THE NORTHERN IRELAND PROBLEM AND THE INNOVATIVE ACTIVITIES OF THE IRISH REPUBLICAN ARMY

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Abstract

The Northern Ireland Problem, which began in the 20th century but traces its roots back to the early 17th century when England set foot on the Ireland island with the aim of colonization, is a complex historical matter. The Irish Republican Army (IRA), which struggled to unite Northern Ireland with the Irish Republic, was established in the early 20th century and has been classified as a terrorist organization by many countries. The activities of the IRA represent both a chapter in the history of modern guerrilla warfare and one of the earliest examples of organized structures against nation-states. Among the distinctive and unique initiatives that set the IRA apart from other terrorist organizations are found within its activities. In this context, the study aims to examine the innovative activities that differentiate the IRA from other terrorist organizations and have influenced some terrorist groups worldwide. The purpose of this study is to conduct an in-depth analysis of the innovative activities of the IRA and analyze their origins.

Keywords: Irısh Republican Army, Ireland, Ulster, United Kingdom, Terrorism.

KUZEY İRLANDA SORUNU VE İRLANDA KURTULUŞ ORDUSU'NUN YENİLİKÇİ FAALİYETLERİ

Öz

Kuzey İrlanda Sorunu 20. yüzyılda başlayan fakat kökeni İngiltere'nin İrlanda adasını sömürgeleştirme amacıyla ayak bastığı 17. yüzyıl başlarına dayanmaktadır. Kuzey İrlanda'yı İrlanda Cumhuriyeti ile birleştirmek için mücadele veren İrlanda Kurtuluş Ordusu (IRA) ise 20. yüzyıl başlarında kurulmuş ve birçok ülke tarafından terörist örgüt olarak tanımlanmıştır. IRA'nın faaliyetleri hem modern gerilla savaşı tarihi hem de ulus devletlere

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karşı organize olan yapılar arasında ilk örneklerden birini teşkil etmektedir. IRA'nın faaliyetleri arasında kendisini diğer terör örgütlerinden ayıran ve şahsına münhasır kılan yenilikçi girişimleri bulunmaktadır. Bu bağlamda çalışma, IRA'yı diğer terör örgütlerinden farklılaştıran ve dünyadaki bazı terör örgütlerine öncülük eden inovatif faaliyetleri incelemeyi amaçlamaktadır. Bu çalışmanın amacı IRA'nın söz konusu inovatif faaliyetlerini derinlemesine incelemek ve kökenlerini analiz etmektedir.

Anahtar Kelimeler: *İrlanda Kurtuluş Ordusu, İrlanda, Ulster, Birleşik Krallık, Terörizm.*

Introduction

The examination of the Northern Ireland Conflict, known as 'The Troubles,' is imperative for a comprehensive understanding of the Irish Republican Army (IRA) and its activities in contemporary contexts. Broadly speaking, the British and Irish islands are inhabited by two distinct communities originating from roughly two different ethnic backgrounds. The initial settlers on the islands were communities of Celtic origin. Another community consists of the Angles, who now largely constitute the English society in present times. Although the Celts historically share a common origin, they have fundamentally divided into three main groups over time. Two of these groups are the Scots and the Gauls (Gaelic-speaking Celts), who coexist on the same island as the English. The third group comprises the Irish, who play a central role in the Northern Ireland Conflict. The Irish, residing on an island to the west of the British Isles, had settled homogeneously long before the arrival of the English on the British Isles. However, after achieving political unity in the British Isles, the English separated from Roman Catholicism and established the Anglican Church. Ireland, both in terms of national consciousness and geographical location, has historically diverged from Britain. This divergence has manifested itself, not only in cultural and national terms but also in religious dimensions. Ireland has persisted as a predominantly Catholic society adhering to its traditions. The allegiance to the Catholic Church has fostered a closer affinity with Continental Europe compared to England. Conversely, Ireland, juxtaposed against the formidable power of Great Britain, has sought to balance its strength through diplomatic ties with Continental Europe (Wright, 1996, p.17).

