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AN ANALOGY BETWEEN CANCER CELLS AND TERRORIST ORGANIZATIONS

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ABSTRACT

Contemporary organizational approaches do not provide the adequate tools to comprehend and explain the characteristics of terrorist organizations. Moving this point forward, it has been realized that terrorist organizations' characteristics are very similar to the nature of a particular biological phenomenon, namely cancer. This paper attempts to develop an understanding on how terrorist organizations emerge and behave by investigating how the cancer cells emerge, spread, and affect the surrounding cells in the human body,. This analogy not only delves into the nature of terrorist organizations, it also provides some certain tools of these organizations with cancer cells relying on the similarity to struggle with these organizations' destructiveness more effectively.

Keywords: *Management, Organization Theory, Terrorist Organizations, Cancer Cells.*

KANSER HÜCRELERİ VE TERÖR ÖRGÜTLERİ ARASINDA BİR ANALOJİ

ÖZET

Çağdaş örgüt yaklaşımları, terör örgütlerinin karakterlerini anlamada ve açıklamada yeterli araçları sağlamamaktadır. Bu noktadan hareketle fark edilmiştir ki, terör örgütlerinin karakteristikleri kanser adı altında özel bir biyolojik olgunun doğasına çok benzemektedir. Bu çalışma, insan bedeninde kanser hücrelerinin ortaya çıkışı, yayılışı ve çevresindeki hücreleri nasıl etkilediğini inceleyerek terör örgütlerinin nasıl ortaya çıktıkları ve davranış gösterdikleri üzerine bir anlayış geliştirme girişiminde bulunur. Bu analoji, sadece terörist örgütlerin doğasını incelemekle kalmayacak, bu örgütlerle kanser hücreleri arasındaki benzerliklerden yola çıkarak, terör örgütlerinin yıkıcılığıyla daha etkili bir şekilde mücadele edebilmek için belirli bazı araçları da sağlamış olacak.

Anahtar Sözcükler*: Yönetim, Örgüt Teorisi, Terör Örgütleri, Kanser Hücreleri.*

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1. Introduction

Terrorist organizations are exceptional structures, which could not be explained precisely by just any existing organizational theory or approach. Even though terrorist organizations may resemble other organizations from various perspectives such as planning, organizing and controlling, there are some peculiar characteristics which require new organizational approaches to better understand their nature. One such important characteristic is that the terrorist organizations almost always adapt a strategy that aims to threaten and even eliminate the social and political system. This destructive feature which is observed both in terms of goals and activities of terrorist organizations makes these organizations distinct and different from other organizations.

Even though there has been considerable literature work regarding how to conceptualize terrorist organizations *via* organizational theories and approaches, it is still a controversial issue without a common ground of consensus. Therefore, it is hoped that this study will add new insights and perspectives to the literature in order to understand terrorist organizations better.

This paper will try to explain the emergence, structures and behaviors of terrorist organizations by developing a framework based on the analogies that are derived from a specific biological phenomenon which occurs in living organisms, namely cancer. Thus, this paper seeks to improve the literature regarding terrorist organizations in two important ways. First, it advances a framework for understanding and explaining the emergence and development of terrorist organizations. Second, it examines two disparate areas of research with overlapping organizational structures: organisms inside the systems of human body related to medical sciences, and organizations outside the human body related to social sciences. It is contented that the emergence and development of terrorist organizations are intrinsically similar to that of the cancer cells inside the body. By understanding the different aspects of these organizations that have significant overlap with each other, researchers will provide a comprehensive understanding of terrorist organizations.

This study is presented in three parts. The first section delves into the literature review. The second section develops a framework on the similarities between cancer cells and terrorist organizations in terms of emergence, structures and behaviors. The last section offers a discussion of the article's conclusions, as well as suggestions for further research.

