



Introduction to Homeland Security
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Lecture 2:
The Third Wave

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Tonight –

International Terrorism: 1960s - 1980s

The Third Wave

1. **New Goals - Terrorism as Warfare**
 - A Sensible Goal?
 - Technology Issues
 - Human Factors & Management
2. **New Tactics - Terrorism as a Business Model**
 - Entrepreneurs, Outsourcing & Venture Capital.

International Terrorism: 1960s – 1980s

International Terrorism

1968 -1990

Growth of International Terrorism

“No Alternative”

Failure of Conventional Wars

Failure of Terrorism Inside Israel

Press Bias in Favor of “International” Events.

Innovations

State Sponsorship

Professionalization of Terrorism

Terrorist Entrepreneurs (Carlos, Abu Nidal)



International Terrorism: 1968 - 1990

History

- 1968:
- PFLP terrorists hijack El Al flight from Rome.
 - PFLP machine guns El Al Airliner in Athens, killing 1.
- 1969
- Terrorists attack El Al plane at Zurich, killing 4.
 - PFLP hijacks TWA flight after it leaves Rome.
 - Al Fatah throws hand grenades at El Al office in Brussels.
 - Hand grenade attack on El Al office in Athens kills 1.

Hijacking
Major Non-Hijacking
Smaller Attacks

International Terrorism: 1968 - 1990

1970:

- Unsuccessful attempt to hijack El Al plane from Munich. 1 Israeli killed.
- PFLP attacks El Al bus at Munich Airport, kills 1.
- PFLP blows up Swiss Airliner by accident, killing 47.
- Attack on Israeli Embassy in Paraguay kills 2.
- PPSF hijacks Greek plane.
- PFLP hijacks TWA, SwissAir, Pan Am, and BOAC planes carrying 400 passengers to Dawson's Field in Jordan. Attempted hijacking of El Al flight fails. Passengers released after Swiss and British governments give in.
- PFLP hijacks BOAC plane from Bombay to Rome.
- Jordan expels PLO.

International Terrorism: 1968 - 1990

- 1971: - Black September assassinates Jordanian Prime Minister in Cairo.
- 1972: - Belgian airliner is hijacked to Tel Aviv. Israeli commandos storm plane, freeing hostages. One passenger and five soldiers are killed.
- PFLP and Japanese Red Army kill 27 civilians at Lod Airport.
- Munich Olympics Massacre. Eight Black September terrorists take 11 Israeli athletes hostage. Nine hostages and five terrorists are killed.
- Letter bomb to Israeli embassy in London kills 1.
- Al Fatah group hijacks Lufthansa flight from Beirut to Zagreb.

International Terrorism: 1968 - 1990

- 1973:
- ~ 12 Israeli “Wrath of God” Assassinations
 - Black September terrorists murder US ambassador to Sudan.
 - Black September terrorists murder Israeli businessman in Cyprus.
 - Terrorists attack El Al office in Rome, killing 1.
 - Two Arabs send letter bombs to Israelis living in Britain and Holland.
 - Black September terrorists attack passenger terminal in Athens, kill 3.
 - Japanese Airlines Flight hijacked to Benghazi and destroyed.
 - Five terrorists attack Saudi Embassy in Paris.
 - Two terrorists take three Jewish immigrants hostage aboard a train to Vienna.
 - Three terrorists hijack plane from New Delhi to Abu Dhabi.
 - 5 terrorists attack terminal and destroy airliner at Rome airport killing 30 including 4 senior Moroccan officials and 14 American oil company employees. Terrorists take five Italians hostage aboard Lufthansa airliner and hijack it to Beirut, Athens, and ultimately Kuwait. 1 hostage is killed. Terrorists are allowed to escape to unknown destination. PLO denies responsibility.
 - Terrorist bomb Pan Am office at Rome airport, killing 32.

International Terrorism: 1968 - 1990

- 1974:
- PLO makes conciliatory statement implying Israel's right to exist. PFLP, DFLP, ALF, PFLP-GC, PPSF form "Rejection Front." Abu Nidal (who does not join the Front) begins assassination campaign against PLO officials.
 - PFLP-GC seize Qirayat Shemona. 18 Israelis killed in rescue attempt.
 - PFLP terrorists seize school at Ma'a lot. 27 Israelis are killed in rescue attempt.
 - PFLP raids Shamir Kibbutz. Four terrorists and several Israelis are killed.
 - Fatah terrorists attempt to land in Israel by boat. All are killed, along with three Israelis.
 - Rejection Front hijackers hijack a British Airliner at Dubai. 1 German passenger is killed.

