

## **Game Theory and Hostage-Taking Incidents: A Case Study of the Munich Olympic Games**

*by*  
*Reuben Miller*

### **INTRODUCTION**

This study examines closely a hostage-taking incident that marked a turning point in the war against international terrorism. After the attack on the Olympic camp in Munich in 1972, Western European governments began formulating policies and creating anti-terrorist units to combat international terrorism. While most analyses focus on the direct demands and outcomes — the start and end of specific terrorist events — this study examines the evolution of the attack initiated by the Black September Organization (BSO) at the Olympic Games in Munich in 1972.

Although many hostage-taking situations share similar tactical features, each incident is unique with dynamics of its own. The Munich incident was the first experience for the BSO in the international arena. The lessons learned in this case were applied later in Bangkok, Khartoum, and elsewhere. Both terrorists and governments learn from past experience and incorporate their observations into other incidents. Hence, we can see a progressive evolution not only within each event of hostage-taking but also from case to case.

Hostage-taking situations are fluid. Each case differs in terms of numbers of actors, their goals and motivations, personalities of the perpetrators, and other variables which distinguish one event from another. Many of the different characteristics are often discovered through bargaining and negotiations.

This article has several distinct parts. Initially, an outline of a hostage-taking incident will be drawn, followed by a breakdown into three stages which are common to such events. The second segment will detail the game theoretic framework that will guide the analysis of the Munich Olympic incident. The third part will focus on the particulars of the Munich case and its evolution. Within this context attention will be given to the actors, their roles, positions, and policies. The next section of the Munich case will concentrate on the process of demands and negotiations. It will be followed by a discussion of the risks, costs and benefits for the terrorists and the government. The last section will analyze the German policy in September 1972 and the complex decision-making encountered in this crisis. Finally, the findings will be highlighted.

### **STAGES OF A HOSTAGE-TAKING INCIDENT**

Usually kidnapping events have at least three stages: attack and hostage-taking; demands and negotiations; and termination of incident. The two basic types of kidnapping are barricade/siege, and hideout. Table 1 shows the three

stages of kidnapping against the differences between barricade/siege and hideout.

Table 1

STAGE	BARRICADE/SIEGE	HIDEOUT
<b>ATTACK</b>		
1 Hold hostages	Usually	Always
2 Location	Known	Unknown
3 Under observation by authorities	Yes	No
4 Access for terrorists	No	Yes
5 Terrorists' food supply	Dependent	Independent
6 Incident's duration	Short (Usually)	Long (Always)
<b>DEMANDS AND NEGOTIATIONS</b>		
1 Communications	Always	Sometimes
2 Terrorists issue demands hold hostages	Always	Usually
initiate negotiations	Yes	Yes
3 Government initiates negotiations	Can	Always
	Can	Cannot
<b>TERMINATION</b>		
1 Terrorists execute hostages	Yes	Yes
release hostages	Yes	Yes
surrender	Yes	Yes
escape	Yes	Yes
shoot-out	Yes	Yes
shoot-out-escape	Yes	Yes
2 Government resists	Usually	Sometimes
assault	Usually	Sometimes
comply	Sometimes	Usually

**Attack and Hostage-Taking**

This is the most unpredictable stage and thus constitutes a crisis induced situation. The abductors have the initiative and the advantage of anonymity, surprise and control. Whether they are in a barricade/siege or hideout setting they issue the challenge to the host and target state, which must respond.

There are logistical and physical distinctions between the two situations. In a barricade/siege the kidnappers and their victims are besieged in a familiar site known to the authorities. Thus, hostages and terrorists alike depend on the government's will to sustain the logistical needs of food, water, medical attention and electricity. A quasi-symbiotic relationship between abductors and hostages exists. Each is a guarantor for the other, while both depend on the authorities' willingness to replenish the besieged. A major distinction

between the two situations is that in a hideout the terrorists enjoy anonymity, relative security and mobility. They have free access devoid of the government's actions and policies. However, this condition will change if and when the hideout location is discovered by the authorities. Then, the hideout situation is transformed into a siege, as long as the terrorists and hostages remain at the same location. On the other hand, if the perpetrators and their victims escape before the authorities successfully besiege the site, then the condition of hideout continues.

In a barricade/siege terrorists usually hold innocent victims. However, at times they have stormed a building or offices without holding any hostages. The place itself becomes "hostage." It can be a national monument, a symbolic site with some historical or other significance. Since the terrorists barricade themselves in the condition that follows is siege, surrounded by security forces and other characteristics mentioned in Table 1. Even then, with no hostages at hand, the authorities at times are compelled to follow the other stages listed in Table 1 because of the symbolic importance of the place. However, the authorities may choose to storm the building if no hostages are involved. Other methods can be employed by the authorities, such as cordoning off, or starving the terrorists out. Under those conditions the authorities do not have to follow the other stages, especially the Demands and Negotiations stage. By comparison, in a hideout, if there are no hostages, the authorities do not have to follow with the other stages.

### **Demands and Negotiations**

Demands are issued, but the type of demands may vary in each incident. Placing demands marks the beginning of the first phase of negotiations. A common denominator that contributes to prolonged hostage-takings and kidnappings is the extended process of negotiations, which makes an incident more complex, especially in reaching a solution. The seizure of a Dutch train on 2 December 1975 by South Moluccan extremists illustrates such an event.

At this stage:

The hostage taker will begin his attempt at a coercive value exchange, and the target will respond. It will continue until one actor makes an irreversible decision on how to end the incident, either with or without the agreement of the other.<sup>1</sup>

In a hideout situation negotiations are initiated by the terrorists as the kidnapping of Aldo Moro on 16 March 1978 illustrates. In a barricade/siege the government can initiate the bargaining without waiting for the terrorists to begin.

In a barricade situation the terrorists always issue demands, even if they do not hold hostages. At times, the occupation of a public building, with no hostages, is symbolic enough from the terrorists' perspective. The perpetrators usually offer to release the occupants of the site in exchange for some demands. This condition is distinctively different from a hideout in

which the terrorists enjoy relative safety and do not have to issue demands to the authorities.