The fundamental motivation preventing the assimilation of Ireland into England was primarily rooted in the religious/sectarian dynamics. In this context, Irish Catholicism, to a certain extent, has served as one of the crucial elements shaping the identity of the Irish nation. This divergence stands as a significant factor that thwarted England's colonization of the Irish island. However, England's colonization process began long before its global dominance in the 19th century, primarily focusing on its immediate surroundings. In the early 17th century, the colonization movement of the Irish island was initiated by King James I of England. Although

the Irish island was governed by the Irish Autonomous State from 1542 to 1800, despite the presence of the English castle in Dublin, uprisings led by Irish lords were recurrent throughout history (Perceval-Maxwell, 1999, p.55).

In this context, following the Nine Years' War and the subsequent defeat of the Irish Alliance, formal colonization of the Ulster region of the island was initiated in 1609 by King James I of England. During the colonization process, King James began settling the Ulster region with colonists from the Lowlands region of Scotland and the northern regions of England, following the defeat in the Nine Years' War. A key criterion in the selection of settlers for Ulster was their adherence to Protestantism and loyalty to the king. Prior to the onset of English colonialism, the Ulster region could be described as an area entirely inhabited by the indigenous population of Ireland (Kennedy and Ollerenshaw, 2013, p.142).

The roots of the contemporary Irish Problem trace back to the colonial period, particularly the initiative known as the Ulster Plantation. This colonization movement, which took place in the northeast region of the Irish island known as Ulster, profoundly altered the demographic composition of the area. England's activities in Ireland during this period played a crucial role in uniting and consolidating national consciousness in the face of the existing problem within the Irish society. In other words, this issue stands as a fundamental motivating factor that binds together the Irish Republic. From the independence of the Irish Republic in 1919 to the present, the Irish Problem has evolved into a different dimension. Transitioning from being an internal issue within the same country, it has persisted as a concern involving two countries and the inclusion of both nations in its resolution. In the Ulster region, Nationalists advocate for the region's integration into the Irish Republic, while Unionists, supporters of the Kingdom, seek to maintain the region within the United Kingdom. The Sinn Fein party, representing the primary political faction desiring a change in the status quo and the integration of the region into the Irish Republic, forms the fundamental political pillar, while the Irish Republican Army (IRA) constitutes the primary armed organizational component (Holland, 1999, p.221).

The IRA has evolved into an organization of global prominence, drawing attention not only for its historical background but also for the methods it employed. Notably, the tactics and weapons developed by the IRA have captured the interest of other terrorist groups worldwide, leading them to consider the IRA as a model for emulation (Clancy, 2010, p.7-32). Consequently, the examination of the IRA and its developmental trajectory stands as an essential area of inquiry, particularly concerning innovation.

This study fundamentally aims to examine the innovative activities of the IRA concerning handmade bombs and the dynamics that propelled such activities. In addition, the areas where the mentioned activities of the IRA were implemented will be analyzed. An attempt will be made to address the question of why the IRA chose to employ innovative activities in these areas and utilize the technologies it developed.

1. IRA and Innovation

From its establishment until the early 1970s, the IRA engaged in amateurishly conceived, creativity-lacking bombings that caused "relatively" limited harm to the surroundings. However, leading up to that period, the IRA had managed to make significant progress in the realm of bomb attacks. The organization demonstrated considerable advancement in utilizing sophisticated technologies for bomb attacks and bomb-making. Over time, as the IRA found itself unable to contend effectively with British security forces, it pushed itself in an innovative and creative direction, experiencing substantial development. It can be asserted that, after the mid-1970s, the IRA became the world's most innovative and experienced terrorist organization in the field of bomb attacks.

