AVIATION TERRORISM
Thwarting High-Impact Low-Probability Attacks

TERRORISME AÉRIEN
Contrecarrer des attaques improbables à impacts élevés

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to the Division of Graduate Studies of the Royal Military College of Canada
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Dans l'espoir que les travaux de cette thèse,
qui ont repoussé les limites de mes horizons,
permettront aux futures générations de vivre un jour
dans un monde meilleur sous l'expression
de la sécurité, de la paix et de la fraternité des peuples.

I would also like to dedicate this dissertation
to all the victims of terrorist acts.

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Abstract

Despite advances in security screening technology and the deployment of significant human and financial resources over the years, the civil aviation sector still remains vulnerable to terrorist attacks. This thesis examines the impact (if any) the international legal and regulatory framework has had on aviation terrorism. It also assesses its historical effectiveness in preventing or thwarting terrorist attacks against civil aviation.

In order to assess the impact that changes to the legal and regulatory framework have had on the ability of terrorists to plan and carry out attacks against civil aviation, the overall concepts of terrorism and aviation terrorism, as a particular tactic of terrorism, are explored. The thesis subsequently examines the evolution of the terrorist threat to civil aviation through an analysis of the author's exclusive database in order to fully understand its scope. Aviation terrorism statistics are then correlated to all ICAO security-related legal instruments, i.e. Conventions, Protocols, Resolutions, Standards and Recommended Practices (SARPs), which form the international legal and regulatory framework.

The analysis demonstrates that changes are made to the international civil aviation legal and regulatory framework in reaction to certain catalytic attacks in order to obtain a global civil aviation security network commensurate with new and evolving threats. But the analysis shows such measures are arbitrary for terrorists because they see no boundaries, only opportunities. For them, new legal and regulatory measures are a mere roadblock. This analysis demonstrates that, by exercising patience and creativity, terrorists have been able to surmount security roadblocks time and time again. This is specifically evident when examining catalytic terrorist attacks against civil aviation and the transitions from one successful Modus Operandi to the next.

This thesis demonstrates that changes to the international legal and regulatory framework have had an impact on preventing or deterring terrorist attacks against civil aviation. Statistics collected for this research show a steep decline in the number of occurrences since 2003. However, credit for this decline cannot be attributed to a single Convention or Protocol, but to an array of actions taken by the international community and the International Civil Aviation Organization over the last fifty years. Altogether, they appear to have made civil aviation increasingly secure.

Résumé

Le secteur de l'aviation civile reste vulnérable aux attaques terroristes malgré le fait que, depuis plusieurs années, des avancées technologiques ont été réalisées en sécurité aérienne et d'importantes ressources humaines et financières ont été déployées. L'objectif central de cette thèse consiste à examiner les paramètres juridiques et règlementaires internationaux à cet égard et à en évaluer l'efficacité historique en vue de prévenir et de contrecarrer les attaques de terrorisme aérien.

Afin de déterminer les répercussions que les changements au cadre juridique et règlementaire de l'aviation civile ont pu avoir sur les capacités des terroristes à planifier et à exécuter leurs attaques, cette thèse analyse les grands concepts du terrorisme et du terrorisme aérien, sous l'angle particulier des tactiques privilégiées pour causer la terreur. En outre, cette thèse s'intéresse à l'évolution de la menace terroriste en matière d'aviation civile en effectuant une analyse selon une base exclusive de données préparée par l'auteur et qui permettra d'en mesurer l'ampleur. Dans cette foulée, les statistiques obtenues sur le terrorisme aérien font l'objet d'une comparaison avec les instruments juridiques et règlementaires de l'Organisation de l'aviation civile internationale (OACI) reliés à la sureté du transport aérien (conventions, protocoles, normes et pratiques recommandées (SARP), résolutions) qui forment le cadre juridique et règlementaire international.

L'analyse démontre que les changements au cadre juridique et règlementaire international sont apportés en réaction à certaines attaques catalytiques dans le but d'établir un réseau sécuritaire à la hauteur des menaces nouvelles et changeantes contre l'aviation civile. Or, les analyses laissent voir que les terroristes considèrent ces mesures arbitraires puisque leur désir d'attaquer l'aviation civile ne connait ni frontières, seulement des occasions. À leurs yeux, ces mesures ne représentent que de simples obstacles. L'analyse fait également la démonstration que les terroristes, en misant sur la patience et l'ingéniosité, ont su surmonter ces obstacles de sécurité plus d'une fois. Cela devient d'une évidence claire lorsqu'on examine les attaques terroristes catalytiques contre l'aviation civile et les transitions que les terroristes réussissent à faire d'une méthode d'attaque à une autre.

Cette thèse illustre que les changements effectués au cadre juridique et règlementaire international ont eu des impacts sur la prévention et la dissuasion d'attaques terroristes contre l'aviation civile. Les statistiques recueillies lors de cette recherche révèlent d'ailleurs une baisse marquée du nombre d'attentats survenus depuis 2003. Toutefois, cette avancée ne résulte pas des effets d'une seule convention ou mesure, mais plutôt d'une série d'actions prises par la communauté internationale et l'OACI qui, depuis plus de 50 ans, ont façonné ensemble un environnement sans cesse plus sécuritaire pour le monde de l'aviation civile.

Tables of contents

List of Tables

xiii

List of Figures

List of Abbreviations

9/11	Terrorist attacks on the US on September 11, 2001.
17 N	Revolutionary Organization 17 November (Greece)
AA	American Airlines
ACI	Airports Council International
AGLG	Armed Group for the Liberation of Guadeloupe
ALN	Ação Libertadora Nacional (Brazil)
AMAL	Lebanese political party associated with the Shia community
ANO	Abu Nidal Organization
ANYO	Arab National Youth Organization
AQ	Al-Qaeda
AQAP	Al-Qaeda in the Arabian Peninsula
ASALA	Armenian Secret Army for the Liberation of Armenia
ASD	Avihai Skyjack Database
ASM	Aviation Security Manual (ICAO)
ASN	Aviation Safety Network
ATSD	Aviation Terrorism Sub-Database (author's own)
AVSEC	Aviation Security
BLA	Black Liberation Army (US)
BOAC	British Overseas Airways Corporation
BSO	Black September Organization
CATC	Consolidated Aviation Terrorism Characteristics (author's own)
CBRN	Chemical, Biological, Radiological, Nuclear
CGSB	Simon Bolivar Guerrilla Coordination Board (Colombia)
CIIM	Canary Islands Independance Movement
CITEJA	Comité international technique d'experts juridiques aériens
CMPL	Chinchoneros-Movimiento Popular de Liberación (Honduras)
CORU	Coordination of United Revolutionary Organization (anti-Castro)
CSA	Ceskoslovenske Aerolinie
CTC	Counter-Terrorism Committee (UNSC)
Dev Sol	Revolutionary People's Liberation Party Front (Turkey)
DHS	US Department of Homeland Security
DRC	Democratic Republic of Congo
ECAC	European Civil Aviation Conference
EGP	Ejército Guerrillero de los Pobres (Guatemala and US)
ELF	Eritrean Liberation Front
ELN	Ejército de Liberación Nacional—same as EPL (Colombia)
ERP	Ejército Revolucionario del Pueblo (Argentina)
ETA	Euskadi ta Askatasuna (Spain)
EU	European Union
FAA	US Federal Aviation Administration
FALN	Fuerzas Armadas de Liberación Nacional (Puerto Rico)