### **Termination**

The last stage of a hostage-taking can end in different ways. At times the terrorists have executed the hostages whether it was a barricade/siege or a hideout. The execution of hostages could be a last resort from the terrorists' perspective. Since the perpetrators cannot see a desirable conclusion to the event or because they notice preparations for an assault, out of frustration they may take the lives of their hostages, and at times even commit suicide. The Savoy Hotel incident in Tel-Aviv on 5 March 1975 captures the essence of such behavior. On occasion Palestinian terrorists have killed American passengers on board hijacked planes. One famous incident occurred at Beirut Airport in June 1985.

In a barricade/siege executions usually lead to a final assault by government forces. In a hideout executions could be a symbolic end to that particular crisis. Since the location of the hideout in most cases is unknown to the authorities, terrorists take advantage of their anonymity and escape. If their hideout is discovered, the terrorists have the option of surrendering with their prisoners or executing them. The kidnapping of James Cross on 5 October 1970, ended in the first manner. Quebec Labor Minister Pierre LaPorte, who was kidnapped on 10 October 1970, was killed following an attempt to escape. At times, terrorists may choose to fight it out with the authorities.

In other cases, hostages are released unharmed. In a barricade/siege the perpetrators usually give up when they release the hostages. After this they usually have no bargaining chips to offer authorities. In a hideout situation the hostages may be left behind, and the terrorists can escape without being tracked.

A hostage-taking incident could be brought to a conclusion also by the authorities' initiative. A final assault by authorities may cause injuries among the hostages and their kidnappers in either a barricade/siege or hideout. A prime example was the Israeli raid on Entebbe on 4 July 1976. The final assault is always planned as a surprise attack in order to catch the terrorists off guard. This reduces the probability of the hostages being executed. However, in those crucial moments of the attack, a few seconds are enough for the terrorists to kill their hostages, as was the case in Munich and the attack on the Pan-Am flight in Karachi in September 1985.

Finally, the duration of hostage-takings might be short — the Olympic games incident lasted just 15 hours — or long — as in the case of General Dozier, the American officer whose kidnapping in December 1981 lasted 42 days. These stages are characteristic of all hostage-taking incidents.

### **GAME THEORY**

When a terrorist incident occurs at least two actors are involved: the terrorists and the government. There could be more, with two or even more

governments becoming involved. However, the two player case is used in this game theory analysis.

Game theory is "a body of thought dealing with rational decision strategies in situations of conflict and competition, where each participant or player seeks to maximize gains and minimize losses."<sup>2</sup> In game theory the actors can choose their moves based upon their own preferences regarding the outcome, and on the basis of their knowledge of the choices available to their opponents. "The outcome depends on the choices that both of them make . . . There is no independently 'best' choice that one can make — it depends on what the other does."<sup>3</sup>

Game theory has four basic assumptions: individual rationality,<sup>4</sup> transferable utility, weak order, and information. First, game theory assumes that the players are rational. When the players face two strategy choices they will choose respectively the one strategy that will ensure their most desired outcome from their own perspective. Second, the utility value applies equally to both actors. Third, the rational actors, in order to plan their moves, have to establish a ranking order of preferred outcomes from best to worst or ordinal order. Finally, each player knows the outcome of a particular strategy.<sup>5</sup>

Critics of game theory argue that it is based on nonempirical data and on unreal assumptions of "rational" behavior and perfect information. They also claim that too few variables are included, and often those are not measurable. The harshest criticism of game theory is that it has no relevance to understanding the real political world. Despite these criticisms, this approach provides a useful analytical tool to penetrate the complexity of sensitive decision-making situations. It can be argued that people who enter into a conflictual relation such as a hostage-taking incident "think about the consequences of alternative actions they might take before choosing them."<sup>6</sup> In so doing one can assume that they also anticipate the other player's possible choices. Hence, the decisions which are made and the actions that are taken can be explained by using game theory.<sup>7</sup>

In this "game" each actor — the terrorists and the government — operates to maximize benefits. Terrorists estimate what government responses their actions will generate. The government does the same thing. The two actors try to assess accurately what the other party will do and how it will respond. Of course, there is no way for either one to know for certain how the other will react. However, since this is a rational game, and both actors know the "rules," the costs, and the payoffs, it is possible to assess the final outcome. Certainly there is always room for misjudgment of the moves and acts of the opponent; game theory does not consider all motivations, will, or other human whims which may alter the logical process of the game.

There are four possible *outcomes* to a terrorist event:

- A. the government complies with terrorists' demands, and no terrorist threat is carried out;

- B. the government counterattacks to resist the terrorists' demands, and no terrorist threat is carried out;
- C. either maliciously or accidentally the terrorist threat is carried out; and, as a result, the government complies with the terrorists' demands;
- D. The government resists the terrorists' demands and counterattacks; the terrorists carry out their threat.

Each actor ranks differently the four possible outcomes. Hence, the terrorist prefers Outcome A as their first choice, Outcome C is better than Outcome D, while Outcome B is ranked as the least desirable outcome (i.e. A,C,D,B). On the other hand, the government's choice of outcomes is different. Outcome B is the most preferred. Outcome A is ranked better than Outcome D, while Outcome C is the worst possible choice (i.e. B,A,D,C).<sup>8</sup>

According to the game plan the government has the first move after the initiation of the terrorist act and must choose from two broad strategies: to comply with or resist the demands of the terrorists.<sup>9</sup> The terrorists will move only after they learn the government's move. They also have two strategies: either to carry out their threat or not.

Since rationality is assumed in game theory the terrorists will behave rationally if the government does so, but the outcome will depend on the preference of the players. Ordinal rather than cardinal preferences have been specified with underlying values attached to various goals.<sup>10</sup> If 4 is the best outcome *value* for a player; 3 is the next best outcome; 2 is the next worse outcome and 1 is the worst. So, in the case of the terrorist, Outcome A is valued at 4, C at 3, D at 2 and B at 1.

Figure 1

		GOVERNMENT (Actor A)	
		Comply	Resist
TERRORISTS (Actor B)	Threat is not Executed	4 A	3 B
	Threat is Executed	3 C	1 D

(Government's preference is indicated on the upper right corner while the terrorists' preference is indicated on the lower left corner)

Figure 1 reflects the actors' strategies, the game plan and the possible outcomes. The only time where the game seems to be irrational is in situation C. In the other three situations it is possible to assess the costs and payoffs for either side. However, it is always possible for an actor to miscalculate or misjudge an opponent's moves because of a lack of communication and information. Moreover, by seeming to be irrational, one actor can gain an edge over an opponent.<sup>11</sup>

Ordinarily, without communications and with full knowledge of the terrorists' (Actor B) preferences, the government (Actor A) would realize that by playing "resist" it would gain the best outcome (4), and the terrorists the worst outcome (1). In choosing "comply," the government will reach the next best outcome and the terrorists the best outcome. However, since the terrorists realize that the government may resist and initiate Option B therefore it issues a threat: "If you try to resist we will execute the hostages (Outcome D); if you comply with our demands we will not execute them (Outcome A)."