International Terrorism: 1968 - 1990

- 1975:
- PFLP/Carlos attacks Orly airport twice using rockets. Police frustrate second attack, which ends with Carlos seizing ten hostages in bathroom. Terrorists are allowed to take Air France flight to Iraq.
 - PFLP-SOG/Carlos take OPEC Ministers Hostage. Saudi Arabia and Iran pay \$20m+ ransom.
- 1976:
- RAF and PFLP seize Air France airliner with 258 passengers aboard. Israeli commandos storm the plane at Entebbe. 1 soldier and 3 passengers die.
 - PFLP and JAL terrorists attack passenger terminal in Istanbul, killing 4.
- 1977
- Terrorists hijack Lufthansa aircraft. Pilot is killed. German special forces storm plane in Mogadishu, rescuing hostages, capturing 3 terrorists and killing one.

International Terrorism: 1968 - 1990

- 1978:
- Al Fatah sea borne raid into Israel kills 26 civilians.
 - PFLP open fire on El Al passengers in Paris. 2 Frenchmen are killed.
 - PFLP attacks El Al crew bus in London, killing 1.
- 1979:
- Attack on El Al passengers at Brussels Airport, no one killed.
- 1980:
- El Al employee killed in Istanbul.
 - Attack on synagogue in Paris kills four.
- 1981:
- Attack on synagogue in Vienna kills two.
- 1982:
- Abu Nidal terrorists critically injure Israeli Ambassador to UK.
 - Abu Nidal terrorists attack synagogue in Brussels.
 - Abu Nidal terrorists attack synagogue in Rome, killing 1.
- 1983:
- Truck bomb on US embassy in Beirut kills 63.
 - Simultaneous truck bombs kill 242 American and 55 French troops.

International Terrorism: 1968 - 1990

- 1985:
- Abu Nidal terrorists bomb British Airways Office in Madrid, killing 1.
 - Abu Nidal terrorists assassinate British cultural affairs officer in Athens.
 - Abu Nidal terrorists assassinate British official in Bombay.
 - Grenade attack on Rome Café.
 - PLO kills 3 Israeli tourists in Cyprus.
 - El Al Staff at Heathrow find 1.5 kg. Semtex bomb in hand luggage. Three Syrian diplomats are subsequently arrested.
 - TWA flight from Athens to Rome is hijacked to Beirut by Hezbollah terrorists. 145 passengers and 8 crew are taken hostage. 1 American sailor is murdered. Hostages are released after Israel frees 435 prisoners.
 - Four PFLP terrorists hijack *Achille Lauro* taking 700 passengers and crew hostage. One US passenger is murdered. Egyptian government offers terrorists safe haven over US objections.
 - Abu Nidal group hijacks EgyptAir flight from Athens to Malta. Egyptians take back the plane. 57 hostages and 3 terrorists are killed.
 - Abu Nidal terrorists attack El Al and TWA counters in Rome and Vienna. 16 passengers and 4 terrorists are killed. Three terrorists surrender.

International Terrorism: 1968 - 1990

- 1986:
- Palestinian splinter group bombs TWA flight near Athens, killing 4 US citizens.
 - Berlin Discotheque Bombing. Two US soldiers are killed. US bombs Libyan targets in retaliation.
 - Abu Nidal attempts hijacking of Pan Am flight in Karachi, killing 22.
 - Abu Nidal terrorists attack a synagogue in Istanbul, killing 22.
- 1988:
- Lockerbie Bombing. 259 passengers killed.

International Terrorism: 1968 - 1990

Goals

- Supporting Diplomacy
- Success or Misleading Example?
- Obtaining Concessions & “De-Railing the Peace Process”
- The Commitment Problem

Responses

- Targeted Assassinations & Preemptive Attacks
- Armed Confrontations
- Creation of Specialized Antiterrorist Units

State Sponsorship

State Sponsors (Pt. 2).

PFLP, DPFLP, Saiqa - \$20-30m/year,

50 – 500 members.

Fatah - \$150-200m/year, 7000 members.

Abu Nidal - State Sponsorship + Crime +
Legitimate Businesses.

Libya

Munich & Various Hijackings

Libyan Arms Shipments

Four large shipments to IRA (1985 – 87)

~ 175 tons of weapons and Semtex explosives.

Also: Syria, Iraq, Iran, Sudan.

State Sponsorship

Impact on *Terrorists' Goals*.
Professionalization
More Terrorism?
Careerism & Non-Ideological Goals
More Constraints

State Sponsorship

Impact on *Sponsors'* Goals

Gives Small Governments A Foreign Policy Capability

Increases Nuisance Value

But Only if Sponsor Can Renounce.

