13). This actor makes this choice because he thinks that there is something to be gained from terrorist acts of violence in comparison with other strategies. Non-violent strategies are often seen as not producing the desired

results and less covered violent strategies will quickly lead to the demise of the political actor, since the enemy to engage is much stronger in terms of material strength. Even suicide terrorism, in which the persons carrying out the attack ultimately die, can be seen as a rational method from the perspective of the group, or the group leadership (Pape 2003, p.2).

Terrorist groups, as a form of a political organization, exist in order to reach their political goal. The groups make use of (the threat of) violence in order to further their goal. The mechanics by which the acts of violence are supposed to help the terrorist's goals are diverse. At its broadest level, Pape (2003, p.3) claims that terrorism has two purposes – to gain supporters and to coerce opponents. These purposes are not exclusive: often attacks both coerce opponents and gain supporters, but some forms of attack are better suited to one purpose than the other. There are diverse possible trade-offs between the two purposes and terrorists can strike various balances between them. Pape, for example, distinguishes demonstrative, destructive and suicide terrorism, where the first kind is aimed more at gaining supporters and the latter at provoking fear with the opponents (Pape 2003 pp.3-4).

In contrast to others types of violent struggle such as warfare, terrorism is not aimed at physically destroying the other and his capacity to strike back. Terrorism is a psychological form of struggle. Often, the victims of terrorism are not the same as the targets at all (Wilkinson 1997, p.51). The use of violence thus serves another purpose than just destruction: terrorist acts of violence can be said to carry a message in order to influence others to the furtherance of the terrorists' goal. The (potential) supporters and enemies of the group form the actors to whom their message is addressed.

Wilkinson (1997, pp.56-57) perceives two types of enemies and two types of (potential) supporters. With each of these groups the attack is supposed to bring about a different reaction, a different type of persuasion. Terrorist acts have to:

- sow fear amongst *enemy population;*
- mobilize wider (international) support*;*
- frustrate and disrupt response of *government and security forces*, for example by suggesting their methods are counter-productive and tyrannical;
- mobilize, incite and boost the *actual and potential* constituency of the group

Different types of attacks cause some of these effects more than others. To a certain extent trade-offs between the four effects seem to exist. A relatively bloodless capture of a foreign embassy might not sow much fear, but it does raise awareness of the cause the terrorist group is fighting for and may put the issue higher up on various, national and international political agendas. A PLO suicide bombing in an Israeli shopping mall may cause much fear, but not mobilize international support.

In diverse cases terrorism has been used in order to provoke radical responses from the national government. These responses might be so harsh that the population becomes further alienated from the government. Some effects are relatively incompatible, in that they cannot combined in one attack. It might very well be that terrorists that cause much fear and havoc will be less successful in mobilizing international sympathy and support.

Which of these four effects is most sought-after cannot be predicted in advance: it depends on the circumstances. Different leaders may think differently about the best way to reach the goal and this may cause the organization to learn. In some cases the terrorists may believe that most can be gained from raising international awareness, in other cases it may be believed that striking the hearts of the enemy-population with fear might do the trick. In some struggles, there might be much to gain from an increasing number of followers within the own political/ethnical / religious group.

But also the attack needed to reach the same result may differ from struggle to struggle and from country to country. When trying to create a feeling of fear, different approaches are needed in different conflicts. You could say that the Irish, Spanish or Ski-Lankan population has become less sensitive than the Dutch public, which has been extremely shocked by one murder (Theo van Gogh) whereas the other peoples have had to cope with much more. Some groups' constituencies might be offended by acts that other supporters would not consider offending. And the murder of Theo van Gogh presumably received more media attention than a likewise murder in a country that has been struggling with a terrorist threat for long. If the murderer's purpose was raising international awareness of the Dutch situation, this was easier to achieve in Holland than in Palestine.

In Harmon's (2001) terminology terrorism merges propaganda and violence to cause some form of destruction and construction. The destruction broadly refers to Pape's coercion and the construction to his creation of international and domestic awareness and support. According to Harmon (2001), five broad strategies of terrorism are common. These strategies can be seen as creating specific trade-offs between the four mentioned effects.

- Creation of societal dislocation or chaos

- Discrediting or destroying a particular government

- Rendering economic or property damage

- Bleeding state security forces and doing other military damage

- Spreading fear for international effect

In order to bring about most of the effects mentioned above, attention from the media is essential. Terrorists realize this: 'You can't be a revolutionary without a color television; it's as necessary as a gun.'(Rapoport 2001, p.33). The way terrorists relate to the media is also viable to change and innovation. The relatively recent use of the internet to promote their causes is an example of this. According to Weimann (2004, p.2): "In 1998, around half of the thirty organizations designated as "Foreign Terrorist Organizations" under the U.S. Antiterrorism and Effective Death Penalty Act of 1996 maintained websites; by 2000, virtually all terrorist groups had established their presence on the Internet".

The availability of the Internet has caused a major change in the terrorists' relation to the media. The Internet provides terrorist organizations the means to spread their word to a large audience largely without checks by the media or authorities. Whereas terrorist organizations and their opinions used to be largely invisible, the now see the possibility to become more visible to the public, threatening, claiming attacks and explaining the reasons for their behaviour. An excellent example is the Zapatista movement in Mexico, which makes extensive use of media in its struggle (for more on this see Ronfeldt & Arquilla 2001).

The organizational perspective

Apart from the common instrumental approach to terrorism, there is another, less common perspective on terrorism. According to Borum (2004, p.59) "Any mission-oriented collective must balance its mission-oriented activity with a measure of attention to the functional and relational status of the group." In other words, in order to have a chance of reaching its goal, an organization must first succeed in surviving / reproducing itself. This insight from organizational process theory insight proves very valuable in understanding organizational behaviour. Naturally it also plays a part in terrorist organizations.

This approach is generally seen in connection to Martha Crenshaw (e.g. Crenshaw 2001), who was one of the first who pointed to the value of this approach in explaining some terrorist phenomena that could not be explained from the instrumental perspective. Others have followed her approach since then (among them Moghadam 2003, p.77, who uses the approach to explain Palestinian suicide terrorism). One of these inexplicable phenomena for instrumentalists is the fact that some terrorist groups actually undergo changes in their ideology. Because this approach starts from the assumption of a political goal, this cannot even remotely be understood: changes in ideology implicate changes in the goal of the organization, thus proving the assumption false. In the organizational approach, the primary goal of any organization is to sustain and reproduce itself. The terrorist acts are sometimes merely a by-product of this effort. If survival is the ultimate goal, the aforementioned changes in ideology can be understood quite well: when ideology A for some reason does not work anymore, it will be replaced by an ideology B that does the trick. The reasons for this can be diverse, but they all have to do with the ideology losing some of its merit in keeping the group together and alive. When the completion of the original goal is too far away, members of the group may give up because the goal seems impossible to accomplish. On the other hand, when the goal is within reach, its attainment might actually threaten the organization's reason for existence. This will mean the very end of the organization. In order to avoid this, the group or its leaders may switch to another goal so that the organization may live on. The French group Action Directe subsequently opposed nuclear energy, imperialism, Israel, the Catholic Church and the French intervention in Chad (Crenshaw 2001, p.20). The ETA is another example of an organization that came quite close to realizing its goals and might from an instrumental point of view very well have stopped its campaign.

The organizational approach leaves room for internal politics. Even if members agree on the goal, they may not agree on the way to reach the goal. According to Hirschman dissatisfied members of an organization have two options: 'voice' - the option to speak up when you disagree with the organization's policy or 'exit' - the option to leave the group altogether. From a terrorist point of view, both options are dangerous to the survival of the organization. Rivalry between terrorist groups fighting for broadly the same goal (irrational from an instrumental perspective) can be explained by the danger of members choosing to 'exit' their organization and joining a similar organization. The 'other' organization is a

competitor for a scarce number of potential members, and rivalry follows from this fact. Exercise of 'voice' is also strongly discouraged.

In short, this approach assumes a complexity in motivation that goes beyond the group's stated political motivation. While the approach acknowledges that different individuals are distinct rational actors and have different reasons for joining the organization, it also acknowledges a common collective rationality: the leadership will always aim for the survival of the organization.

Making sense of the two approaches

In this table 1, Crenshaw compares the two approaches on important aspects.

Instrumental	Organizational
The act of terrorism represents a strategic choice.	The act of terrorism is the outcome of internal group dynamics.
The organization using terrorism acts as a unit, on the basis of collective values.	Individual members of an organization disagree over means and ends.
The means of terrorism are logically related to ends and resources; surprise compensates for weakness.	The resort to terrorism reflects the incentives leaders provide for followers and competition with rivals.
The purpose of terrorism is to bring about change in an actor's environment.	The motivations for participation in terrorism include personal needs as much as ideological goals.
The pattern of terrorism follows an action-reaction process; terrorism responds to what the state does.	Terrorist actions often appear inconsistent, erratic, and unpredictable.
Increasing the cost of terrorism makes it less likely; decreasing cost or increasing reward makes it more likely.	External pressure may strengthen group cohesion; rewards may create incentives to leave the group.
Terrorism fails when its practitioners do not obtain their stated political objectives.	Terrorism fails when the organization disintegrates; achieving long-term goals may not be desirable.

Table 1: Crenshaw 2001 p.27

It seems that both approaches have their merits and should be used when thinking about terrorism (Crenshaw 2001, pp.27-29). The instrumental approach is easier and more comprehensible, but fails to explain some phenomena. The organizational approach is less parsimonious and theoretically less attractive because the intentions of the violence are obscured. The act of terrorism is cut loose from its stated political objectives. But it helps explain actions that are not in the movement's best interest as seen from the instrumental

perspective, as well as changes in ideology. Since both prove useful, it is somewhat disappointing that the organizational perspective is so little used in most studies of terrorism. It deserves more attention, as terrorism cannot be wholly understood without it.

But how can the two approaches be used together? In what sort of situations should the one perspective take preponderance over the other? It should be noted that the instrumental perspective in theory leaves room for organizational dynamics. It accepts the survival of the group as a logical requirement for waging the terrorist war. Organizational aspects as management and recruitment are seen as sub-goals.

The same goes the other way around; from an organizational perspective the rational approach of a goal also serves a function; keeping the group together by providing a goal. This means that most of the time, the approaches are not necessarily opposed to each other; they just emphasize different aspects. Only when the terrorist group perceives that their instrumental goal is almost within reach, will both perspectives predict different group behaviour. Presumably an organizational approach is the more realistic option in such a situation. According to this approach the group will change its instrumental goal to keep the organization intact.

Both approaches give important clues about changes in terrorist behaviour. Not only will terrorists try to change their behaviour to pursue their ideological goal more efficiently, but also will they try to change their behaviour in ways that enlarge the organization's chances of survival. Both approaches yield several good reasons for terrorists to try and learn new behaviour. In the next paragraph I will give a summary of the diverse reasons for a group to learn.

Reasons for learning

Terrorists do not change their tactics, strategies or ideology for fun, but for a reason. Certain recurring dynamics simply demand flexibility and adaptation of terrorist organizations. Adaptation of an organization's behaviour happens because the organization learns. This paragraph will describe the various dynamics that make learning an essential part of terrorist organizations. Organizations are commonly conceived as open systems; systems that stand in relation to an external environment. This relation means that organizations are not totally independent from their environment. Daft (2001, p.14)

describes the equilibrium approach to this relation. In this approach there is equilibrium between an organization and its environment. When the environment changes this equilibrium is disturbed. The organization will have to change in order to cancel the disturbance and restore the equilibrium or else it will not be able to survive and reach its goals. The equilibrium approach is of interest because it focuses our attention on the role of environmental changes in terrorist learning.

One way in which the organization's environment is forever changing is the (technological) skill of the authorities. Terrorists are forever engaged in an arms race with the authorities. Whenever terrorists use a new tactic, authorities will try to find a way to prevent this tactic. An example is the rise and fall of the yearly number of hijackings. When the first hijackings occurred, aviation security was ill-suited to prevent them from happening. Only after some time countermeasures were installed. Aviation security became better at monitoring which persons came aboard of the airplanes and what they brought with them. This increased control had a deterring effect: fewer hijackings were planned and executed because the chances of success were drastically lowered (Laqueur 1997, p.2).
In many other fields, something similar occurred: phone-taps were introduced; terrorists found out how to circumvent them; in response the phone-taps became more sophisticated. After terrorists learned to communicate using email, authorities responded by monitoring email traffic. In response terrorists began to use other ways to communicate via the Internet.
Terrorist organizations constantly have to change their modus operandi in order to prevent discovery and capture. Sticking to old routines is a good way to ensure a quick end to the organization's existence. Only by surprising the authorities time after time is it possible to escape capture.

But there are more ways in which the environment forces terrorist organizations to adapt. Most terrorist attacks are meant to reach a big number of people. These people are impressed by the attack because it is brutal, frightening, surprising, etc. When the same attack-plan is repeated and repeated over again, the effects become less shocking to the audience, simply because the it is getting used to the attacks taking place. The media plays a part in this process by spending less time or space on their coverage of the attack. In order maintain the same level of audience's attention terrorists have to come up with new, surprising attacks. Surprise is not just an important aspect in escaping authority capture, but

also in maintaining the same level of impact, which is essential from an instrumental perspective.

A third environmental factor that demands terrorists to adapt consists of other terrorist organizations. According to Jackson (2001, p.185), terrorist organizations have to compete for scarce media coverage. Because the number of events that can be covered in a news broadcast or newspaper is limited, editors choose what news to include and what to leave out of the broadcast or paper. Jackson suggests that this means that terrorist organizations have to make sure that their attacks are more interesting that the attacks of their colleagues, else they run a risk that their attack receives less attention or at worst is left out. While this dynamic surely exists, I doubt whether it is of much importance. Iit seems more likely that other news items are left out to include the terrorist attacks, since the latter are thought to have great news value.

But there are other resources that *will* likely cause terrorist organizations to compete: supporters and members. This kind of competition exists between terrorist organizations fight for the same goal. A good example is the struggle between the PLO and Hamas in Israël. Here the growth of the Palestinian Hamas movement has to be seen in the perspective of a failing PLO. The PLO seems unable to hold the trust of many Palestinians because of the top-down way it is organized and corruption in the organization. The Hamas-movement on the other hand, enjoys support for its extensive social activities. Both of the organizations try hard to learn from their counterparts' strengths and adopt these into their own organizations (Manheim 2004 pp.20-21).

Finally I wish to highlight another possible ground for competition. Although I have no concrete evidence at hand, it seems that terrorist organizations with similar ideologies will also compete for financial and material donations. Since these resources are of much importance to the organizations, it seems logical that they will compete for them. Doing this, they will try to learn how to outsmart their competition and win the 'bid' for support.

It is good to note that inter-group competition is not the only factor that can cause an organisation's pool of material, financial or human resources to shrink. Decreasing popularity among sponsors, supporters or media does not have to be relative to another group. A group of terrorist may face its popularity declining for totally different reasons.

Apart from these environmental factors that force organizations to learn, there are internal changes can that cause an organization to adapt its behaviour. Changes in group size and group resources can trigger behavioural changes. These changes might happen because of

capture of a part of the group, or simply because declining popularity among the constituency leads to a decrease in potential members. Options that were available may become too difficult because the organizational capability declines. Otherwise, rises in organizational capability (because of an increase in resources) can unlock a range of new tactical and strategic options.

A performance gap can also form a stimulus for innovation. Zaltman (1973, p.55) defines this as a discrepancy between what an organization is doing and what its decision makers believe it ought to be doing. Such a gap might for example be a result from changes in the expectations of the decision makers. This can occur because an old leadership is replaced by a new leadership which different expectations.

In short: there are many environmental factors that force terrorist groups to change their behaviour. There are also some internal changes that can force the organization to adapt. To be able to implement the essential changes, terrorist organizations have to learn. If they would not learn to adapt, the organizations would not survive, perishing either from authority crackdown or from declining popularity. This resembles an evolutionary principle: terrorist organizations that are unable to adapt to changes in their environment will perish so that only the most successful terrorist organizations will survive. Now the intense need for learning is clear, the time has come to have a look at the learning process itself.

2. Learning and Innovation

Although there is quite a lot of literature on learning and learning organizations, the insights from this literature are almost never used to understand how terrorist organizations learn.

In this chapter I will introduce various insights from studies of learning and learning organizations. I will show how these insights may be of use in studying terrorist organizations. The structure of the chapter is as follows. In order to clarify the vague term 'learning', I will first propose a very broad typology of the areas of learning that can occur in terrorist organizations. After this, I will explain what is meant by learning and organizational learning in particular. The idea of organizational learning is conceptually complex, partly because learning is a term normally reserved for beings with cognitive faculties. I will go into this problem in the paragraph about multi-level learning. Because organizations consist of several persons, somewhere in the process of organizational learning, information transfer is necessary. The distinction between two types of knowledge, tacit and explicit knowledge is vital in understanding the difficulties that come with this transfer. After clarifying this I will deal with two various ideas on the moment in which learning occurs.

Areas of learning

The IRA started their bombing campaign with explosives made from a few nails, some plastic explosive and a fuse to ignite the bomb. In 1991 the bombs were far more sophisticated and complicated, using radar guns to ignite the bomb from distance in order to avoid detection. The IRA is considered by far the most professional and innovative terrorist organization in the world. (Hoffman 1999). In Spain the ETA deliberately copied the Palestinian tactic of street violence in the mid 1990's in order to 'socialize the pain'; spread the costs of the struggle among their constituency and the rest of the population (Mansvelt Beck 2005, p.179). The independence movement in Cyprus in the 1950's copied the Palestinian example of attacking to provoke harsh measures from the government in order to make the government unpopular. (Hoffman 1999, p.56)

Written in the Brazil in the 1960's, Carlos Marighela's famous "Minimanual of the Urban Guerilla" profoundly influenced a modern generation of European terrorists (Crenshaw 1985, pp. 475- 476). Providing advice from practical issues like how to dress as a terrorist

to advices on reconnaissance and even diverse strategies to bring down the state, this book has been a must-read for lots of beginning terrorists.

Some years after the breakdown of the Soviet Union, Chechen separatists started out their struggle against the Russians in a conventional war. Because of the superior strength and numbers of Russia's army, outright defeat seemed at hand at the beginning of the second war in 1998. The Chechen resistance switched to guerilla tactics, and later to terrorist tactics in order to turn a disadvantage into an advantage. Chechen terrorists quickly mastered several tactics among which hostage-taking and suicide bombing and grew increasingly better at them. Having learned from the Dubrovka theatre hostage-taking that ended unsuccessfully because counter-terrorist forces used a gas that made the hostage-takers lose consciousness, the first thing that they did at the Beslan school was to break the windows.