Outcome A is a situation in which the terrorists cannot increase the payoffs by changing their strategies while the government can — by adopting "resist" (Outcome B). Therefore, Outcome A is unstable. Outcome C would be the next best move for the terrorists if they suspect that the government will resist; they execute hostage(s) as a warning to the authorities. Outcome D is the next worst outcome for both players and their payoffs are undesirable to both. Ultimately, Outcome C serves as deterrent to the government, and is not altogether irrational from the terrorists' perspective. Irrationality comes into play when the authorities initially comply with the terrorists (Outcome A) who still carry out their threat without provocation (Outcome C). Of course the government will prefer Outcome A to Outcome C. What is at issue is the credibility of the terrorists' threat. Would they really execute their threat?

The above situation is the simplest. However, in some incidents a bargain is struck in which the two actors each gain something through compromise. One of the better known cases is termed the Bangkok Solution after four members of Black September took over the Israeli Embassy in Thailand on 28 December 1972. In this case, after 18 hours of negotiations, the terrorists dropped their demands and released their hostages in return for safe passage out of the country.

## STAGE I — THE INCIDENT

The XXth Olympic Games, which had opened in Munich on 26 August 1972, were interrupted on 5 September when 11 Israeli athletes were murdered by Arab terrorists of the BSO. Five of the terrorists were subsequently shot dead by German police in a gun battle at Furstenfeldbruck airfield, some 20 miles from Munich, while a German police official was also killed by the terrorists. The total death toll in Munich was thus 17 — 11 Israeli athletes, 5 Arab terrorists and a German policeman.<sup>12</sup>

## **The Actors**

In this short but complex incident we can identify several actors: the terrorists, the West German government, the Israeli government, and the heads of several Arab states.<sup>13</sup>

The Black September Organization takes its name from the month in 1970 in which the Palestinian guerrillas formerly active in Jordan were crushed by the Jordanian Army after a bitter nine days' war. Pledged to the overthrow of King Hussein and his government, the BSO is also dedicated to the destruction of Israel and to the establishment of an Arab State in the whole of Palestine. It is strongly opposed to the conclusion of a peace treaty between the Arab States and Israel, since this would entail Arab recognition of the latter country.<sup>14</sup>

This extremist group had also been responsible for the assassination of the Prime Minister of Jordan, Mr. Wasfi Tell, in Cairo in November 1971, for the attempted assassination of the Jordanian Ambassador in London a month later, and for the attempted hijacking of a Belgian airliner at Tel-Aviv in May 1972.<sup>15</sup>

At the initial stage, on the morning of 5 September there were two different levels representing the West German government: the regional Bavarian authorities and the Federal Government in Bonn. The local government was represented by Bruno Merk, the Bavarian Interior Minister, and Dr. Manfred Schreiber, the Munich Chief of Police. They arrived at the crisis center about 7:00 A.M., two hours after the initial attack.<sup>16</sup> Later, Hans-Deitrich Genscher, the Federal Interior Minister, assumed overall command. Genscher also negotiated with the Israelis, using a special hot-line set up by the Bonn government between the Israeli consulate in Munich and the Israeli Foreign Ministry in Jerusalem.<sup>17</sup> By 3:00 P.M. Willy Brandt, the Federal Chancellor, had arrived at the crisis center to take personal charge of the negotiations with the terrorists.<sup>18</sup>

The government's decision-making staff had increased since the early morning hours of the attack to include representatives of the Olympic Committee, the governments of Bavaria, Bonn, Israel, Tunisia, and the Arab states, and the Arab League. At this time the crisis staff included: Genscher, Merk, Schreiber, Ben-Horin (Israeli Ambassador to Bonn), Avery Brundage (the outgoing President of the International Olympic Committee), Bernhard Bayer (security specialist from Lower Saxony), Mahmoud Mestini (Tunisian Ambassador representing the Arab Ambassadors to Bonn), Mohammed Khatib (Arab League representative in Bonn) and Medgdy Gawhary (an Egyptian national living in Munich).<sup>19</sup> However, the terrorists' demands were addressed to the Bonn government rather than to the regional authorities in Munich. Hence, this study considers the responding host government to be the Federal Government of West Germany.

The Israeli government was represented by its ambassador to Bonn — Elyashiv Ben-Horin who communicated with Abba Eban, the Foreign Minister in Jerusalem. As in the case of West Germany, a decision-making

model of the Israeli government could have been studied in detail. However, for the purposes of this study, the Israeli government's position will be considered as a unified, cohesive unit.

The German authorities attempted to use several Arab governments to mediate the release of the hostages. Brandt tried to contact the President of Egypt, Anwar Sadat, by telephone. He spoke to Aziz Sidki, the Egyptian Prime Minister, but his reply was disappointing.<sup>20</sup> Egypt indicated that they would accept neither the terrorists nor the hostages. Brandt made another attempt at 8:50 P.M. to contact Dr. Sidki to seek Egyptian cooperation to safely conclude the Olympic hostage situation. In fact, Sidki explained, "This was not an Egyptian matter, and I do not know why Egypt should be mixed up in it."<sup>21</sup> Hence, Egypt did not become involved. Ahmed Touni, head of the Egyptian Olympic Team, helped as a translator and negotiator at the Olympic Camp.

In an earlier attempt, Brandt approached Kurt Waldheim, the UN Secretary General, to ask if he could arrange for Colonel Qaddafi of Libya to act as an intermediary. Qaddafi agreed and in turn notified Mohammed Dajhley, the Libyan Ambassador to Bonn.<sup>22</sup> However, by the time Dajhley was able to contact the crisis center in Munich, he was told that the German government was "in the process of finding another solution."<sup>23</sup> Hence, the Libyan connection also had no practical value.