Carlos: East Germany, Syria, Sudan

Drawbacks for *Sponsors*

Difficult to Terminate Sponsorship

Possibility of Miscalculation (El Dorado Canyon)

Small vs. Medium-Sized States

Inconsistent With WMD

Complicates Conventional Foreign Policy, Leading to Isolation.

International Terrorism: 1968 - 1990

Internationalization of Terrorism

Terrorist Summits

Cuba 1966; Lebanon 1972; Yugoslavia 1978;
Lisbon 1981

Training Camps

Joint Operations

Lod Airport Massacre
Mogadishu



International Terrorism: 1968 - 1990

Internationalization of Terror, *ctd.* ...

Making Terrorism Scaleable?
Comparative Advantage
Competition Between Groups



International Terrorism: 1960s - 1980

Why Did the Hijackings Stop?

Declining Publicity Value
Political Needs
Counterterrorism Units

Why Did the Hijackings Stop?

Munich and Afterward

- 1972: 22 SAS (UK), Gendarmerie Royale (Belgium)
- 1973: Grenzschutzgruppe-9 (West Germany),
Gendarmerie Kommando (Austria).
- 1974: Gendarmerie d' intervention Genarmeier Nationale
(France)
- 1975: Beradskaptroppen (Norway).
- 1977: Delta Force (USA)
- 1978: Grupo Especail de Operaciones (Spain), Nucleo
Operativo Centrale di Sicurezza (Italy)
- 1979: Grupo de Operacoes Especiais (Portugal)

Why Did the Hijackings Stop?

Pre-Munich Outcomes

Israeli: No-negotiation policy, hijackings become fewer but more violent.

European: 2 of 161 Palestinians arrested for acts of terror in third countries between 1968 and 1973 were actually punished. Hijackings are common but largely symbolic.

Cf. French Responses to ETA, Belgian Responses to IRA.



Why Did the Hijackings Stop?

Post-Munich Outcomes

Capability is Not Enough!

Deterrence Needs a Commitment Strategy.

September 11 as Sequel

Sharing the Burden

Achille Lauro

El Dorado Canyon

Conclusions

Conclusions

Goals:

Revolution – Destroying and Replacing the State
Destroying the Economy
Publicity
Obtaining Concessions
Forcing Withdrawal
Provoking a Crackdown
Foreign Intervention
Catalyzing Diplomacy
Supporting Major Military Operations
Publicity
Credibility
Blocking Political Solutions
Money
Holding Territory
Economic Goals

Conclusions

Countermeasures:

- Liberalization
- Public Opinion
- Rewards
- Informers
- Censorship
- Mass Arrests
- Mass Reprisals
- Internal Exile
- Surveillance
- Criminalizing Advocacy
- Targeted Assassinations & Preemptive Attacks
- Military Tribunals
- Torture
- Armed Confrontation

Conclusions

Terrorism is a Marginal Strategy.

Once Started, Terrorism Tends to Be Persistent.

State Power is Overwhelming, Even Modest Measures Are Effective.

Sanctuaries, Sponsors, and Crime Make Terrorism Dramatically More Persistent.

International Terrorism Weakens Traditional Constraints Against Violence.

The Third Wave – Terrorism as Warfare

Introduction

The Second Wave Contemplates Mass Violence

Libyan Arab Airlines Flight 114 (February 1973)
Operation Mt. Carmel (July 21, 1973)

Explanations

Classical Terrorism did not *need* mass violence.
Mass violence was constrained by ideology, sympathizers, public opinion, and state sponsors.

The Third Wave is Different...

Warfare

Is Warfare a Reasonable Strategy?

Thinking About Warfare.

No Good Theory

What Are the Important Variables?

The Lens of Casualties

Warfare

Types of Warfare

1. Warfare Between Armies
2. Total Warfare
3. Limited Wars
4. Destabilization
5. Decapitation

What Was Bin Ladin Trying to Do?

Did Bin Ladin Want a Limited War?

Did Bin Ladin Get a Total War?

Warfare

1. Warfare Between Armies
Pre-Modern Wars
An Economic Impossibility

Warfare

2. Total Warfare

French Revolution to World War II

Mass Armies

Strong Defense Advantage

Mobilization & Attrition

Warfare

Total Warfare: 19th Century

Napoleonic Wars

- Totals:** 1.4 million French soldiers (5% of population)
- Rates:** 25 year campaign
400,000 Allied Soldiers died in Russia.
~ 1 million on both sides (including civilians)
- Shocks:** 10,000 French soldiers killed at Waterloo
5,500 Allied soldiers killed at Waterloo
- Results:** Resilience of the Modern State.