These are just some examples of various types of innovations that occur in terrorist organizations. An organizational innovation has been defined as the adoption of an idea or behaviour that is new to the organization (Hage 1999, p.599). Since learning takes so many shapes and occurs at all organizational levels, it is valuable to make a broad distinction in areas of learning and innovation in order to study it.

One way of doing this is to focus on the different parts of the organizations and the tasks / responsibilities these parts have. Mintzberg (Daft, 2001 p.16) suggests that every organization has four parts which each have a different function. In real organizations, these four parts often overlap and are not necessarily fulfilled by different people or divisions. The value of distinguishing between these parts lies in its usefulness for analyzing and understanding the working of organizations. They give some general structure to the different sorts of learning that occur.

The 'highest' level Mintzberg distinguishes is the *management level*. This is the level on which strategic learning takes place. The strategic level is the broadest, most long-term level of planning in the organization. This type of learning is associated with the diverse leaders or general councils that stand at the head of most terrorist organizations. These leaders or councils do not have to be in control of the daily working of the organization, but they provide guidelines for the way the daily operations take place. In a way they are in charge of the broader ideology of the organization. Much of the learning that takes place on this level is self-reflexive, in that it has to do with the very identity of the organization. The strategy

includes what the political goal is and how the organization hopes to further this goal. One of the first strategic assumptions of a terrorist group is a commitment to violence as the means of their struggle. But as some terrorist groups lay down their arms, this assumption too is liable to change.

Closely related is the strategic choice of the image the organization wants to portray. How does it define itself and how does it want others to see it; how does it aim to be portrayed in the media? How does the organization learn to make the best use of the media?

Another strategic choice that has to be made is in the relation between violence and goal. This relation can be diverse as seen in the chapter about the theories of terrorism. Does the organization hope to secure international attention that might help them in their struggle? Does it hope to create a wider constituency of supporters that might help the struggle in violent or non-violent ways? Does it hope to create severe state repression so that the population turns against the state?

The *technical support* provides the operative part of the organization with the necessary technical means. This part consists of engineers and researchers. In terrorist organizations, these are the people responsible for building bombs, developing ways to bypass security, etc. Of course new technologies can also be obtained from outside the organization. Some weapon choices (biological, nuclear, chemical weapons) bring strategic considerations with them. The fact that technicians of terrorist organizations learn to use new technologies is one of the most visible types of learning.

The *administrative support* makes the organization run smooth. This part is responsible for organizational functions as financing and recruitment. Conventions on means of communication and organizational structure are also part of this level. An important innovation is the use of the Internet in the internal communication of terrorist organizations.

Tactical learning occurs in the *technical core*. This is the part of the organization that does the basic work of the organization. It actually produces the product and service outputs of the organization. In terrorist organizations these are the visible perpetrators of the act of terrorism, the ones who carry out a hostage-taking, arson-attempt of bombing.

The tactic is the concrete type of attack that is chosen, the forms that the attack takes according to the conditions set by the group's strategy. Generally terrorists use one of the following tactics: (Suicide)-Bombings, kidnappings, assassinations, hijackings, arson, hostage taking or unconventional attacks, for example the use of planes in the 9/11 attacks

(The Terrorist Knowledge Base 2005). No matter what type of attack, terrorists learn to get better at it when given enough practice.

An important type of learning in the technical core level concerns target selection, although this type of learning will also often occur on the management level. Whether only government buildings are bombed / burned or business and civilian buildings too is a deliberate choice of a terrorist organization. Another part of the target selection is which state's property / inhabitants are targeted. In the Palestinian-Israeli conflict, Palestinian terrorists can choose to focus on American targets instead of Israeli. A tactical change like this might very well imply a strategic change as well. The geographical component is also of some importance here. For example; do the attacks take place in the conflicted zone, in the capital of the opposing government or on its embassies abroad?

This categorization will be helpful in imagining the various sorts of learning that happen in terrorist organization. It is probably not complete, but Mintzberg's framework is likely suitable to incorporate areas of learning that I have not mentioned.

Organizational Learning:

In the end, the relevance of studying the learning of a terrorist organization lies in understanding changes in the behaviour of the organization. Knowledge of the fact that organizations that employ terrorist methods are liable to change is essential for making policy to deal with terrorism. Knowledge of how these changes in behaviour can be explained would be even better, because it would enable policy-makers to respond to terrorism correctly.

There are two ways of knowing about behavioral changes.

a) By noticing the change in behaviour in itself from the outside

b) By hearing that an organization has tried to bring / brought about a change of behaviour from someone inside the organization who is aware of the internal discussions in the organization.

The latter has the obvious advantage that we can also get to know about intended behavioural changes that did not succeed. This idea of a distinction between intentional and non-intentional changes points us in the direction of the relation between learning and changes in behaviour.

What is the exact relation between changes of behaviour and organizational learning? It is clear that learning is one cause for behavioural changes, but is it the only cause? Or are

there other ways in which organizations can change? The answer to this question will have to be found in the definition of learning.

According to Smid & Beckett (2004, p.406) the mainstream definition of learning is 'knowledge acquisition or the acquisition of new behaviour'. Since this definition does not specify any restrictions to the nature of the behavioural change, it follows that: (1) all changes in behaviour are learning, whether they are intentional or not; and (2) there is another type of learning; the acquisition of knowledge. Acquisition of knowledge is only relevant for our purpose in as much as it can explain changes in the behaviour of the organization.

Argyris (2004 p.29) adds the element of intentionality to his definition of learning (an intention is a conscious aim): "Learning is the detection and correction of error. Error is any mismatch between intentions and implementation. Learning occurs when these features are connected to effective action. The evidence in learning is that we can implement what we learned."

This implies the following: if you are totally satisfied with the result of your actions, you will not learn. Why would you? Learning will only occur when the result of your actions is different from the result you intended. In other words: where there is learning, there is pain. In the case of terrorist organizational learning, 'pain' can be expressed in either the instrumental or the organizational perspective, because these are concerned with the ultimate intention of the organization.

Does this mean that there are changes in behaviour that cannot be considered learning? Yes, according to this definition when you are satisfied with the results of your actions and still change your behaviour, this would not be considered learning. This would be irrational behaviour, but it would still be possible. However, in Chapter 2 I explained that terrorist organizations are at least partly rational, albeit within their own radical ideological framework.

So suppose that a certain terrorist organization, which succeeds in acquiring an effective mixture of pressure on the state, support of the international community and domestic following and is by any measure well underway achieving national independence for their region, suddenly changes its tactics into gruesome suicide-attacks on primary schools. These attacks alienate their following and international support. *Would this change be learning?*

According to Smith & Beckett it would, because it *is* after all a behavioural change. According to Argyris' definition it would not be learning, for there is no mismatch between intention and implementation that could have triggered the change. On the contrary, everything went according to plan. But when we take better look, what would have caused this strange change to happen? It might very well result from a change in leadership; old leaders leave and new leaders with different ideas replace them. Still, it would be irrational from the new generation of leaders to think that the change might bring national liberation any closer. But it might be the case that the new leadership decides after some discussion that the real evil is not the lack of self-determination, but the education system that systematically teaches to hate the minority they fight for? This is a different kind of learning for now the *intention* has changed, causing a mismatch. But it is still learning.

Different types of learning exist; the most generally recognized distinction being between *exploitative* learning and *explorative* learning (Nooteboom 2002, p.41). The first type of learning, exploitation (also known as first-order learning or single loop learning), refers to learning to do existing things better. In this type of learning, the correction of the error is approached by trying to correct the outcome to better fit the intentions. It is closely related with learning by doing. Examples will be readily accessible from anybody's own experience. If one has to send a hundred letters, bake a plateful of cookies, paint the walls of your living room, etc, learning will occur. After stamping X envelopes, molding X handfuls of dough or painting X square meter surface, one learns some shortcuts that enable one to work faster and /or more precise. This phenomenon happens in a comparable way in factories and other companies or organizations, no much different in terrorist organizations. After forging X passports, hijacking X planes or bombing X buildings, you learn to do better next time by refraining from making the same mistakes.

Exploration (also known as double-loop learning or second order learning), is the search to do new things, to use a new perspective. In this type of learning, the underlying values change and so does the intention. This type of learning does not come from experience, but from reflecting upon experience. Exploration means stepping back from practice and thinking about what you were doing in the first place. A terrorist movement that agrees to a cease-fire and ends its attacks can be explained by this second-order learning. It steps back and reflects on its intentions and this results in a change.

The end of the huge socialist experiment (the Soviet-Union) was a major blow to the socialist ideology that underpinned some terrorist movements. Communism as an ideology

became marginalized and Soviet support for terrorist groups declined (Muller et al.2003, p.12). This also triggered second-order learning processes, in which terrorist groups learned to define their own identity and ideology in different terms. The ETA, IRA and PLO gave up much of their socialist identity and started to focus more on their separatist cause.

On a more tangible level, a decision to refrain from hijacking and focus on other types of attack can also be seen as a second-order learning process on the tactical level. It denotes a new way of looking towards the problem of securing attention, forcing the state, provoking fear, or whatever the exact purpose of the attacks may be.

Engeström gives a more elaborate distinction (table 2), which is based on the distinction between first and second order learning. His third order-learning category normally falls under second-order changes. The value in his distinction is that it stresses the different ways in which learning comes about. It makes the diverse ways in which first and second order learning can occur more tangible.

Table 2: Five types of learning according to Engeström 1995 (source: Smid/Beckett 409):

Kind of learning	Explanation	Type
Conditioning	Learning by reward and punishment to react in a certain manner, passive internalisation of pre-given culture.	Surface-level, first-order
Imitation	Copying readily available correct behaviour in the context.	Surface-level, first-order
Trial-and-error	Finding out how correct solutions can be produced even when they are not readily available in the context for copying.	Surface-level, second-order
Investigative	Reflect upon a problem, give hypothetical explanation of principles behind successful solutions. Test of hypothesis and modification according to the results.	Deep-level, second-order
Expansive	No limited or pre-defined contents and tasks, questioning the validity of tasks and problems posed by the context, transform the context itself, externalisation of novel cultural practices gains priority.	Deep-level, third-order

One can clearly see the scope of the learning becoming bigger when moving from 'conditioning' to 'Expansive learning'. All types of learning occur in terrorist organizations, but the more expansive types do occur less frequently.

A last distinction is important: when an organization learns, and after this learning behaves differently, it can be said that the organization has *innovated*. An organizational innovation

has been defined as the adoption of an idea or behavior that is new to the organization (Hage 1999, p.599). Brown and Duguid argue that learning forms the bridge between practice and innovation (Bogenrieder & Nooteboom 2004, p.47).

This innovation can be internal or external to the organization: either the new idea is thought up by a member of the organization or by someone who is not a member of the organization (Rogers 2005). In the second case, a member of the organization will have to be aware of this new idea, see its relevance for his own organization, make the other members aware of its relevance and propose to try this new idea. Drake (1998, p.70) gives an example: Marighela's minimanual of urban terrorism provided Andreas Baader and Gudrun Ensslin with the idea of robbing banks as a way of gaining experience.

When an individual tries to implement the idea in his own organization, re-invention will often occur. Re-invention means that the invention is changed to better fit the circumstances of the organization (Rogers 2005 pp.18-19). In chapter four I will deal some more with the factors that facilitate and constrain internal innovation. In chapter five I will highlight the various sources for external innovations.

Multi – level learning

Innovation and learning can be studied on diverse levels. The first level is the level of the individual. This is the level on which 'learning' can be seen as having the most natural meaning. When saying that Gerry Adams has learned the value of dialogue to the Irish cause, this hardly raises problems for our imagination. Experience taught him the ineffectiveness of a violent campaign and the usefulness of communication with the other party. But what is the relation between learning at the level of the individual and learning at the level of the organization? When do we say that Usama bin Laden's skillful media management is a characteristic of al- Qaeda, and not solely of himself?

In other words: what does it mean when an organization learns to behave in a new way? Although we can say that after the Fordist revolution, many companies learned to organize their production more efficiently according to the principles of differentiation of the division of labour, what does this mean exactly? How can we understand several terrorist organizations learning that suicide bombings yield better results in terms of media coverage than normal bombings?

From a cognitive science computational-representational view, this is difficult to understand, because this view positions knowledge in the autonomous individual. In this view, how could learning be positioned somewhere else? Learning would only occur inside the heads of the leadership which somehow interprets outcomes of the organization's behaviour and adapts the behaviour of the organization, if it thinks this is necessary, by giving orders to change certain procedures. But how do we explain that organizations retain much continuity when the leadership changes?

Nooteboom (2000 p.39) proposes using an interactionist-social constructivist view of knowledge. In this view on knowledge, knowledge is socially constituted on the basis of interaction in a given community, which in this case is the terrorist organization. Shared perceptions, interpretations and evaluations form a framework.

Huysman (2004, p.69) acknowledges the problem of explicating organizational learning. According to her the confusion and difficulties on this topic arise because both the terms 'organization' and 'learning' are highly conceptual and the connection between them leaves room for some confusion. Trying to combine two invisible ideas is bound to lead to difficulties, especially when they can be combined in different ways; the learning *of* organizations (= organizational learning) and learning *in* organizations. Acknowledging this difference leads to awareness of a common error in explicating and visualizing organizational learning. Many scholars have tried to make organizational learning more tangible and visible by supplementing 'the management' for 'the organization', because it consists of a select amount of people in a function that is easily conceived as the 'brain' of the organizations. It is easy to pretend that the organization learns when in fact the management learns, because the management is in formal control of the organization; it tells the other parts of the organization what to do. Unfortunately, by focusing on a part of the organization, the object of study has changed from 'organizational learning' to 'learning in organizations'

A better way of conceptualizing the way in which organizational learning takes place is the idea of 'communities of practice' as the place where the real learning takes place. In this vision learning is essentially a social activity and cannot be separated from practice. Practice takes place in a social context, and this context is primarily seen as existing of diverse communities of practice. (Huysman (2004, p.70). Communities of practice are small groups of people who have worked together over a period of time. They are not necessarily a team, nor a task force, nor a division, probably not even an authorized or identified group. What

holds them together is a common sense of purpose and a real need to know what the other knows. There are many communities of practice within a single organization, and most people belong to more than one of them. With terrorist organizations, the communities of practice are the people who work directly together, or stand in direct contact with each other.

According to this view individuals mainly learn in communities of practice, but when does the organization as a whole learn? Huysman (2004, p.71) proposes to use a social constructivist view of learning. This implies that on the one hand an individual's knowledge is shaped by the structure of the organization. When an individual becomes a member of an organization, he/she has to internalize knowledge about the workings of the organization (organizational routines). This makes him / her an effective member of the organization. On the other hand, existing organizational knowledge came into existence by individual knowledge being externalized and objectified into organizational knowledge. In the same way, the existing knowledge can change if a (new) member externalizes his/her personal knowledge

and it becomes part of the organization's routines. In a scheme, this would look as following:

Huysman 2004 p.75
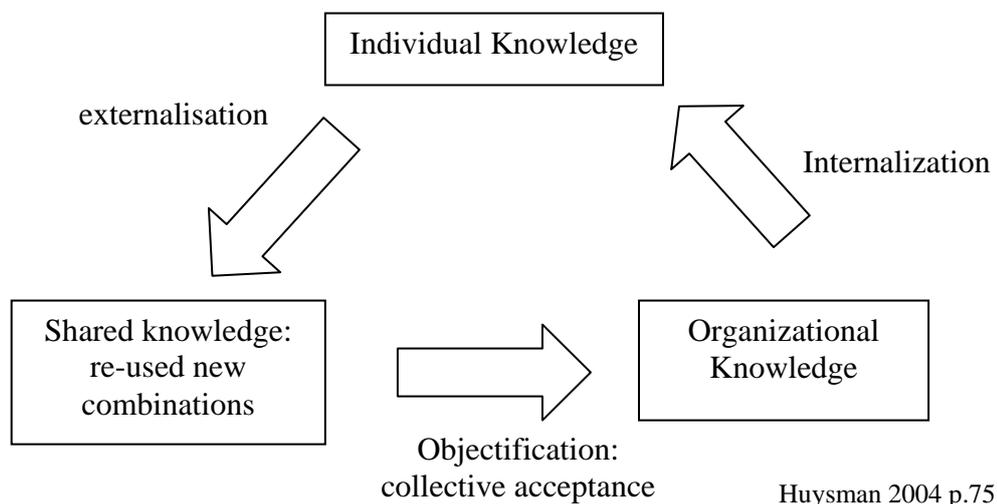
An individual experiences structuring effects by the internalization of organizational knowledge. Combining this knowledge with his own experience in a community of

practice, he/she learns. This learning can occur during the practice, as a kind of first order-learning, but also by stepping back and reflecting on the work, as second order learning[1]. Useful findings become re-used in the community of practice. After this has happened the new findings can be incorporated and objectified into the knowledge of the organization. The changed organizational knowledge becomes internalized into individuals again. In this way an organizational innovation is implemented.

Conscious decisions to innovate

Not every new idea is automatically incorporated in the organizational routines. While a strike-team's specific experience in carrying out a hostage-taking will probably be taught to new members without giving this much thought, the implementation of other new ideas will stand open for discussion. This will largely depend on the type and manner of learning. 'Learning by doing' experiences –first level learning- will usually not result in extensive discussions about the value of the new alternative compared to the alternative it replaces. The advantages of improvements will tend to be obvious and straightforward. It can be assumed that no Chechen terrorist argued against breaking the windows of the Beslan school because of the possibility of a nasty draft; after the Dubrovka siege the need to stop the *spetnaz* from using tranquilizing gas was eminent. This goes for a lot of innovations in operations. These kinds of experiences will be internalized in operational routine after being externalized by the community of practice without much discussion.

In other cases there will be discussion on the value of the to–be–implemented change. The adaptation of the innovation will not go automatically. Even if one community of practice of the organization comes up with a somewhat different ideology, or a new strategy to force the state to give in to their demands, it is not so certain that these changes will in the end be incorporated into organizational culture. Others may resist the proposed change. Whether the proposed change will actually take place is under discussion. This will probably occur more with second order learning, since this is the type of learning in which goals and purposes are also under discussion.

The point of this is that, when talking about the second type of innovation, there are two criteria to be met for an organization to learn successfully. First the organization has to be

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[1] Note that scheme both covers internal and external innovations (see the paragraph on organizational learning). If an individual uses an idea that is external to the organization, he reflects on the need of his own organization; sees the external idea as a solution and translates the external idea to the organizational context in a process of reinvention. In this translation he uses his internalized organizational knowledge and the external idea. After this process, the new idea becomes used in the community of practice, and is finally externalized as it becomes part of organizational knowledge.

aware of a new option. Someone has to come up with an alternative to the current strategy in order for the organization to adapt. Someone has to be able to create or acquire chemical weaponry in order to switch from a conventional bombing campaign to a chemical campaign. But this alone is not enough. Secondly, because of the nature of the innovation a decision will usually be needed whether to adopt it or not. This decision will be made by the decision-making organ, whether this is the individual leader, a council of leaders, or a convention of all members. Only when this decision is positive will the new ideas of a community of practice become part of the organizational structure, where they can become part of the structuring of (new) members.