Another Arab actor was Tunisia. Mahmoud Mestiri, the Tunisian Ambassador to Bonn, also helped to negotiate with the terrorists. The terrorists had tried to call a number in Tunis, a man whose *nom-de-guerre* was Tallal.<sup>24</sup> Information had come from Tunis that the number belonged to a ". . . highly placed personality."<sup>25</sup> The identity of this man is not known, nor his role or function during this crisis. Therefore, this Tunisian connection did not influence the outcome of the incident because the terrorists did not find him. One could speculate that "Tallal" was a leading figure in the BSO. Thus, he was supposed to advise the terrorists on how to negotiate their way out of Munich in case they faced obstacles and difficulties.

The victims, the Israeli Olympic team members, are not mentioned nor considered, since they did not play an active role in the negotiation process. Victims serve only as bargaining chips for the terrorists.

In spite of all the contacts that they made, the West German government stood alone vis-a-vis the terrorists. The Egyptians refused to take part in or contribute to resolving the incident. The Libyan option was dropped when other directions were examined. The Israeli government trusted the German government to handle the situation: "We rely on the German authorities, in their contacts with the terrorists, doing all that is necessary to ensure the safety of the hostages."<sup>26</sup> Thus, there were only two actors left even though the German government had attempted to engage other actors to help bring about a satisfactory solution.

At the end of Stage I, after exploring serious avenues to elicit outside help, the German authorities were forced to plot their own strategy, identify available choices, and set an agenda for response. Thus, the "stage" for the

"game" was set, the rationale for the various moves was formed, and the government launched into playing a zero-sum game.

**STAGE II — DEMANDS AND NEGOTIATIONS**

The negotiations stage of the incident lasted roughly fifteen hours, from 6:00 A.M. when the terrorists threw a note out of a window with their demands, until roughly 9:00 P.M., when the crisis staff decided to ambush the hostage-takers at Furstenfeldbruck Airfield. Table 2 indicates all phases of Stage II. Phase VIII marks the end of the second Stage. At that point the government provided a bus and two helicopters to transfer the hostages and their captors. From the moment of embarking on the bus at 10:00 P.M., Stage III of the incident started.

Table 2  
STAGE II — NEGOTIATION PHASES

PHASE	TERRORISTS	GOVERNMENT
	(D)emands/(R)esponse —A—	(R)esponse/(D)emand —B—
I	(D) Demand release of: a. 236 prisoners (from Israeli jails) b. 5 prisoners (from German jails) c. Safe Passage + Aircraft Deadline set for 9:00 A.M.	(R) Offer Ransom; if not Hostage exchange (D) extend deadline <i>from</i> 9:00 A.M.
II	(R) Ransom rejected Hostage Exchange rejected Deadline extended TO 12:00 P.M. [SAFE PASSAGE + AIRCRAFT]	(D) EXTEND DEADLINE  [SAFE PASSAGE + AIRCRAFT]
III	(R) Deadline extended TO 2:00 P.M. [SAFE PASSAGE + AIRCRAFT]	(D) EXTEND DEADLINE [SAFE PASSAGE + AIRCRAFT]
IV	(R) Deadline extended TO 3:00 P.M. (D) DEMAND FOOD [SAFE PASSAGE + AIRCRAFT]	(R) Food brought (D) EXTEND DEADLINE [SAFE PASSAGE + AIRCRAFT]
V	(R) Deadline extended TO 5:00 P.M. [SAFE PASSAGE + AIRCRAFT]	(D) EXTEND DEADLINE [SAFE PASSAGE + AIRCRAFT]
VI	(R) Deadline extended TO 6:30 P.M. (D) DEMAND BUS + 2 HELICOPTERS [SAFE PASSAGE + AIRCRAFT]	(R) Transportation guaranteed (D) EXTEND DEADLINE  [SAFE PASSAGE + AIRCRAFT]
VII	(R) Deadline extended TO 9:00P.M.  [SAFE PASSAGE + AIRCRAFT]	(D) EXTEND DEADLINE Provide a minibus [SAFE PASSAGE + AIRCRAFT]
VIII	(R) Deadline extended TO 10:00 P.M. (D) DEMAND A BUS [SAFE PASSAGE + AIRCRAFT]	(R) A bus granted 2 helicopters granted [SAFE PASSAGE + AIRCRAFT]

The preceding table captures the various phases of the second Stage. The two columns represent the terrorists' initial demands (column A), followed by the government's response (column B). The transition from one phase to another is marked by the yielding response of the other party (i.e. Response - R). Thus, we observe in each phase the continuous process of the negotiations through Demands (D) placed by terrorists, Responses (R) of government, and issuing of counter government demands with subsequent terrorist responses. It is noteworthy that each phase is marked by the extension of a deadline (in column A) followed by a German request to extend the deadline further (in column B).<sup>27</sup>

At Phase I the terrorists issued their demands. The government responded with counter proposals and a demand. The terrorists rejected these proposals, but they did extend the deadline. Thus, Phase II started with the deadline extension. The authorities kept asking for deadline extensions during the entire crisis. At Phase IV the terrorists demanded food, and the government complied. In exchange for food the government again requested a deadline extension, which was granted. At Phase VI the terrorists demanded a bus and two helicopters to transport them and their hostages to an aircraft. The aircraft was to take the hostages and perpetrators to a destination of their choice in any Arab state except Jordan or Lebanon.<sup>28</sup> The government guaranteed the transportation, an important development because the underlying demand of free passage and transportation was assumed to exist since Phase I.

Initially, the terrorists demanded that the Israeli and German governments should release Palestinian prisoners. However, it is peculiar that those demands were not repeated by the terrorists during this ordeal. On the other hand, the German government offered monetary ransom of any amount instead of prisoners' release. Since the terrorists rejected the ransom, the government offered to exchange German officials for the Israeli hostages. With these two offers the German authorities' attempted to bargain down the terrorists' demands.

The government did not reject outright the third demand of safe passage and did not try to bargain down the terrorists on this issue. As matter of fact, it had not responded in any manner to the demand of safe passage since the end of Phase I. Considering the German response, it could be argued that the German government lead the terrorists to believe that it had tried tacitly to arrange free passage for them, and thus it became a non-negotiable item.

From the terrorists' perspective it is argued that, since the government had not mentioned nor negotiated safe conduct throughout the second Stage, they were led to assume that safe passage would follow and transportation would be provided. During this incident the terrorists acted as though this final stage of escape would materialize. This argument is sustained by the fact that they had not executed the hostages, had negotiated with the authorities, examined means of transportation to the airport, and called Tunisia for instructions. This evidence points to the conclusion that the terrorists planned to survive and to leave Germany. Also, it suggests that if

all else failed they still would be able to escape. The underlying assumption of tacit understanding pertaining to safe passage and transportation is captured in the Table above.