2. Literature Review

2.1. Terrorist Organizations

Terrorist organizations had become a focal point of social sciences since the second half of the twentieth century. With September 11, 2001 terrorist attacks in the United States, the concept of "*terrorist organizations*" has occupied as a global phenomenon all aspects of academic studies. However, the researchers have not yet been able to form some sort of a consensus on the definition, the characteristics and the principles of terrorist organizations (Lentini, 2008:134). In short, terrorism is essentially a contested concept (Franks, 2009:154). Defining terrorist organizations with the tools

of today's organizational theories is often difficult and deficient. Researchers have not succeeded to agree on the answers to the following basic questions: What is terror? What is a terrorist organization? What are the roots of terrorism? (Ganor, 2008:269). There is no any universally accepted definition of terrorist organizations (Meisels, 2009:331). Wilkins (1992:2) contended that the number of terrorism definitions equals the number of works dedicated to the subject. Most of the definitions contain subjective approaches, which could not be associated with scientific principles (Rubenstein, 1987; Laqueur, 1999). According to Kegley (2003:7), terrorism seems destined to remain a highly subjective, sensational and emotional phenomenon, surrounded by polemics, double standards, and hypocrisy.

It is argued that there existed more than a hundred definitions of terrorism (Coady, 2004:4; Schmidt & Jongman, 1988). State-sponsored terrorism, international terrorism, religious terrorism, domestic terrorism, state repression, and many others are some of which grouped under the umbrella term "terrorism" (Boyns & Ballard, 2004:10). Tilly (2004) argued that terrorism was an act with multiple sources and intentions driven by differentiated degrees of skilled coercion without any overall causal coherency. Laqueur (1987:72) defined terrorism as the use of covert violence by a group for political ends. Being a covert political collective violent action is the core of his definition.

The term 'terrorism' is mostly articulated as a kind of political violence (Mesquita, 2000). Those supporting this view defend that terrorist organizations operate just for political purposes. This argument is supported by Fernandez (2009) stating that terrorism is a form of instrumental violence which, although not always politically motivated, has political objectives in that it seeks to influence political decisions and behaviors (Fernández, 2009:597). Oberschall (2004:26) was another author emphasizing terrorism's political aspects defining it an extreme, violent response to a failed political process engaging political regimes and ethnic and ideological adversaries over fundamental governance issues. Wilkinson and Stewart (1987:419-450), on the other hand, object this approach stating that terrorism is a method of struggle to achieve certain goals rather than just for political aims. Shanahan (2010) shed light on these certain goals such as political, ideological, social, economic, religious, or military. He defined terrorism as the strategically indiscriminate harming or threat of harming members of a target group in order to influence the beliefs and/or emotions of an audience group in ways judged to be conducive to the advancement of some certain goals (Shanahan, 2010:177).

Schwartz, Dunkel & Waterman (2009) defined terrorism as the deliberate targeting of civilian sites for attacks designed to result in destruction of those sites and/or the injury and death of noncombatant civilians (Dunkel & Waterman, 2009:538). However as Oots (1990:145) pointed out, the method of destruction is not a goal but a tool utilized to create extreme fear and/or anxiety-inducing effects in a target audience larger than the immediate victims.

Fernandez asserts that in the past, terrorism was practiced by individuals belonging to a politically motivated organization with a clear command apparatus and a clear set of goals while nowadays, terrorism shows a far more diverse scenario in which

the well-known ethno-nationalist, separatist, or liberating terrorist movements exist alongside a variety of organizations driven by less comprehensive ideological or political motivations than in the past (Fernández, 2009:597).

Whatever the definition of terrorism is, today, it constitutes a major social problem threatening all aspects of the society both at individual and organizational levels. Although terrorist organizations have been around for a very long time, recent terrorist attacks have been targeting highly populated urban areas and causing massive civilian casualties have led scholars to place high priority on understanding the "causes" of terrorism and the means by which it might be prevented (Duyvesteyn, 2004:439-454).