FARC	Fuerzas Armadas Revolucionarias de Colombia
FBI	US Federal Bureau of Investigation
FedEx	Federal Express
FLNC	Fronte di Liberazione Naziunale Corsu (Corsica)
FMLN	Farabundo Marti para la Liberación Nacional (El Salvador)
FPRLZ	Fuerzaz Populares Revolucionarias Lorenzo Zelaya (Honduras)
FROLINAT	Front de Libération Nationale du Tchad
FSLN	Frente Sandinista de Liberación Nacional (Nicaragua)
GACID	Global Aviation Criminal Incidents Database (author's own)
GAM	Gerakan Aceh Merdeka (Indonesia)
GAO	US Congress General Accounting Office
GDP	Gross Domestic Product
GNRU	Guatemalan National Revolutionary Unity
GTD	Global Terrorism Database
HBS	Hold Baggage Screening
IATA (old)	International Air Traffic Association from 1919 to 1945
IATA	International Air Transport Association since 1945
ICAN	International Commission for Air Navigation
ICAO	International Civil Aviation Organization
IED	Improvised Explosive Device
IFALPA	International Federation of Airline Pilots' Associations
IFM	Isatabu Freedom Movement (Salomon Island)
IFSO	In-Flight Security Officers (ICAO)
INTERPOL	International Criminal Police Organization
IRA	Irish Republican Army
ISF	Islamic Salvation Front
JAT	Jugoslovenski AeroTransport (Yougoslavie)
JDL	Jewish Defense League
JRCL	Japan Revolutionary Communist League (Chūkaku-ha)
JTF	Jharkland Tribal Forces (India)
JRA	Japanese Red Army
KLM	Koninklijke Luchtvaart Maatschappij (Royal Dutch Airlines)
KSM	Khalid Shaikh Mohammed; AQ mastermind of Aviation Terrorism
LAG	Liquids, Aerosols and Gels (ICAO). Also used as Liquids and Gels
LLA	Lesotho Liberation Army
LRF	Legal and Regulatory Framework
LTTE	Liberation Tigers of Tamil Eelam (Sri Lanka)
M-19	19th of April Movement (Colombia)
Manpads	Man-Portable Air-Defense System
MEA	Middle East Airlines
MEK	Mojahedin-e-Khalq — same as MKO (Iran)
MNLF	Moro National Liberation Front (Philippines)
MNRM	Mozambique National Resistance Movement (RENAMO)

MO	Modus Operandi or Modi Operandi in its plural form
MRTA	Tupac Amaru Revolutionary Movement (Peru)
MS	Maria Schiavo's Chronology of Attacks against Civil Aviation
NDF	Nicaragua Democratic Force
NFLC	National Front for the Liberation of Cuba
NPA	New People's Army (Philippines)
NPS	Non-Passenger Screening
OAS	Organisation de l'armée secrète (Algeria)
OAS	Organization of American States
OECD	Organization for Economic Cooperation and Development
OED	Oxford English Dictionary
OIC	Organisation of the Islamic Conference
OVPRR	Organization of Volunteers for the Puerto Rican Revolution
Pan Am	Pan American Airlines
PBS	Pre-Board Screening
PFLP	Popular Front for the Liberation of Palestine
PFLP-EO	Popular Front for the Liberation of Palestine – External Operations
PFLP-GC	Popular Front for the Liberation of Palestine – General Command
PIDS	Perimeter Intrusion Detection Systems
PKK	Partiya Karkerên Kurdistanê (Turkey and Iraq)
PLO	Palestine Liberation Organization
PRAR	Puerto Rican Armed Resistance
PRC	Problem, Response, and Concern Equation (author's own)
PULO	Pattani United Liberation Organization (Thailand)
RAF	Red Army Fraction (Germany)
RAIC	Restricted Area Identification Card
RNA	Republic of New Africa (USA)
RPG	Rocket Propelled Grenade
SAFTI	Secure and Facilitated International Travel Initiative (G8)
SARP	Standards and Recommended Practices (ICAO)
SARPS	Standards and Recommended Practices on Security (ICAO)
SAF	Singapore Armed Forces Commando Formation (SAF CDO FN)
SAM	Sociedad Aeronáutica de Medellín (Colombia)
SAS	Scandinavian Airline System
SCP	Situational Crime Prevention
SeMS	Security Management System (ICAO)
SNM	Somali National Movement
SPLA	Sudan People's Liberation Army/Movement
STA	Société de Transports Aériens
TPLF	Tigrayan People's Liberation Front (Ethiopia)
TSA	US Transportation Security Administration
TWA	Trans World Airlines
UK	United Kingdom

UN	United Nations
UNGA	United Nations General Assembly
UNITA	União Nacional para a Independência Total de Angola
UNSC	United Nations Security Council
UNSG	United Nations Secretary General
UPS	United Parcel Service
US	United States of America
USAP	Universal Security Audit Programme (ICAO)
UTA	Union des transports aériens
VAR-Palmares	Vanguarda Armada Revolucionaria Palmares (Brazil)
VASP	Viação Aérea São Paulo (Brazil)
VBIED	Vehicle-Borne Improvised Explosive Device
VPR	Vanguarda Popular Revolucionaria (Brazil)
WMD	Weapon of Mass Destruction
WTC	World Trade Center, New York
WTMD	Walk-Through Metal Detector
ZIPRA	Zimbabwe Peoples Revolution Army

Glossary

This glossary focuses on specialized terms and unusual expressions used in this study. Most of them were taken from the following five sources: UN, ICAO, Transport Canada' Glossary, Canadian Criminal Code, and authoritative experts in the field of civil aviation, international law, and aviation terrorism. Finally, to respond to specific needs, the author created a limited number of terms related to aviation terrorism as discussed in this thesis.

acts of unlawful interference. Acts or attempted acts such that jeopardize the safety of civil aviation (unlawful seizure of aircraft-in-flight or in-service; destruction of an aircraft-in-flight or in-service; forcible intrusion on board an aircraft, at an airport or on the premises of an aeronautical facility; introduction on board an aircraft or at an airport of a weapon or hazardous device for criminal purposes; communication of false information jeopardizing the safety of an aircraft-in-flight or in-service, of passengers, crew, ground personnel or the general public, at an airport or on the premises of a civil aviation facility).

aerodrome. Any area of land, water or other surface used, designed, prepared, equipped or set apart for use, either in whole or in part, for the arrival, departure, movement or servicing an aircraft.

airborne sabotage. An act of sabotage committed with an explosive device triggered from within an aircraft while it is airborne. (*See* sabotage).

air carrier. Any person who operates a commercial air service.

aircraft. Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

aircraft attack. A *ground-to-ground* or *ground-to-air* attack targeting an aircraft, whether it is gated, taxiing, taking off, landing, or flying at any altitude.