The German authorities established a conciliatory atmosphere throughout the crisis by not rejecting outright any of the demands. On the other hand, the terrorists rejected vigorously the ransom and the hostage exchange proposals, proclaiming "Money means nothing to us; our lives mean nothing to us."<sup>29</sup> Thus, they indicated commitment to a predetermined course of action from which they could not deviate.

On lesser significant issues such as food (Phase IV), bus and helicopters (Phase VI) the German government yielded. These demands did not carry political value because they were only logistical demands with no symbolic value and therefore could easily be met. The provision of helicopters could be interpreted as readiness, on the government's part, to let the terrorists leave. If that was the case then the German government appeared to be making a major concession. Another argument could be introduced suggesting that the authorities were setting a trap while trying to appear conciliatory to the terrorists' demands. From Phase VI onward the terrorists became extremely cautious, especially when transportation was guaranteed, and the authorities requested again an extension of the deadline. The terrorists were suspicious of the authorities' intentions to set them up, especially at the Olympic camp.

Stage II concluded as a non-zero-sum game. The players communicated to each other directly and cooperated tacitly through inferred communication. It became clear that their mutual concern for the safety of the Israeli hostages dominated their rational behavior. The government understood and estimated that the hostages were relatively safe as long as the terrorists were not provoked. Hence, the actors were entrenched in Outcome A of the game for the duration of the Stage II. During this game, over a series of runs, the players had acquired an insight into the strategic thought processes of the other, and their ultimate objectives. Until 10:00 P.M. the government focused on the safety of the hostages and contended with a non-zero-sum game, which preserved Outcome A until that time. However, the circumstances changed at 10:10 P.M. when the terrorists and their Israeli hostages boarded a bus. At that time the authorities attempted twice to overcome the terrorists in the underground corridors of the building and during the transfer from the bus to the helicopters. It became clear that the terrorists planned to escape. At that point a transformation in German objectives took place.

### **STAGE III — TERMINATION**

The third Stage began when hostages and captors left the Olympic camp by bus to meet the awaiting helicopters, and concluded at a military airport rather than at Riem, the civilian airport near Munich. At 10:35 P.M. the first of the helicopters landed near the control tower, followed moments later by the second one. When the terrorists got to the airport, they acted cautiously, like they finally would be allowed to leave. Two terrorists

jumped out of the two helicopters and approached the Lufthansa 727 which was parked about 150 meters away. Two other terrorists got out of the helicopters and stood by. The two men discovered that they had been set up, with a plane without a crew, when they were about half-way back to the helicopters, police marksmen opened fire.<sup>30</sup> Only then did the terrorists unleash their fire. In the shoot-out, 5 terrorists died, and 9 hostages were killed by a grenade thrown by one of the terrorists. A policeman also was killed, and one of the pilots was wounded.<sup>31</sup>

The events at the airport confirm the earlier assumption. The terrorists actually operated under the assumption that at least one of their demands — safe passage and an airplane — would be fulfilled even though it ranked only third on their list.

Throughout the crisis the West German government had been considering various options to bring about a desirable solution, including a military option. In the early afternoon police volunteers began moving into positions for an assault on the building.<sup>32</sup> The West German authorities attempted to ambush the terrorists at the Olympic camp or on their way to the buses and helicopters. Since the route to the helicopters was not ideal for an ambush, the police were transferred swiftly to the airport. Thus, the ambush at the airport was organized in a quick and ill-conceived manner, which left no other option from a German point of view. Ironically, Bonn's official spokesman informed reporters at 11:30 P.M. that "all of the Israeli athletes are saved" and had been successfully rescued.<sup>33</sup>

The last Stage of the game was marked by the instability of situation A and the transition to situation D. Ultimately, the incident was transformed into a game of chicken. The lack of communication, pressure to reach deadlines, and shifts in objectives created a prescription for disaster. Both scored 1, which was the worst possible score in terms of the original objectives — safe release of hostages on the one hand, and release of prisoners and free passage on the other. The game of chicken, when entered and played with human lives at stake, is played only by irrational actors.

## **"GAME" RISKS, COSTS AND BENEFITS**

Since this was a barricade/siege situation, the terrorists' operational thinking was confined to a short duration. Since most of the terrorists were killed and the remaining wounded did not leave written testimonies, one can only surmise what they were thinking. From the terrorists' perspective, they may have assumed that the only risk which could have occurred was that their demand of the prisoners' release would not have been fulfilled. However, the terrorists operated throughout the crisis as if their other demand of safe passage had been granted. From their perspective the level of risk was minimal, and eventually the cost would have been low, too. Thus, situation A in the game theory was established.

Throughout the incident the terrorists seem to have been operating as if the benefits were high. Even though they did not accomplish the release of their fellow prisoners in Israel and Germany, they still held 9 hostages, which

provided them with a bargaining chip and a ticket to freedom — or so they were led to believe, until the last minutes at the airport. With or without their comrades, they still possessed a strong bargaining chip — the lives of 9 hostages. During negotiations they also scored intermediate gains of food, a bus, and helicopters. In addition, the terrorists gained tremendous publicity and media exposure. Furthermore, from the terrorists' perspective while in situation A of the game, they were acting rationally, assuming that the government also would act rationally by doing everything possible to safeguard the lives of the hostages. Therefore, with this assumption in mind, the terrorists' perspective led them to believe that the benefits outweighed the risks and costs.

The German authorities were losing the game throughout the whole affair. First, the German government suffered a tremendous setback by the mere fact that this event had taken place on German soil. It was a blow to a security system designed to provide safety to foreign nationals, and to its international image and national pride during a highly visible event. Therefore, the government had to move to a better position, preferably situation B in the game. But here they fared no better. They failed in their efforts to engage other parties in helping to defuse the crisis; Germany sought help from Egypt, the UN and Libya. In addition, the government attempted to persuade Israel to release the prisoners in its jails. During those international consultations, the German authorities had been stalling for time at the Olympic camp. Probably the lack of cooperation or help contributed to the German sense of isolation and inability to do anything about resolving the issue. Finally, they counter-proposed a hostage exchange and ransom; those proposals were rejected outright. Thus, the attempts to move from situation A of compliance with demands were dissolving. Every move they made failed to produce success.