Authors from a variety of disciplines have delved into how and why terrorist organizations emerge and how they are operated (Hoffman, 1998; Crelinsten, 1987; Wilkinson and Stewart, 1987:419-450; Stout, 2002; Post, 1990; Lewis, 2003; Sandler *et al.*, 1983:36-54; Crenshaw, 1988:12-46; Olson, 1998; Sandler, 1992). But terrorism is a multifaceted phenomenon and none of the theoretical perspectives provided an all-encompassing explanation of terrorism yet (Merari & Friedland, 1985:185-205). So, it is of vital importance to develop novel approaches that can explain the emergence and the characteristics of terrorist organizations.

2.2. Organizational Approaches to Terrorist Organizations

In this section, it is aimed to present relevant organizational approaches that suit best to terrorist organizations and to discuss their capability of explaining these organizations systematically. Despite the abundance of political and international theories in the literature, most of the organizational theories regarding terrorist organizations are underdeveloped in terms of organizational studies. Due to the limitations of this paper, most of the approaches are not included herein.

Even though current theories may not explain all the aspects of terrorist organizations, some of the organizational theories can be partially applied to the terrorist organizations in order to understand their characteristics. For example, Helfstein (2009:727) argued that rational choice, specifically game theory, had been used to model different features of terrorism by focusing on the micro-level decisions of terrorists, governments, and populations. He considers that the strategies terrorist organizations adapt and the methods they prefer are all based on rational decisions to achieve their organizational goals. According to Anderton & Carter (2005: 275), rational choice theory, when rigorously applied, can help clarify the discipline and study of terrorism. They assert that rational choice theory successfully explains the actions taken by terrorist organizations from the perspective of considering themselves as the rational actors making their own decisions based upon what they believe will be to their greatest benefit. In short, rational choice theory implies that terrorist organizations are self-interested just as individuals, and will take any necessary actions in order to increase their benefits from a certain situation (Marsh & Stoker, 1995:79).

Similarly one can contend that terrorist organizations reflect many aspects of the characteristics of network organizations and institutional approaches. Crenshaw suggests that a terrorist organization's primary objective is to survive in a competitive

environment like any other organization. It is prune to pressures from outside and inside of the organization (Crenshaw, 1988:12-46). It responds to these internal and external pressures as any other organization does. Despite the fact that mass public may regard their actions as random events, in fact these actions are premeditated and the targets are very carefully selected in order to seek the maximum output from the attack (Williams, 2006:196).

Through the second half of the 21st century, researchers such as Burns & Stalker (1961), Weick (1977:31-46), Fombrun (1986:403-421), Jauch & Kraft (1986:777-790), Quinn & Cameron (1988) and Baskin & Baskin (1998:331-458) stated that the classical management approaches preferring rational and mechanistic organization were far away from responding the needs of contemporary organizations living in a turbulent and chaotic environment. Thus, they suggested moving towards a new and an alternative management approach using an organic point of view (Halal, 1996). According to this new approach, organizations considered as living structures need to be understood in the context of relations with their environment inside and outside of the organization. Living systems have intrinsic abilities to cope with the turbulent environments and can adapt to those changes in a self-organized manner conducive to evolution. Hage and Powers (1992) argue that more and more organizations must now emphasize either the organic model or inter-organizational networks.

Organic theories have introduced a creative view into organizational science, which has received significant attention. For example, ecology is a discipline investigating the complex relationships between organisms and their environments. The ecosystem is an organic system containing organisms at both the individual level and organizational levels consisting of organisms such as species, populations and communities. Complex and intrinsic interactions do occur both inside and outside the organic organizations living in the ecosystem (Hannan & Freeman, 1977).