aircraft-in-flight. Aircraft is considered to be in flight at any time from the moment when all its external doors are closed following embarkation until the moment when such doors are opened for disembarkation; in the case of a forced landing, the flight shall be deemed to continue until the competent authorities take over the responsibility for the aircraft and for persons and property on board.

aircraft-in-service. Aircraft is considered to be in service from the beginning of the pre-flight preparation of the aircraft by ground personnel or by the crew for a specific flight until twenty-four hours after any landing, and which is under surveillance sufficient to detect unauthorized access.

aircraft security search. A thorough inspection of the interior and exterior of the aircraft for the purposes of discovering suspicious objects, weapons, explosives, or other dangerous devices, articles, and substances.

airline. Any air transport enterprise offering or operating an international air service.

airport. Airfield or marine base designated and used for public air service.

airport attack. An attack targeting airport or terminal installations, gates, waiting areas, parking lots, civil air navigation systems, air communication facilities, etc.

air service. Any scheduled air service performed by aircraft for the public transport of passengers, mail, or cargo.

airside. The movement area of an airport, adjacent buildings or portions thereof, access to which is controlled.

al Fatah. Exile Palestinian group that was founded in 1957 by Yasser Arafat. Al Fatah was committed to retaining full independence for Palestinians. Their aim was direct military confrontation with Israel, in order to win back lost land from the Israelis. Al Fatah became increasingly important in the 1960s, and gained full control over the PLO in 1969, which it had joined in 1967. At this time, the PLO began to carry out guerrilla actions inside Israel.

al-Qaeda. Terrorist organization set up by Osama bin Laden in 1989 in Peshawar, Pakistan. After the Soviets left Afghanistan, bin Laden moved away from anti-aircraft and anti-tank attacks, to guerrilla warfare and terrorism aimed at destabilizing the societies and governments that were to become his targets.

*annex 17 (***to the Chicago Convention 1944***).* Security Manual providing detailed procedures and guidance on aspects of aviation security; it is intended to assist states in the implementation of their respective national civil aviation security programmes required by the specifications in the Annexes to the Convention on International Civil Aviation.

antiterrorism. Passive measures seeking to discourage terrorist cells or organizations from attacking a target by decreasing their chances of success. Where counterterrorism is the sword, antiterrorism is the shield. Both elements work together to protect society.

apron. A defined area, on a land aerodrome, intended to accommodate aircraft for the purposes of loading or unloading passengers, mail or cargo, fuelling, parking, or maintenance. (*See* also *ramp* and *tarmac*)

attacks (failed). An attack fails when a terrorist is able to enter any security system undetected, but is unable to fulfill the ultimate goal of the operation because an alarm is activated, a weapon malfunctions, or the terrorist changes his/her mind or is overpowered by citizens, passengers, or security intervention.

attacks (foiled). An attack is foiled when one or more terrorists have initiated actions towards the end goal of the operation—such as target surveillance, acquisition of weapons or equipment, dry run testing, or groundwork around the target—but are stopped by law enforcement authorities.

attacks (plotted). A plot becomes a crime when two or more terrorists have gone beyond mere discussions and started tactical or operational phases such as recruitment, planning, target selection, reconnaissance, etc.

attacks (successful). An attack is successful when a terrorist is able to go through airport security undetected while carrying a concealed weapon/threat object.

attacks (thwarted). An attack is thwarted when attackers have reached the target location, henceforth representing an immediate threat to civil aviation, but are deterred, detected, or stopped by security systems or law enforcement.

aut dedere, aut judicare. The extradite or prosecute legal doctrine.

axiom. An empirical law, a generalization from experience; a proposition that commends itself to general acceptance; a well-established or universally conceded principle.

background check. A check of a person's identity and previous experience, including, whenever legally permissible, any criminal history, as part of the assessment of an individual's suitability to implement a security control and for unescorted access to a security restricted area.

baggage. Personal property of passengers or crew carried in the cabin or in the hold of an aircraft by agreement with the operator.

baggage reconciliation. See passenger bag matching.

bilateral regulation. Regulation undertaken jointly by two parties, most typically by two states, although one or both parties might also be a group of states, a supra-state (i.e., a community or other union of states as a single body), a regional government body, or even two airlines.

black swan. An event with the following three attributes: (1) rarity, (2) extreme impact, and (3) retrospective predictability. The highly expected *not happening* is also a Black Swan.

black widow. Term Russians use for female suicide bombers seeking to avenge their husbands' deaths at the hands of the security services.

cargo. Any property carried on an aircraft other than mail, stores, and accompanied or mishandled baggage.

cargo screening. Physical examination or nonintrusive methods of assessing whether cargo poses a threat to transportation security.

carry-on baggage. Any baggage and personal belongings to which a person has or will have access on board an aircraft.

catalytic attack. A sudden, rare, and harmful attack generating policy changes in civil aviation.

center of gravity. In Clausewitzian terms, it is the point where a mass is concentrated most densely. It is also the most effective target for an attack. E.g., for civil aviation it could be airports, aircraft, passenger lounges, etc.

checked baggage. Any baggage and personal belongings for which a baggage tag is issued after the baggage and personal belongings are accepted for transportation.

civil aviation. Comprises two main aviation activities: commercial operations and private operations. The latter can also be further subdivided into business operations and personal operations.

commandeering. A type of hijacking that occurs when an aircraft is attacked on the ground while its doors are still open.

commercial air service. Any use of aircraft for hire or reward, which means any payment, consideration, gratuity or benefit, directly or indirectly charged, demanded, received, or collected by any person for the use of an aircraft.

commercial aviation. Any aircraft operation involving the transport of passengers, cargo, or mail for remuneration or hire.

conspiracy. An unlawful act that goes beyond mere words and involves four phases: (1) recruitment of co-conspirators, (2) planning, (3) target selection, and (4) reconnaissance of targets.

contracting state. When a state ratifies the Chicago Convention 1944, it becomes a "Contracting State" to the convention. The act of ratification entitles the state to becoming a "Member State" of ICAO.

convention. A multilateral treaty with a large number of parties; it is normally open to the participation of the international community as a whole, or of a large number of states. Usually the instruments negotiated under the auspices of an international organization are entitled conventions.

counterterrorism. Active measures used to find and dismantle terrorist organizations or cells. They are offensive in nature, and the almost exclusive domain of governments acting through their militaries, intelligence agencies, and the law enforcement authorities.

crew member. A person assigned by an operator to duty on an aircraft during a flight duty period.

decisive attack. The last fraction of a suicide mission during which attackers intentionally and successfully get around airport security with concealed weapons or threat objects without being detected. At this stage, the intent and determination of the attackers place them in a position to strike a decisive blow.

declaration. Term used for various international instruments. It can be a treaty in the proper sense, serve as an informal agreement with respect to a matter of minor importance, or declare certain aspirations. It is not always legally binding.

disruptive passengers. Passenger who fails to respect the rules of conduct at an airport or on board an aircraft or to follow the instructions of the airport staff or crew members, and who thereby disturbs the good order and discipline at an airport or on board an aircraft.