Though they had not achieved the hostages' release, they actually had achieved a partial victory by not releasing the prisoners. For the Germans, however, this modest success offered little comfort, and they focused on the ultimate goal, the hostages' release. They committed themselves to this particular goal to such an extent that they lost sight of changing circumstances. The government wanted to force situation B. But when it failed to negotiate into situation B the government was still determined to release the hostages by all means — even if this meant resorting to military action. Having failed to provide good security in Stage I and not securing the safety of the hostages or their release in Stage II, the only option to reverse this chain of failures was to terminate the incident successfully. The determination to do so thus overshadowed the risks and costs of losing the whole "game."

The Germans took numerous risks by not guaranteeing safe passage. Thus, the fiasco at the airport amounted to a greater loss which outweighed their success on the issue of prisoners release and a firm decision not to release these prisoners. The German government could have let the terrorists go with their hostages. This form of action would have scored 3 for the terrorists and also 3 for the government (next best option). The terrorists

would have scored 3 because they would have accomplished at least one demand, and been left with the hostages. The government would have scored 3 for not releasing the prisoners, but at the same time succumbing to safe passage. Naturally, given the extreme frustration and widespread publicity, the German government was concerned with saving face. They began to focus on "getting the terrorists" rather than on the safety of the hostages. When the German government was unable to dictate the outcome, because of the terrorists' choices and determination, the authorities turned to an action which reflected these frustrations. The West German government acted in a less rational way by the game theory logic and moved to situation D of the crisis.

On the other hand, a closer look at the German perspective could explain the reason for the shootings at the airport. Since the terrorists had killed two of the athletes during the initial attack, the Germans could reasonably assume that they would not hesitate to kill others. This perception of the terrorists was enhanced by their intentions and threats stated outright in Phase I. Against this background the German authorities may have considered the athletes dead as long as they were held by the BSO. Therefore, from a German point of view, anything attempted would have been a worthwhile risk to save the hostages. Also, Germany could have scored extra points for taking a firm, non-yielding approach. Hence, the risks and costs for the German government outweighed any other course of action such as providing free passage. Thus, from a German perspective, situation A, created at the incident's onset, became rather unstable.

The West German action at the airport culminated in an act of frustration *with no other choice* of reaction. When the German police opened fire, the terrorists carried out their threat, bringing about situation D in the game. At that point the terrorists had *no other choice* but to kill the hostages. It could be argued that their resort to violence was derived from their inability to dictate the final stage of the incident. Realizing that their only hope for safe passage was breached, they executed a vengeful and malicious murder of the Israeli athletes. Another possible explanation is that the terrorists were under strict orders and were not to deviate from them. Such a conclusion is based on two other incidents that BSO carried out, in December 1972 and March 1973 in Bangkok and Khartoum respectively. Hence, it could be argued that the scenario was preset and the terrorists followed it to the letter.

Throughout the second Stage the government had gained tactical success. The Germans scored high by not yielding to two demands: prisoners' release and safe passage. Furthermore, the authorities successfully delayed and extended the deadline seven times. Thus, it could be argued that the West German government accomplished its goal with a harsh policy toward terrorism. However, in the final act 9 hostages were killed and Germany, as a host country, was responsible for their deaths. Furthermore, the government lost a German police officer, and two helicopters were destroyed. It lost face internationally as well as domestically because of the failure at the airport, bad publicity, and the loss of credibility in responding to inquiries pertaining to the outcome of events at the airport.

In terms of gains or benefits for the terrorists there were only three immediate and tactical gains of food, a bus, and helicopters. None of these gains had political value. Indirectly they won world attention and widespread publicity, providing them with limited tangible success. On the other hand, the losses were enormous. They did not accomplish their initial goal of freeing prisoners. They constantly gave way to the extensions of the deadline. Finally, 5 of the terrorists were killed while the other 3 were wounded and captured, which provided a reason for an additional terrorist attack on West Germany a month later. Moreover, there was considerable revulsion toward those who killed the hostages, which probably undermined any positive publicity the initial incident had gained.

## GERMAN POLICY

Until the Olympic Games incident in 1972, the West German government had not experienced acts of *international* terrorism, only domestic terrorism. West German authorities were not prepared to deal with international events. Security for the Olympic Games was handled by the local Bavarian authorities, who treated it as a domestic matter. The government perceived that domestic and international terrorism were indistinguishable. The Munich incident generated a German policy and marked a turning point for Germany as well as for other democracies in responding to acts of international terrorism. After this incident security for such major events was dealt with at the national level. The Olympic Games in Montreal (1976), in Los Angeles (1984), and in Seoul (1988), experienced the most rigid and meticulous security preparations and measures.

The lack of preparedness on the part of the West German government is reflected in a press conference given in Munich on 7 September 1972. Dr. Schreiber exclaimed that the ". . . Israeli hostages were virtually doomed from the outset, since they could have been saved only if their captors had made mistakes, which did not happen."<sup>34</sup> Merk, when asked how he explained the apparent failure of the operation, replied: "All we could do was hope for a mistake. But these people are not amateurs."<sup>35</sup> These two pronouncements demonstrate that West German authorities were ill-prepared to deal with an international incident of this magnitude. They were willing to take risks beyond the probable level of success. This fact also proves that the West German government was vulnerable to its critics and sensitive to its self-image, which led to irrational thinking and affected its good judgement concerning the safety of the Israeli athletes. They ignored such important human traits as political motivation, a high degree of commitment, sacrificial intentions, and military skills. The West German authorities actually played down, in their handling of the situation at the airport, the intelligence and capabilities of the terrorists. For example, there were only 4 German sharpshooters at the airport while there were 8 terrorists.

Stage II indicates that the German government did not have an anti-terrorist policy. First, the authorities attempted to delegate responsibility to other major actors by involving Israel and Egypt, since they did not have any

particular guidelines to follow. If Israel and Egypt had actually complied, the government would not have had to make hard choices. But, without those options, the Germans were pushed to apply a hard line. Although they did not yield to the terrorists' demands, they negotiated with the terrorists for twelve hours, exercising a flexible response.