In terrorist organizations, various innovations exist, and according to different researchers, terrorist groups have historically struggled to introduce significant innovations. They have generally shown a tendency toward traditional and conservative behavior in their attacks. This tendency constitutes one of the factors that increase the predictability of terrorist organizations, creating a disadvantage for them. The most crucial way to overcome this situation is the necessity for terrorist organizations to incorporate game-changing innovations in their attacks and activities. Essentially, three main categories of innovation can be identified. The first is tactical innovation. For example, the IRA, leveraging technology in its activities, has made changes to its tactical activities, successfully drawing attention. Notably, the use of mortars and bomb-laden vehicles should be considered among the most significant tactical innovations. They inflicted serious damage on security points with mortars and managed to deeply impact the economic life in Northern Ireland with bombings using vehicles. Second, tactical diversification can be discussed, where the political aspect becomes more important than technology. After the 1980s, the IRA, along with its political wing Sinn Fein, made significant progress in political representation. Thus, an opportunity to sit at the negotiating table was obtained. Third, innovation in the organization's structure can be considered. Particularly between 1977 and 1980, the IRA transitioned to a cell-type organization, achieving success in its actions and managing to enhance its secrecy. The strategy of allowing independent

action in cells and delegating initiative to small groups successfully challenged conventional security forces and British intelligence (Smith, 1997, p.145).

2. Creativity, Innovation, and the IRA

It can be asserted that creativity and innovation are not synonymous terms. Creativity defines the generation of novel ideas both conceptually and in terms of content. However, innovation signifies the implementation of these concepts. In other words, innovation inherently involves experience and application. It must be emphasized that this rule is applicable in the context of terrorism and security as well.

For a terrorist organization to implement innovation, it must first undergo a creative process on a conceptual level. Furthermore, the organization must simultaneously possess the capability to realize this creativity in practice. Therefore, innovation must encompass creativity but represents a further step beyond creativity. In the case of the IRA, innovation has been particularly fruitful between 1970 and 1980, unlike any other period in its history. The historical reasons for the emergence of innovation during these years can be traced back to various factors. Firstly, the financial decline of the British Empire occurred during and after the First World War. Additionally, the establishment of the Irish Republic took place after this war. As Lev Nikolayevich Gumilov noted, young and dynamic countries are those that have recently gained independence and prioritize national sentiments (Gumilev, 2003, p.47). In this context, the dynamism resulting from recently gaining independence in Ireland directed its focus toward the Ulster region. The primary objective of the Irish Republic became the expulsion of Britain from this region and reclaiming its traditional lands from England. In this context, the emergence of Sinn Fein and the associated terrorist organization gradually unfolded during the mentioned period (O'Doherty, 2011, p.59).

If we exemplify the activities of the IRA concerning innovation, it can be stated that they engaged in interesting experiments at the outset of activities that could be associated with innovation. For instance, the IRA used condoms as time delay devices in their homemade explosives. This innovative but peculiar method lost its effectiveness in the face of certain societal norms. To delay the time in homemade explosives, group members placed sulfuric acid inside the condom. The acid would eventually dissolve, activating the explosive. This approach posed two fundamental drawbacks. Firstly, due to the unpredictable nature of the acid's ability to dissolve the condom, it created a significant security vulnerability for the person preparing the device. Secondly, it originated from the prohibition of condom use by the Catholic Church, one of the fundamental values the IRA relied on. Consequently, members of the organization

did not want to keep condoms in their homes. Another example of a creative idea that did not succeed in practice is the attempt to execute attacks through sewer channels using gel bombs (Oppenheimer, 2009, p.202). On August 10, 1971, the IRA attempted to launch an attack on a British Army barracks by sending a gel bomb weighing approximately 23 kg through a sewer pipe. However, due to using the wrong sewer pipe, the bomb exploded under an empty barrack. As these examples illustrate, both the experiences gained by the organization and the creative ideas it generated are significant. Another example is from May 1992 when IRA militants stole an excavator, removed the tires of a truck, lifted it with the excavator, and placed it on train tracks. They filled the truck bed with explosives and attacked a police station unmanned on the path of the tracks. In this attack, one on-duty officer lost his life. In 1974, IRA forcibly commandeered a helicopter, taking the pilot hostage, and attacked a police station with two milk churns dropped from the air. One churn got stuck in the helicopter door and couldn't be thrown, and the other was thrown but bounced off the ground, landing in a different garden without exploding. Another example is an action in which a bomb was suspended from a chimney into the home of a couple who were RUC (Royal Ulster Constabulary) members using a rope. The bomb was detected before it could be detonated and rendered ineffective (Ryder, 2005, p.38).