distant audience. Any victim affected by the terrorist's ruthlessness, cruelty, excessive destructiveness, and surprise during an attack.

distress. Condition of being threatened by serious or imminent danger, and of requiring immediate assistance. (*See* MAYDAY).

domestic law. Internal law of a state.

explosive. Explosive products, commonly known as "plastic explosives," including explosives in flexible or elastic sheet form, as described in the technical Annex to the *Convention on the Marking of Plastic Explosives for the Purpose of Detection* (Montréal, 1991),

explosive detection system. Technology system or combination of different technologies that has the ability to detect, and so to indicate by means of an alarm, explosive material contained in baggage or other articles, irrespective of the material from which the bag is made.

explosive substance. Solid or liquid substance or mixture of substances which is in itself capable by chemical reaction of emitting gases at such a temperature, pressure, and speed as to cause damage in the surrounding area.

general aviation. All civil operations other than scheduled air services and non-scheduled air transport operations for remuneration or hire.

ground attack. MO that combines aircraft and airport attacks.

ground sabotage. An act of sabotage committed with an explosive device triggered from within an aircraft while it is still on the ground. (*See* sabotage).

hijacking. Unlawful act of seizure or the wrongful exercise of control, by force or violence or threat of force or violence, or by any other form of intimidation, and with wrongful intent, of any aircraft. The aircraft must be in an in-flight status, which begins when the doors to the aircraft are closed; thus, a hijacking can occur on the ground.

improvised explosive device. A bomb that is manufactured from commercial, military or homemade explosives.

in-flight security officer. Person who is authorized by the government of the State of the Operator and the government of the State of Registration to be deployed on an aircraft with the purpose of protecting that aircraft and its occupants against acts of unlawful interference.

international airport. Any airport designated by the state in whose territory it is situated as an airport of entry and departure for international air traffic, where the formalities incident to customs, immigration, public health, animal and plant quarantine and similar procedures are carried out.

international air service. An air service which passes through the air space over the territory of more than one State.

international law. Body of rules legally binding on states and other subjects of international law in their relations with each other.

jurisdiction. In international law, the right of a state to exercise authority over its nationals and persons and things in its territory, and sometimes abroad (extraterritorial jurisdiction).

landside. Area of an airport and buildings to which both traveling passengers and the non-traveling public have unrestricted access. Also known as the Non-restricted area.

legal and regulatory framework: For the purpose of this study, a framework governing the development and improvement of civil aviation security

MAYDAY. International call for urgent assistance, from French "m'aidez". Preferably spoken three times. It indicates imminent or grave danger and means, "I am in distress."

member state. Country that is a member of an organization such as UN, ICAO, and others. This thesis has adopted the UN spelling, which uses initial capitals for both words without a hyphen. (*See also* Contracting State).

movement area. Part of an aerodrome that is intended to be used for the surface movement of aircraft and that includes the manoeuvring area and aprons.

multinational regulation. Regulation undertaken jointly by three or more States, within the framework of an international organization or a multilateral treaty or agreement, or as a separate specific activity, and may be broadly construed to include relevant regulatory processes and structures, outcomes or outputs written as treaties or other agreements, resolutions, decisions, directives or regulations, as well as the observations, conclusions, guidance ad discussions of multilateral bodies, both intergovernmental and non-governmental.

national regulation. Regulation of both national and foreign persons and entities undertaken by a State within its territory in its exercise of sovereignty over that territory and the airspace above or within the scope of its international extra-jurisdiction.

non-passenger screening checkpoint. A restricted area access point or a location inside a restricted area where persons other than passengers are screened or can be screened.

non-state actor. For purposes of this research, the term means actors who are willing and able to use violence to pursue their objectives; are not integrated into formal state institutions; possess a certain degree of autonomy; and have an organizational structure.

overgeneralization. Statements that go far beyond what can be justified based on the data or empirical observations that one has.

passenger bag matching. Procedure to ensure that a passenger who checks a bag also boards the flight. If the passenger does not board, the bag is removed.

passenger profiling. Method of identifying potentially threatening passengers, who are then subjected to additional security measures.

pre-board screening. Primary screening is conducted on all airline passengers prior to entering the sterile area of an airport; it involves passengers walking through a metal detector and carry-on items being subjected to X-ray screening.

primary security line. The boundary between a restricted area and a non-restricted area at an aerodrome.

prohibited item. Goods that could pose a threat to aviation security or are identified by ICAO as items that must never be carried in the cabin of an aircraft or taken into a restricted area.

protocol. A legal instrument that contains supplementary provisions to a previous treaty.

ramp. Another expression for *apron* or *tarmac*.

ratification. The international act whereby a state indicates its consent to be bound to a treaty and enact the necessary legislation to give domestic effect to it.

recommended practice (SARP). An ICAO practice agreed to be desirable but not essential.

regulated agent. An agent, freight forwarder or any other entity who conducts business with an operator and provides security controls that are accepted or required by an appropriate authority in respect or cargo or mail

regulation. Authoritative direction to bring about and maintain a desired degree of order. All regulation involves *regulatory process*, *regulatory structure* and *regulatory content*.

restricted area. Any area of an aerodrome to which access is restricted to authorize persons.

restricted area identity card. A restricted area pass issued by or under the authority of the operator of an aerodrome.

risk management. A tool that policy makers can use to help ensure that strategies to develop protective programmes and allocate resources target the highest priority security needs. This information helps officials determine which security programmes are most important to develop and fund, given that it is not possible to protect civil aviation against all threats because of limited resources.

runway. Defined rectangular area located on a land aerodrome and prepared for the landing and takeoff runs of aircraft along its length.

sabotage. Attack occurring when an explosive device is triggered from within an aircraft, be it on the ground or flying, with the intention of causing malicious or wanton destruction of property, endangering or resulting in unlawful interference with civil aviation.

safety. Focusing on accidental acts against a constant threat background in order to create an absence of danger to human life.

screening. Application of technical or other means that are intended to identify and detect weapons, explosives, or other dangerous devices, articles, or substances, which may be used to commit an act of unlawful interference.

security. Safeguarding civil aviation against deliberate terrorist or criminal acts (unlawful interference) through a combination of measures, as well as human and material resources.

security audit. In-depth compliance examination of all aspects of the implementation of a national civil aviation security programme.

security control. Means by which the introduction of weapons, explosives, or dangerous devices, articles or substances that may be used to commit an act of unlawful interference can be prevented.

security equipment. Devices of a specialized nature for use, individually or as part of a system, in the prevention or detection of acts of unlawful interference with civil aviation.

security management system (SeMS). Standardized approach to implementing the security processes outlined in IATA's air carrier security programme. Based on

ICAO's Annex 17 and IATA's operational safety audit security standards (IOSA).

security measure. Measure made by an authority in relation to a particular matter if aviation security, the security of any aircraft or aerodrome or other aviation facility or the safety of the public, passengers or crew members would be compromised.

security restricted area. Areas of the airside of an airport that are identified as priority risk areas where, in addition to access control, other security controls are applied (commercial aviation departure areas between the screening point and the aircraft, the ramp, etc.). It is also known as the sterile area.