Types of knowledge

One of the main problems of organizational learning theory is how individuals' work-related experience is turned into publicly accessible knowledge. (Tsoukas & Mylonopoulos 2004, p.7). In one way this occurs when individuals are able to communicate their learned skills and knowledge to other members in the organization in the way just described. How should the IRA take advantage of the practical findings of several of its top bombers in order to make the organization better? It should make sure that their gained knowledge is objectified into organizational knowledge and internalized in other members.

Another example is the way in which the IRA's communication routines became part of the organization. After realizing that many phones were being tapped -or could have been tapped- by British intelligence, some people in the IRA learned to use face-to-face communication or communication via a messenger, rather than technological means. This communication started being part of the organization's routine. New members were made familiar with this way of keeping in touch with others.

But some knowledge does not necessarily have to spread. What has to spread is the awareness of the availability of knowledge rather then the knowledge itself. Bogenrieder & Nooteboom (2004, p.53) call this 'location knowledge'; it takes the form 'I know that you know that x'. This is often the case with specialist knowledge. Not every terrorist has to be a master-forger, explosives expert, computer and security expert etc. But they do need to learn how to draw on the expertise available to the organization when needed. Locational knowledge is spread through the organization in essentially the same way as above. If one (new) member of an organization becomes increasingly good at forging shipping papers and false passports, members part of his communities of practice will first profit from this

skill. After that the location-knowledge should spread so other members of the organization know where to go when in need of papers. Whether knowledge is locational or not; knowledge-transfer is necessary for the organization to learn. In order to understand transfer, we have to take a look at two different types of knowledge.

One very important distinction in types of knowledge is the distinction between *explicit* knowledge and *tacit* knowledge. The first type of knowledge, explicit knowledge, refers to the most obvious type of knowledge. This is knowledge that can be 'codified' or written down. Examples are a recipe of a cake, the way a copier works, the timetable of the local bus-service, the formal working and responsibilities of the important European institutions, etc. In each case it is possible to write the content of the knowledge down. This has the important implication that it can be given to another actor so that he may add the knowledge to his own. (Jackson 2001, p.187). Explicit knowledge can thus be easily transferred if the written down version of the knowledge can be passed on the others. Contemporary information and media technology makes the transfer of explicit knowledge easy because transporting, copying and storage costs of digital information are very cheap.

The other type of knowledge, tacit knowledge, is more difficult to transfer. The term tacit knowledge has meant diverse things, but usually refers to things on the lines of knowledge of how to ride a cycle, how to write with a pen, how to fire a bow and hit. With all these things, knowledge cannot be obtained without practice. Intuition is also sometimes seen as a type of tacit knowledge, resulting from past experiences mostly forgotten, but for some tacit residue. In the hour before the South-East Asian Tsunami, many Indian fishermen headed for the shore because they 'felt' that something was amiss, although they probably could not explain it cognitively. Tacit knowledge is very important, 'the basis of expertise and critical to daily management' (Gourlay 2004, p.86). It cannot be gained without experience.

The distinction between explicit and tacit knowledge is important because of the implications for the successful transfer of knowledge. While researchers agree that explicit knowledge can be codified, they tend to disagree on the question whether this is possible for tacit knowledge.
Some people, like Polanyi, claim that tacit knowledge is impossible to codify and thus also impossible to transfer. This is because its contents only make sense within the context of

its owner's mind. You can understand how to ride a bike, but you cannot tell someone else how it should be done. Others think tacit knowledge can be communicated, although it cannot necessarily be codified. They do acknowledge that this transfer poses severe difficulties. This is the view I wish to follow. Because, suppose that Polanyi were correct and tacit knowledge could not be transferred; what would be the role of the various instructors that claim to help us acquire tacit skills? What about the father teaching his child to ride a bicycle, what about the French teacher in class and what about the piano-teacher? If tacit knowledge were not in the slightest bit transferable it would be hard to explain why so many of us prefer to learn to ski from a ski-instructor, instead of learning it on our own. According to Nooteboom (2000 p.43): "Tacit knowledge, ripened with experience, is passed on between people, in socialization in […] communities of practice."

Situating the transfer in communities of practice, Nooteboom circumvents the problem of codifying tacit knowledge: Tacit-knowledge transfer needs face-to-face contact, because in face-to-face contact, codifying is of less importance to a successful transfer. So although tacit knowledge can be transferred in some way, this is more difficult than transferring explicit knowledge.

Both types of knowledge play a part in learning terrorist organizations and both types of knowledge need to be transferred. Explicit knowledge is generally a poor substitute in situations were tacit knowledge transfer would be preferable. In the next paragraph I will go deeper into this.

The importance of tacit knowledge

Excessive focus on explicit knowledge causes some worries in recent days. Alarmed people point to Internet resources like *The terrorist cookbook* (Jackson 2001, p.192). This is a manual that describes in detail how to build several types of bombs, and hints where the needed ingredients might be obtained. Similar guides are available on security-related issues like lock-picking and computer-hacking. Information on the principles of biological, chemical and even nuclear weaponry is also accessible, via internet or simply the local library. Some (among which Shubik 1997) are worried that this rise of internet resources provides potential terrorist with the means to launch a successful attack. This line of thought tends to underestimate the importance of tacit knowledge in the successful carrying out of a

terrorist attack whether it be conventional, biological, chemical or nuclear. Relying solely on the information found in manuals may be problematic for various reasons.

For a start, it may be less than complete or simply wrong. In this type of explicit knowledge the source of the information is unknown and unreliable. Jackson even speculates that counter-terrorist agencies may – now or in the future – purposefully spread misinformation on this topic in order to increase the unreliability of manuals (Jackson 2001 p.193). This misinformation might simply result in unusable explosives. On the other hand, since it will prove extremely deterrent if the false manuals are created to cause the explosives to go off prematurely, this might also become part of counter-terrorist strategy.

Apart from this, the manuals can only contain explicit knowledge, since this is the only type of knowledge that can be codified. Since the information-transfer is one-directional, there is no possibility of asking questions about parts that remain unclear, as there would be in a face-to-face situation. This poses major problems. One example from the author's own experience: The author of this text likes to cook and has been trying to make a perfect *crème brulée* for some time now. Crème brulée is a notoriously difficult desert that tells a lot about the skills of a restaurant's chef. Various restaurant guides use the crème brulée as a standard to rate restaurants. After trying several times, based on different recipes with different ingredients, cooking times and cooking temperatures, the author has had to conclude that it is not possible to 'just follow the instructions' and end up with an acceptable crème. Of course, the crèmes get better each time but that is a matter of experience, not because the cook reads the recipes better. And they are still not perfect. What the author needs is something no number recipes can provide him with: a capable chef explaining and showing the process to him. The same principle is at work when trying to build a bomb from a recipe.

Although the process of fabrication can be written down in broad lines, the error-margin is very small when making bombs. Information may be missing from the manual because it is tacit information by nature and thus cannot clearly be codified. And the tiniest bit of missing information can prove fatal.

The assembling of bombs is no easy matter. The IRA, an experienced terrorist organization with lots of experience in building bombs, lost about 120 members because the explosives they were constructing went off (Jackson 2001 p.193). It is important to consider that among these people there were quite a lot who were probably in a position to profit from tacit knowledge transfer in their learning process. It follows that relying solely on explicit knowledge alone is even more dangerous. Although the occasional person may try to build

a bomb on the basis of information found on the Internet, I very much doubt that professional terrorist organizations would choose such a risky option. They will prefer learning methods in which tacit knowledge-transfer is present.

However, recent developments seem to indicate the number of individuals that tries to build bombs on their own is increasing. In the second week of July 2005 the investigation of the Hofstad group, the alleged terrorist network around Theo van Gogh's murderer Mohammed B., lead to a new arrest. A seventeen-year-old boy was arrested in Amsterdam Osdorp for possession of a home-made bomb. While this initially caused some consternation, the boy's lawyer thought that people were overreacting. According to him, the word 'bomb' is an overstatement for the explosive that was found: it was merely a huge home-made fire-cracker (Het Parool 2005-07-18). The 7/7 London bombers might also have made the explosives for their attack themselves. In this process they may have had help from an Egyptian chemical scientist, although this is unclear in this stage. The type of explosive they used seems to indicate a level of professionalism and underlines this idea. (The Economist 2005-07-16; De Volkskrant 2005-07-19).

If creating explosives seems quite difficult, this difficulty pales compared to the obstacles that have to be overcome in fabricating and delivering chemical and biological weapons. Rosenau (2001) has written an article on the question why even the most-promising terrorist attempt to create a simple biological weapon failed. Even with huge financial resources and skilled scientists at its disposal, Aum Shinrikyo, the Japanese cult, did not succeed in making either *B. anthracis* or *C. botulinum*. Rosenau (2001, p.296) writes:

"Although the cult had three critical capabilities—motivation, resources, and tenacity—they lacked the full set of scientific and technological skills that would have helped ensure their success, such as the talents of a pathologist, an engineer, a meteorologist, and an aerosol physicist."

While the scientific staff of the cult was experienced, it was not specialized enough to succeed with the explicit knowledge available to them. This proves once again the importance of tacit knowledge.

Learning moments and continuous learning

In the conventional perspective on learning, there is a clear cut temporal distinction between learning and not learning. Learning occurs when people are actively spending time

on learning. Then, as the moment designated as a learning moment is over, they stop learning as they return to everyday practice. Recent insights have led to a reconsideration of this distinction. The rise of concepts as 'learning by doing' indicates that everyday practice is increasingly seen as a source of learning (Smid & Beckett 2004, p.409). The distinction between purposeful learning and learning in everyday experience is interesting in studying the sources of learning in terrorist organizations.

Learning in everyday practice

Experience in the everyday practice of running an organization is a major source of organizational learning. This is a matter of learning by doing, as described earlier in this chapter. Another source of learning without purpose results from experiences with other actors (such as other terrorist groups). More about external sources of learning follows in chapter 5.

I wish to mention one specific mechanism that is of much importance to the learning terrorist organization here. Terrorist organizations offer training to their members in order to prepare them for functioning in their organizations. These training programs play an important role in organizational learning.

As I mentioned earlier, the idea of the learning organization is related to the idea of learning in organizations. According to the scheme by Huysman, the latter is part of the former. The internalization of organizational knowledge by individuals is part of the organizational learning cycle. One of the ways terrorist organizations are actively stimulating this internalization of organization knowledge is by offering a training program to new members. The IRA for example, has a two-year training program in order to teach beginning members relevant skills (Hoffman 1999 p.178, Wilkinson 1993, p.4). The repertoire of skills covered in this program is extensive that recruits learned how to set up an entire operation. Goal and weapon selection, the gathering of information on the target and its routines and the actual run were all part of the training program (Hoffman 1999 p.178). Other terrorist groups have likewise procedures: Chechen guerillas have their own training camps and recently, the French police discovered an ETA shooting range under a farm in Southern France.

Although these trainings are primarily given to make new recruits capable of serving in the organization, they are also an essential procedure in organizational learning. Without training, it would be more difficult for recruits to build on top of the expertise of their predecessors and enhance organizational learning. Ideally these training programs are kept

up-to-date, so that new experiences and knowledge become part of the training program and are afterwards internalized in the participants of the training program.

The advantage of such a form of knowledge transfer is that it is possible to transfer explicit knowledge (the organization's ideology, where in the organization you can obtain false papers, etc., what to do if you are captured) and tacit knowledge (firing guns, making bombs, breaking into buildings) at the same time.

Another way of teaching the secrets of terrorism to new recruits is via manuals. Diverse terrorists and terrorist groups have written manuals. Examples are the famous 'Mini-Manual of the Urban Guerilla, written by the Brazilian Carlos Marighela in the 1960's. This book has been found in terrorist safe-houses all over the world. The contents of the book include very practical issues like how to dress as a terrorist and what skills to practice, to political theories which highlight the various ways in which terrorism can hurt society (Marighela 1972, p.67). Al-Qaeda also has an extensive manual on terrorist operations (more about this manual in Chapter 4). The IRA green book gives detailed information on what to expect when captured, and how to beat police strategies to obtain confessions. Khattab, the famous Chechen Wahabi warrior, has also written some manuals on terrorist tactics.

A still taken from an Al-Qaeda instructional video tape. (Source INTERCENTER 2005, p.25)

A new way of spreading terrorist knowledge is via videotapes. Several videos exist - some of which are/were available on the Internet – that are meant as an internal instruction to members of a terrorist organization, or just as instruction for other terrorists. The most famous video is a 27 minute long instruction tape on the construction of a suicide belt (Intelcenter 2005, p.4). This is of course an interesting innovation in explicit knowledge transfer. Videos can make the transfer of some types explicit knowledge easier, because some things are easier shown than written down (how to make a bomb or suicide belt). Training of recruits is but one example of procedures that facilitate organizational learning. I will go deeper into this in Chapters five and six.

Learning on purpose

Apart from knowledge transfer in training, some terrorist organizations have policies that seem to be *actively aimed* at organizational learning. This seems to indicate that the organizations are very much aware of the strong reasons they have to change their behaviour.

The al-Qaeda manual, for example, stresses the importance of writing 'lessons learned' memos and sharing these with other members. This is a conscious effort to codify the knowledge of individuals in order to facilitate organizational learning and improve the effectiveness of future attacks (Pape 2003, p.9).

Another example is the RAF: In the 1970s RAF members visited open court sessions against captured members of their group in order to learn the methods the authorities used to try and convict RAF members. One of the things they learned was the way in which German police could acquire fingerprints from the bottoms of toilet seats and insides of refrigerators. After finding this out at a court session, RAF-members started applying an ointment to their fingers that prevented fingerprints. Sometimes sympathic lawyers sympathetic to the RAF cause asked more questions about the methods of the authorities than strictly necessary for the case at hand. They did this so other RAF members could learn (Jackson 2001, p.188; Hoffman 1999 p.179).

The IRA proved well-armed to fight the British authorities. There was but one thing that kept bothering the organization; British helicopters were a constant nuisance and a danger to the success of operations. It proved almost impossible to flee from the police when it was being aided by a helicopter. In its effort to solve this 'problem', the IRA even tried to establish its own research and development group in the USA in order to learn to produce the rockets themselves. (Bowyer Bell 2000, p.184). Another skill which the IRA was actively trying to learn in order to instruct its members was how to resist interrogation. Smith (1995) writes that:

"When new […]IRA inmates arrive in British or Irish prisons, they are immediately approached by other incarcerated cadre and debriefed on their capture. This information is smuggled out of the institution and provided to the command structure for analysis by leaders and promulgation to members at large."

In the Caucasus, Chechen warriors also grasp the importance of learning. They are largely organized according to clan-structure. The clan was divided into four one week-shifts,

which fought the Russians after another. Upon the return of the group, they would share their latest experience with the clan, offering advice on how to fight the Russians. (Arquilla & Karasik 1999, p.210). This experience-sharing was standard in the organizational routine and indicates the value the Chechen clans put in learning. Because of the close relations between Chechen guerrillas and terrorists, the same applies to Chechen terrorists.

Learning in terrorist organizations occurs as a result of normal organizational behaviour. The areas of learning are various and spread over the diverse parts of the organization. It is interesting to see that several of these organizations actively try to increase their organizational capabilities and, as the Al-Qaeda and Chechen example show, sometimes even their capability for learning itself (i.e. they learn to learn). This shows terrorists organizations' commitment to learning.

3. Four Learning terrorist organizations

In this chapter, I explore the learning processes in five terrorist organizations. These organizations will serve both as examples for the phenomenon of organizational learning and as brief case studies for chapter four, which is about the differences in organizations' learning capabilities. I will not attempt to give a complete summary of the organizations' histories and the ways they have adapted to their changing environments, because of time-constraints.

IRA

The tradition of Irish resistance to British rule goes back a long time before the IRA to the various Fenian revolutionary brotherhoods that existed from the end of the 18th century.

The original IRA was founded over eighty years ago, but the modern organization we know as the IRA resulted from a split into an Official IRA and a Provisional IRA in 1969. The split was caused by differences over ideology and strategy. After this split, the acronym 'IRA' refers to the Provisional IRA, sometimes abbreviated as PIRA, which inherited the legitimacy and political support of the pre-split IRA. The organization strives to unite all of Ireland under Irish rule and end English occupation of six northern counties and does not shun violent means in order to accomplish this.

With the split, the PIRA became much more violent than it ever was before, targeting British soldiers, North-Irish police officials and members of the security apparatus, but also civilians in Ireland, England and abroad. The IRA uses tactics such as assassinations, bombings and arsons.

The IRA as a learning organization

Target-selection

According to Engene (1998, p.225) since the split, the IRA has two grand strategies, two ways in which terrorism is supposed to bring Ireland under Irish control. One is aimed at influencing the political communities in North Ireland and Britain. The other is aimed at undermining the British will to remain in Ireland. In order to realize these strategies, the IRA has changed its mode of attack several times. The initial decision to kill British soldiers was made in 1970-71. Not satisfied with the effect of this campaign, in 1973 the IRA expanded its attacks to create terror in mainland Britain and eventually even in continental Europe.

Apart from the geographical aspect of target selection, another major change in target selection took place in the 1970s. In the early seventies, the IRA mainly targeted security forces and buildings with an economic function. In the eighties, the definition of a legitimate target was broadened to include people who worked with the British security in ways not directly related to security. Bureaucrats, people who repaired bombed facilities, retired members of the Irish police, British targets on the European mainland. (Bowyer Bell 2000, p.234) (Drake 1998, p.62).

The reason behind this shift is that the hope for an early victory faded. The British were not willing to make concessions, if they even came to the negotiations table. The Irish Republican army was reshaped for a long war after learning that the British would not bulge easily. New targets were added to the hit-list to maintain pressure, even if escalation was impossible.