Warfare

Total Warfare: 19th Century

American Civil War

- Totals:** 360,000 Union Soldiers (1.4%)
200,000 Confederate Soldiers (2.5%)
- Rates:** A 4 Year Campaign
- Shocks:** Battle of Antietam: (7,000 Union,
3,000 Confederate KIA)
- Results:** Resilience of the Modern State

Warfare

Total Warfare: World War I

Totals: 1.7 million French soldiers (4.4%)
2 million German soldiers & civilians (3.1%)
1 million British & Empire soldiers (2.4%)
1.5 million Austrian soldiers (2.9%)

Rates: 434,000 German soldiers were killed in 1915.

Shocks: First Day of the Somme: 19,240 British soldiers killed.

Results: Germany, Austria-Hungary, Russia, France.

Warfare

Total Warfare: World War II

Totals:

US	405,000 soldiers (0.4%)
USSR	7 million soldiers + 23 million civilians (4.2% + 13.8% = 18%!)
Britain	300,000 (0.6%)
Germany	3.5 million soldiers killed (5%) 1 million civilians killed (1%) 305,000+ civilians killed by bombing (0.4%)
Japan	2 million all causes (2.7% of population) 900,000 killed in strategic bombing (1.2%)

Total Warfare: World War II

Rates:

US 400 soldiers/day (~ 1 WTC attack/week!)
London Blitz 95 civilians/day

Shocks:

Hamburg (1943): 60-100,000 civilians killed.
Okinawa (1945): 18,900 American soldiers killed.
Hiroshima (1945) 80 - 100,000 civilians killed.
Operation Olympic
(1946 - projected) 100,000 American soldiers killed

Total Warfare: World War II

Results: US, Germany, Italy
Resilience of the Nation State

Results: USSR
Lack of Alternatives

Caveats: Has The World Changed?
Not So Long Ago...
Electronic Media
The Somme

Total Warfare: World War II

Results: Japan

High technology, state-sponsored suicide.

Okinawa: 3,000 sorties, 300-plane waves, 36 ships sunk, 368 ships damaged, 4900 US sailors dead, 4,824 wounded.

Why the Emperor Surrendered.

Strategy

3. Limited Wars

Boer War
21,000 British soldiers killed
(0.05%)

Vietnam:

Total: 58,000 US soldiers killed
(0.03%)

Rate: 16,869 US soldiers killed in 1968.

Shock: 543 US soldiers killed
(Tet Offensive)

Total vs. Limited War

“If Great Britain goes down, the Axis powers will control the continents of Europe, Asia, Africa, Australasia and the high seas – and they will be in a position to bring enormous military and naval resources against this hemisphere. It is no exaggeration to say that all of us in the Americas would be living at the point of a gun.”

Franklin D. Roosevelt
December 12, 1940

Total Warfare: World War II

Total vs. Limited War

Japan's Attrition Strategy
The Commitment Problem

Challenging the *Status Quo*: Napoleon & Hitler

4. Destabilization

Funding Challengers, Disinformation
Guatemala (1954)
Cuba & Eastern Europe
Western Democracies

Strategy

5. Decapitation

Cold War Fears

Katyn Forest

1 admiral, 2 generals, 24 colonels,
79 lieutenant colonels, 258 majors, 654
captains, 17 naval captains, 3,420 NCOs,
7 chaplains, 3 landowners, 1 prince, 43
officials, 85 privates, and 131 refugees, 20
university professors, 300 physicians, several
hundred lawyers, engineers, and teachers; and
more than 100 writers and journalists; 200
pilots.

~ 5,000 Murders, nearly one-half the Polish officer
corps.

Warfare

Implications:

Minimum Required Casualties:

Limited War: 10s of Thousands of Killed
+ Commitment Strategy

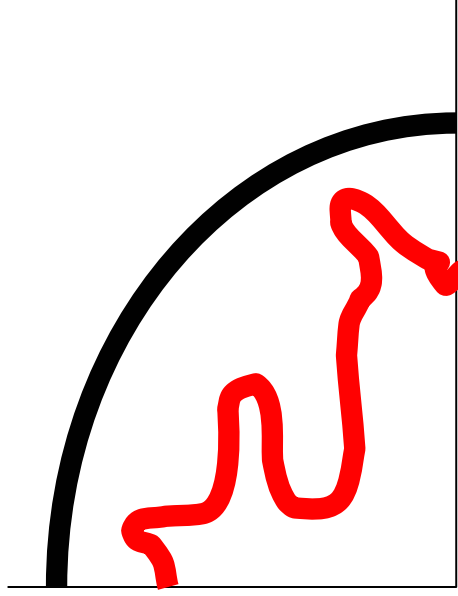
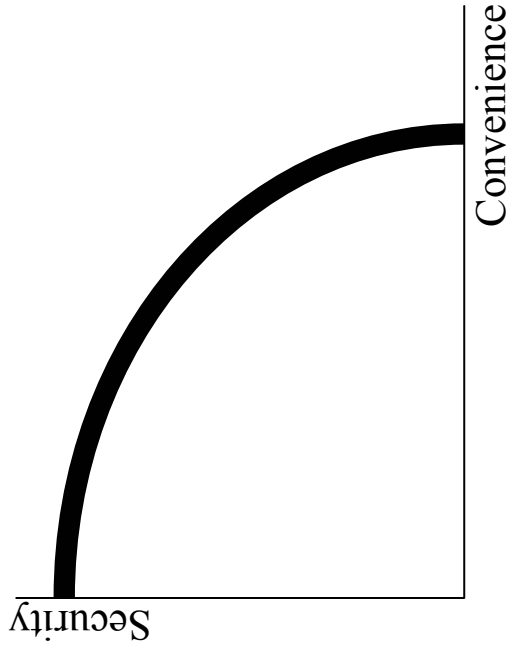
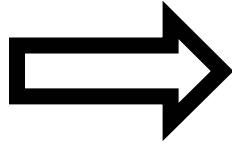
Al Qaeda's Ambitions

Total War: 100s of Thousands of Killed

Bin Ladin's Estimate



Technology Issues





Conventional Terrorism

Candidate Technologies

- Repeated Attacks
- WMD
- Complexity?



Repeated Attacks

Repeated Attacks
Repetition Rates x 100
Countermeasures
Large Public Spaces

Conventional
Terrorism

WMD?

- WMD (Pt. 1): Chemical, Biological & Radiological Weapons
- WMD (Pt. 2): Nuclear Weapons (66,000 – 100,000 dead)



WMD

True WMD is Hard!

The *Idea* of WMD:

Heinzen, Fenians, Anarchists, Social Revolutionaries

Richard Feynman's Depression

Technology and Industrial Resources

Nuclear Weapons

Radiological Weapons

Chemical Warfare

Biological Weapons

Difficult, But Not Impossible.



Complexity

Vulnerability in Complex Societies

The Power Lines Argument

Some History

Norman Angell, *The Great Illusion* (1911)

Churchill & The Admiralty

Sabotage at Black Tom

US Strategic Bombing (Germany, Vietnam)

Nazi Saboteurs

Terrorists in the 1960s

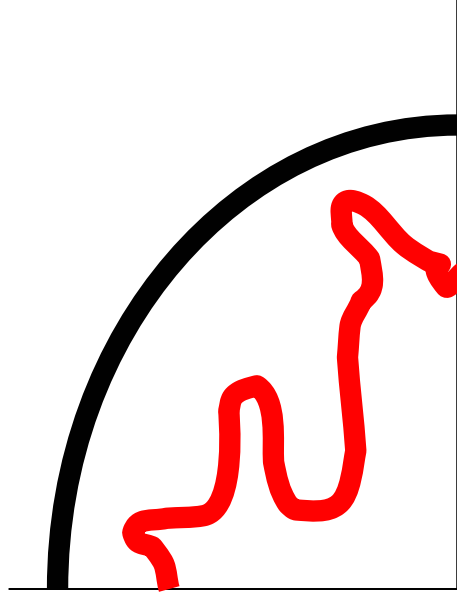
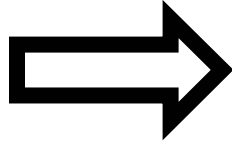
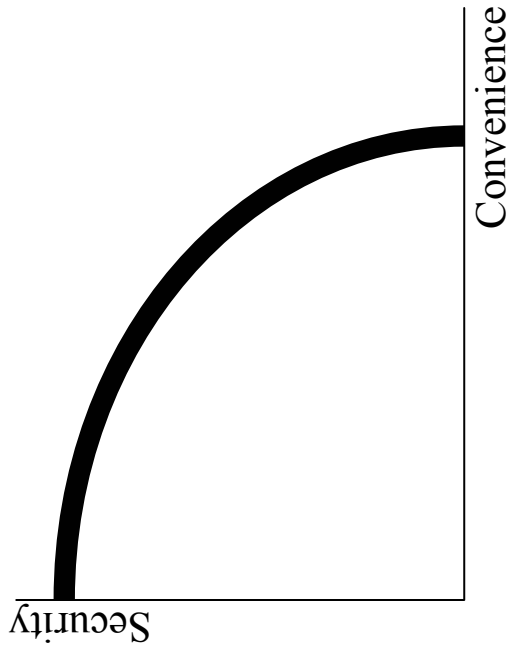
PLO, IRA, New World Liberation Front, ELN
(Colombia), *etc.*

Rational Agent Models

Searching for the Magic Tree



Human Factors & Management





Human Factors
& Management

What's So Hard About Terrorism?