Shia. The branch of Islam comprising sects believing in Ali and the Imams as the only rightful successors of Muhammad and in the concealment and messianic return of the last recognized Imam.

skyjacking. A hijacking committed when the aircraft is airborne. (*See* hijacking).

small arms. General description applied to all hand-held firearms.

sovereignty. Right of a state to act independently of other states, subject only to such restrictions as international law imposes.

standard (SARP). ICAO specification whose uniform application is recognized as "necessary for the safety or regularity of international air navigation."

state. Defined territory with a permanent population and a government.

state-sponsored terrorism. A government's intentional assistance to a terrorist group to help it use violence, bolster its political activities, or sustain the organization.

sterile area. Area between any passenger inspection or screening checkpoint and aircraft, into which access is strictly controlled. It is also known as the Security restricted area.

suicide mission. An individual or a group of individuals intentionally committing suicide to destroy an aircraft or an aviation installation, with the objective of killing people. When an aircraft is involved, a suicide mission must use another tactic as a vehicle for the suicide (e.g., hijacking, sabotage).

Sunni. The branch of Islam that adheres to the orthodox tradition and also acknowledges the first four caliphs as the rightful successors of Muhammad.

tarmac. Another expression for apron or ramp.

taxi. Movement of an aircraft on the surface of an aerodrome under its own power, excluding takeoff and landing.

terminal. The main building or group of buildings where the processing of commercial passengers and cargo and the boarding of aircraft occurs.

terrorist activity. As defined in section 83.01 (1) of the Canadian Criminal Code.

treaty. An international agreement concluded between States in written form and governed by international law, whether embodied in a single instrument or in two or more related instruments and whatever its particular designation.

unidentified baggage. Baggage at an airport, with or without a baggage tag, which is not picked up by or identified with a passenger.

unlawful interference. *See* Acts of Unlawful Interference.

unruly passengers. Persons who commit, on board a civil aircraft, from the moment when the aircraft door is closed prior to take off to the moment when it is reopened after landing, an act of: assault, intimidation, menace, etc., (…) which endangers good order or the safety of property or persons, (…) crew members, aircraft in flight (…) and disobedience of lawful commands or instructions for safe, orderly or efficient operations.

weapon of mass destruction. Term used in US federal law to define an improvised explosive device.

Preface

Trying to Understand Violence

I have spent over forty years of my life working to reduce injustice and suffering. I served first as a police officer and then in the field of aviation security. Being a police officer puts one in a position to learn quickly about human nature, to face its malice, evil and ruthlessness. In reality, this profession is about dealing with all kinds of atrocity on a daily basis. But in all fairness, it also gives one the possibility to witness the bright side of humanity when people show signs of compassion, generosity and kindness even in the most challenging and heart-breaking situations. I also learned a long time ago that the world could crumble in seconds. In a matter of days, the whole world can unleash violence that can destroy what men took centuries to build with pride. Throughout the years, I have tried to understand the riddle of brutality through constant questioning; how can violence unfold so easily? Today, I still ask myself, what inspires someone to carry out heinous crimes and to unleash unimaginable horrors on innocent lives. What is their incentive?

In all my years of working in public security, I have always been puzzled by the specific moment a person decides to kill another human being. Trying to understand that was my quest. This questioning led me to research the phenomenon of aviation terrorism. I have sought to understand how individuals can find arguments that legitimize their massacres based on political or religious ideas. Of course, trying to understand this deadly process does not mean forgiving it. However, I firmly believe that failing to understand is also failing to fulfil a duty. We all have a moral obligation to the victims to make an effort to explain why such violence takes place. Deciding not to make such an effort would be like accepting the terrorists' will to do harm and kill people, or to accept that the terrorists' will to do wrong prevails over our will to find out why such tragedies happen. From an personal point of view, this is something that I would find totally unconscionable.

Many other studies will have to be undertaken if we ever plan to fully understand violent human behaviour; however, the exercise is worth the effort. The present research is only one step in that direction. It is by acquiring more knowledge of one's tragedy that we will be in a position to appreciate, slowly but surely, our own condition. This is the kind of objective that has driven the submission of this thesis.

To sum up my reasoning on the matter, I would say to those who once asked the same questions as I did, that we all have an obligation to seek greater wisdom. I am not responsible for the evil done by members of my community, but I live true to the Order of Canada's Latin motto: *desiderantes meliorem patriam*, and I sincerely believe that we owe it to the next generation to try to build a better world.

1

Introduction

For more than 50 years, the International Civil Aviation Organization (ICAO) has developed a legal and regulatory framework (LRF) to stop a wave of criminal and terrorist assaults against aviation. This thesis concentrates its analysis solely on aviation terrorism. More specifically, this study examines the effectiveness of ICAO's legal instruments for thwarting aviation terrorism. Although terrorism is a phenomenon deeply rooted in history, aviation terrorism is relatively new as it is linked with the fast-paced expansion of civil aviation in the second half of the twentieth century. From the onset of the jet age, terrorists have tried, tested and improved various methods for attacking civil aviation. They initiated a *wave* of aviation terrorism with a series of aircraft hijackings in the 1960s, introduced a long *cycle* of airport and ground attacks in the 1970s, instigated a short but deadly mid-air sabotaging *stage* in the 1980s, and prompted a *phase* of suicide missions in the 1990s, which culminated in the 11 September 2001 (9/11) attacks that killed thousands of people with hijacked aircraft.[1] Thereafter, the 9/11 attacks solidified the will of the United Nations (UN) and ICAO Member States to fight aviation terrorism and transformed the way aviation security was done. It also forced a re-evaluation of aviation security systems in countries that had long believed in the superior security of its commercial aviation sector.[2] Boaz Ganor posits that the targets, damage, scope, and sophistication of the 9/11 attacks have all contributed to turning international terrorism into an immediate, tangible, and existential danger to the entire world.[3] The attacks were a rude awakening for ICAO as they showed the enduring vulnerability of civil aviation. Proceeding from this background, the thesis' first chapter establishes the aim of the study, specifies the problem to be examined, presents the background of the study, offers an overview of the methodology used, notes its limitations and delimitations, and describes the significance of the study.

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1. Audrey Kurth Cronin, "How al-Qaida Ends: The Decline and Demise of Terrorist groups," *International Security,* 31:1 (Summer 2006): 14-16. The four words in italics of this sentence are inspired by Cronin's concept of Cycles, Stages, Waves, and Phases.
2. Thomas A. Birkland, *Lessons of Disaster: Policy Change After Catastrophic Events* (Washington, DC: Georgetown University Press 2006), 62.
3. Boaz Ganor, *The Counter-Terrorism Puzzle: A Guide for Decision Makers* (New Brunswick, NJ: Transaction Publishers, 2005), xv.

1.1 Aim of the Study

The aim of the current study is to determine if ICAO's international legal and regulatory framework (LRF) had any impact on aviation terrorism. To fulfil this aim, a two-pronged analytical process was used: (1) the first probed data gathered in the Aviation Terrorism Sub-Database (ATSD) for the period covering the first civil aviation terrorist attack on 21 February 1931 until 31 December 2011, and (2) the second analyzed ICAO legal, operational, and administrative documents developed to prevent and thwart aviation terrorism. The idea of placing changes to the LRF in time and looking at their possible statistical effects on aviation terrorism was highly pertinent. In fact, this data comparison fully encapsulated the "quantifying exercise" prescribed by the research question.