One of the other conspicuous organic approaches to terrorist organizations is derived from the perspective of chaos theory. Chaos theory depends on the consideration that management is and will not be such a standard and straightforward endeavor. It is much more complex activity than the classical organizational theories imagine (Fombrun, 1986:403-421; Jauch and Kraft, 1986:777-790; Quinn and Cameron, 1988; Weick, 1977:31-46). The chaos theory provides a new paradigm where two irreconcilable visions of management—rational and quasi-mechanistic on one hand, unexpected and disorderly on the other hand—can be reconciled (Thietart & Forgues, 1995:20). It was first articulated by natural scientists (Allen & Sanglier, 1978:265-280; Artigiani, 1987:249-264; Prigogine & Stengers, 1984; Ruelle, 1991). They argued that a simple deterministic model, under certain conditions, was able to generate behaviors as complex as those observed in nature (Ruelle & Takens, 1971:167-192). That is, simplicity and determinism could lead to complexity. In a chaotic state, the impact of a small variable change can lead to a dramatically enormous effect on the organization which is hard to be predicted beforehand. This fact is depicted mostly with the example of a butterfly's wing creating a storm, a few months after (Lawrence & Lorsch, 1967). Considerations of chaos theory may present explanatory approaches that could be used

to understand terrorist organizations. It offers an original perspective from which to view the way terrorist organizations work.

New studies on organic management approaches for understanding terrorist organizations seem to provide great insights for both the structures and behaviors of such organizations. In the view of ever increasing complexity of terrorist organizations, they can be explained with careful application of multi-faceted and multi-disciplinary theories including organic approaches by formulating a composite organizational framework.

2.3. Cancer Cells

Cancer is a term used for diseases in which abnormal cells divide without control and are able to invade other tissues (Hanahan & Weinberg, 2000:57-70). The main difference between normal cells and cancer cells is that cancer cells have uncontrolled reproduction and may form tumors (Mackenzie, 2008:40; Boman & Wicha, 2008,2795-9). Ordinary cells divide in a controlled way to produce the essential amount of cells that the body needs. When normal cells get old or damaged, they die and are replaced with new cells. However, sometimes this orderly process seems to go wrong. Cells, which have often lived in apparent harmony with their neighbors for years, are activated by an unknown and unheard signal (Curt, 2001:401). Cells do not die when they should have and new cells come alive when the body does not need them. These extra cells may form a mass of tissue called a tumor (Thomas, 2005:2892-2899; Mackenzie, 2008:40).

Cancer cells are defined as extraordinary malignant biological structures that divide when they are not supposed to and do not die when they should (Adami et al., 2002). They do not seem to be bound to any regular type of behaviors as those observed on normal un-infected cells. The rules of the general body system do not seem to be applicable on them. That is, cancer could be regarded as a result of a breakdown of the controls of body on the cells. The causes of this breakdown have always been speculated to the mutations occurring in the genes. Mutations in several critical genes can lead to tumors (Vogelstein et al., 1989). Though being small in terms of dimension, these mutations lead to major changes in the structures of cells. The process by which a normal cell transforms into a cancer cell is often contended to be triggered by outside influences (Hanahan & Weinberg, 2000:57-70).

3. An analogy between terrorist organizations and cancer cells

Terrorism is a multifaceted and multidimensional phenomenon, which could not be explained with just one theoretical perspective from any academic point of view. It was stressed in the literature review that the known theories do not seem to provide adequate means for explaining the emergence and conducts of terrorist organizations. In order to generate an approach which will help explain these organizations, we felt need to adapt a multi-disciplined approach comprising natural sciences and management. To accurately answer some of the critical questions regarding terrorist organizations' structures and behaviors, this paper will formulate a framework by using the nature and working principles of cancer cells.

Biological analogies are used to be as powerful methods for understanding organizations (Campbell, 1969:69-85; Hannan & Freeman, 1977). Careful examination of the characteristics of cancer cells reveals that these organisms exhibit many similarities with terrorist organizations as to the characteristics of emergence and behaviors. As Curt (2005:1) stated, the language and consequences of cancer and the language and consequences of terrorism are nearly the similar. Setting out from this point forward, it is argued here that cancer cells offer an insightful point of view to understand the emergence and behaviors of terrorist organizations in a systematic and coherent framework. Using analogical reasoning, it is identified a set of three characteristics that is shared by both the cancer cells and the terrorist organizations which offer strong insights to their comprehension. These three characteristics are related to the emergence, structures and methods of these entities.