All of these examples are valuable in providing insight into how the factor of creativity is directed in the actions of the IRA and the stages through which this creativity progresses towards innovation.

3. The Factors Driving Innovation in the IRA

There is a common misconception regarding creativity and innovation. This misconception assumes that individuals or groups seeking creativity suddenly discover innovation. The example of Newton's apple falling on his head often comes to mind—a process that seemingly occurs spontaneously. However, in real life, innovation does not emerge in such a manner. Generally, innovation presents itself as a process that follows a certain sequence and requires time. Initially, the process involves identifying the general problem, followed by the generation of ideas to solve the problem. Subsequently, there is the process of implementing and experiencing the emerged idea. These processes are interconnected and sequential (Anderson and Gasteiger, 2007, p. 422-440).

In terrorist organizations like the IRA, innovation appears to be analyzed from both macro and micro perspectives. From a macro perspective, factors such as the overall situation of the organization in the Irish and British islands, the learning and analysis of contemporary

counterterrorism practices of the United Kingdom, measures taken to mitigate competition among groups within the organization hindering innovation, political opportunities, and factors related to receiving support from foreign countries have been deemed significant. From a micro perspective, elements such as the age of organization members, individual motivation, the individual incentive system, the element of trust, individual financial support, risk-taking, assigning tasks and responsibilities to those with individual leadership qualities, the transfer of expertise and experience within the organization, and the security of organization members come to the forefront (Amabile, 1996, p.136).

Only through the correct synthesis of these macro and micro factors, facilitating innovative activities, can effective innovation emerge. In this context, the most noteworthy and globally impactful innovative activity associated with the IRA is the unique mortar system that comes to mind when the IRA is mentioned worldwide. It should be emphasized that the sole innovation attributed to the IRA is not limited to the mortar system, but it is undoubtedly the most time-consuming and labor-intensive innovative activity undertaken by the organization (Dewar and Dutton, 1986, p.1422-1433).

3.1. The Development of the IRA and the Mortar

It is possible to evaluate the innovative activities of the organization roughly in two dimensions. The first involves innovative activities in the organization's operations that are sudden, revolutionary in nature, and create a significant impact. The second pertains more to developments over time, adapting existing technology to organizational activities, gradually and slowly advancing applications compared to the example given initially (Dewar and Dutton, 1986, p.1422-1433).

The IRA's mortar innovation is an example that aligns with the second point mentioned above. Despite being a system known and applied in warfare for centuries, the IRA managed to adapt the mortar system to its operations. In response to the increased fortification of United Kingdom police stations and barracks, the IRA needed to develop a weapon capable of providing remote firing to evade fortifications. Known as the 'spigot grenade' by the United Kingdom Army, it operated with a system fixed in place and mounted on a conventional pump-action shotgun. It consisted of a rather primitive system, with approximately one kilogram of explosives wrapped in a 15 cm tube taped to a wooden handle. This system posed a danger to the user. As mentioned earlier, user safety was of high priority in any IRA military action. Therefore, the 'spigot grenade' was quickly abandoned, and efforts were directed towards systematically developing safer, more accurate, and destructive mortars (Ryder, 2005, p.38).

The first-generation mortars of the IRA emerged for the first time in June 1972. According to Explosive Ordnance Teams (EOD), the nose and fuse of the mortar were termed as a 'clever design.' However, many triggered first-generation mortars did not explode due to the angle of contact of the fuse. Additionally, some of these mortars exhibited a tendency to spin in flight, resulting in a failure to progress towards the target. The first-generation mortar, which lacked a trigger mechanism or a safety device, proved to be highly dangerous for the organization members. Therefore, the first-generation mortar was only used twice, prompting the organization to continue the innovation process and further develop the mortar (Jackson, 2005, p.93-140).