1.2 The Problem: Question and Hypothesis

To the best of the author's knowledge, there is currently no empirical research that measures the effect of the legal and regulatory framework (LRF) on aviation terrorism. In order to explore this unchartered territory, the research question was posed as follows: *What impact, if any, has the international civil aviation legal and regulatory framework had on aviation terrorism*? The way the question is formulated addresses both the problem (aviation terrorism) and the response given by authorities to tackle the problem (the LRF). The concern (ICAO's allegedly reactive mode), the third identified factor, is exposed in the hypothesized answer.

Faced with this research question, the initial hypothesis of this dissertation was that ICAO demonstrated a reactive approach to civil aviation terrorism, both objectively (that is, it only made changes to the LRF after, and in reaction to, terrorist attacks) and subjectively (that is, it failed to act proactively and was in this sense reactive). The initial hypothesis was that aviation terrorists drove the action and reaction process that forms the evolution of civil aviation terrorism responses. As will be discussed in much more detail later in this dissertation, after the research was completed this hypothesis had to be modified. Based on the available evidence, it appeared that it was not ICAO that was reactive, but rather it was the Member States, through their failure to implement ICAO's work, that were responsible for ceding the initiative to civil aviation terrorists. Returning to the initial hypothesis, while the author assumed it to be correct, three negative side effects of the hypothetically reactive mode of ICAO on the LRF were noted. These were that it: (1) undermines the confidence of the traveling public in the safety of civil aviation,[4] (2) encourages terrorists to innovate,[5] and (3) displaces the

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4. ICAO, *Convention for the Suppression of Unlawful Seizure of Aircraft* (The Hague, 1970), Preamble; *Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation* (Montréal, 1971), Preamble; *Protocol for the Suppression of Unlawful Acts of Violence at Airports Serving International Civil Aviation* (Montréal, 1988), Introduction;

terrorists' capacity onto other targets.[6] As will be discussed in more detail later, this dissertation found the that confidence of the traveling public was *not* undermined by terrorist attacks against civil aviation, that terrorists *did* continuously innovate, and that terrorists did *not* displace their capacity for terrorism from aviation onto other targets (at least, not entirely).

Ronald Clarke and Graeme Newman, two of the most prominent authors on situational crime prevention (SCP), have studied the last side effect. They assert that SCP techniques are applicable to terrorism. On the other hand, they contend that crime displacement is unlikely to occur. They specifically argue that the techniques used to curb hijackings in the 1970s succeeded and did not generate displacement.[7] In a more recent study, Henda Yao Hsu reached the same conclusions: "situational measures significantly reduced the intended attacks, but did not result in the immediate and inevitable displacement of terrorism."[8] The SCP and displacement theory in a context of aviation terrorism as exposed by the hypothesis and its three consequences will be discussed further in chapter 5.

1.3 Background of the Study

It might be useful at this stage to briefly describe the context in which the decision was made to initiate this research. The study was conducted at a time when: (1) the public regularly doubted the pertinence of security measures built around civil aviation,[9] (2) governments were repeatedly questioned about the high costs of aviation security,[10] (3) an intellectual movement adamantly criticized the "smoke and mirror" approach to aviation security,[11] and (4) many believed the authorities

Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation (Beijing, 2010). Preamble.

5. Adam Dolnik, *Understanding Terrorist Innovation: Technology, Tactics and Global Trends* (New York: Routledge, 2007), 15, 174.

6. Bruce Schneier, "Airline Security: A Waste of Money and Time," *Schneier on Security* (newsletter), 15 December 2010, http://www.schneier.com. The "displacement theory" was developed in the 1970s.

7. Ronald V. Clarke and Graeme R. Newman, *Outsmarting The Terrorists* (Westport, CT: Praeger, 2006), 41-52.

8. Henda Yao Hsu, "Unstoppable? A Close Look at Terrorism Displacement," (PhD diss., University at Albany, State University of New York, 2011), 96.

9. Eben Kaplan, "Targets for Terrorists: post 9/11 Aviation Security," *Council on Foreign Relations* (7 September 2006), http://www.cfr.org.

10. Dan Milmo, "After 9/11: airports 'wasting billions' on needless security checks for passengers," *Guardian* (7 September 2011), http://www.theguardian.com.

11. Here are the most vocal critics of aviation security measures adopted post-9/11: Bruce Schneier, *Beyond Fear: Thinking Sensibly About Security in an Uncertain* World (New York: Copernicus, 2003); Andrew R. Thomas, *Aviation Insecurity: The New Challenges of the Air Travel* (Amherst, NY: Prometheus, 2003); Frank P. Harvey, *Smoke & Mirrors: Globalized Terrorism and the Illusion of Multilateral Security* (Toronto: University of

were constantly fighting the last war.[12] In order to better grasp the environment in which aviation terrorism occurs, four major aspects were examined: (1) the history of civil aviation, (2) the evolution of civil aviation terrorism, (3) the development of the civil aviation's international legal and regulatory framework (LRF), and (4) the alleged reactive mode of ICAO, and the negative consequences of this for the fight against civil aviation terrorism, asserted in the initial hypothesis.

1.3.1   Civil Aviation

Although it brought great assistance to the free and growing movement of people and goods, the emergence of aviation also generated several unanticipated problems. Note here that aviation was initially developed on a massive scale in a military context, and thus the initial positive and negative aspects of the industry appeared in that military context. For example, in the field of warfare, the early use of airplanes in World War I enabled the collection of intelligence, while the inclusion of fighter and bomber planes in World War II enabled military attacks of unparalleled lethality. Nevertheless, these military advantages were short-lived, as every country eventually acquired its own air force. Civil aviation underwent similarly rapid developments. In just over one hundred years, aviation has gone from tiny prototype airplanes to full-scale aircraft carrying nearly three billion passengers every year.[13] In 2014, over three billion people were transported, and the aviation industry generated a business activity estimated at US$ 2.4 trillion (including direct, indirect and the catalytic impact on tourism).[14] According to ICAO's forecasts, world air traffic should grow about 4.6 percent per annum during the 2005-2025 period.[15]

Such data show that civil aviation has allowed an unprecedented level of mobility, facilitating travel to the most remote parts of the world within hours rather than months. However, this greater mobility presents a weakness. An aircraft is a compact vehicle filled with a lot of people, making it critically susceptible to becoming a target of interest for terrorists. In this context, managing such a fragile industry is a delicate operation in which three main types of actors play a crucial role: (1) sovereign states, whose laws and regulations lay the foundations for the industry; (2) intergovernmental organizations (e.g., ICAO), mandated by sovereign states to fulfill particular tasks in the development of civil aviation; and (3) airline

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Toronto Press, 2004); John Mueller, *Overblown: How Politicians and the Terrorism Industry Inflate National Security Threats, and Why We Believe Them* (New York, Free Press, 2006).