In broadening their idea of a legitimate target, the organization even went a bit too far: In 1977, the IRA started a campaign of assassination of prominent businessman, because their presence was seen as a sign of British imperialism. The attacks were broadly condemned among Englishmen and Irishmen alike, and realizing that this did not do much good for their organization, the provisionals stopped the attacks. In the mid-eighties businessman again became targets for violent attacks, but since the IRA had learned from its mistakes, only businessmen who had a direct connection with the security-apparatus of the oppressors were targeted. (Drake 1998, p.57)

In the 1980's, the IRA had expertly learned to match the right tactics to the right strategy. The point was to choose a level of violence acceptable to the Irish population, tacitly acceptable to suit the international opinion and not high enough to provoke the English to

retaliate with their entire strength. The organization found that security forces, related organizations and people proved excellent targets to maintain this level of violence (Hoffman 1999, p.162). But not all types of security forces suited the IRA. Drake (1998, pp.65-67) gives data on deaths within the security forces of Northern Ireland. The security forces can be divided into three groups, the Royal Ulster Constabulary, Ulster Defense Regiment and the British Army. Between 1970-1993 the percentage of army deaths went down from 70% to around 30%. According to Drake, the increasing difficulty the IRA had with killing British soldiers made them opt for easier targets. The organization learned to make their tactic of attacking security forces more efficient. Attacking a RUC member achieved a comparable amount of impact, but with much less danger for the perpetrators of the attack.

And as a final example: the greatest change in agenda and structure came around 1981 with the recognition that armed struggle alone could not get the job done and that the war had to be fought on the political level as well (Bowyer Bell 1998, p.134). Decennia of bloody battle lead the organization to reconsider its primary assumptions. This change might have been completed at the end of July 2005, with a historical declaration that the IRA was to lay down its arms. At this moment it is too soon to tell whether this declaration will be fully implemented.

Learning to find firearms

In the 1960's, the IRA was ill-prepared for a struggle. One important problem was the lack of weapons. According to English (2003, p.84), a prominent member of the IRA named all weapons they had access to in 1966 'generally obsolete'. It being impossible to raise enough firearms within Ireland, the search for new weapons led abroad. But in order to safely and effectively transport the weapons to Ireland, the IRA needed talents and specialties that no one in the organization had, like knowledge about import and export regulations, the way to provide of forge the necessary papers and knowledge of trustworthy contacts abroad. This need brought the IRA in contact with the Irish Diaspora in the USA. At first the acquisition and shipment of the firearms frequently failed as the Diaspora members knew as little about these things as the Irishmen back home. But after some time, when skill and knowledge had increased, the American connection became more stable and less prone to detection and interception. The most frequently sent weapon was the Armalite, a submachine gun that became so popular that it became a symbol of the armed struggle (Bowyer Bell 2000, p.182). In a few years time, the organization learned the importance of

foreign contacts in fulfilling their material needs, as well as the skills needed to smuggle the materials into Ireland. When the IRA was donated a few thousand AK-47's by Khadaffi between 1984 and 1987, several shipments were captured. In search for new method to smuggle the weapons into Ireland , the IRA learned to use small boats sailing from Libya to Ireland. Although the authorities were aware of IRA efforts to transport weapons from Libya, the idea of small boats seemed too fantastic to be true. Because of this, the British authorities ruled out this option and took no countermeasures. This led the shipments to succeed.

Technical innovations

With diverse types of bombs, grenades, firearms and the occasional RPG, the IRA was mostly satisfied with the available weaponry. However, one problem remained; the organization found itself often harassed by police helicopters and starting searching for ways to end this. In diverse ways the Republicans have tried to lay hands on surface-to-air missile launch systems, but neither Palestinians, nor Libyans, nor Americans were able to provide such weaponry. Realizing that their connections would never get them the rockets, the IRA decided to take matters into their own hands.

In a bold move, the organization tried to make the weapons itself and established its own research and development group in the USA, in order to learn to produce the devices. The facility was soon rolled up by American authorities (Bowyer Bell 2000, p.184). Although initially unable to fulfill this desire, Martin Melaugh (2005a) writes that the IRA in later years possessed perhaps two or three SAM-7 surface-to-air missiles. How they got to have them is not clear.

Despite this remarkable endeavour, the IRA achieved the most notoriety for its innovations in its explosives. Hoffman (1999 p.181) describes the progress the IRA made with the design of their bombs. Where at first the bombs were little more than some nails wrapped around a plastic explosive, set of by lighting a fuse, they soon became much more complex. With advances made in the field of detonators (time-detonators and remote detonators were used) and explosives, the bombs became pieces of high-tech technology. When the British Ministry of Defense found a way to stop the signal sent to detonate the bombs, the IRA found new ways of sending the signal and effectively countered the British move. In the end the explosives became so good that several police officers have commended the IRA on its skills.

Regardless of these technological improvements, the IRA did not get any closer to its goal of the reunification of the whole of Ireland. Perhaps the best conclusion on IRA technological innovations has been given by Bowyer Bell (2000) speaking about the acquisition of Semtex around 1985:

"In a sense like all novel IRA assets, the end result was a conservative deployment that did not escalate the level of violence but made defeat even more unlikely"

This might very well indicate the worth of the organizational perspective on terrorist organizations: organizations primarily learn to survive better, and not to achieve their other goals.

Hezbollah

Hezbollah, as a militant wing of the Shiite movement in Lebanon, was founded after Israel's 1982 occupation of southern Lebanon. The organization is involved with diverse activities, ranging from the provision of social services to guerrilla warfare and terrorist attacks. Casualties imposed by its guerrilla tactics were one of the reasons for Israel to pull out of Lebanon in 2000. In the 1990's it became a party in Lebanon's national politics.

Because of the social program of the organization there is some discussion on whether it should be labelled terrorist. Among the countries who do claim it should be are the USA, the Netherlands, Italy and Poland (The Terrorist Knowledge Base).

Strategies, tactics and innovations.

Terrorist attacks by Hezbollah are a bit difficult to look into, because of the groups tendency to deny involvement in attacks. Suicide attacks on American and French targets and hostage-takings in the 1980's were all claimed by shadowy Shiite fundamentalist groups, who were all in a way affiliated with Hezbollah. Hezbollah itself however denies involvement (Ranstorp 1997, p.59; Palmer Harik 2004 p.64).

Between 1982 and 1992, hostage-taking of western civilians dramatically increased. During the whole period, 45 people were held hostage. The hostage-takings were carried out by obscure organizations that were used as a front for Hezbollah in order to deny complicity

in the attacks. (Ranstorp p.59). Hezbollah's leadership is divided over the ethical acceptability of hostage taking, which is perhaps an explanation for the decline of these events after 1992.

A nice anecdote on the learning process of Hezbollah is the following story:
Hezbollah lost control of the first captured American civilian, because they handed him over to the Iranians who claimed that the hostage was of little use to Hezbollah's cause. Too late did they realize that control over a hostage situation comes from the physical control over the hostage and that the Iranians had their own agenda. Iranian promises proved of little value. Jaber (1997, p.106) notes that a Hezbollah spokesperson still felt embarrassed about this episode in the organization's history and said 'it was a learning process for [them]'. After this debacle the hostage-brigades became increasingly experienced at their jobs.

Transformation

According to Palmer Harik the entire learning process of Hezbollah has to be perceived in the perspective of the major change in the organization's history that took place around 1990: the party claimed to transform from a clandestine violent organization towards a mainstream political party with a resistance wing. (Palmer Harik 2004, p.3) The question since then has been whether it will abandon its violence.

Palmer Harik sees this transformation as the result of two distinct strategies of the Hezbollah leadership. The first strategy concerned itself with the violence produced by the organization. Although never officially claimed by the organization, the suicide attacks on Western targets in Lebanon and more than 40 hostage-takings are said to be its doing. Because the leadership perceived that attacks like this were not in the best interest of the organization, it did its very best to stay clear of any attacks that might be labelled 'terrorist' in the second half of the 1980's and during the 1990's. During this period Hezbollah's violence mostly restricted itself to Israeli military targets in the occupied zone. The occasional exceptions to this rule were the 1992 rocket attacks on villages in northern Israel. Remarkably however, later in that year Israel's president Rabin gave an official statement that these attacks were no terrorist attacks, but valid repercussions to earlier Israeli violence. The villages had not been targeted for the Israeli population living there, but as a warning to the Israeli military to keep to the informal rules of the game and not retaliate excessively for Hezbollah attacks in the occupied zone (Palmer Harik 2004, p. 65).

One important innovation in this struggle was the use of video cameras to capture the attacks. This enabled the organization to 'prove' that they did indeed only strike at military targets in the military zone of South Lebanon and truly were liberation fighters Apart from serving this purpose; the footage also boosted morale of Hezbollah's followers. Hezbollah's own satellite-connected television channel made the broadcast of the videos easy.

Hezbollah's ideology has not changed much since the group announced its manifesto in 1985. It did however show quite some ability to learn if the political climate demanded so. In 1992, the group sensed that not much was to be gained by a solely military campaign. This realization led to the second strategy in the movements alleged transformation; it went into politics and participated as a party in the elections from 1992 on. This move however, also partly resulted from pressure from Tehran and Syria (Jaber 1997, p.73).

The move into politics was combined with a public-relations offensive to improve the Lebanese perception of Hezbollah. The party, being Islamic and supported by Syria as well as Iran had much work to do to counter Lebanese distrust. It did so by leaving its strict Islamic doctrine for considerable ideological flexibility combined with a nationalist image. At the same time, it could not wholly abandon its Islamic image because a large part of their following depended on this (Palmer Harik 2004, p. 5).

Hezbollah's learning experiences, especially the organization's willingness to exchange a radical ideological stance for a more flexible one, show the value of the organizational approach to terrorism. The decision to pursue a non-violent strategy shows the value of the instrumental approach: terrorism is a method, and when other methods seemed better suited to Hezbollah's goal, the organization did not hesitate to switch tactics.

ETA

The ETA (Euzkadi ta Askatasuma – Basque Homeland and Freedom) was founded in 1959 by radical youths, some of whom had previous connections with the Basque National Party. Following on a Basque nationalist tradition that originated at the end of the 19th century, the organizations original demands were for independence of the Basque territories in Spain and France and restoration of Basque culture and

language rights. The ETA's armed struggle strategy was adopted in 1962, but ETA violence in the 1960's and 1970's was very restricted in quantity. The organization became much more violent after the death of Franco in 1975. This is quite strange when one realizes that much of its demands where honored by the new democratic Spanish state, the Basque region being granted quite some autonomy (Shabad et al. 1995, pp. 411-420). Violence peaked in 1980, with 100 killed and 15 kidnapped in that year alone. The ETA has used diverse tactics as bombings, assassinations, kidnappings, extortion and street violence. It has (had) contact with IRA, FARC, Lebanon, Cuba, (Wikipedia on ETA, June 26th 2005; House of Representatives International Relations Committee 2002)

Today, the ETA still fights for Basque freedom, although its popularity among the Basque population has decreased somewhat in recent years, according to the Euskobarómetro polls. (Mansvelt Beck 2005 .176) Some officials believe that "recent crackdowns have led to a serious weakening of the group and sense that its future as a terrorist organization may be limited. These officials view ETA's spate of bombings in December 2004 as the last gasp of a group close to extinction." (Terrorist Knowledge Base 2005) Whether this is true, however, remains to be seen.

ETA as a learning organization

The ETA's first political killing was the murder of a Spanish policeman in 1968 (Mansvelt Beck 2005, p.176). This murder was the start of a campaign of assassinations, bombings and kidnappings that gradually grew and peaked in the 1980's. Ten years later, the ETA shifted to a brand new strategy which goes by the name of *Kale Borokka*. Kale Borokka, or street violence, was introduced as a part of deliberate ETA strategy in the 1990s. José Luis Álvarez Santacristina, a member of the ETA brought up the idea of street violence as a tactic of expanding violence beyond the direct sphere of the ETA members. The idea was based on two sources. He based his ideas on successful anti-system protests in Spain in the 1980's against nuclear energy projects near Bilbao, in which the ETA participated. Second, he copied the tactic of violent street violence from the Palestinians and their Intifada mode of struggle.

The idea of *kale borroka,* is that a group of individuals loosely related with the ETA engage in street vandalism and 'spontaneous' popular outbursts of anger. The philosophy behind the strategy of street violence is to 'socialize' the pain of the struggle among a broader population. After 10 years, no longer should only the Basque terrorists in prison pay the

prize for what the ETA essentially considers a struggle for all Basques. The general Basque population should suffer their part.

This explanation for the tactical shift points to a broader strategic shift. Mansveld Beck (2005, p.180) writes that the ETA started their struggle relying on a strategy that the state-reaction to ETA terrorism would be severe repression, which would provoke a broad Basque response. This strategy worked quite well, and the ETA's ranks swelled. With enough support, the ETA switched to a strategy that tried to cause the Spanish security apparatus a critical amount of damage in order to force Spain to give in to ETA demands. This happened somewhere between 1974 and 1978. When Madrid's ever more efficient security forces dealt the ETA heavy blows by imprisoning much of its leadership in the 1990's, the organization switched to the tactic of street violence. The shift to street violence was not wholly deliberate, but also partly a necessity in face of a decreased organizational capability, due to these arrests and declining popularity. The change brought a geographical shift of terrorist focus from Madrid to the Basque region.

The new strategy of 'pain socialization' had more repercussions: Kidnappings as a strategy peaked in 1980 and virtually disappeared after 1997 (Mansvelt Beck 2005, p.177). Kidnappings were not just part of ETA campaign to force the Spanish government to its knees, but kidnappings also served as an important source of income. Relatives and relations of kidnapped rich industrials and businessmen were asked to pay 'revolutionary taxes'. With the shift to pain socialization, the burden of this alternative taxpaying also shifted. Nowadays shopkeepers, bars, lawyers, etc. are the ones who pay the revolutionary taxes out of fear for ETA assaults on their property (Mansvelt Beck 2005, p.179).

Together with the acceptance of a strategy of kale borokka, the ETA formed another strategy. It stopped assaulting military targets and focused its efforts on political targets. Instead of the Spanish security apparatus, politicians, journalists and 'bridge-builders' became targets. The latter are people who try to find a compromise between the central government and ETA demands. Even bridge builders who are sympathetic to the ETA goals have been killed. One example is a prison psychologist who tried to mitigate the conditions for Basque prisoners and got killed in 1997 (Mansvelt Beck 2005, p.181).

The targeting of these bridge builders can probably be explained by organizational dynamics. The group, primarily looking out for its own survival, responds to perceived threats to group survival instead of threats to their claimed cause. Bridge builders provide

an alternative channel towards the end of the conflict. From an organizational approach this is very threatening because it is a form of competition for supporters. A harsh response is a matter of survival. The ETA example shows the need for innovation in terrorist organizations as a response to a changing environment. Organizational dynamics seem very important in understanding the history of the ETA.

Chechen terrorism

Chechen terrorism has to be seen in the context of the struggle of national liberation it wages against Russia. The Chechen struggle for liberation goes back many a year to occupation by Imperial Russia. After self-declared independence from Russia in 1990 two wars occurred. The first war began in 1994 and ended in a truce because of Russia's inability to defeat the separatists in 1996. The second war started in 1999, when Russia used the military
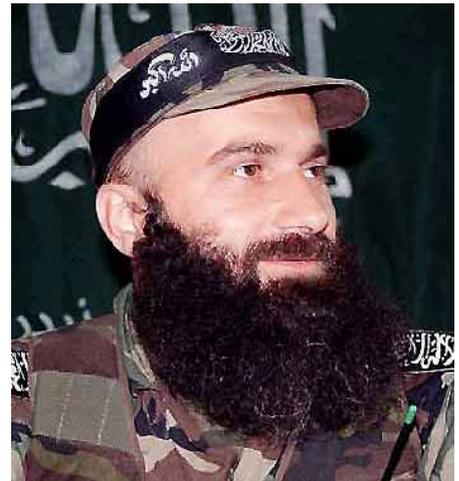
Shamil Basaev, one of the leaders of the Chechen resistance

excursion into neighboring Dagestan by Chechen warlords as a pretext to invade the area again. The struggle in Chechnya from 1994 until today has taken several forms, ranging from open conflict and guerrilla attacks on Russian forces to terrorist attacks on Russian and pro-Moscow Chechen targets.

Strategic changes

After the second Russian invasion, which secured Russian control of most strategic locations in Chechnya (large towns and transport routes) in 2000, the period of open warfare ended. The separatists were forced to change their strategy of warfare in Chechnya into a mixture of guerrilla tactics and terrorism. The targets for these attacks are convoys of Russian troops, administrative personnel, helicopters, aircraft, individual soldiers and officials and buildings associated with the pro-Russian regime.

While terrorist attacks on Russian soil have happened during the first Chechen war (for example the Budennosvk hostage-taking which is so important in understanding the Russian retreat), they became much more extensive during the second war. The first major terrorist attack against Russian civilians was the May 2002 bombing in the Russian city of

Kaspiisk, which resulted in 45 dead. After this incident the struggle on Russian (and ever more often Moscow) territory intensified (Kramer 2005, p.216). Murphy (2004, p.197) sees the Dubrovka theatre incident as a turning point in Chechen tactics, which from this moment on emphasized terrorism instead of guerrilla warfare. The dominant logic behind the change to terrorist struggle is that increasing costs will lead Moscow to reconsider its strategic position on Chechnya and retreat, just as it did in 1996. The guerrilla war in Chechnya is also very costly to Russia, but the struggle is much farther from the Russian public. Since the Russian government tries to cover up much information about this campaign, the political costs that Chechen separatists can invoke on their enemy via a Guerilla campaign are limited. Hence the leadership of the Chechen resistance (among which Shamil Basaev and the now-deceased Chechen president in exile Maskhadov) grew impatient with the slow progress of the guerrilla campaign and decided to change to terrorist tactics, which they deem more costly to the Russian authorities.

Ideological shift

The 1994 battle for Chechnya started as a struggle for national independence. From then onwards, the battle has become increasingly more religious, and phrased in religious terms:

"On a general level, the strengthening of religious faith during a war is effected by a well-known mechanism: when in trouble, people turn to God. In the Chechen case, however, Islam was not only a source of comfort on the personal level; it also became politicized and served as a means of interpreting and organizing an extreme situation. Politically oriented individuals such as Udugov, Yandarbiev, Basaev and Raduev put Political and Radical Islam to use in their own fight for power in Chechnya in the interwar period, seeing ideologies as effective weapons to boost their own position and discredit their rivals." (Wilhelmsen 2005 p.38)

Wilhelmsen points to an interesting dynamic: Chechen leaders facilitated a change in ideology because this suited their individual purposes in the power struggle. But the change had more purposes and consequences. The Islamisation of the conflict was also preferable because of the support for an Islamic terrorist campaign attracts. Not only does this take the form of mental support, but it also material. Big foreign investments were made by people sympathetic to the Islamic cause (Murphy 2004, p.197). Russian estimates indicate that in the year 2000 the Chechen resistance received much as $6 million per month as

from various Islamic countries in the Gulf region. This example shows how Chechen leaders have learned to use Islamic rhetoric to mobilize regional and international support.