On the local level, the Germans yielded to lesser demands of food, a bus, and helicopters. These tactical concessions were free of political value, but, it could be argued, that they were made as a means to disarm and pacify the terrorists, to exhaust them by long delays, and to gain time until a decision at the federal level could be reached, or help from abroad was received. The flexible response, constrained by international links, actually became a harsh policy of "no concessions", which failed to produce a desirable termination of the incident. Such international constraints helped the West German government to reassess and modify its response to future acts of international terrorism. This flexibility was demonstrated just one month later, when a Lufthansa plane was hijacked. This hijacking incident was meant to release the 3 terrorists captured during the Munich Olympic incident. The authorities yielded. In other words, the harsh practices of the Olympic Games did not result in a harsh policy generally. However, the German authorities did develop guidelines and police units, and a federally controlled unit (GSG-9) to fight terrorism.

What can be learned about negotiations? Even though negotiations were held in Munich, they failed to produce a desirable result from the German government's perspective. The terrorists had a predetermined course of action, and set their goals accordingly. Perhaps the negotiation variable has little weight in the final outcome of the incident.

## CONCLUSIONS

The purpose of this article was to scrutinize a highly visible incident that unfolded in full view of the world. By Western standards all murders are abhorrent and this senseless massacre of 11 Israeli athletes on German soil by Palestinian terrorists is no different.

Other works dealing with this event provided detailed descriptions. Some reports were by eye-witnesses. However, none was able to provide an insight into the choices and preferences of the actors. This study attempted to explore the evolution of these complex decisions on both sides. While all writers agree that the outcome was horrible, none explain the inner process by which mistakes were formulated and enacted. The most significant drawback among other works is the absence of the terrorists' perspective. By contrast, this article using game theory, which relies on some basic assumptions, has the power and depth to cast a new and different light on this instance.

The Munich disaster has been studied as one continuous event. It has been analyzed as a progressive incident which experienced transitions from one stage to the other. By dividing this case into three distinct stages one can observe the evolution and transformation in the players' objectives, their alternative choices, and decisions, which ultimately led to the tragic end.

The Munich Olympic case is extremely complex. To understand tangled linkages intertwined with conflicting views and objectives one requires a scheme or paradigm, which ties things together in a logically structured manner. Hence, game theory was chosen for this purpose. However, game theory does not escape scrutiny and criticism.

Dougherty and Pfaltzgraff<sup>36</sup> argue that "The analysis of games will not furnish a normative code of how to behave in any concrete situation. Nor does it give us a complete empirical theory of how people actually do behave in real life situations." Nonetheless, they make a distinction between game theory and game playing.<sup>37</sup> The former is a mathematical tool used to assess and analyze the maximizing utility strategy of the players. Therefore, as pure theory it stands beyond criticism. The latter permits us to see what choices the players actually have made. Studies involving the use of games criticize game playing on several grounds. Probably the strongest argument is that there is little resemblance between games and political reality. Other arguments point to the invalidity of generalizations which have been drawn from games.<sup>38</sup>

Some critics may also argue that game theory is flawed because it is a deductive theory that assumes decisions are rational, consistent, and mutually serve the players' goals to maximize their payoffs. Furthermore, they argue that this theory is devoid of the human factor — emotional and ethical characteristics such as hate, love, motivation, political fervor, commitment, and determination. Therefore, it is impossible to assess and measure them as a driving force toward making a decision. Finally, critics argue that often the players do not play by the same rules or they have different scales of payoffs and values attached; therefore the game is bound to fail.

Having considered these arguments, the analysis above points out that the failure of the German government to bring the incident to a desirable solution can be attributed to several factors.

### **The West German Government Approached the Incident as a Zero-Sum Game**

Therefore, the authorities had to "win" the game at the last available opportunity (move), when the terrorists and their captives boarded the buses at the Olympic camp, and before they boarded the plane. Only in that segment of time could the authorities force a solution — or so they thought — after all efforts throughout Stage II had failed. The authorities then could not make any other offer or gesture to stall for time or induce a new direction of action from the terrorists.

Since the terrorists were about to claim their safe passage, the objective of the authorities was to stop them from leaving at all costs. If they succeeded, then situation B in the game would have materialized. In other words, the government by using "resist" would overcome the terrorists who at that point did not execute their threats. Hence, the government would "win" and the terrorists would lose this last move. If the West German government had viewed it as a non-zero-sum then it could have let the terrorists leave with

the hostages. At least the hostages would be alive. Such responses have been practiced on some occasions since 1972, with some success.

### **Breakdown of Communications and Failure of Negotiations**

With the provision of transportation to the terrorists and hostages, the game came to an end. As long as bargaining and negotiations took place, the actors behaved rationally, responded to each other in a procedural manner, and stability was maintained. Furthermore, throughout Stage II both players had a mutual interest — keeping the hostages alive. However, with the breakdown in communications, the common denominator which kept the mutual interest alive disappeared and was replaced by conflicting interests for both actors. In this last Stage of the incident both actors lacked communication and information about each other's strategy. Hence, both acted almost simultaneously in a fashion which created the tragic outcome. At the same time both lost and situation D in the game prevailed.

### **Shift in Goals or Relative Weight of Priorities: Transformation in Objectives**

When the game came to an end at 10:00 P.M. on 5 September 1972, difficulties arose. Until then, the mutual interest was to spare the lives of the captives so long as other objectives were met. At this Stage, the terrorists' objective became safe passage for them and their hostages. At the same time, the objective of the authorities was to prevent safe passage. Hence, a transition took place from the prior objective to the safe passage issue. At this point in time little consideration was given to the hostages, who were regarded as dead *if* they remained in the hands of the terrorists. Therefore, the authorities were bound to force a solution that still retained the zero-sum game condition, and provided a slight chance of success. For a very brief period at the end of Stage II, the game shifted to Outcome B, where the authorities attempted to utilize military force, and the terrorists did not execute their threat. At the airport, however, once the police snipers opened fire, the terrorists were forced to react in what seemed to them to be the only available alternative. One could argue that the terrorists had another choice — to surrender. Eventually they did, but in the time that elapsed they did what they were trained to do — they fought back. Thus, both players lost.

### **Mutual Constraints**

The terrorists had a predetermined course of action imposed by the BSO. They were under strict orders not to release the hostages without the release of imprisoned terrorists in Israel and Germany.<sup>39</sup> With these specific guidelines, the terrorists had little voice in the decision-making and could not deviate from the original plan. Furthermore, their orders were to kill the hostages and fight to the end if fired upon. By adhering to these guidelines, the terrorists fought at the airport and murdered the Israeli athletes.