12. R. William Johnstone, *9/11 and the Future of Transportation Security* (Westport, CT, Praeger, 2006), 26.

13. *See* Appendix A, *World Passenger Traffic: 1929-2012*.

14. IATA, "Annual Report 2014," 6, http://www.iata.org.

15. ICAO, "Outlook for Air Transport to the Year 2025," (September 2007), Cir 313, AT/134, 34. *See also* Appendix A.

organizations, such as the International Air Transport Association (IATA), which is the trade association for the world's airlines.[16]

1.3.2 Civil Aviation Terrorism

In the first part of the wave of aviation terrorism in the late 1960s, terrorists were confident that attacks against civil aviation did more than just create havoc—it also attracted a lot of media attention to their cause. This vicious circle of perpetrating more attacks to obtain more media coverage escalated. Terrorist groups killed and terrorized masses of people by attacking on the ground, from the ground, and in the air. George Habash, leader of the PFLP once said: "to kill a Jew far from the battlefield has more effect than killing 100 of them in battle; it attracts more attention."[17]

In order to grasp the magnitude of the problem of aviation terrorism, the author of this dissertation has done extensive research to collect data on every act of unlawful interference against civil aviation (criminal incident or terrorist attack) since 1931. The specifics of 1965 occurrences were collected in the *Global Aviation Criminal Incidents Database* (GACID), an original database created for the purpose of this dissertation. The particulars of 586 *terrorist* attacks against civil aviation were then separated out and used to create a second, equally original database, called the *Aviation Terrorism Sub-Database* (ATSD).[18] Previous to this dissertation, no comparable databases on criminal incidents or terrorist attacks against civil aviation existed. These databases in themselves constitute a considerable contribution to the fields of terrorism studies, aviation terrorism studies, and aviation security. Statistics were generated based on the information contained in both databases, and will be referred to and interpreted throughout this dissertation. These statistics confirm that civil aviation has been an attractive target to terrorists for decades.

1.3.3 Civil Aviation Legal and Regulatory Framework

Legal instruments and regulations have played an essential role in allowing and accelerating the development and globalization of civil aviation. In the specific context of aviation security, the International Legal and Regulatory Framework (LRF) helped lead the fight against aviation terrorism through a two-component legislative process: law-making and regulations.[19] Both the legal and regulatory

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16. Adrianus D. Groenewege, *The Compendium of International Civil Aviation*, 3rd ed. (Montréal: International Aviation Development, 2003), 52.

17. Daniel Byman, *A High Price: The Triumphs and Failures of Israeli Counter-Terrorism* (New York, Oxford University Press, 2011), 44.

18. *See* Appendix B, *List of 586 Terrorist Attacks Against Civil Aviation: 1931-2011.*

19. ICAO, "Manual on the Regulation of International Air Transport" (Doc. 9626), 2nd ed. 2004, 1.1-1.

parts of the framework define common principles governing the development and improvement of civil aviation security. Being parties to the Chicago Convention 1944, all Member States must achieve compliance with the requirements of ICAO. They must assert that they adhere and implement standards set forth by ICAO.

As will be discussed in chapter 4, the law-making element of the LRF takes into account the Chicago *Convention on International Civil Aviation* 1944, which created ICAO, as well as all seven subsequent Conventions and Protocols related to aviation security adopted thereafter. The basic foundation of the framework lies in domestic laws required by the Chicago Convention 1944.[20] As Dempsey explains, laws establish the perimeters of acceptable conduct and are a means of substituting order for chaos in social relations.[21] As far as civil aviation is concerned, the main objective of these laws is to create a level of standardization for the safe and orderly conduct of international air transport services.[22] Suffice to say that law-making is infrequently exploited at ICAO because, once enacted, laws are only typically amended to respond to global issues. The regulatory component of the LRF is a subset of the legal element and refers to policy-making and the writing of tangible rules and regulations that support the application of laws. From an ICAO perspective, those rules correspond to Standards and Recommended Practices (SARPs) or Standards and Recommended Practices for Security (SARPS) progressively incorporated in the Chicago Convention 1944 through its Annex 17, which was first introduced in 1974. In contrast to the law-making component, the process of writing or amending regulations is rapid and is used more frequently.[23] As Abeyratne explains, regulations need to be kept current and responsive to changing situations and the needs of states and aviation stakeholders.[24]

The literature review shows that incremental changes have been made to the international LRF in the last half-century in order to prevent and thwart terrorist attacks against civil aviation. Likewise, new security measures were also adopted at a national level when countries had to respond to emerging threats.[25] Bearing in mind that attacks against civil aviation are a threat to world peace and security,

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20. Chicago Convention 1944, art. 37 states that "each contracting State must collaborate in securing the highest practicable degree of uniformity in regulations, standards, procedures, and organization in relation to aircraft, personnel, airways and auxiliary service…" It is with the integration of this article in domestic laws and its appropriate implementation that a safer international civil aviation will be achieved.

21. Paul Stephen Dempsey, *Public International Air Law* (Montréal, McGill University, 2008), 1.

22. Chicago Convention 1944, Preamble.

23. ICAO, "Manual on Regulation," 2004, 1.1-1.

24. Ruwantissa Abeyratne, *Regulation of Air Transport: The Slumbering Sentinels* (New York: Springer, 2013), 50.

25. For example, Israel introduced the concept of air marshals in 1968; in 1973, many western countries introduced metal detectors at passenger screening checkpoints of airports for intercepting any concealed weapons.

Malcolm Shaw, an authority in international law, describes a twin-track legal approach adopted by the UN when (1) dealing with particular manifestations of terrorist activity (aviation terrorism being one of them), and (2) condemning the phenomenon in general terms.[26] This demonstrates that ICAO was not alone in the international fight against civil aviation terrorism. Ben Saul creates a link between the UN and ICAO as he discusses the 17 international treaties adopted by both organizations between 1963 and 2005 in reaction to particularly egregious terrorist attacks; he further posits that some "were adopted to fill normative gaps in regulations which were spread across multiple jurisdictions and in relation to which the ordinary principle of territorial jurisdiction was insufficient."[27] Ben Saul's work thus further supports the author's argument that ICAO was not working in isolation, that it was working cooperatively with international mechanisms to respond to the ongoing threats to aviation. This international cooperation reached a new level in the 1990s.   As Rodney Wallis explains, the unacceptability of unlawful acts committed against civil aviation in the early 1990s was actually addressed at the international level by the adoption of civil aviation treaties.[28] Paul Dempsey made clear that under the aegis of ICAO "international law, aimed at subduing threats and attacks on aviation and airport security, is based upon several multilateral conventions."[29]

Figure 1.1 shows that, beginning in 1963, a series of Conventions, Protocols, and other security measures were adopted under the aegis of ICAO. The objective of these measures was to criminalize the acts of those attacking civil aviation using ground attacks, hijackings, sabotage, and suicide missions. O'Donnell suggests that ICAO's legal instruments enabled the establishment of a sort of code of terrorist offences.[30] Moreover, expanding beyond the aviation security perspective, two other ICAO conventions addressing the civil liability matter were adopted. However, this research did not consider the two conventions as they only refer to legal liabilities, which is not the topic of this research.[31] Moreover, ICAO has also adopted a new protocol addressing disruptive passengers in 2014. However, this

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26. Malcolm N. Shaw, *International Law,* 6th ed. (Cambridge: Cambridge University Press, 2008), 1159-1160.