In December 1972, the second-generation mortar came into use. Innovatively, the mortar, operating with one kilogram of explosive, was fired through a timing mechanism attached to an L-shaped plate on the ground, instead of a trigger mechanism. The timing mechanism was set to 5 seconds, ensuring the safety of the organization member using the mortar. The second-generation mortar was used 25 times over four months. However, this generation also faced some drawbacks. The most significant issue was the difficulty in securing the L-shaped plate, leading to deviations from the target. This problem was identified as the primary reason for developing the next generation (Ryder,2005, p.216).

In June 1973, the IRA employed the third-generation mortar a total of 16 times in the cities of Derry and Omagh. The explosive used, being approximately half the weight of the explosive used in the second-generation mortar, extended the firing range to 250 meters. Despite the third-generation mortar demonstrating improved accuracy in hitting the target compared to the first two generations, it encountered different challenges. The explosive mixture used in the mortar contained substances such as sodium chlorate and high-grade crystalline ammonium nitrate. This mixture led to premature detonations either during ignition or while progressing through the air before reaching the explosive target. Nevertheless, the third-generation mortar was utilized 105 times in 14 separate attacks within six months (Ryder, 2005, p.215).

The fourth-generation mortar was first employed in February 1974, and the IRA succeeded in extending the firing range of this mortar to 400 meters. The destructive power of the mortar was enhanced by adding ball bearings and shrapnel. However, due to the absence of any safety mechanism in the ignition system, jeopardizing the safety of militants, the fourth-generation mortar was abandoned within six months of its initial use. Following this generation, a fifth-generation mortar was developed but never utilized. This mortar, featuring a rudimentary

mechanism with an approximate range of 25 meters, was seized in May 1974 due to the United Kingdom's effective intelligence, preventing its use in any operation (Oppenheimer, 2009, p.231). It is possible to characterize all efforts leading up to the development of the sixth-generation mortar by the IRA as primitive war devices. However, with the introduction of the sixth-generation mortar, we can assert that the IRA managed to meet military standards (Ryder, 2005, p.230).

We can assert that the sixth-generation mortar, first deployed in September 1974, was the first reliable military equipment developed by the IRA. For the first time, propellers and fins were employed in the mortar, increasing the range to 1200 meters. This provided the organization with significant advantages during the use of the mortar in operations. Additionally, the base plate of the troublesome mortar mentioned in the early generations was elevated to military standards, enhancing durability. New electronic components were introduced for timing and ignition, and a remote control mechanism was utilized, making a substantial contribution to operational security. The organization, successful in producing a mortar that met world military standards, employed this generation in attack activities over the following years (Oppenheimer, 2009, p.231).

The main difference in the 7th and 8th generations of mortars from the 6th generation was the inclusion of more explosive material. However, in these two generations, there was an increase in the deviation rate from the target. Especially, the 8th Generation Mortar was designed as a combination of some features from previous generations. They used the tail fins of the 3rd generation mortar and the wind-operated propeller of the 6th generation mortar in the 8th Generation. They almost quadrupled the mortar tube and thus managed to increase the explosive capacity to six times. Additionally, electronic mechanisms were added to the 8th Generation mortars, and they were electronically launched with a 2.5-second gap between each shot. This mechanism became a standard feature in later models. The fundamental motivation for the changes made in the 8th Generation mortar appears to be to cause more damage with a higher amount of explosive (Ryder, 2005, p.230-240).

In the 9th generation mortar, the goal remained to develop a mortar that would cause more damage than the previous generation. In this context, the bomb system was completely changed in the 9th generation; the mortar tube was shortened and widened, and a 5 kg gas cylinder was used. Due to the risk of early detonation of the industrial gas cylinder, a remote control mechanism was employed. Despite experiencing high target deviations, this generation was preferred due to its high explosive effect (Ryder, 2005, p.230-240).

The 10th generation mortar, launched by the IRA in 1979, was frequently used in Northern Ireland. One reason for this could be attributed to its production of the first death case related to the mortar in April 1980. Simultaneously prepared for the Downing Street attack in 1991, this mortar had the capacity to detonate 11 kg of explosives up to 300 meters. The Downing Street attack involved mortars slightly larger than 10 cm in diameter and 120 cm in length. Additionally, the 10th generation mortar emerges as the first IRA mortar with multiple launch capabilities. It successfully produced a complex mechanism with both electronic control and a mechanical mechanism fixed with pins to weights at the base of the mortar. The electronically fired device had a high probability of target deviation. An interesting mechanism was employed in the 10th generation as well: the mortars included an incendiary designed to eliminate evidence by causing a fire after firing. This kit was later standardized in subsequent models (Ryder, 2005, p.40).