New tactics and weapons

One important change in the Chechen campaign is the recent resort to suicide terrorism. This is a tactic that Chechens have not used during the first war. Suicide bombings that started in 2000 at first targeted small groups of Russian soldiers manning checkpoints in the Chechen cities. Later that year, different targets were added to the campaign. The bombers started attacks on Russian military and other official buildings of the pro-Moscow government in Chechnya. Although hostage-takings receive much attention from the media, suicide attacks in Russia are much more frequent (Kramer 2005). One reason for suicide terrorism is the international Islamic support for this type of martyrdom, support of which the Chechen warlords profit. Why did the Chechens revert to suicide tactics? Although not all suicide terrorists are Islamic (the Tamil Tigers – the most notorious suicide bombers are not, for example), I think the change has to be explained in this context. After all, to ensure the continuity of international financial and material support for the Chechen struggle, it would be a good move to show that it is indeed a (pan-) Islamic struggle. And what better way to prove this than engage in suicide terrorism?

The targets of terrorism might also be changing. Last May 25th massive areas of Moscow suffered from a power-outage. In a press conference, the Russian government claimed this had been caused by malfunctioning of the old electricity network. Two days later, however, Shamil Basaev, one of the leaders of the Chechen resistance, announced on a website that the power-down had been caused by Chechen terrorists. John Robb, on his website about global guerrillas thinks that this signals a change of strategy where Chechens will start focusing on economic targets to bring Russia to its knees. He thinks a sabotage campaign of the oil pipelines in the Caucasus region will be especially fearsome for the Russian authorities. These pipelines and the oil that flows through them form a major source of income for the Russian economy. If such a campaign would begin, the Russian state will be unable to free enough security resources from potential symbolic and political targets to counter the threat to the economic infrastructure, because of the possibility of attacks on the former targets will remain and political costs of such attacks will be high to ignore. The economic costs of the decrease in oil output, combined with strong international pressure from Western and central Europe, who depend on the Russian oil, might bring about what

bombings and hostage-takings as of yet do not: an election on the independence of Chechnya (Robb 2004a, Robb 2004b).

Because of the open warfare nature of the struggle in the past, and the lack any serious state-control over Chechen territory after this war, conventional weaponry tends to be available in abundance. This means that Chechen terrorists have many options of terrorism to resort to. There are signs that the Chechen are considering to use more types of weaponry for their terrorist campaign. At 9 June 2002, Russian police discovered buried surface to air missiles near Moscow's Vnokovo Airport. (Murphy 2004, p.170). Presumably these were to be used to shoot down an airliner.

Non-conventional attacks cannot be ruled out in the future. There are several reasons to suspect that Chechens are trying to use radio-active material. A mine with nuclear material attached has been found on route of Russian Patrols in Chechnya (Murphy 2004 p.198). Back in 1995, Basaev buried radio-active cesium in a Moscow park. A captain of security at the Kalilin nuclear power pant was caught red handed trying to smuggle the plans of the facility out. In his pocket were some coded telephone numbers of some Chechen separatists (Murphy 2004 p.201). However, because of the extreme difficulty involved in creating a nuclear bomb, the threat of a nuclear assault is remote. According to some biological and chemical attacks are somewhat more likely. Allegedly Chechen have received chemical weapons training in Afghanistan, Iraq and their safe haven, the Pankisi gorge, near the Georgian border. However, nothing like a biological or chemical attack has happened as of yet.

Chechen terrorism seems to have changed as a result of the leadership's tendency to switch to Islamist rhetoric. This switch is a result of primacy of the organization's need to survive over the need to win the struggle for an independent Chechnya.

4. Differences in learning

Chapter two clarified the process of organizational learning and how it is based on communication of both explicit and tacit knowledge. Chapter three gave various examples of learning terrorist organizations. The very interesting question that now arises is; why does learning sometimes and in some groups occur, whereas at other times or in other groups it does not? Why are some groups better at adapting to new circumstances than

others? Note that we want to explain differences in learning ability, given the same reasons for innovation. Why are some groups better fit to respond to a certain level of crackdown by the authorities, a certain amount of declining returns than others?

Not all organizations' capabilities for learning are the same, even when the same mechanisms force them to learn. Some organizations seem to be more able at bringing about organizational change than others. This chapter is dedicated to highlighting some internal organizational characteristics that influence the ability to learn and some of the reasons why learning fails.

Difficulties in researching

Before going into the diverse perspectives from which differences in learning abilities can be explained first I would like to say something about researching this topic. Ideally, when researching differences in learning ability, one would study organizations that are very successful in learning new behaviour and compare them to organizations that for some reason are not able to adapt to new situations.

The problem lies in the availability of data on the second type of organization. Only terrorist organizations that have repetitively carried out some deadly attacks are well known and documented. And in order to carry out these attacks, they have had to learn to some extent in order to withstand reactions from the authorities and to secure attention. So how are we going to know about the abhorrently fanatic terrorist organization X (e.g. the Frisian Independence Army), that because of reason Y (its ideology prohibits changes in its members' behaviour, because this would be giving in to the inferior enemy) was disabled because the authorities captured all members? Perhaps the newspapers would make mention of the arrests, but knowledge of this group would be soon gone, whereas information on successful groups as the IRA and PLO would remain. In other words, in order to become a well-known terrorist organization on which enough data is available to study what enables it to learn, an organization has had to be able to learn in the first place. Because of an evolutionary principle in which the weak perish and the strong survive, the only terrorist movements that are seen as worth studying will in their very essence be quite good at learning; else they would not have survived in the first place.

Another big problem in studying organizational constraints or abilities in learning is the fact that it is very difficult to gain information on the decisions that play a part in incorporating

an organizational change. Most of the times, when becoming aware of a behavioural change, we can only speculate on the perceived reasons for this change. We almost never get information on a terrorist group being dissatisfied with a certain aspect of their struggle, an internal analysis of the problem, and a new policy that is supposed to correct the perceived problem. And, as mentioned before, we almost never get information on a desired organizational change that for some reason did not happen.

So how do we go about researching the ability to learn? In this chapter I wish to highlight several factors mentioned in organizational learning literature that are supposed to affect organizational learning. I wish to study their relevance in researching terrorist learning while paying attention to the general shortage of data on organizations in this field. Because of the described problems, these factors should be seen as a first step towards understanding differences in terrorist learning ability and in no way as a complete summary of the causes.

The effects of leadership in explaining organizational learning

One factor by which organizational learning can be influenced is the role of leadership (Rogers 1995, Zaltman 1973). Usually an organization has a couple of individuals at the top who have a more than average control over the dealings of the organization. This phenomenon brings huge advantages to an organization, because the leadership is in a position to efficiently manage the organization. It follows that the individuals at the top will have quite a big role in facilitating or restraining organizational learning. Whether the leadership is conservative or more innovative is an important explanation for organizational change. Tucker, writing about a conference on the development of cyberterrorism, even names "entrepreneurial leadership" as the most important explanatory factor for understanding terrorist innovation. He cites Velupillai Prabhakaran, the head of the LTTE (Liberation Tigers of Tamil Eelam), as an example of an entrepreneurial leader. In general, conference participants agreed that a group likely to innovate will "have a leader who is very hard working, in complete control over his whole organization, accepts risk, has a lot of decision making autonomy, and leads a cohesive and loyal organization" (Tucker 2000, pp.13-14).

Of course, in some organizations the leadership has more influence than in others. When the organizational structure is very hierarchical, leadership will have more effect than in a network-structure. But with quite a lot of terrorist organizations (even when most largely work according to a network practice), although the leadership may not be in command of daily routines, a leadership that points out a general strategy *does exist*. As part of the general strategy these leadership councils often seem to decide who/what are to be considered legitimate targets for terrorist attacks. This is the case with the IRA and Hezbollah (Drake 1998, p.61; Jaber 1997, p.63).

How much influence does the leadership have? One indicator of the importance of the leaders to a terrorist movement is the widely-practiced government policy of trying to eliminate the leaders of a terrorist group. Examples are abundant: the Russian removal of Mashkadov, the leader of Chechen resistance, Israel's helicopter attack on Yassin in 2004, etc. What do authorities hope to gain by doing this? I can see two possibilities: (1) they want to achieve total destruction of the terrorist organizations, or (2) they want to replace the leadership by a different one. The second option implies that authorities believe that an organization's leadership is very narrowly connected to the learning process of the organization. They hope to use this knowledge in the following way: The leadership is that much in control of the organization that it can issue cease-fires or sign peace-agreements. The leadership can be forced to do this by issuing threats to it in the form of assassinations or captures. Assassination or capture of leaders should intimidate the new leaders / other leaders to give up terrorism, lest they not be the next victims of government retaliation.

But whether this logic is valid is very much in doubt: Dr. Avraham Sela of the Hebrew University, Israel, is convinced that taking away the Hamas leadership would only lead to competition among the next generation of leaders. Their competition will likely lead to more activism and radicalize the organization (Manheim 2004 pp. 30-31). On the other hand, this would only prove the second assumption wrong: The new leadership *is* in fact able to control the organization in as much as escalation of the conflict is needed. It just cannot be forced into submission by targeting it.
"Commanders of a secret army rarely give orders unless they are going to be obeyed and even more rarely punish zeal" "The image of a disobedient IRA man will be hunted down and shot is a romance" (Bowyer Bell 2000, p.142, p.154)

This citation shows that Bowyer Bell is convinced that the IRA Army Council does not have much influence on the local divisions of the organization. It does in fact lack the ability to effectively ensure that issued orders will be carried out. That is why it always first ensures agreement before it issues an "order". However, Bell acknowledges that other terrorist organizations are far more stringent. (Bowyer Bell 2000, p.154) The Hamas seems to be such an organization. According to one Hamas member, interviewed in prison:

"I was subordinate to just one person. My relations with him were good, as long as I agreed to all that was asked of me. [...] Commanders in the Hamas are commanders in every way. A commander's orders are absolutely binding and must not be questioned in substance." (Post et al. 2003, p.178).

The central leadership of Hezbollah is called *shoura,* a council that consists of mainly clergymen. The council concerns itself with the social and political agenda of the movement on the broadest level. It consists of several committees, among which a military committee. Within the military committee, there is a separate Special Security Apparatus (SSA) that is responsible for terrorist activities. Terrorist attacks on the operational level are mainly carried out by family members of the leaders, the Mughniya and Hamadi clans, in order to ensure loyalty to the leaders (Ranstorp 1994, p.308). This enables the terrorist department to remain quite small and secretive. The actual decisions to engage in terrorist activities are taken on the level of the highest Shoura. In case of a hostage-taking, for example, this council specifies a preferred nationality and profession of the hostage that fit the movement's strategy. This seems to indicate a leadership that is in effective control of the dealings of its terrorist division. The reason for this control seems twofold: family ties ensure loyalty and the religious function of Hezbollah leadership ensures authority. The Hezbollah leadership would seem to be able to change its terrorist tactics or to abandon them altogether.

In Chechnya, the rebel warlords seem to be quite in control of their guerilla clans. One of the most influential changes in the Chechen conflict is the ideological shift from a separatist to a religious / Islamic struggle. This change essentially came about from the top and seems to be explainable from the perspective of the leadership. Individual warlords perceived that they had much to gain by rephrasing their struggle in Islamic terms and acted accordingly. Their gains were twofold (1) financial and material support from Islamic countries abroad and (2) gains in the internal politics and power-struggle of the Chechen

resistance. Because of this dynamic, other leaders were forced to go with the flow of Islamization, lest they be discredited for not doing so. Currently, many people speculate that Shamil Basaev is the de facto leader of the Chechen rebellion. (Chechen Weekly 2005) He is also considered to be the mastermind behind the Dubrovka theatre siege and the taboo-breaking Beslan incident. His influence on the dealings and learning of the organization seems profound.

A last example of a terrorist organization that was extremely influenced by its leader is Aum Shinrikyo: the terrorist movement that was responsible for the 1995 sarin attacks on the Tokyo subway system Aum was essentially a cult under the influence of its leader Shoko Asahara, a highly charismatic individual. He had his own apocalyptical doctrine that he used to control the organization (Gomez 2005, p.2).

Leadership has been, is, and is likely to remain very important in understanding why terrorist organizations learn, or refrain from learning since the influence of the leaders on the organizations is often significant.

Internal struggle: Power and politics

Closely related to the leadership factor is the role of internal politics in explaining (the failure) of organizational learning. In this perspective change is obstructed by individuals in the organization who perceive that their political powerbase would be negatively affected by the change. Individuals fear to lose control because of a proposed change and obstruct the change (Boonstra 2004, p.3). Because terrorist groups are political organizations, dissent over ideological positions can also inhibit learning.

Some examples of this can be found in the history of the IRA. Several times the organization has been unable to change because of fear of disagreement. The general army convention does only meet very seldom. Not only is this because of a security risk, but also because discussion and contact might very well lead to dissent instead of consent. In the 1990's conventions on a new direction, priority was given to avoiding an organizational split. If the IRA were not able to move on to a new strategy, then it would wait until the volunteers were ready for the change. Unfortunately this did not succeed. In 1998, the tragic Omagh bombing lead to the death of 29 people. It was the result of splinter group opposition to the ongoing peace-process which it saw as 'decay' of the army. The protest

was directed at undermining the IRA and not per se at the British. This is reflected by the choice of target: Omagh had a Sinn Fain mayor and is a traditional area of support of the IRA (Dingley 2001, p.459). Internal politics and preventions of splits seem to be recurring concerns with the IRA. According to Dingley: "Fears of splits within the movement haunt much of Republican thinking and are thus an important factor in all their calculations. However, so are fears of sell- outs and compromise, and what motivates most of the splinter groups from the IRA is a fear that any compromise, even if realistic, is a betrayal of all that they stand for and have fought

for over the years." (Dingley 2001, p.455)

In ETA history, focus on internal politics can also be quite helpful in explaining change: Throughout ETA history, its leadership has been divided over four main issues (Shabad et al. 1995, p.436) :

- the priority given to national versus social liberation,
- emphasis placed on mass political activity and after Franco's death participation in democracy versus armed struggle
- independence of the military branch from the political branch
- the desirability of relations with Spanish political forces

These issues can very well be seen as a structuring principle behind ETA learning. Power shifts within the organization are most likely to bring about changes in policy in these four issues. The shift towards the *kale borroka* strategy of street violence and pain 'socialization' (see chapter 3 on the ETA) can be seen as a result of increased emphasis on mass political activity (issue 2) in the ETA struggle. What the organization will do will depend on which faction is currently in power.

In the Caucasus, the relation between Maskadov, the Chechen president-in-exile, and Shamil Basaev, the most influential warlord, has for a long time shaped Chechen resistance. At times opposing each other and working together, some of Basaev's attacks seem to have resulted in discrediting Maskadov as leader of the Chechen people (Murphy 2004 p.95). Of course, the very make-up of the guerilla movement – individual warlords that strive for power and personal gain – begs for explaining learning or the lack of learning from an internal political perspective. An (imaginary) example is this: If one of the warlords has a monopoly on providing chemical material to the Chechen resistance, he will promote the planning of chemical attacks on Russian targets. He might – or might not - believe in their

efficiency to rid Chechnya of Russians, but the fact that he is essential for the success of these attacks will provide him with prestige and power.

Every major change in the strategy or tactics of a terrorist movement is likely to be accompanied by an internal power struggle. On the other hand, internal politics will also be a primary reason for proposed changes to fail to happen. These politics arise not only from differences in opinions about the best choices for the organization. Power struggles for personal gains and status are also a likely cause.

Organizational structure

An often-named factor that influences organizational change is the structure of the organization. In this perspective the specific structure of the organization and the division of labour that comes with it are responsible for explaining differences in learning. (Boonstra 2004, p.2). There are several elements that can be said to be part of the organizational structure. I will deal with them separately.

In dealing with organizational structure, it is important to remember the way learning comes about. For now a twofold distinction that can be derived from chapter two will be sufficient. At first, somewhere in (or outside) the organization something new is learned, resulting from a novel combination of existing knowledge and new experience. After this, the organizational decision-making body must decide on whether to implement this new principle / method / idea or not. This distinguishes two phases in the learning process: (1) becoming aware of new knowledge and (1) implementing the new knowledge. The relevance of this distinction is that different structural characteristics can influence the learning ability of an organization in a different way in the two separate phases. In the first phase, an unobstructed extensive information flow is of importance, and in the second phase the ability to act effectively upon a desire to change.

Centralization is a very important structural dimension. According to Rogers (2003) more centralization corresponds to more hierarchy and lesser participation in an organization. Terrorist organizations can be divided into organizations with three basic organizational structures, which largely differ in the grade of centralization: traditional hierarchical organizations, loose networks (cell-structures) and hybrids. Although the general opinion

seems to be that the network form is currently gaining ground at cost of the hierarchical form, Muller et al. claim that this statement should be approached with some caution. Terrorist organizations always were quite network-like, because of the form's inherent advantages in avoiding capture and seizure of its members. What has changed is the availability of modern technologies, which have made the network structure much more effective (Muller et al. 2003 p.30). That does not mean, however, that there are no differences in the level of centralization between different organizations.

How does centralization influence the organization's learning ability? According to Rogers, in the first stage of the learning process, a high degree of centralization reduces the amount of information available to the leadership. When someone in the organization learns something useful, the chances that this knowledge arrives at the management level decline with increasing centralization. The many organizational layers between people on the work floor, who learn from everyday experience, and management that is authorized to issue change, obstruct the essential flow of information between the two. Somewhere on the way from bottom to top, information gets lost, so the top does not know the concerns of the bottom.

In the implementation stage, however, Rogers finds that centralization can speed up the adoption of an innovation. If the leadership decides that some novelty is worth the effort of implementation, it is in an excellent position to impose the adoption of the innovation on the rest of the organization (Rogers 2003, p.411). Though, the rest of the organization can obstruct these changes if they do not agree to them, the leadership has a better chance of realizing the changes than other members of the organization.

So according to Rogers, the relation between centralization and learning consists of two opposing effects, that partly cancel each other out. But do Rogers' findings, which are based on many different types of organization, but sadly not terrorist ones, bear any relevance to explaining terrorist innovation?

McAllister's article on al-Qaeda's innovative potential sheds some light on this issue. In this article McAllister claims that Al-Qaeda's innovative potential is very much affected by the organizational structure of the organization. Following massive government-crackdown on the organization after 9/11, the organization's structure has shifted from a hub-network to an all-

channel network[2], which greatly impaired its learning ability (McAllister, 2004 p.308). Before 9/11, the organization functioned as a hub network in which all communication flows go through a central hub that facilitated coordination. The hub of the organization was destroyed by effective actions against al-Qaeda safe-havens (among which Afghanistan). This forced the organization to fall back on the all-channel mode of organization. Because there is no central hub in the all-channel decision-making process, authority is entirely decentralized, minimizing the impact of the destruction of individual cells on the organization as a whole (McAllister 2004, p.302).