Some of the most common organizational similarities between terrorist organizations and cancer cells are as follows:

- Despite some arguments made for explaining the roots, the emergence of both terrorist organizations and cancer cells are yet unknown.
- Both the organizations threaten the whole organizational ecosystem where they live in.
- They exhibit common structures as autonomy, immortalization and ambiguity.
- There are many similarities between the two organizations as to the methods they adapt for operation.

Setting out from these similarities, we will develop a systematic framework for combating and even eliminating terrorist organizations.

3.1. Emergence

Scholars have paid increasing attention to how terrorist organizations emerge and then threaten the whole system of social life. Despite there exist many arguments on the issue, there is not yet a generally accepted explanation of why and how terrorist organizations emerge. There is a similar case in the transformation of a healthy cell into a cancer cell due to the unknown internal and external stimulus or changes.

Lacking the ability to cope with a political or military challenge on its usual path could be regarded as one of these circumstances that drive terrorist organizations to emerge and rise. However, surely not always a failure in a political or military challenge ends with a terrorist occurrence. Callaway and Harrelson (2006) argued that states which deny subsistence rights along with civil and political rights create an environment that is conducive to the development of terrorist organizations (Callaway & Harrelson, 2006:773). To them, poor political conditions were fundamental elements in the rise of terrorism. Looking at the emergence of terrorist organizations around the world, it seems that the argument made by them seem to be mostly truthful.

Environmental exposures such as geographical influences (Murugavel et al., 2007:1455-1459), lifestyle (Weinberg, 1988:28-36), drugs (Ciocca & Fanelli, 1997:313-

321) and infections (Mackenzie, 2008:40) are all regarded as some of the main possible factors for the emergence of cancer cells. However, despite these myriad causes of emergence, there is a general consensus on the argument that the occurrence of cancer cells is simultaneous with the weakening of immune system (Coussens & Werb, 2001:23-26; O'Byrne & Dalgleish, 2011:473-483). Immune system is a security system within a biological organism that protects the organism against malignant enterprises (Beck & Habicht, 1966:60-66). This system could easily be associated with the homeland security systems of states protecting social and political systems of the countries from malignant terrorist organizations. Since the weakening of the immune system in biological organism is believed to lead cancer cells to appear and increase in number, weakening of the homeland security systems in countries could easily provide conditions conducive to terrorist organizations' emergence as well.

3.2. Structure

Autonomy. Normal cells must be attached to a rigid substratum in order to survive. However, cancer cells can grow even when they are not attached to the substratum (Hanahan & Weinberg, 2000:57-70). They operate as totally separate and independent organizations from the whole body system and do not obey the commands and demands of their environment. This loss of anchorage is the most striking characteristic of cancer cells which form malignant tumors.

Terrorist organizations also do not need most of the physical requirements such as buildings and other facilities which many of the organizations do require in order to perform their daily operations. They do not even have any particular communication addresses or operation fields. They can operate almost in every physical condition dispersed to various countries without the need for headquarters or classical hierarchical organizational structures (Hedges, 2001:B10). Autonomy reduces the organizational risk to be tracked down or even identified. Terrorist organizations often operate using a network structure. Unlike the top-down-hierarchical structure of classical organizations, they are constituted of distinct cells each operating in a separate and detached fashion from not only the system they live in but also each other (Hedges, 2001: B10). This type of structure enables organizational flexibility, increase confidentiality, and provide greater efficiency to terrorist organizations (Williams, 1998:154-159).

Immortalization. While normal cells can only divide a finite number of times before stopping the cell division and result in death, cancer cells have the ability to divide endlessly without displaying the normal aging which is observed in non-cancer cells (Hanahan & Weinberg, 2000:57-70). They seem as if to be immortal in nature and have the ability to grow much more than the ordinary life expectancies. In normal tissue there is a balance between the generation of new cells *via* cell division and the loss of cells through cell death. Cancer cells have acquired the ability to avoid the cell death signals triggered by their abnormal behavior. Avoidance of cell death, coupled with continued cell division leads to the growth of the tumor (Hengartner, 2000:770-776).