The range of the 11th generation mortar was extended to 500 meters, and, unlike its predecessors, it could carry 50 kg of explosives. It emerged as a product of IRA's motivation to use more explosives and cause greater damage (Ryder, 2005, p.232).

The 12th generation mortar, despite being a smaller model, had a capacity to carry 2.5 kg of Semtex (a highly powerful plastic explosive). It was first used in 1989 and can be considered a unique firearm, as it cannot be precisely labelled as a mortar. Describing it as a mortar, armor-piercing rocket, hand grenade hybrid could be more accurate. It was used against armored vehicles regularly employed by the UK Army and achieved significant successes in its operational use (Ryder, 2005, p.40).

Up to the 13th generation, we observed that in mortars developed by the IRA, the factors of excessive explosive and range could be considered as elements that need to be sacrificed for each other. To increase the range, explosive weight should be reduced, and to increase explosive weight and effect, there is a need to sacrifice range. With the 13th generation in 1990, the IRA began to focus again on causing significant damage with more explosives. In this generation, they developed a mortar that could carry 36 kg of explosives but was fired at a short range. In 1992, in the 14th generation, they developed a mortar that could carry a relatively lower 20 kg of IED (Improvised Explosive Device) but had a longer range compared to the previous generation (Ryder, 2005, p.16).

In the 15th generation used in 1992, significantly more explosives were used compared to previous versions. A total of 75 kg of explosive was utilized, and in addition, coins were placed inside the explosive to create a shrapnel effect during the explosion. The 15th generation

mortar gained notoriety as a barracks hunter. Firing and targeting mechanisms were improved, and deviations from the target were reduced. The firing range was extended to 100-150 meters. The mortar, three meters in total length, was fired from a barrel and triggered by a photoflash bulb attached to the bucket of an excavator. The 15th generation became a high-impact mortar with its unique features, and its reuse was not possible. IRA's choice reflects their tendency to use everyday items to avoid detection by UK intelligence and security forces (Ryder, 2005, p.16).

From 1994 to the present, the 16th generation mortar has been more frequently used. With the 16th generation, the design returned to the previous models held on the shoulder, and a horizontal mortar similar to the 11th generation was created. The single-use mortar, fired from a 75 cm long tube, had a more compact design that could hit from 50 meters. The 16th generation mortar contained one and a half kilograms of Semtex. With the high impact of Semtex, it became capable of penetrating armored vehicles (Horgan and Taylor, 1997, p.1-37).

It can be said that IRA's development of mortars in a total of 16 generations was the result of a 22-year accumulation between 1972 and 1994. The features of mortars were developed considering factors such as the target, the applied area, and the safety of organization members. Particularly after the 6th generation, with the experiences gained, mortars that resonated worldwide emerged.

In the development process of the mortar, both individual and institutional dynamics played a role. Especially after the 1970s, one of the most important departments of the IRA became the Engineering Department. Individuals who played a significant role in the Engineering Department were sometimes talented amateurs who learned the trade in their kitchens. Among the most important of these was Shane Paul O'Doherty, who made a name for himself in the production of mortars and bombing equipment in the 1970s. In the 1980s, Patrick Flood became a prominent figure (Ackerman, 2016, p.12-34).