"Abandoning all vertical decision-making capabilities and decentralizing operations localizes all data in the nodes of the network. Localizing solutions adds to the complexity of the system and greatly increases the frequency of data duplication. Innovation has been sacrificed for defensive necessity." (McAllister, 2004 p.309). Although the expertise to innovate may still exist in the organization, the role that the central hub had in making sure that experiences and expertise from different nodes were combined is no longer there. McAllister further claims this can be seen in the relatively unsophisticated attacks after 9/11: the organization is unable to pool its knowledge and come up with better options because of its changed structure. This seems to conform to Rogers' findings, which point to both positive and negative effects that derive from centralization. While a flat, non - centralized organization facilitates the flow of information in the organization and encourages learning - a totally flat organization lacks the capacity to coordinate learning and implement changes.

This development illustrates a problem in the reasoning that network structures have beneficial effects on an organization's learning potential that is highlighted by Jackson (2001, p.200). Although a network mode of organization potentially yields greater results in learning, this assumes a relatively costless and risk free flow of information between the nodes of the network. In terrorist organizations, this assumption will often be false. Information transfer is costly and risky because authorities try to intercept communications. Since a terrorist organization strives for its own survival, and a big threat to this survival comes from the authorities, the primary reason for choosing a network

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[2] Arquilla and Ronfeldt (2001 pp.7-8) distinguish three ideal types of (terrorist) networks. The first type is a chain network or line network, in which "end-to-end communication must travel via the intermediate nodes". The second type of network is a hub, star or wheel network. In this network there is a central node (not hierarchical) through which all communication flows. The third type of network is a all-channel network. In this type, all nodes can communicate with all other nodes. Of course, a real organization can use different types of networks for different functions.

structure is its defensive potential. Terrorist organizations *might* profit from a network structures advantages were it not that concern for their security will often prohibit them from doing so. Terrorist organizations that use a network type of organization are thus explicitly designed to *minimize* inter-cell contact in order to withstand authority pressure (Jackson 2001, p.200; Merari 1999, p.55; Bowyer Bell 2000, p.198). This fact greatly impairs the information-transfer required for learning, especially the transfer of much-needed tacit knowledge.

Whether Jackson's comment is of importance depends on the question whether these vital information-transfer barriers in some way affect network organizations more than they affect hierarchical organizations. I would say that they do since network organizations, especially all-channel networks, usually need more communication in order to function than hierarchical ones.

These considerations seem to say that the optimal structure for terrorist learning is a hub-network, which can be positioned somewhere between a hierarchical organization and an all-channel network. This form of organization combines the advantages of networks (less loss of information in communication) with the advantages of hierarchical organizations (less need of communication in order to function).

Another interesting remark on the relation between organizational structure and learning has been made by Nooteboom (2000 p.262). According to him disintegrated (decentralized) organizational structures are thought to enhance explorative, second order learning. Integrated, more hierarchical organizations are thought to facilitate exploitative learning. In other words network organizations will be better at learning radically new things, whereas hierarchical organizations will tend to do better at incremental learning, learning in a 'one step after another' fashion. Unfortunately, it is not possible to see whether this insight holds for terrorist organizations here because of time restraints. But it might be a valuable question to look into, because if the assumption were true, it would narrow down the number of organizations we can suspect to be capable of radical change.

Apart from centralization, *formalization* is another dimension of organizational structure. Formalization is a term for the emphasis placed on following specific rules and procedures in performing one's job. In the initiation stage formalization tends to obstruct innovativeness (Rogers 2003 p.412), because rules prohibit members from experimenting

with something new. However, when the decision has been made to start and implement an innovation, formalization will be an advantage. An example would be the way McDonald's restaurants are run. The knowledge needed for running a branch is stored in specific explicit rules, much of which can bee seen on laminated sheets of cardboard fixed to the various walls in the restaurant kitchens. Much organizational knowledge is explicit knowledge. This accounts for the similarity between restaurants across the globe. When the McDonald's global management department wants to change the amount of cheese on a burger, it changes a number on a sheet. If it wants to reduce global waiting time for a Big Mac, it changes the task differentiation between the different staff members behind the counter, so that Big Mac production is prioritized. In essence, all it has to do is change the instructions on the cardboard. True, in real life it is not as easy as that, but I would say that it comes surprisingly close. Although formalization in the sense of McFormalization probably will not occur in terrorist organizations, in some organizations a less stringent type of formalization will occur. Examples are protocols on how to contact other members, how to send warnings, how to receive clearance for a specific attack or how to behave when captured. The al-Qaeda manual is an excellent example of what terrorist formalization would look like. It gives very detailed instructions on a wide range of topics among which several quite mundane topics. One of these topics is communication. Explicitly stating five means of communications (telephone, in person, messenger, letter, and 'modern devices') the manual then demands al-Qaeda members to choose between these and set up three distinct communication channels; one for 'normal' operations related communication, one backup channel for when the first channel fails and an alarm channel to abandon the operation if the organization is compromised. It states nine instructions on 'using a telephone' alone, ranging from using 'code words' to memorizing phone numbers (instead of writing them down) to distorting your voice when talking on the phone. (al-Qaeda manual translation, pp.29-31). In other sections of the manual we find advice on how to obtain a photo for your false passport (without a beard), where to buy/rent an apartment (on the ground floor, to facilitate the digging of trenches), how to carry out surveillance.

In other words, the level of detail in the al-Qaeda manual is so high that one would sooner expect this type of manual in an international fast food restaurant than in an Islamist terrorist organization. But can we proceed to say that al-Qaeda is a very formalized organization and has the accompanying learning (dis)abilities? The problem, of course, is that it is unclear how al-Qaeda members are actually using the al-Qaeda manual. We do not

know whether members learn the instructions by heart, or just browse the book for inspiration. If many of the al-Qaeda members take the instructions literally and live by them, then the organization would be quite formalized. When the authors of the manual would change the instructions in the manual, spread it and people would act upon the changed instructions, organizational learning can effectively be implemented. When many members just see the book as a source of inspiration and good ideas, the organization would not be formalized.

The last dimension of organizational structure I wish to mention is *complexity*.

Complexity is defined as the number of occupational specialties in the organization and the level of the differentiation of tasks. In the initiation stage complexity tends to facilitate innovativeness. The more complex and differentiated an organization is, the more diverse is the knowledge it can use. In the implementation stage, high complexity has a negative effect on innovativeness, because of the increased likelihood of conflict between specialists. In a complex organization it is more difficult to reach a consensus (Rogers 2003, p.412; Zaltman et al. 1973). How valuable is the factor of complexity in explaining terrorist learning potential?

First we have to realize that specialization in terrorist organizations exists, as in many other types of organizations. The ETA has a leadership council that consists of specialists in matters of finance, ideology, military and international relations (Mansvelt Beck, interview on 1-07-2005). Hezbollah has a council that consists of several committees dealing with different topics, among which a military committee and one that handles social affairs. The structure of a council with committees is replicated on lower organizational levels (Ranstorp 1994, pp.304-306). The same sort of differentiation is in effect in the IRA army council. But what about the rest of the organizations: are they characterized by much task differentiation? Well, most terrorist organizations have their experts in bomb making and the forgery of documents. The al-Qaeda manual stresses the importance of obtaining false papers trough your commander, who can reach the people who are able to forge papers, instead of trying to forge a passport on your own (al-Qaeda manual, p.23). But apart from these special tasks, it is difficult to spot extensive task differentiation. Bowyer Bell, in his book on the IRA, writes extensively about the lack of differentiation in the organization. Although in various periods in the organization's existence a formal task differentiation existed, in practice everybody just did what was necessary. Everyone was supposed to do

their part in raising funds, in finding new targets and other organization tasks (Bowyer Bell 2000, pp.174-175).

Thus it seems quite safe to propose that organizational complexity is not very high in any terrorist organization. This lack of differentiation will mean that people will have to do many different things – increasing the chance that they find new combinations. The fact that a low level of differentiation makes people engage in many different tasks, does also mean that these tasks are being done by many different people. If there are problems carrying out a certain task, a lot of people will be aware of them, trying to find a solution. This will stimulate learning.

Organizational cultures

So far the role of leadership, the existence of internal power struggles and structure have been mentioned as explanatory factors for differences in organizational ability to learn. Another perspective from which (the lack of) organizational learning can be considered is the specific culture in the organization. The culture limits people in their choice between different types of behaviour (Boonstra 2004, p.5).

The first thing that comes to mind when thinking about differences in terrorist organizational culture is probably the *ideological* culture. When going into this, it is of course important to heed a warning about terrorist ideologies by Martha Crenshaw (2001). Although terrorist groups have ideologies, this does not mean that these ideologies are very consistent. Sometimes bits and pieces from different other ideologies make up group ideology. This may lead to conflicting ideological principles. Apart from this, members of an organization are often in disagreement on the exact ideological position of their organization. That being said, the role of ideology in group behaviour cannot be disregarded either. Quite often group ideology gives valuable hints to understanding the organization's modus operandi.

But how is ideology related to learning? It seems rather straightforward. For example: Intuitively, Muslim ideological doctrines, which often use moral examples and other principles that stem from the first millennium AD, do not seem very suited to promote organizational learning. The hatred against western modernization of several Islamic fundamentalist groups would seem to impair the ability to learn new methods and technologies, especially combined with their conservatism. This line of thought would make that an organization's learning potential is quite dependant on its ideology.

Rogers (2003) warns us of thoughts like these. He mentions the Amish as an example that ideology and innovativeness are not necessarily related. The Amish are a Christian group of 100.000 members who live in several territories in the United States. With their religion comes a specific culture, which is noted for its avoidance of modern technology like electricity and automobiles. Many researchers claim that this denotes an extreme conservatism and the Amish are about as un-innovative as possible. Rogers has studied this group and claims that they are actually quite innovative, when you recognize their cultural inhibitions for some technologies. When considering technologies that are culturally allowed to them, they are actually quite quick to innovate. Ideology thus stands in relation to the different sorts of novelties that the organization would consider for adoption, not per se to the learning ability as such.

The Chechen shift in ideology is an excellent example here. The adoption of Islamist ideology provided the resistance to with the option to engage in suicide bombing. Chechen terrorists eagerly used this option.

Another important fact is that ideological factors provide a reason to explain why transitions to non-violence are so difficult for all terrorist groups. No matter what type of ideology the terrorist group believes in, all terrorist ideologies have a focus on violent action. Often non-violent strategies simply fall outside a terrorist group's violent ideological framework.

But if ideology stands in no direct relation to the ability to learn, what kind of organizational cultural aspects do we have to think about when explaining learning? Crenshaw's organizational perspective on terrorism provides a reason for the lack of terrorist experimentation. In this perspective leaders of terrorist groups are primarily concerned with holding their group together. In order to succeed in this, the leaders have to plan attacks relatively often. The members of the organization will not sit around waiting for two years of research to be completed: they want action, or else they will leave the group!

In general, several authors have remarked that terrorists tend to be quite conservative (Hoffman 1993; Bowyer Bell 2000, p.229; Jackson 2001, p.192). According to Hoffman this conservatism results from the focus on action and the incredibly strong urge to succeed. Because of the importance of the struggle, there is no time for failure (Hoffman 1993 p.178). And since experimenting with new tactics makes the chance of failure higher, terrorists prefer to stick to known strategies.

Apart from this, there are other reasons to refrain from experimenting with a chance of failure. Firstly, failure is dangerous to the group. Accidents in preparation of attacks may lead to unwanted attention from the authorities; failing technical innovations can kill some of a group's scarce explosives-experts. Secondly, accidents are bad for the image of the group, and hence for chances of attaining the political goal. Clumsy terrorists do not seem very heroic to their supporters or frightening to their opposition (Jackson 2001).

Another important aspect of group culture is the existence of group pressure. Being secret, prosecuted and threatened all the time, leaders cannot accept group members to diverge too much from mainstream thinking. Leaders will punish out-of-the-box thinking if it occurs too often. Such a mafia-like climate is not very helpful when it comes to learning. This leads to the hypothesis that terrorist groups that for some reason will be less afraid of the dangers of unconventional thinking will be much better at learning. A group's leadership might be less afraid of this because of various reasons: because it succeeded in totally isolating its members from society, leaving them no option but to stay with the group, no matter whether they want this. Another reason might be that there is more trust in the organization, resulting from dense relationships between the members (e.g. family relations).

Other organizational cultural aspects that affect learning are the organization's willingness to accept risk and the group-image they want to spread. The RAF is an example of a terrorist group that wanted to be known as cutting edge. Chechen terrorists also seem to prefer to spread an image of a fast-learning, and thus unpredictable organization, boasting about nuclear attacks, breaking taboos in the Beslan incident, claiming to study the results of a big Moscow power-down (Robb 2005b). Risk-acceptance might be higher in groups with a religious ideology: when one will be handsomely rewarded in the afterlife, dying might not be so bad. One might expect that when a group is not afraid to take risks, learning will become easier, because it is able to experiment more. Unfortunately, I have neither the time nor the space required to ascertain this claim.

Size, longevity, organizational slack

Apart form all these dimensions, I want to elaborate shortly on three factors that are quite common in explaining organizational learning ability, but do not fall under any of the perspectives considered above.

One of the characteristics generally perceived as the best indicator for organizational learning potential is the organization's *size*. Contrary to the popular conception that small companies are more flexible and thus more likely to learn, many studies seem to show that size is in fact positively related to innovativeness. This means that organizations are more innovative the larger they are (Rogers 2003, p.411). The nature of the relation between size and innovative potential is not very clear. This is probably because size is a "surrogate measure of several dimensions that lead to innovation: total resources, slack resources, employee's technical expertise, organizational structure."[3] One advantage of size as a predictor of organizational innovativeness is that it is easily measured (Rogers 2003, p.411). What can we say about the influence of the size of terrorist groups on the learning potential? Does size influence terrorists' learning abilities in the same way as it does influence other organizations? At first, we have to realize that many authors claim that there is probably a maximum size to terrorist groups. (Merari 1999, p.55). This size is a result from the organizational structural possibilities that all have to conform to secrecy. Others claim that perhaps this limitation does not as such pose a limit to the size of the total organization, but to the size of the cells or departments of the organization.

According to Jackson (2001, p.202) terrorist groups vary considerably in size: On the upper end, Aum Shinrikyo was estimated to have as many as 50,000 members worldwide (not all were terrorists). Al-Qaeda was estimated to consist of an extended network of 4,000–5,000 individuals in 2001. The IRA and ETA have between 200 and 400 members, and groups like the Japanese Red Army or the Red Army Faction consist of between 20 and 30 individuals.

Jackson (2001, p.202) poses the following hypotheses on the influence of size terrorist group's ability to realize technological innovations. I will comment on them shortly

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[3] Since there is a relation between these dimensions and an organizations ability to learn *and* there is a relation between these dimensions and an organizations size, there also seems to be a relation between size and learning ability. This relationship might be causal but it might also not be causal.

I. In the absence of confounding factors, the larger an organization, the more likely its members are to possess the appropriate explicit and tacit knowledge base to efficiently absorb new technology.

Jackson does not seem to incorporate the fact that communication problems also get bigger if an organization is larger. It might very well be the fact that two individuals in an organization possess knowledge that, when combined, might lead to an innovation, but the problem is how to get the individuals in contact with each other. The larger the organization, the more difficult this is. However, while his reasoning on this part may be shaky, his conclusion is the same as Rogers' finding on commercial organizations.

II. The larger the organization, the more likely it is that the organization can "afford" to devote some of its members to technology acquisition activities.

This might very well be true. Technological innovations can be quite costly, not only in material terms, but also in terms of personnel. This hypothesis seems less strong when considering innovations of a non-technological nature. In commercial organizations these kinds of innovations can take lots of effort and time, because restructuring can be very difficult. In terrorist organizations, I doubt that non-technological innovations will be much like the restructuring of a big commercial firm. I think that non-technological innovations, like new target-selection will be less demanding in terms of personnel than technological ones.

III. For small groups, the effect of barriers, like lack of knowledge, resources, and time, are likely to be magnified.

Jackson does not explain what he means by this; therefore it is difficult to respond to this hypothesis. In any case, as I wrote before, one can imagine that non-technological innovations take fewer resources and time then technological ones. If this is true, this hypothesis is also less strong for non-technological innovations.

IV. Small organizations are much more likely to rely on external sources of technology rather than developing it themselves (Jackson 2001 p.202).

This last hypothesis seems true enough. But will it also hold for non-technological innovations? This hypothesis is probably based on hypothesis II above, and it thus seems logical that this finding is also less acute in other types of innovation than technological ones.

Nooteboom (2000 p.68) also thinks that large organizations have advantages in learning, but because of a different reason: Smaller organizations have a tendency for their knowledge to be tacit and this constrains learning because of the following: Since only a few individuals are concerned with a certain issue in the organization, no one has ever bothered to write down the exact procedures that the organization works by. The organization is not formalized. Large organizations cannot work in this fashion: the fact that more people are involved demands a higher degree of formalization. This 'tacitness' of the knowledge in small organizations makes it very difficult to compare a new alternative to the old way in which something happened: no one has a very clear idea of the 'old way' because it has never been explicitly formalized. This restrains learning. More formalized, larger organizations, can compare new alternatives better to the ideas they are meant to replace, because the latter are more clear.

Since Rogers', Jackson's and Nooteboom's findings seem to be unidirectional in claiming that larger organizations are more innovative, Tucker's findings come as a sort of surprise. According to him *smaller* terrorist organizations are much more innovative, especially when cyberterrorism is considered (Tucker 2000, p.13). Sadly, he does not give any explanatory reasons for this. What does the factual evidence show us? When we compare IRA and RAF tactics , the tactics smaller one (RAF) seems to have innovated more. The RAF learned a lot in a short amount of time (it even tried to learn actively from its previous errors by going to court-sessions!). The IRA's tactics and strategy did also change, but considering that has existed for several decennia, it did not change that much. Technologically however, the IRA innovated much more than the RAF. Probably the influence of size on learning potential depends on what is to be learned exactly, whether it is technical or not, for example.

It is difficult to conclude something from these hypotheses. The relation between size and innovative capability may be clear in commercial organizations; in terrorist organizations it does not seem so straightforward, although there is reason to believe that size positively influences learning capacity. The causes for the differences may be found in the increased

cost of communication in terrorist organizations compared to commercial organizations. This cost (the danger of communication being intercepted) makes it more difficult to reap the benefits of a larger organizational size. It will also be easier to reach consensus in strategic and tactical matters in a smaller organizations. More research on this topic would be very helpful, especially since size is quite easy to measure compared to other explanatory factors for the organizations learning ability and thus a good measure from a practical point of view.