On the other hand, the German authorities also were limited in their response to the terrorists' demands to release prisoners. They could not force or persuade Israel to release its jailed terrorists. Also, the release of prisoners in German jails would have been only a partial fulfilment of the demands. Besides, the international nature of the incident at the Olympic camp interfered with policies pertaining to domestic terrorism. With these conditions at hand, the German authorities felt constrained to act.

Both actors were oblivious to the other's constraints and were locked in a non-solvable situation from which neither could deviate. Hence, the German government, guided by a zero-sum game strategy, with no communication and information about the terrorists' strategy and lacking decision-making powers, tried and failed to force a solution at the airport.

### **Lack of National Policy and Force**

The details of the incident indicate that relying on local authorities and forces was inappropriate given the importance and magnitude of this event. The local government did not have the powers to deal with such highly sensitive and complicated international situations.

Several lessons have been learned by governments and terrorists in other incidents that followed. The most important lesson for governments was to maintain communication flow and to avoid transforming the objectives. The uppermost objective of many host governments dealing with an international terrorist incident since then has been to save the lives of the hostages. In that sense the Munich incident was an innovation, if not an original invention

. . . that grew out of the airliner hijackings and political kidnappings of the late 1960s and very early 1970s. As hijackings declined from 1972 through 1975, the number of barricade and hostage incidents increased. The objectives remained the same, and the demands remained the same. The only thing different was the 'vessel' in which the hostages were held.<sup>40</sup>

This observation by Brian Jenkins encapsulates the progression of the nature and tactics of terrorist acts. After all, we ought to bear in mind that the terrorists' goals might be to gain publicity rather than to execute hostages.

These lessons were practiced later by Thai officials in December 1972, and Austrian authorities in December 1975 when OPEC ministers were kidnapped in Vienna. The same lessons have been applied in many other instances since 1972. However, it must be remembered that similar lessons were acquired and studied by terrorist groups and applied on different occasions in the years that followed.

### Endnotes

1. Clive C. Aston, *A Contemporary Crisis* (Westport, CT: Greenwood Press, 1982), p. 36.
2. Jack C. Plano, Robert E. Riggs, and Helenan S. Robin, *The Dictionary of Political Analysis*, 2nd ed., (Santa Barbara, CA: ABC-CLIO, 1982), p. 58.
3. Thomas C. Schelling, "What is Game Theory?" in *Contemporary Political Analysis*, ed. James C. Charlesworth (New York: The Free Press, 1967), p. 213.
4. Rationality is defined as preferring winning to losing.
5. Peter C. Ordeshook, *Game Theory and Practical Theory* (New York: Cambridge University Press, 1986), p. 12.
6. Steven J. Brams, *Biblical Games* (Cambridge, MA: MIT Press, 1980), p. 6.
7. For further discussion of game theory see D. Morton Davis, *Game Theory* (New York: Basic Books, 1983); and Thomas C. Schelling, *The Strategy of Conflict* (Cambridge, MA: Harvard University Press, 1980).
8. In conflictual relations between two opponents it is often found that what one actor gains, the other actor loses; thus the sum of both is zero. Hence, the game is known as the zero-sum game. Non-zero-sum games are those in which the sum of the players' gains need not add up to zero.
9. Bruce D. Fitzgerald, "The Analytical Foundations of Extortionate Terrorism," in *Terrorism — An International Journal* 1, no. 3-4 (1978), p. 350.
10. For further information pertaining to quantitative analysis and numerical values to terrorists' demands, and their actual accomplishments, see Reuben Miller, "Acts of International Terrorism: Governments' Responses and Policies" *Comparative Political Studies* 19, no. 3 (October 1986), pp. 385-414.
11. Herman Kahn, *On Thermonuclear War* (New York: Free Press, 1969), pp. 291-5.
12. *Keesing's Contemporary Archives*, 30 September - 7 October 1972, p. 25493.
13. *Daily Telegraph*, 6 September 1972.
14. *Keesing's*, p. 25493. More details about the Black September Organization as part of the Palestinian movement can be found in Helena Cobban, *The Palestinian Liberation Organization* (New York: Cambridge, 1984); Alain Gersh *The PLO — The Struggle Within* (London: Zed Books, 1985), and other publications focusing on the PLO.
15. *Keesing's*, p. 25493.
16. Aston, p. 64.
17. *Ibid.*, p. 65.
18. *Keesing's*, p. 25493.
19. Aston, p. 69.
20. *Keesing's*, p. 25493.
21. *Sunday Times*, 19 September 1972.
22. Aston, p. 70.
23. *Observer*, 10 September 1972.
24. Aston, p. 70.
25. *Keesing's*, p. 25494.
26. *Guardian*, 13 September 1972.
27. It should be noted that the negotiations were conducted throughout the whole crisis with no particular time intervals. However, shortly before the expiration of a deadline the authorities asked for an extension. This became a distinct pattern.
28. Edward F. Mickolus, *Transnational Terrorism: A Chronology of Events, 1968-1979* (Westport, CT: Greenwood Press, 1980), p. 339.
29. *Ibid.*
30. Aston, p. 80.

31. Mickolus, pp. 339-40.
32. David Tinnin, *Hit Team* (London: Futura Publications, 1977), p. 12.
33. *Time*, 7 September 1972.
34. *Keesing's*, p. 25494.
35. *Daily Telegraph*, 8 September 1972.
36. James E. Dougherty, and Robert L. Pfaltzgraff, Jr., *Contending Theories of International Relations*, 2nd ed., (New York: Harper and Row, 1981), p. 512.
37. *Ibid.*
38. For additional comments pertaining to the limitations of game theory see Barry R. Schlenker and Thomas V. Bonoma, "Fun and Games: The Validity of Games for the Study of Conflict," in *The Journal of Conflict Resolution* 22 (March, 1978), pp. 13-15.
39. Mickolus, p. 342. Abu Daoud's testimony suggests that the terrorists had a specific scenario to follow. Other incidents that followed suggest the same thing — the terrorists were not allowed to deviate from their initial plans. When they did, they were severely punished by their organization after their release. They experienced such fates after Bangkok, 1972, and Khartoum, 1973.
40. Brian M. Jenkins, *Embassies Under Siege*. RAND Corporation Publication R-2651-RC (Santa Monica, CA: Rand Corporation, January, 1981), p. 20.