From the 1980s onwards, a few trained experts, rather than amateur terrorists like Patrick Flood, stood out in the Engineering Department. Among these names, Richard Johnson and Eamon McGuire are prominent. These individuals received education in electrical engineering and aviation engineering (McGuire, 2006)

In addition to educated individuals, it has been understood that uneducated individuals infiltrated military sources through various means and gained knowledge about bomb devices and production. Some received training in countries that supported them, such as Libya. One

of them is Patrick Magee, who went to Libya in the 1970s, the golden age of mortar production. In addition to these names, Frank McGuiness and Gabriel Cleary, who researched military information of Russian and German origin from the first half of the 20th century for the organization, are considered figures who succeeded in accessing these sources and laid the foundation for the first mortar adventure (Moloney 2002). These names appear as significant figures in the organization's Research and Development department. Alongside these names, other individuals who made substantial contributions to mortar development within the organization include Bernard Fox, Ciarain Chambers, and James Monaghan, known as 'Mortar.' (Paul and Horgan, 2013)

4. The IRA and the Technological Development Process

The IED systems of the IRA were primitive in structure before the 1970s. This simple and primitive structure emerged as a fundamental factor that facilitated the work of bomb disposal experts. However, in the late 1970s, the IRA began to incorporate secondary simple mechanisms as an innovative activity into the IEDs. These secondary devices were generally preventative or countermeasures against opening and could be defined as a kind of micro-switch system. With this small innovation, by the end of the 1970s, two bomb disposal experts from the UK security forces were killed.

The innovation activities of the IRA and the measures taken against them developed rapidly. In terms of IEDs, the primitive methods initially used were followed by the use of commercial explosives, small mechanical switch systems mentioned above, timers for use in vehicles, explosives sensitive to light sensors, and infrared systems (Ryder, 2005, p.40).

The returns of these developments and innovative activities were especially used in mortar attacks associated with the IRA. Organizational learning experienced through the inclusion of electronics in IEDs subsequently led to radical innovations in electronic timer units, radio initiation systems, and much later, infrared and light sensor initiation systems (Ryder, 2005, p.118).

Another innovation of the IRA stemmed from the strict controls imposed by UK legislation on materials that could be commercially obtained and used in explosive production. After the effective implementation of this control mechanism, the IRA turned to homemade explosives. However, the difficulty of carrying and storing such explosives due to their larger size led the organization to strategically shift towards car bomb applications. This method not only attracted less attention but also provided the required additional space for IEDs. Thanks to

the electronic igniters and timers mentioned above, effective results were obtained from the bombs placed inside vehicles. The explosion of the fuel inside the vehicle along with the IED also became a factor enhancing the bomb's impact (O'Callaghan, 1999, p.66).

After stringent measures by UK law enforcement, car bombs were eventually replaced by minibuses. As minibuses were larger, they could carry more bombs and were more effective. This method employed by the IRA also indicates that development and innovation are, in fact, reactionary movements (Ryder, 2005, p.152).

The use of minibuses did not prove to be a long-term solution due to the measures taken. Instead, the IRA focused on developing easily concealable and effective methods. Consequently, they devised various designs to inflict material damage on UK elements. Towards the end of the 1970s, an incendiary explosive was developed. This explosive included an electronic timer unit and an apparatus connected to a container filled with petrol. Metal pipe pieces were added to enhance the explosion's impact. This explosive caused more damage than conventional IEDs, as it increased the explosive force and resulted in post-explosion fires. The British military statements suggested that the primary cause of explosions resulting in fires in this new IRA method was petrol (Ryder, 2005, p.190).

In addition to the innovative activities mentioned above, the IRA made significant efforts to address a fundamental issue. The issue in question was the prolonged nature of the timer used in explosives. The longer the timer, the more time the organization member placing/using the bomb would have to escape. Therefore, they conducted serious studies on the timer issue. The longest delayed device known was used in an assassination attempt on Margaret Thatcher. In this assassination attempt, the IRA used a video player for explosive timing and managed to set the explosion approximately 24 days later. However, after the failure of this method, its widespread use did not materialize. Factors influencing innovation, as discussed so far, have continuously changed and, as mentioned earlier, have been built on a reactionary stance. When approached more results-oriented, the organization did not achieve much success in terms of innovation (Hennessey, 2013).

So, how should we evaluate the phases of IRA's innovation process from the late 1970s to the present? To answer this question, it will be necessary to categorically examine the dates and turning points.