Terrorist organizations also live much more than it is predicted. Despite being claimed to be excluded from the social system by most of the other organizations, terrorist organizations have been able to survive much more than expected.

Communication Gap. Cancer cells lack proper recognition and communication features. There is a general communication process among the normal cells in the body. This communication process provides the essential information for normal cells to live and work together. However, cancer cells do not have the capability of communicating with each other (Hanahan & Weinberg, 2000:57-70). Lack of the communication process among the cancer cells creates chaos and turbulence around the tissue soon.

Terrorist organizations also cut their connections intentionally with other parts of the society in order to provide a confidential and secure organizational culture. They are composed of cells with weak and covert connections between them (Ganor, 2008:277).

Ambiguity. Another striking feature of terrorist organizations is that their acts are assumed to appear inconsistent, erratic and unpredictable (Crenshaw, 1988:12-46). Cancer cells also exhibit such kind of behaviors after cell transformation. It is hardly possible to predict what kind of attitudes they will show because of the mutations they experience.

3.3. Methods

Both terrorist organizations and cancer cells use similar methods to execute their operations:

Mobility. There is a clear and striking similarity between cancer cells and terrorist organizations in the way they behave while spreading throughout the system. Cancer cells are capable of spreading throughout the body by two mechanisms: invasion and metastasis. Invasion refers to the direct migration and penetration by cancer cells into neighboring tissues (Steeg, 2006:895-904). This method could be associated with military operations by state level organizations.

However, 'metastasis' corresponds to the course of action of terrorist organizations. Metastasis refers to the ability of cancer cells to penetrate into lymphatic and blood vessels, circulate through the bloodstream, and then invade normal tissues elsewhere in the body (Bacac & Stamenkovic, 2008:221-47). The fluid that travels through the lymphatic system carries cells that help fight infections and other diseases called lymphatic fluid, which we will associate it with internet and similar telecommunication systems in social life.

There is evidence that terrorist organizations rely on the internet and related information and communication technologies to conduct their activities (Rattray, 2001:79). They exploit information technology to maximize the effectiveness of their operations through the use of rapid, robust, and relatively secure communications (Picarelli & Shelley, 2001). They use methods to move money exploiting both the legitimate and illegitimate banking systems (Eggen & Day, 2001:A01). Terrorist organizations' preference to penetrate into the communication and electronic banking networks is very much similar to the behavior of cancer cells using lymphatic and blood vessels spreading throughout the body system.

Secrecy. Up until the cancer cell reaches its ultimate goal and performs its effect on the target tissue, the operation is conducted in a very deep privacy. Terrorist

organizations also conduct all of their operations in a very clandestine manner to achieve their goals with utmost efficiency. Secrecy is regarded as one of the fundamental pillars of the terrorist organizations' behaviors. They prefer secret and untraceable methods for their communications and operations to ensure minimum level of disclosure and risk (Zanini & Edwards, 2001:29-60). They exploit software and webpages on the internet that enhance or provide anonymity, in turn decreasing the ability of law enforcement or intelligence agencies to detect their activities (Picarelli & Shelley, 2001). They are known to engage in forms of securing their communications through high-sophisticated encryption and a modified form of steganography, where messages and other information are hidden within other types of files like images or streaming video (Kolata, 2001).

Increased supply requirement. Tumor cells consume more nutrients and oxygen than normal cells because they have to grow and multiply rapidly (Steeg, 2006:895-904). There is a great increase in the rate of sugar transport across the surface cell membrane by malignant cells. They trigger the tumor tissue and its surrounding environment to release signals that result in the growth of blood vessels in order to supply more oxygen and nutrients, which allows the tumor to continue growing and spreading into other parts of the living organism or human body.