Another variable that is comes to mind in explaining an organization's learning ability it the *age* of the organization. It seems that an organization that has existed for decennia will differ in learning ability from an organization that has just been formed. The relation between age and learning ability might be positive or negative. One could argue that new organizations do not yet have fixed cultures and routines and are thus more able to learn. One could also argue that old organizations have had more experience in learning and are better at learning. From an evolutionary point of view, the fact that they have survived for a long time proves that they are able to adapt when necessary. According to the life-cycle theory of firms the first argument seems to hold more weight. The life-cycle theory sees young organizations as very flexible and entrepreneurial (Nooteboom 2001, p.7; Tucker 2000, p.13).

The last factor I wish to describe is organizational slack. Organizational slack is the degree to which uncommitted resources are available to an organization. According to Rogers, this is positively related to innovativeness (Rogers 2003, p.414). This seems to stand to reason; especially for material / technological innovations, uncommitted resources would seem to be very useful. This goes against common sense notion that need facilitates learning. In other words, when organizations are pushed hard enough (by lack of success or an increased chance of capture because of a massive authority crackdown), this will provide them with an incentive to adapt in order to ensure there survival. According to Rogers, this incentive might exist, but few organizations are able to use this great incentive to successfully adapt. It is more likely that an organization will perish. Mansvelt Beck (interview on 1-7-2005) explains the lack of ETA innovation in recent years by the fact that the Spanish authority is constantly seeking the ETA's leadership and its hardcore members. The need to be on the move and hide to avoid capture does not leave any free resources to innovate.

Some concluding remarks

In this chapter, I have dealt with various dimensions that can be used to explain why organizational learning and innovation does – or does not – occur in terrorist organizations. I have derived the various dimensions from theories on learning and innovation in legal (commercial) organizations. A big problem with this is that information on terrorist organizations is sketchy at best. Many factors that are relevant in legal organizations seem to influence terrorist learning as well, but it is difficult to find conclusive evidence on this.

Leadership seems to be an important variable in explaining terrorist learning, although several examples show that terrorist leaders' control over their organizations is far from absolute. Because members have their own agenda in addition to the organizational agenda, internal politics play a part in explaining planned change in organizations.

Many of the differences between legal and terrorist organizations that do exist seem to be based on the problems that the need for secrecy imposes on the latter. The role of organizational structure in the learning process seems different in terrorist organizations than in other organizations, because terrorist organizations are primarily concerned with security to ensure their survival. The last dimension described is the role of the culture of a terrorist organization. The need for secrecy and fear of capture do not stimulate out-of-the-box thinking that is necessary for organizational change.

Finally, I have looked at three common factors in explaining learning. The influence of size and longevity is difficult to establish, although increased size seems to have a positive influence. Organizational slack seems to promote learning.

5. Social capital

In the previous chapter I have looked at the different factors that can by used to understand differences in the invention and implementation of new ideas in terrorist organizations. As previously mentioned, an innovation can also come from somewhere outside the organization. This is called an external innovation. This chapter's focus is on the various ways in which the external environment can play a role in the learning process of a terrorist organization.

A terrorist organization does not operate in a vacuum, but usually has relations with other actors. These actors can be called the social capital of the organization.

Recent years innovation studies have more and more stressed the importance of social capital in explaining innovation. Landry et al. (2000, p.3) sum it up by saying the following: "During the 1950's innovation was considered as a discrete event resulting from knowledge developed by isolated inventors and isolated researchers. Nowadays innovation is rather considered as the result of a process in which success depends upon the interactions and exchanges of knowledge involving a large diversity of actors in situations of interdependence."

Clark (2003, pp.2-8) essentially argues the same by making a distinction between an old and a new agenda in innovation research: In the old agenda, the firm was seen as very independent in its innovation process. Innovation took place within the firm's research and development department and found its way into the production process in a linear way. In this process, no attention was paid to the place of the firm in the network of other firms and agents it was situated in. The new agenda aims to focus on how the interaction between firms and their contexts leads to innovation. Inter-firm networks are very important in this respect.

Social capital is very important to terrorist organizations, because they are somewhat constrained in acquiring goods and service on the open market. Although fertilizer and many other ingredients for home-made bombs may be readily available, there are some areas of services in which terrorist organizations, as being illegal organizations, cannot draw upon the open market. It is not easy to find a qualified nuclear scientist who can provide the necessary training for organizing a terrorist attack.

In this chapter I will highlight the four types of actors that seem to be the most relevant external sources for terrorist innovation. These are:

- Their constituency

- Friendly states

- Other terrorist organizations

- Criminal organizations

All these actors have one thing in common: they must not oppose the terrorists goal, whether they be active supporters of the goal or just indifferent. Indifferent actors will have other than ideological reasons to collaborate with the terrorist organizations.

Apart from the direct relationships that terrorist groups have with actors in their environment, these actors can also influence the learning process *indirectly*. Organization A can learn from organization B via the newspaper, television, and radio or in other ways not intended as such by organization B. In indirect learning other terrorist movements will probably be the most important. I will go by each group and elaborate on the role it plays in terrorist learning:

Constituency

Some terrorist groups are isolated from society, whereas other groups are extremist offshoots of broader social movements (Crenshaw 1985, p.467). The second type of organization has a constituency consisting of people who believe in the terrorist's ideology. The constituency is a different kind of social capital that the other actors. Firstly, it cannot be seen as an actor in the way the other types of social capital can be conceived as this. This is because a constituency does not necessarily form an organization. Secondly, terrorists do not collaborate with their constituency as much as recruit members of it into their organization.

As said before, some terrorist groups have a constituency, whereas others have not. Hoffman has some interesting ideas on the relation between a terrorist group's constituency and its ideology. According to him, ethno-nationalist terrorist groups usually have a rather big constituency due to the relative clarity of their goal. The idea of independence, an own government, currently, anthem and flag is quite easy to imagine, especially when compared to other terrorist groups' visions of the future. Left-wing terrorist groups are very disadvantaged in this respect. They do not attract a natural pool of potential recruits because their vision of the future is very unclear and ill defined. Members of the German RAF movement openly admitted that they did not know what the future

they were fighting for would be like (Hoffman 1999, pp.171-172). Right-wing terrorists should be positioned between nationalist and left wing terrorists. Their goals are much clearer then leftist goals, but usually they do not have the tight, community based, constituency of the ethno-nationalists.

A constituency will be one of the first places where a terrorist movement will try to recruit valuable members. This is often a careful process. According to Mansvelt Beck (interview on 1-7-2005) the ETA will observe potential valuable members for months, sometimes years, before recruiting them into their organization.

The constituency is a save way of acquiring individuals with the skills required by the terrorist organization. Aum Shinrikyo's followers actively recruited students and professionals in the field of medicine, science, computers and engineering (Gomez 2005, p.2). Since current terrorism seems to come from ethno-nationalist and religious groups and these tend to have a lot of followers, constituency will likely remain an important factor in terrorist learning.

Friendly states

The state sponsoring of terrorist groups is not a new phenomenon. One of the earliest examples is Serbia's support of the terrorist organization the *Black Hand*, which assassinated Austrian Archduke Ferdinand in 1914. Italy and Hungary were responsible for the training of the Croatian Ustasa, which was responsible for several terrorist acts in the same period.

However, early state-sponsored terrorism differs from more recent state-sponsored terrorism in its target selection. In the beginning of the 20th century, the targets were mainly political leaders, but at the end of the century non-combatants were the main target (Collins 2004, p.3).

The 1970s and 1980s represented the height of state-sponsored terrorism. States such as Iran, Libya, North Korea, Cuba, Syria and the Soviet Union were the main sponsors in this period. Sudan and Lebanon were involved to a lesser degree. These states found the covert sponsorship of terrorist organizations an good alternative for accomplishing clandestine goals while avoiding potential retaliation for the terrorist attacks (Cronin 2002, p.37; Collins 2004, p.3). This sponsorship was not only financial and material of nature, but also

involved training of terrorist groups. Smith (1995) gives quite a nice impression on the actual content of the terrorist training:

"The Soviet Union […] provided training for certain terrorist groups on its homeland, as well as spearheaded training in the territory of its Warsaw Pact allies. The Soviets sponsored terrorism as part of an overall strategy designed to destabilize Western Europe/NATO by supporting international and Western revolutionary movements whose insurrectional activities would have helped expand the communist block and further Soviet aims. […].
A typical training day began with early morning physical fitness or gymnastics exercises. As the morning progressed students generally conducted a parade. There were several hours of daily political orientation. […] The meat of daily instruction was education in incendiary charges and detonators; exploding metals; the art of mining munitions dumps, bridges, vehicles and personnel; the rudiments of chemical and biological warfare; command field and escape tactics; marksmanship and camouflage; the use and employment of Soviet RPG rockets and shoulder borne Strela missiles." (Smith 1995)

The Iranian Revolutionary guards were mostly responsible for Hezbollah training courses in Syria:

"Hizballah employs camps in the Syrian controlled Bekaa Valley to train its recruits. They are instructed by veteran terrorists from the movement as well as by Iranian Revolutionary Guards. The principal training camp is located at Janba, while another major facility is located at Wadi Mnaira. Recruits are provided with courses in close quarter combat, hit and run tactics, infiltration, and mine laying. They are also taught to handle automatic weapons, explosives, rocket launchers, recoilless rifles, "Sagger" antitank missiles and SA-7 surface-to-air missiles. In addition, the recruits are provided with substantial religious indoctrination. Hizballah also trains in small unit tactics, and is employing l5 to 3O man units in operations against Israeli forces in Southern Lebanon. Local commanders usually recruit young men who are familiar with the terrain in their area of operations." (Smith 1995)

The examples of terrorist groups trained by states are numerous. In the 1980's the RAF received sponsorship and training by the DDR (Federation Of American Scientists, 2005).

Some members of the Tamil Tigers went to Lebanon to receive training there (Laqueur 1999, pp.192-193). Qadaffi received terrorist groups for training in Libya, but also send out Libanese military instructors to provide the terrorist organizations with training closer to home. Among the terrorist groups he has supported and trained are the IRA, ETA, the Britons in France and the PLO (Ganor 1992). Even the USA's School of Americas is implicated in providing South American terrorists with training. It seems that terrorist organizations which received state-training were mostly leftist and ethno-nationalist. It is however very difficult to discover any geographical pattern in groups and their trainers.

The largest part of state backed terrorist training seems to take place on the soil of the facilitating state, where the training can be held in secret. Sometimes, such as in the Libyan and Iranian case, advisors are send abroad to train groups in their own region. In any case, physical proximity between trainer and trainee seems to be essential. This is hardly surprising, given the need to transfer tacit knowledge in addition to explicit knowledge. As we have seen, face-to-face contact is essential in this type of transfer.

The type of training terrorist groups received seems extensive, ranging from knowledge of explosives to camouflage and maneuvering tactics. Non-violent skills, such as forging papers and grand strategy seem somewhat less covered in the training programs, but not totally absent. Since the combination of political and violent strategies seems the best option for terrorist organizations trying to realize their goal (see the IRA) it would be interesting to know whether this was also incorporated in training programs.

This cannot be seen loose from the state's objectives in providing training programs. According to Collins (2004, p.2) most states engage in terrorist training because of sympathy with the terrorist groups ideology. However, sometimes ideological sympathy is absent. Smith quotes a Soviet official who said: "ideological sympathy with the Soviet Union is unnecessary: anyone who helps destabilize the west is our friend".

Perhaps this is the reason why training programs appear to be so focused on violence: Sometimes the supporting states do simply not care about the terrorist ideology. If the disruption and destabilization of an enemy state is the state's only objective, terrorists just need to know how to make bombs, and not how to build a winning strategy out of violent and non-violent elements.

After the high days in the 1970's and 1980's, the 1990's showed a relative decline in state supported terrorism (Dishman p.43; Katzman 2001, p.25). There are several reasons for this decline. Firstly, the end of the Cold War virtually meant the end of any support given

due to socialist sympathies. Secondly, early 1990's actions by the US and the rest of the international community seem to have helped in making supporting terrorist less attractive. Collins' case study of Libya's support to terrorist groups shows that the shift to a multilateral boycott strategy proved effective. Although the frequency of Libyan sponsored attacks declined after 1986's installation of U.S. unilateral economic sanctions and military force, the application of multilateral sanctions in 1992 made Libya essentially dismantle its terrorist support program. Since the imposition of UN sanctions on Libya, the Qaddafi regime has not been linked to a single attack against Americans. The post 9/11 American war on terrorism has further disencouraged states to support, or even host, terrorist groups (Collins 2004, pp. 1-3).

Muller et al. (2003 p.139) provide a third reason for the decline in state supported terrorism. According to them decline in state sponsorship is due to the rise of cyber-terrorism decreased the need for state-sponsorship (Muller et al. 2003, p.139). Not only has cyber terrorism lowered the cost of organizing terrorism: terrorist organizations can now also make up their own training programs based on information found on the internet. As read in chapter four, I have some doubts on relying solely on Internet resources in learning terrorism. But the drastic rise in online terrorist resources certainly is of some importance in explaining the decline in state-sponsored terrorism. While state-support for terrorist groups seems to be on the decline, it is not totally a thing of the past. It will likely linger on for some time and so will the state's role in providing training to terrorist organizations.

Criminal organizations

Another possible ally in the terrorist learning process is formed by criminal organizations. These organizations often use tactics and weaponry alike to terrorists (Shelley & Picarelli 2002, p.306) and thus, from the terrorist viewpoint, should have valuable expertise quite within the terrorists reach. Although criminal groups may not care for the political aims of the terrorist movement, they will probably not mind the illegal nature of dealing with terrorists either, as long as there is profit to be made. In addition to this, terrorist groups have become increasingly criminal in nature, replacing their political motivations for a financial interest (Dishman 2001, p.44; Muller et al. 2003, p.46). Because of this transformation, criminal and terrorist networks increasingly overlap. This increases the contact between terrorist and criminal organizations and with this also the changes that they might learn from each other (Shelley & Picarelli 2002, p.306). However according to

Dishman (2001, p.44), there is little evidence that criminal groups and terrorists are interested in working together, apart from the minimal necessary contact (buying arms etc.). He gives examples of several terrorist groups that choose to stay clear from collaborating with criminals, although the cooperation would clearly yield benefits. Gheordunescu (2000, p.26) on the other hand, does notice some cooperation of criminal groups and terrorists in Romania. However, this collaboration does not go into operational matters, but is restricted to financial concerns.

While terrorists do become more criminal, and are more involved with criminals, much learning does not seem to be going on as of yet. Up until now the two domains remain somewhat separated. And as for the future: Sullivan (2001 p.120) indicates that the increasing overlap between terrorists, criminals and activists networks predicts a fearsome future. He is convinced of these actors capability to learn and profit from each other.

In absence of any evidence for criminal organizations' role in terrorist learning and Dishman's findings, I believe that for several years, criminal organizations will continue to play just a minor part in the learning process of terrorist organizations.

Terrorist organizations

After constituencies, states and criminal organizations, the last important type of social capital of terrorist organizations are other terrorist organizations. There are two ways in which terrorists learn from other terrorists. Since terrorists too watch television and read the newspaper, this enables them to learn from other terrorists in an *indirect* way. But apart from this, many terrorist organizations maintain *direct* contact with other groups in order to learn and profit from each others accomplishments.

Indirect learning

Since terrorists too watch television and read the newspaper, they are informed of the accomplishments of other terrorist groups. Terrorists often actively try to see in what way the tactics and strategies of other terrorists might be of interest to them. In this indirect way, they learn from each other's struggles. Mandela writes that the ANC studies the FLN struggle in Algeria closely and learned that a military tactic alone would not be sufficient to end minority white rule in South Africa. The FLN struggle was a valuable object of study because it was the only campaign comparable to the ANC struggle (Hoffman 1999,

p.61).Another, somewhat amusing, example is example is the way in which German rightwing terrorist groups wing learned their skills from the German left. While totally opposed ideologically, rightwing groups were impressed by the leftwing resilience and skill and tried to copy their behaviour (Hoffman 1999, p.167).

As mentioned before, the Basque ETA deliberately copied the Palestinian tactic of street violence in the mid 1990's in order to 'socialize the pain'; spread the costs of the struggle among their constituency and the rest of the population. Not only tactics were copied: ETA sympathisants wore characteristic black and white checkered shawls, after Palestinian example. Murals, depicting the Basque struggle against a Castilian / Spanish oppressor, can be found at several locations in Basque country. These are of course inspired on the IRA tradition of painting murals. Some murals even depict the bond between the ETA and IRA (Mansvelt Beck 2005, p.179; Mansvelt Beck, interview on 1-7-2005). Closer to home copying behaviour also occurs: Theo van Gogh's convicted murderer Mohammed B. copied the symbolism in his attack from the idea of a pan-Islamic jihad, as seen in Afghanistan, Chechnya, Palestine, etc.

Not only efficiency and success from an instrumental point of view are of importance in understanding this indirect learning behaviour. The examples of murals and dresscode indicate that there may also be a thing as terrorist fashion. Social prestige often plays a role in the decision to innovate (Rogers 2003, p.229). Some types of attacks may be more fashionable than others and are preferred from a perspective of social prestige.

A special type of terrorist learning via the media deserves some attention: copycat behavior. Copycat attacks are terrorist attacks that are almost exact replicas of other terrorist attacks that occurred recently. According to Paul Marsden, a specialist in copy-cat phenomena, they occur approximately two weeks after the original attack took place. Copycat terrorists tend to share characteristics with the first attackers. They are likely to be people who wanted to commit an act but would not normally do so for fear of the negative consequences. The first attack works as a sort of trigger, enabling them to overcome the negative consequences. Interestingly, this tendency seems to be hard-wired into the human brain. As it occurs with yawning, it also occurs on a behavioural level (The Independent, July 22 2005). The recent second London attacks are perhaps an example of copycat behaviour, even copying the geographical pattern of the first attacks.

Indirect learning is by definition a superficial and 'inspirational' form of learning. It is possible to learn *what* to do in an indirect way, but not exactly *how* to do it, because the media do not focus on *how to* issues very much. Rogers calls this what-knowledge, *awareness knowledge;* the knowledge that something exists (2003, p.163). The second London bombers, if they were indeed copycat terrorists, might have failed because of this. *What* was to be done was clear, three metros and a bus were to be bombed, in the north, south, east and west of the center of London. They did however not learn *how* to do this in a successful way, Indirect learning and copycat behaviour will likely increase as the terrorism continues to play a major role in the media and in politics. The more detailed the media reports on terrorist attacks, the more likely it is that an attack will be inspiring for copycat terrorists. That is why Marsden warns against this (The Independent, July 22 2005).