Firstly, the structural change in the IRA occurred in 1977. This change was necessitated by the need for structural reform to prevent infiltrations into the organization due to pressure

from British intelligence (Coogan, 2000, p.465). A plan titled 'Personnel Report,' seized from an organization member named Seamus Twomey by the UK, emphasized the need for secrecy and a shift to stricter discipline. The report created new sections within the organization, outlined new cell structures for urban-based operations, and highlighted new cell structures for command and functionality. The structures of these new cells defined the new role of IRA's women and youth branches, established a new auxiliary unit to take on policing duties in Catholic strongholds, and brought the political wing Sinn Fein to the forefront. These changes reduced the emphasis on volunteerism, prioritizing secrecy and discipline. In this context, bomb makers became more centralized within the organization from 1980 onwards (Coogan, 2000, p. 465).

The most important factor leading to structural change was the routine nature of actions and the British intelligence beginning to adapt. If the actions of a terrorist organization become routine, intelligence efforts to counteract them become easier, as the organization's actions become more predictable. In this context, the IRA felt the need for structural changes to break the mentioned "routine," triggering one of the motivating factors for innovation (Paul,Lee,Rethemeyer,Horgan and Asal, 2014, p.52-78).

When comparing the peaks and declines of innovation, it is crucial not to overlook external aids. During times when external aids were absent or very limited, the IRA engaged in more innovative activities. However, when external aids increased, innovation decreased. For example, in the 1980s, when Libya provided the IRA with weapons and explosive support, innovation was less necessary, indicating a relatively diminished need for innovation within the organization (Paul and Horgan, 2013, p.435-456).

Conclusion

The impact and traces of the IRA, motivated by the aspiration for the unification of the island of Ireland and the cleansing of the Ulster region from Protestants and foreigners who arrived from the neighboring island centuries ago, can still be observed in Belfast today. During our visit to Belfast in 2014, we made observations, particularly to witness the Northern Ireland Conflict firsthand. It is possible to assert that social segregation was at its peak during these observations. Belfast may well be among the foremost unsafe cities in Europe. Although we have discussed the historical factors that reveal this, when wandering through the neighborhoods of the city, the segregation and insecurity in the city, perhaps due to its infrequent appearance in the media, are inevitably unsettling. A wall, named the Peace Wall, divides the city. On this wall, one can see pictures and writings of various terrorist leaders

supported by the IRA. For example, images and symbols such as the terrorist leader Abdullah Öcalan, Yasser Arafat, and the Catalonia flag can be found on the walls. In the same city, on one side, there is a statue of Queen Victoria, revered by supporters of the United Kingdom in the city square, and on the other side, one can see the graves of deceased militants of the IRA and the sites they call martyrs. In this context, it can be said that the IRA actually operated in an environment where it was difficult to be distinguished and detected by the British Army. As for the activities of the IRA, it can be said that they emerged as one of the longest paramilitary organizations in modern times. What truly brought the IRA to the forefront globally was the IED technology and, consequently, the mortar technology it developed. While the IRA was indeed a terrorist organization with a broad repertoire, including classic armed attacks, kidnapping, assassination, hostage-taking, and sniper attacks, what stood out most was their expertise in IED and mortar technology. The IRA's expertise in this regard has advanced to the point of transferring technology to other terrorist organizations worldwide. The IRA's mortar technology has surfaced in conflicts in Israel, Spain, Afghanistan, Colombia, Lebanon, and Iraq. Therefore, the IRA's mortar technology has proven to be pioneering on a global scale.

The innovations of the IRA were designed in the two regions of Northern Ireland where it operated for approximately 30 years. Moreover, only 7 years out of the 30 emerged as the actual years of innovation. Especially, the South Armagh Brigade stood out in innovation activities. Considering that the IRA's innovative activities occurred within a limited time frame (7 years) and only in two of the six operational regions over a period of 30 years, when examining the scale of innovations over time, it suggests that the productive outcomes of tactical innovations by a terrorist organization may be interrupted when some of the influencing factors are eliminated or when a routine set of behaviors and tactics institutionalizes. Ultimately, despite emerging in a limited region and within a limited time frame, the innovative activities of the IRA have had a global impact and have been transformative developments that have influenced other terrorist organizations.

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