Likewise, terrorist organizations need considerable amount of income in order to finance their activities. They need their funds laundered successfully throughout the world. The greater the access to required resources, the more likely terrorist groups will be able to plan, initiate and execute their strikes (Boyns & Ballard, 2004:15). As a means of obtaining resources, they engage in activities such as money laundering, arms trade, piracy, falsification of documents, fiscal and financial fraud, and medicine falsification, among other modalities (Fernández, 2009:595-616). When money-laundering barriers are set up in one system, they move to another (Picarelli & Shelley, 2001).

Invasiveness. One of the most important characteristics of cancer cells is their invasiveness, which refers to the ability to invade other tissues. They have the ability to invade surrounding tissues and spread to areas outside the local tissue (Weinberg, 1988:28-36). Normal cells in an organism stop growing when their plasma membranes come into contact with one another. When two normal cells come into contact, one or both will stop moving and then begin to move in another direction (Hanahan & Weinberg, 2000:57-70). In contrast to normal cells, cancer cells can penetrate the membrane of other cells. Cancer cells usually do not stop dividing after coming across with one another and they continue dividing and growing to the disadvantage of neighboring cells.

Terrorist organizations also leak to the countries and institutions to conduct their operations illicitly until they achieve their goals. According to Sandler (2003), terrorists intend to exploit the weakest-link of their opponents**.** They seek the weakest link among countries with the least secure borders physically or systematically until they establish a forward operating base as a part of their invasive nature.

3.4. Treatment/Struggle Options

The certain similarities revealed in this paper in terms of various perspectives would inspire scholars to find out the ways in which terrorist organizations could be overcome. Setting out from the analogies between terrorist organizations and cancer cells, new methods of combating terrorism, as the case in the treatment of the cancer cells would be developed. Surgery, radiation therapy, chemotherapy, targeted therapies, hormonal therapy and immunotherapy are the methods some of which could be applied to the fighting terrorism from various aspects.

Table 1: Methods developed for eradicating cancer cells/terrorist organizations

Cancer Cells	Terrorist Organizations
Surgery	Military operation
Radiation therapy	Spot operation
Immunotherapy	Upholding society's vigilance and providing public commitment
Hormonal therapy	Blocking money laundering and logistics
Chemotherapy	Attaching importance to surveillance and putting pressure on the democratic rights

If the cancer is confined to a specific location and has not spread around, the most common treatment option regarded as surgery (Kolata, 2001). This method corresponds with the military operation conducted to destroy the headquarters of a terrorist organization. However, almost always terrorist organizations do not use a particular physical location as headquarters. They organize and operate through cells spreading as a network all around the country or even around the world. Military operations would not respond the expected outcomes at that time.

If it is impossible to remove the cancer cells from the body by surgery, then radiation therapy or targeted therapy could be preferred (Dolmans et al., 2003). These methods use high-energy particles or waves to destroy cancer cells. While the destroying effects of radiotherapy are localized to the target tissue, it also would damage normal cells nearby the cancer cells. However these normal cells affected by radiation can recover from these effects by time. This method coincides with the "spot operation" launched for destroying terrorist cells hiding in highly populated areas. Careful attention should be given in order not to harm civilian people living around.

Immunotherapy refers to the treatment that supports the body's own immune system to help fight cancer. Likewise, upholding society's vigilance and providing public commitment to counter-terrorism efforts would support the nation's struggle capacity against terrorism. Today it is generally accepted that being successful in fighting terrorism is almost impossible unless public support and commitment are

provided effectively. This gives way to psychological measures and tactics to uphold the public moral and motivation against terrorism in parallel with other military measures.