Direct learning

Apart from the indirect way in which terrorists copy each other's behaviour, there is also direct contact between terrorist organizations. In this respect, it is best to start with the role of the PLO. The PLO pioneered the network dimension of international terrorism. When nine RAF members went to Jordan to receive training from the Palestinians, this was a turning point in the history of terrorism: one terrorist group had for the first time trained another (Hoffman 1999, p.82). Before this the 'relations were largely abstract, limited to verbal or written expressions of sympathy and solidarity'. According to some, more than 40 terrorist groups have been trained at PLO training camps. The PLO did not only give training out of ideological reasons: foreign students paid something between $5.000 and $10.000 for a six week program of instruction (Hoffman 1999, p.84).

In August 2001, three IRA men traveled to Colombia and were captured upon return from a visit to a FARC camp. According to British Security Service, the FARC and IRA swapped expertise and tested new bomb-making equipment (The Guardian, August 28, 2001).
This visit seemed to be part of a broader relation between the IRA and the FARC: the US House of Representatives Committee on International Relations issued a publication in 2002 in which they warned for the IRA-FARC link. According to them, IRA explosives management training techniques resulted resulting in more effective explosives attacks against the Colombian urban infrastructure. Probably also Cuban, Iranian and Basque terrorists were involved. The House of Representatives committee found it likely that: "in the former FARC safe haven, all of these terrorist groups had been sharing techniques,

honing their terrorism skills, using illicit drug proceeds in payment and collectively helping to challenge the rule of law in Colombia" (House of Representatives, 2002).

In Chechnya, improvised explosive devices have turned up that are surprisingly similar to devices found in Africa, East Asia and the Middle east. Researchers of the Terrorist Explosive Device Analytical Center, which scrutinize bombs from around the world, suspect that a major Islamitic Bomb-making network exists and is responsible for many of the more sophisticated bombs around the world. Presumably, the hundreds of foreign jihadists that are known to have been active in Chechnya also include some bomb making instructors (Kramer 2005, p.229).

In addition to this, the tactics and explosives uses by Chechnian suicide bombers are strikingly similar to the ones uses by Palestian suicide bombers. Probably the Chechens received some help from the Palestians. There even is some evidence that some Chechens traveled to the West Bank – but nothing more is known (Kramer 2005, p.246).

The Islamist training does not solely confine itself to explosives: after the 2000 bombardment of Grozny, the separatists retreated to the south of Chechnya. Shamil Basaev brought over Khattab and his team of Afghan veterans to teach the Chechens how to wage a guerilla war against the Russians (Murphy 2004, p.19). Nor is inter terrorist learning solely conducted by live contact: apart from the videotapes that are meant for learning within an organization there are also tapes that are meant for other terrorist organizations. (Intercenter 2005).

These are three examples of the ways in whish terrorist organizations provide each other with training. Connections between terrorist organizations have existed for a long time. According to Mansvelt Beck the ETA and IRA were already in contact in the 1920's. The RAF training by the PLO in 1969 was the first time a terrorist group was ever trained by another terrorist group (Hoffman 1999 p.82). This can be seen as a starting point of the 1970's -1980's period of internationalization in terrorism (Collins 2004, p.2). The Chechen example shows us that inter terrorist learning still plays an important role today. The fact that some characteristic types of explosives have been found all over the world seems to indicate that the geographic scale of inter terrorist learning has not decreased, but likely even increased.

Just as states, terrorist groups can have various reasons for training other terrorist groups. In the 1970's - 1980's many ethno-nationalist terrorist organizations were characterized by a somewhat socialist flavour to their ideology (Muller et al. 2003, p.13). In some

organizations this has continued up until today. This shared socialist / anti-imperialist / anti-system ideology is one of the reasons for inter terrorist support. But, as the Palestinian example shows, financial – or other – gain is also a motive for teaching terrorists. The American Congress suspected the FARC of paying the IRA an large amount of narcotics or cash as payment for their training (House of Representatives 2002). Terrorist trainers do not seem totally altruistic but expect something back in return for their services. On the other hand, they do not seem totally indifferent to ideological issues either. To my best believe, there is no evidence of terrorist groups providing paid training to groups with a conflicting ideology. The exact role of ideology-based altruism versus tit-for-tat logic remains unclear.

Social Capital: concluding

The length to which terrorist organizations go to learn from others outside their organization, shows the value that they place in this help. Traveling thousands of miles in the open, passing border checkpoints and contacting other organizations is not without risk or cost: Contact with and travel to certain distant lands might attract attention from the authorities. The fact that even skilled terrorist organizations engage in this time and again shows one thing quite clearly: Many terrorist skills are not easy to learn on your own from a book. Help by experts is most welcome and likely vital in some areas.

The fact that terrorists physically travel to places in order to receive training is not just because it would be too dangerous or impossible to receive training closer to home: via diverse manuals, other books and currently the Internet. It shows that some things cannot be learned from a book, a manual or a video. Tacit knowledge tends to be 'sticky' (Jackson 2001 p. 188) and is not easily transferred. If it is to be transferred, physical proximity is very important.

I would conclude the following: Although an increase in Internet resources has likely made it easier, terrorism is not easy to learn by yourself. The need for direct contact will never totally disappear.

The possession of social capital will likely influence a terrorist groups learning potential strongly. Whether a group has access to other actors that can help it develop its skills, strategies and tactics, will be a good explanatory factor in order to understand differences in learning potential.

6. Conclusion

In this thesis I have tried to shed some light on the relatively unknown subject of learning terrorist organizations. Because the combination of literature on learning organizations and terrorist organizations has almost never before been made, my work is of an exploratory nature. I have tried to clarify *how terrorist organizations learn and how differences in terrorist learning capability can be explained.*

While I believe it is impossible and unnecessary to give a strict definition of the concept terrorism, it is important to have a theoretical conception of terrorism. The most common conception is the idea of terrorism as a method of a radical political movement: a means to an end. This concise assumption yields some very valuable insights but is unable to explain all terrorist group behaviour. Why some terrorist groups seem to change their ideology and why similar minded terrorist groups engage in competition are unexplainable phenomena. The organizational conception of terrorism is better suited to fit these realities. Terrorist groups struggle primarily to survive and will go against their stated goals if organizational survival demands so.

These two approaches sometimes conflict, but can also be in accordance with each other. Both approaches indicate various reasons that force terrorist organizations to learn. Not only do they have to innovate to avoid capture, but also to maintain audience attention and pressurize the state.

Learning is a difficult concept. It can be seen as a reaction to a mismatch between implementation and intent, arising from either a change in implementation or a change in intent. Organizational learning can be understood in a social constructivist way: Organizational members learn in communities of practice. If they learn something that is perceived as valuable to the organization the new knowledge becomes objectified so that it becomes organizational knowledge. To make the circle complete, the changed organizational knowledge has a structuring impact on the organization's members. The transfer of knowledge is essential in this process, and therein lays the relevance of distinguishing between tacit and explicit knowledge. Explicit knowledge can be codified and easily transferred. Tacit knowledge cannot be codified and is more difficult to transfer. The transfer of both types of knowledge is important in learning. Terrorist groups inability to learn certain skills is mostly due to the fact that they lack the required tacit knowledge. The rise in terrorist-related Internet resources has made explicit knowledge relatively easy

to come by. This will make it easier to learn terrorist skills, tactics and strategies, but the problem of the lack of tacit knowledge has still not disappeared.

Several perspectives can contribute to explaining why certain organizations learn better than others; or why there are differences in terrorist organizations' learning abilities. One dimension highlights the role of leadership in organizational change. The influence of the leadership on the innovation process depends on the structure of the organization. Leaders are more significant in hierarchical organizations than in network-like organizations. The presence of an entrepreneurial leader seems to have a positive effect on a terrorist organization's learning ability. Internal politics in organizations is another explanatory ground for differences in innovative potential. Internal opposition to change may arise because members can oppose the nature of the change (they do not believe it is good for the organization) or the result of change for their position and power (they might believe the change is good for the organization but oppose it because it is bad for themselves). Organizations can vary in structure. The relation between and organization's structure and its ability to learn is complex. It would seem that the best organizational form that does not endanger the organization's survival is a hub-network. This is a network with as little centrality and hierarchy as possible without losing all coordinating faculties. Formalization and complexity seem to have both positive and negative effects for the capacity to innovate. It is hard to say *a priori* whether the positive or negative influence takes preponderance.

The internal culture in an organization influences the likelihood of learning. All terrorist organizations have cultures that do not promote learning. Out-of-the-box thinking tends to be prohibited because of fear of dissent, and the intense focus on action instead of discussion does not leave much room for contemplation and practice. Inter-group differences in innovativeness seem to be explainable from groups' varying abilities to cancel out these tendencies. It is interesting to note that ideology an important part of group culture, is not necessarily related to learning potential.

Organizational learning theory gives us various reasons to assume that size is positively related to innovativeness and research among legal organizations confirms this. Yet, it is difficult to see this reflected in terrorist organizations. Some researchers even argue that the contrary applies to terrorist organizations and that smaller terrorist groups learn better. It is likely that this contradiction can be solved by distinguishing between various areas of learning: in some areas big is better than small and in other areas it is the other way around.

Organizations seem to learn better when younger because no organizational tradition constrains new ideas from being tried. Additional organizational resources also have a positive influence on learning capability.

Often terrorist organizations lack the skill and / or knowledge to learn something on their own. The external environment plays a vital part in terrorist innovation since many innovations have a source external to the organization. Four actors seem to be the most logical partners in terrorist learning. Terrorist groups usually have a constituency. This group of people sympathetic to the group is a likely source for expertise the terrorist groups looks for. Various groups actively recruit members of their constituency who have skills that are valuable to the organization. The general shift in terrorism from left / right-wing terrorism to ethno-nationalist / religious terrorism will likely mean that the relative role of constituencies in the learning process has increased because the former groups tend to have a smaller amount of followers than the latter.

Several states have been involved in supporting terrorist organizations. Not only did they give material and financial aid, but they also provided educational programs to terrorist organizations. Their motives for providing this help range from sympathy for a group's ideology to a strategic gain from the unrest the group will create in another state. State education was very important in the 1970's and 1980's but seems to be on the decline since then. The reasons for this are various: the end of the cold war virtually ended socialist support to terrorists; the international community as become more efficient in punishing states that support terrorism; and according to some terrorist organizations are less dependent on states because of the rise of Internet resources.

The decrease of state support is one of the reasons for the increase in terrorist organizations' criminal activities. This brings terrorist groups gradually more into contact with criminal organizations. It is therefore logical to question the latter's involvement in the learning process of terrorist organizations. Although some fear their role may become eminent, as of yet there is no evidence of their alleged role in terrorist learning. It seems unlikely that this will change much in the near future.

The last major partners in terrorist organizational learning are other terrorist organizations. Contacts between terrorist organizations have existed for a long time. At the end of the 1960's the first international inter-terrorist training program was given. Several RAF members went to Palestine to enroll in a three-month course. Since then a lot of inter-terrorist training has been given. Terrorist organizations also learn from each other in an

indirect way, copying their behaviour as seen in the media. This type of learning is quite common, but superficial in that mainly awareness-knowledge is transferred.

Social capital is very important in understanding differences in terrorist organization's ability to learn. This is in accordance with the general shift in innovations and learning studies, in which social capital is also increasingly stressed.

As I have written before, this study is exploratory. I have tried to cover a gap in existing knowledge by making a combination between the topic of terrorism and the topic of learning organizations. This combination proves quite valuable for future research. The distinction between tacit and explicit knowledge is essential in any discussion on the Internet's role in the contagion of terrorism. Before civil rights on freedom of information are infringed to combat terrorism it is of the utmost importance to consider the severe difficulties that arise in learning terrorist skills solely based on explicit Internet sources.

The various perspectives that I borrowed from learning organization studies to explain differences in terrorists' learning capabilities proved quite adaptable to the terrorist context. The role of each of the factors that I have highlighted should receive more attention. Not only can this teach us more about the workings of terrorist organizations, but these dimensions can also be used to learn how to effectively obstruct terrorist groups from learning certain skills and strategies. And, a fact sometimes overlooked, understanding the factors that influence learning can also be used to *help* terrorist organizations to learn to wage their struggle in a non-violent way.

Inter-terrorist contacts receive quite some attention in the media. Therefore it is strange that there is so little theory that can help us understand which organizations are most likely to give and receive training, and how much ideological differences matter in the relation between trainer and trainee. Hindering the relations between terrorist organizations can effectively slow terrorist organizational learning. This is not to say that authorities should focus on eliminating contact persons between all terrorist groups to stop them from learning. Terrorist cannot only learn 'bad' things, but also 'good' things. In July 2005 the IRA has declared that it will lay down all its weapons unconditionally. Why not dispatch IRA-members to several of their terrorist contacts and let them help their colleagues to find the path away from violence?

In this work, I have mostly focussed on changes in violent strategies. But transitions to non-violence are very much similar: a new idea occurs; some people will think it is a bad idea and oppose it; some people will think it is actually a good idea, but oppose it out of

personal gain; few will dare to start a discussion. Some forms of organization are more receptive the new idea; others are more effective at implementing it; most organizational cultures will oppose the new idea.

Terrorist organizations *cannot* be stamped out, the organization closed down and all its members jailed. The hate remains, some members escape capture, sympathizers join up and a new organization is formed. A terrorist group *can* however choose to pursue its struggle in a non-violent way. Some forms of learning should be encouraged. Understanding terrorist learning might very well prove essential in 'winning the war on terrorism', to use the popular phrase.

7. Afterword: learning in the future

My thesis is mostly based on terrorist organizations in the latter part of the 20th century. Since information on the topic of terrorist learning is scarce anyhow, this well-documented era was a logical period to focus on. But are my findings also valid for 21st century terrorism? This is hard to say, since there has simply not been enough 21st century to be conclusive. However, in recent years various scholars have indicated that terrorism might be changing. Because the ideas that exist about this are very vague, and can perhaps be considered no more than 'hunches', I have not included this alleged change in my thesis. Yet, in the process of writing the thesis I have come across some interesting remarks with regard to the influence of this alleged change on terrorist learning.

Three hunches on the future of terrorism are the following: Walter Laqueur finds that terrorist organizations get smaller (Laqueur 2003). According to Rik Coolsaet, a Belgian terrorism-expert, Al-Qaeda no longer exists as a structured network (Vreeken 2005). Muller et al. claim that terrorist organizations are increasingly organized in a 'flat' manner (Muller et al. 2003, p.223).

Although these three opinions are different, they are the same in one respect: Terrorism is increasingly organized on the initiative of small groups. These groups may be part of a network, but this is not likely to be a network in which much coordination exists. These networks will also be not very hierarchical.

In what way will these changes – if they really exist - influence the way terrorist organizations learn? Firstly, external innovations are likely to increase in importance in

comparison to internal innovations, because organizations get smaller. This is in accordance with the broader developments in innovation studies, which also indicate an increasing importance of the exterior of organizations in their learning process.

The rise of Islamist inspired terrorism (Muller et al. 2003, p.223) in diverse parts of the world is important in this trend. It provides the ideological connection that is important for direct and indirect inter-terrorist learning. For indirect learning, Islamist ideology provides the necessary similarity between copycat terrorists and the terrorists whose attack they replicated. As for direct learning: Islamist ideology plays an important part in relations between terrorist groups. While McAllister (2004) argues that al-Qaeda may have lost all of its coordinating capacity and Coolsaet (Vreeken 2005) even claims that a large part of the structure of the network is destroyed, at least some parts of the network remain. The (likely damaged) network can be used to transfer knowledge between local cells. Although a coordinating agent may speed up some forms of learning, a network does not need to have coordinating capacities to play a role in learning processes.

Various authors talk about swarming as a new strategy of terrorism. Swarming is a term derived from the world of insects to denote the phenomenon of various independent actors focusing their attacks on one target from various sides "seemingly amorphous, but deliberately structured and coordinated" (Arquilla and Ronfeldt 2001, p.12). According to John Robb (2004), swarming is a good description for the way the Iraqi opposition against the USA occupation is taking place; the attacks are simple, organized by small groups who work independently but sometimes combine forces for an attack. He also feels that terrorism is shifting to this strategy. No longer is the quality of attacks the most important, but quantity. It is of less importance whether the attack deals maximum damage or not: Repetitive attacks that only partly succeeded are far more disruptive than a single successful attack.

If this trend is real, it has important implications for learning. The declining importance of quality indicates that the absolute requirement for attacks to succeed is dropped from the terrorist mindset. On the one hand, experimenting with various new ideas is more likely since it is less of a problem if an attack does not succeed for 100 percent. On the one hand, attacks will become simpler since quality is not that important any more. The Chechen announcement that the guerillas are considering starting a campaign targeting the Moscow electricity network, and the repetition of the London attacks two weeks after 7/7 can be seen as examples of this trend.

The trend increases the role of the media and the way it spreads awareness-knowledge. The restriction that only explicit knowledge can be transferred via the Internet will also decrease in importance, increasing the role of Internet as a source of terrorist learning. Tacit knowledge-transfer will be less important if the complexity and the quality of attacks become of less importance. Robb (2004) strikingly formulates this trend in his 'advice' to the Iraqi insurgents:

- **Release early and often**. Try new forms of attacks against different types of targets early and often. Don't wait for a perfect plan.
- **Given a large enough pool of co-developers, any difficult problem will be seen as obvious by someone, and solved.** Eventually some participant […] will find a way to disrupt a particularly difficult target. All you need to do is copy the process they used.
- **Your co-developers (beta-testers) are your most valuable resource.** The other guerrilla networks […] are your most valuable allies. They will innovate on your plans, swarm on weaknesses you identify, and protect you by creating system noise.
- **Recognize good ideas from your co-developers.** Simple attacks that have immediate and far-reaching impact should be adopted.
- **Perfection is achieved when there is nothing left to take away (simplicity).** The easier the attack is, the more easily it will be adopted. Complexity prevents swarming that both amplifies and protects.
- **Tools are often used in unexpected ways.** An attack method can often find reuse in unexpected ways.

Although the transfer of tacit knowledge will become less essential as attacks become simpler, this will not necessarily result in simple group behaviour. In the new terrorism, group behaviour might just be like the behaviour of a colony of ants: very complicated when observed as a whole from the outside: but in practice arising from many actors individually following simple behavioural rules.

Concluding on this, while there are some indications that terrorism might be changing in the direction described in this afterword, we should take care not to underestimate the lessons learned from studying 20th century terrorism and its reliance on tacit ways to transfer knowledge.

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