(and why does it take so long...)



Human Factors & Management

Overview

Prob (Success) = Prob (Step 1) x Prob (Step 2)
x Prob (Step 3)

Common Obstacles
Management Techniques
Complex Operations

Obstacles:
People

First Answer: Terrorism Isn't Hard at All ...

Eric Meunta (1915)

Carlos (1970s)

Unabomber (1990s)

Not Scaleable!

Superterrorists are Rare!

Japanese United Red Army (1972).

Jamal Ahmed al Fadl & L'Houssaine Kherchtou (1990s)

IRA (1970s – Present)

Obstacles:
People

Implications for Defense
Protecting Informants
Rewards

Obstacles: Technology

Second Answer: Exploiting Technology

Peoples Will (1880s)

Bombmakers Rokotilov and Dembov die in separate accidents.

Fenians (1884)

Three Fenians die trying to bomb London Bridge

Anarchists (1893)

Vaillant blows himself up attempting to bomb Chamber of Deputies

Social Revolutionaries (1905)

Bombmaker Schweitzer dies in accident.

Obstacles: Technology

PFLP-SOG (1974)	Grenade accident during hijacking.
IRA (1974, 1976, 1991, 1996)	Four premature explosions; two bombers are killed.
Red Army Faction (1976)	Terrorists holding Stockholm embassy detonates explosives prematurely; explosion causes second accident involving grenade.
IRA (1974, 1992, 1996)	Bombs are planted but fail to detonate.
Iranian Intelligence (1989)	Terrorist kills self while assembling bomb to kill Salman Rushdie.

Obstacles: Technology

- | | |
|-----------------------|---|
| Al Qaeda (1995) | Bomb factory fire leads to collapse of plot against American airliners. |
| Al Qaeda (1999) | Attack on <i>The Sullivans</i> fails when explosive-laden boat sinks in harbor. |
| Islamic Jihad (1990s) | Multiple suicide vests fail to explode. |
| Al Qaeda (2005) | Second-wave attack fails in London. |



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Obstacles:
Technology

Implications for Defense
Embargos
Air-to-Air Missiles
Encryption

Obstacles:
Tradecraft

Third Answer: Tradecraft

1974 IRA: Bomber panics and runs away after spotting security at Ritz Hotel.

1975 IRA: London police spot and chase suspicious man. Resulting manhunt uncovers weapons, cash, and name of a cell member.

JRA: Two terrorists arrested in Stockholm while photographing and carrying out surveillance on embassies.

1978 IRA: Civilians report explosives cache; 3 terrorists are arrested when they arrive to inspect it.

Obstacles: Tradecraft

- 1982 RAF: Civilians find and report weapons cache.
- 1992 IRA: Policeman shot during routine traffic stop.
- 1993 IRA: Policeman shot after stopping suspicious van.
- 1998 IRA: Irish police spot two car bombs before they can be driven north.
- 1999 Al Qaeda. Border stop foils Millennium Bomb plot.

Obstacles:
Tradecraft

Implications for Defense
CAPPS and Profiling
Police Presence & Rousting Suspects
“Disrupting Attacks”
Airport Screening
Customs
Visas
Video Surveillance
National Identity Cards

Obstacles:
Combat

Fourth Answer: Combat

Combat is Hard

Entebbe, Mogadishu, *etc.*

Killing is Hard

SAC, SAS, World War II Infantry
Nazi Saboteurs

Suicide is Hard
Al Qaeda

Required Success
Rate

Required Success Rate

Why Not Use Flight Sims?

Protecting Good Ideas

Casualties, Futility, Ridicule

Management Techniques: Preparation

First Answer: Preparation

Staff Work & Intelligence Selectivity

Management
Techniques:
Training

Second Answer: Training

Human Material

Recruitment, Training & Discipline
Training People to Kill
Training People to Die

Management
Techniques:
Training

Training People to Kill

Lying & Drugs

Firing Squads

Simulation & Training

Madness in Small Groups

Cults, Stockholm Effect, Military Discipline

Ideology & Dogma

Karl Heinzen (1849): Terrorists can have no room for love, friendship, gratitude, or honor – only the revolutionary cause.