Hormonal therapy implies inhibiting cancer growth by blocking the flow of certain hormones. Likewise, blocking money laundering and logistics will weaken terrorist organizations as well. As was stated earlier, terrorist organizations need considerable amount of income in order to finance their activities. Money laundering, arms trade, piracy, falsification of documents, fiscal and financial fraud, and medicine falsification were among which help these organizations afford their operating expenses (Fernández, 2009:595-616). As the cancer cells weaken and slow their proliferation without enough nutrition, terrorist organizations will also weaken and slow down their destructive activities lacking adequate finance and logistics.

Chemotherapy is the treatment of cancer with drugs. However, this method has the disadvantage of harming healthy tissues. Therefore, it should not be preferred unless other options are tried. Attaching importance to every kind of surveillance in order to provide intelligence and putting pressure on the democratic rights to tighten the "radius of action" of terrorist organizations could be associated with the method of chemotherapy. This method is known to be used widely and intensely in the Unites States after 9/11 terrorist attacks. But have caused too many critics and grumble from the public.

As can be understood from above explanations, while there exist some several treatment options for cancer cells, they vary according to the type of disease, its level of development and the patient upon whom the treatment will be applied. Similarly, terrorist organizations and the public who suffers from terrorist activities have to be evaluated altogether in order to be able to develop the most appropriate options for eliminating terrorist organizations. Sometimes, this requires implementing not just one but two or more ways of actions at the same time. As early detection of cancer is of vital importance for saving lives, so is the early detection of terrorist activities through intelligence gathering.

4. Discussion and conclusion

In this paper an organizational framework was established based on the similarities of two entities, namely terrorist organizations and cancer cells. It is argued that this approach will shed light on the major issues within organizational studies on terrorism. The genesis and properties of cancer cells are used to suggest a new approach to understand how terrorist organizations behave. According to this new approach, similar to the process of emerging cancer cell where a healthy cell transforms into a malignant cell, ending its ordinary activity and begin threatening and destroying its surrounding cells and the whole body system, a human established organization could adapt a strategy aiming at weakening or even destroying the whole system in which the organization lives in at the cost of its own existence. Though there are myriad of attempts to explain why an ordinary cell transforms into a cancer cell and why an ordinary organization transforms into a terrorist organization, the over-encompassing

and generally accepted explanations of these questions can be provided through establishment of a more advanced organizational theory.

What is apparently seem to be common in both the occurrence of cancer cells and the emergence of terrorist organizations is that both of them is associated with the weakening of the general security system (immune system for biological organisms or security systems for social organizations). So, in view of this fact, as natural scientists strive to identify the factors that weaken the immune system and establish strategies that will reinforce the body structure, scholars on the social sciences should study to determine the causes that weaken the social system and strengthen the pillars of the system both in terms of political and organizational aspects.

Looking at the structures and methods they use, the similarities between terrorist organizations and cancer cells seem to be more apparent. The characteristics of being autonomous, to some extent immortal, ambiguous and to go on with minimal communication are all the common properties as to the structure they adapt. Mobility, secrecy, invasiveness and increased supply requirement could be regarded as common methods both terrorist organizations and cancer cells prefer.

This article represents a necessary first step for formulating a new approach to the organizational research regarding terrorist organizations. With this new approach, it is expected that a greater and deeper understanding of such organizations will be achieved. Although this framework represents an advancement in understanding terrorist organizations, future research is necessary to move this framework to a more comprehensive and generalizable understanding of these organizations. While this theoretical approach is not applicable to all aspects of terrorist organizations, it offers important insights for understanding and struggling with these organizations. A better and deeper understanding of these organizations will help policy makers, politicians and homeland security managers to deal with the security related problems more effectively. Providing the limitations of the known organization theories and approaches in explaining terrorist organizations' nature, this study will help fill the gap in this field and provide a deeper and better understanding for developing effective anti-terror tactics and strategies against these organizations.

The contribution of this study to the literature is multi-faceted. First, this could be regarded as one of the studies to benefit greatly from organic theories for the analysis of terrorist organizations. Second, this new perspective opens new research opportunities for further researches. And third, it provides insights for homeland security managers and politicians to develop new and effective strategies for combating terrorism.

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