Dark Forces
(Again)

W.B. Yeats

“Hearts with one purpose alone/Through summer and winter,
seem/Enchanted to a stone/To trouble the living stream.”

“And what if excess of love/Bewildered them till they died?”

- *Easter 1916*

“I know not what the younger dreams -/Some vague Utopia - and
she seems,/ When withered old and skeleton-gaunt,/ An image of
such politics. ”

- *In Memory Of Eva
Gore-Booth And Con Markiewicz*

Management
Techniques:
Training

Training People to Die

Suicide Weapons

The World Wars

Religion & Nationalism

Commitment

What We Know About Suicide

The Werther Effect – The Power of Examples

Farewell Letters and Other Commitment Strategies

Madness of Small Groups

Sacrifice & Atonement?

Management
Techniques:
Supervision

Third Answer: Supervision

Why Managers?

Access to “Big Picture” Strategy
Representing the Organization
Psychological Needs

Management vs. Security
Invisibility vs. Capability
Cells & ASUs

Complex Attacks

Complexity and Risk

Suicide Bombers

~ 25% failure rate.

Islamic Jihad vs. Hamas

The Wall

Bombings

IRA ASUs

Assassinations

Attacks on Hitler

Iranian Assassination Squads

~ 50 – 70% failure rate?

Truck Bombings

Al Qaeda Attack on *The Sullivans*



Complex Attacks

Kidnappings
 Red Brigades
Hijackings
Complex Operations
 Nazi Saboteurs
 9/11



Complex
Attacks

The Nazi Saboteurs

Eleven Man Team

Stability, Language, Technical Skills
Sympathizers

Training and Equipment

Raid

Willingness to Kill
Security

Money, Family & Friends, Girls, Liquor, Fear.

Results

Complex Attacks

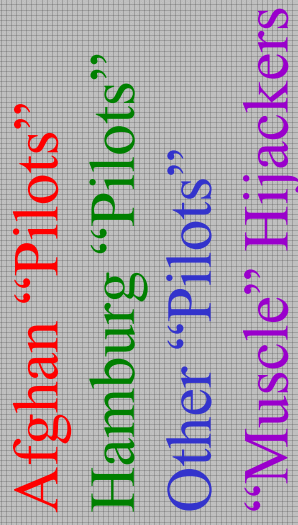
Al Qaeda

Mid-1996:

KSM pitches plots to Bin Ladin. Ideas include car bombings, political assassination, hijackings, reservoir poisoning, and suicide hijacking of airliners.

1998:

Bin Ladin approves Sept. 11 Plot. KSM begins work but continues to develop other ideas. Al Qaeda performs successful trial run at NY airport.



Afghan “Pilots”
Hamburg “Pilots”
Other “Pilots”
“Muscle” Hijackers

Complex Attacks

- Spring, 1999: Bin Ladin meets with KSM repeatedly, scaling back original proposal. Bin Ladin selects **Khalid al Mihdar, Nawaf al Hazmi, Tawfiq bin Attash (“Khallad”)**, and **Abu Bara al Yemeni**.
- Mid-1999: KSM researches Western aviation magazines, flight schedules, and flying schools. He gives **Hazmi, Abu Bara**, and **Khallad** basic training in English phrases, reading phone books, renting apartments, *etc.*
- 1999: Yemeni citizens **Khallad** and **Abu Barra** cannot obtain visas and are unable to learn English. Bin Laden insists that they play a role. KSM invents second airline bombing plot that requires neither pilot training nor English.

Complex Attacks

- Mid-1999 Yemeni police arrest **Khallad** by mistake as part of the *Cole* investigation. Khallad's father gets him released.
- Nov. 1999 Mohammed Atta, Ramzi Binalshibh, Marwan el Shehhi, and Ziad Jarrah travel to Afghanistan to volunteer for Jihad.
- January 2000 **Hazmi** and **Mihdar** enter the US. KSM relaxes security so that they can receive support from San Diego Mosque.
- Spring 2000 **Hani Hanjour** arrives in Afghanistan training camp and is recruited to the plot. **Atta** applies for USDA loan.
- March 2000 **Mihdar** starts “ranting and raving” over a security deposit.

Complex Attacks

- May 2000: **Hazmi** and **Mihdar** give up trying to learn English. Flight school becomes impossible.
- June 2000: **Mihdar** goes AWOL and tells his cousin that Bin Laden is planning five attacks in the US. Bin Laden prevents KSM from firing him.
- June 2000 **Hazmi** is bored in **Mihdar**'s absence and asks KSM for permission to search for a wife on the Internet. He tells a coworker that he will "become famous."
- May 2000
– January 2001 **Atta, el Shehhi** and **Jarrah** complete flight training. Atta is a rude and abusive student. Fourth Hamburg plotter fails to obtain entry visa.

Complex Attacks

October 2000

KSM sends **Moussaoui** to Malaysia for flight training, but **Moussaoui** decides to work on a different plot instead. KSM recalls **Moussaoui**, and sends him to the US for flight training. Interviewed by FBI on August 15 2001 and arrested on immigration charges the following day.

2000-2001:

Bin Ladin chooses “**muscle hijackers**.” Nine other hijackers are selected who do not participate because they fail to obtain travel documents, back out, or are removed by the leadership. Pilot hijackers meet muscle hijackers and help them rent apartments, *etc.*

Complex Attacks

Summer 2001

Atta, el Shehhi, al Hamzi, Jarrah, and Hanjour make at least six trips to Las Vegas.

Sept. 11, 2001:

Hanjour, Mihdar and one muscle hijacker are flagged by CAPPS. Fourth airliner hijacking fails.

Results.



Complex
Attacks

Israeli “Wrath of God” Teams

Recruitment

Israeli Army.

Training

1 year basic course, 15% graduate.

Hyper-Realism

Discipline

Complex Attacks

“Wrath of God” Teams *ctd...*

Aleph (Killers):	2
Beth (Guards/Getaway Personnel)	2
Heth (Logistics)	2
Ayin (Surveillance & Planning)	6 – 8
Ooph (Communications)	2

Results: Simple Task, Complete Surprise, ~90% Effective.

Complex Attacks

Implications

Violence – and especially complex violence – is difficult.
Radical improvement is unlikely.
Small defensive steps matter.

Visas, CAPPS, willingness to inform authorities,
surveillance.

Entrepreneurs, Outsourcing & Venture Capital

Outsourcing & Venture Capital

Al Qaeda: Grants, Venture Capital & In-House Funding

The (Non)-State Sponsor
Startups

Entrepreneurs

Mergers & External Innovation

In-House Projects

The *Cole* Bombing (1999)

9-11 Attacks (2001)

Evading Limits to Growth?

The Financial War

Outsourcing & Venture Capital

New Problems

Ronald Coase & The Theory of the Firm

The Downside of Professionalism

Jamal Ahmed al Fadl & L'Houssaine Kherchtou

Agency Problems

Competing Start-Ups

The Uranium Fraud

Coordination Problems

The Jordanian Millennium Plot

The Canadian Millennium Plot

Outsourcing & Venture Capital

Does Al Qaeda Outsource Because It's Efficient...
... Or Because it Has To?
... Or Because it Provides Status?

Conclusion: The Fragility of Terrorism?

Conclusion

Is Terrorism Fragile?

Economies of Scale

Members, Recruits, Sympathizers
Success, Horror & Ridicule

Is Terrorism Self-Limiting?

Messianic Expectations, Example, and Futility
A Generational Cycle?

Further Reading

Terrorism Theory

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Saboteurs

Jules Whitcover, *Sabotage at Black Tom*
Michael Dobbs, *Saboteurs: The Nazi War Against America* (Alfred A. Knopf: 2004)

Further Reading

Suicide & Suicide Weapons

A. Alvarez, *The Savage God: A Study of Suicide*
(Random House: 1972)

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(Salamander: New York: 1981)

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A. Harel, “The 100th Suicide Bomber,” *Haaretz* (Aug.
10 2001), available at
[http://www.haaretzdaily.com/hasen/pages/
ShArt.jhtml?itemNo=80841](http://www.haaretzdaily.com/hasen/pages/ShArt.jhtml?itemNo=80841).

Further Reading

How Wars End

J. Winick, *April 1865: The Month That Saved America*
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R. Frank, *Downfall: The End of the Imperial
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Further Reading

Complexity

The United States Strategic Bombing Survey, available at <http://www.anesi.com/ussbs02.htm>

Casualties

Matthew White, *Source List and Detailed Death Tolls for the Man-made Megadeaths of the Twentieth Century*, available at <http://users.rcn.com/mwhite28/warstats.htm>

Flight Simulators & Terrorism

Joshua Tompkins, “Air Osama,” *Salon* (July 23 3003) available at http://www.salon.com/tech/feature/2003/07/23/flightsim_terrorism.

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W.B. Yeats

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