27. Ben Saul, *Defining Terrorism in International Law* (New York: Oxford University Press, 2008), 130-131.

28. Rodney Wallis, *Combating Air Terrorism* (New York: Brassey's: 1993), xix.

29. Dempsey, *Air Law*, 5, 233.

30. Daniel O'Donnell, "International treaties against terrorism and the use of terrorism during armed conflict and by armed forces," *International Review of the Red Cross* 88:864 (December 2006), 855.

31. ICAO, *Convention on Compensating for Damage Caused by Aircraft to Third Parties* (General Risk Convention) (2009); *Convention on Compensation for Damage to Third Parties, Resulting from Acts of Unlawful Interference Involving Aircraft* (Unlawful Interference Convention) (2009).

protocol was not considered in this research as it covers a period ending on 31 December 2011.

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┌──────────────────────┐
│   Chicago 1944       │
│ International Civil   │
│ Aviation Convention  │
└──────────────────────┘
        │      ┌──────────────┐
        │      │  Tokyo 1963  │
        │      │  Aircraft    │
        │      │  Convention  │
        │      └──────────────┘
        │        ┌────────────────┐
        │        │ The Hague 1970 │
        │        │ Unlawful Seizure│
        │        │  Convention    │
        │        └────────────────┘
        │          ┌──────────────┐
        │          │ Montréal 1971│
        │          │ Civil Aviation│
        │          │  Convention  │
        │          └──────────────┘
   ┌──────────┐      ┌──────────────┐
   │ Annex 17 │      │ Montréal 1988│
   │ Security │      │   Airport    │
   │  1974    │      │   Protocol   │
   └──────────┘      └──────────────┘
        │              ┌──────────────┐
        │              │ Montréal 1991│
        │              │Plastic Explosives│
        │              │  Convention  │
        │              └──────────────┘
 ┌──────────────┐  ┌──────────────┐  ┌──────────────┐
 │Aviation Security│ │ Beijing 2010 │ │ Beijing 2010 │
 │    Manual     │  │Protocol to The│ │New Civil Aviation│
 │    2005       │  │Hague Convention││  Convention  │
 └──────────────┘  └──────────────┘  └──────────────┘
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FIGURE 1.1   ICAO's Aviation Security Legal and Regulatory Framework

Building on this insight, this dissertation includes extensive analysis of key multilateral conventions relating to aviation terrorism (*see* chapter 4). From a civil aviation viewpoint, Ruwantissa Abeyratne finds it important to "discuss the various steps taken from a regulatory perspective by ICAO in its role as regulator and mentor of international civil aviation in countering imminent threats posed to the sustainability of the air transport industry."[32]   This is, essentially, the purpose of this dissertation.

All the authors quoted in the above paragraph demonstrate the international dimension of civil aviation and highlight that both the UN and ICAO played a central role in developing multilateral legal instruments to thwart aviation terrorism. Establishing the foundation of the LRF examined in this research is of great importance since it is also the inspiration for Member States in setting up

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32. Ruwantissa Abeyratne, *Aviation Security Law* (New York: Springer, 2010), 2.

their own civil aviation standard operating procedures based on SARPs.[33] As will be discussed in chapter 4, international treaties and national laws form the basis on which the global legal aviation security web operates nowadays.

1.3.4 ICAO's Allegedly Reactive Mode

Many of ICAO's critics have suggested that the organization has had a tendency to respond reactively to terrorist attacks. However, some of these attacks were more devastating than others. Several of these devastating attacks became catalytic events because of the impact they had as opposed to the way they unfolded or the number of victims they claimed. In such circumstances, Birkland calls them *focusing events* in the sense that they are sudden, relatively rare, and harmful. His description is particularly pertinent for the present research because he also suggests that when concentrated in a community of interest (i.e., civil aviation) and when the event is known to policy makers and the public virtually simultaneously (through mass media coverage of civil aviation terrorist attacks), such an event become a game-changer.[34] Johnston concurs and explains that, when applied to the transportation sector, an event is considered "catalytic" when it generates important policy changes.[35] Thus, the term "catalytic attack" will be used in the present research to refer to sudden, rare, and harmful attack generating policy changes in civil aviation. Catalytic attacks will be further explained and put in their proper statistical context in section 3.4.5 below.

The following examples demonstrate that ICAO legal instruments were indeed introduced in reaction to catalytic terrorist attacks: (1) the hijacking of El Al Flight 426 on 23 July 1968 brought about the long-awaited ratification of the 1963 Tokyo *Convention on Offences and Certain Other Acts Committed on Board Aircraft* as well as the quick adoption of The Hague *Convention for the Suppression of Unlawful Seizure of Aircraft* in 1970, (2) a series of five hijackings perpetrated by the Popular Front for the Liberation of Palestine (PFLP) between 6 to 9 September 1970 (an operation dubbed *Skyjack Sunday*) led to the adoption of the 1971 Montréal *Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation,* (3) the simultaneous Rome and Vienna airports terrorist attacks committed on 27 December 1985 led to the adoption in 1988 of the Montréal *Protocol for the Suppression of Unlawful Acts of Violence at Airports Serving International Civil Aviation*, and (4) three sabotage attacks eventually

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33. As of 29 April 2015, the UN has 193 Member States as opposed to the ICAO's 191. Three UN Member States are not members of ICAO: Dominica, Liechtenstein, and Tuvalu, whereas Cook Islands is an ICAO Member State and not a UN member.
34. Thomas A. Birkland, *After Disaster: Agenda Setting, Public Policy, and Focusing Events* (Washington D.C.: Georgetown University Press, 1997), 22.
35. Van R. Johnston, "Terrorism and Transportation Policy and Administration: Balancing the Model and Equations for Optimal Security," *Review of Policy Research*, 21:3 (2004): 263-274.

steered ICAO in 1991 to the adoption of the Montréal *Convention on the Marking of Plastic Explosives for the Purpose of Detection*: (a) Air India Flight 182 on 23 June 1985, (b) Pan Am Flight 103 on 22 December 1988, and (c) UTA Flight 772 on 19 September 1989. In a four-year span, a total of 770 people were killed by those three acts of sabotage.

Given that there have been so many catalytic attacks, one may wonder why ICAO always seemed to be caught off guard by terrorist attacks and to react with the introduction of new treaties. Ariel Merari, for example, notes critically that:

> The security system was caught by surprise when an airliner was first hijacked for political extortion; it was unprepared when an airliner was attacked on the tarmac by a terrorist team firing automatic weapons; when terrorists, who arrived as passengers, collected their luggage from the conveyer belt, took out weapons from their suitcases, and strafed the crowd in the arrival's hall; when a parcel bomb sent by mail exploded in an airliner's cargo hold in mid-flight; when a bomb was brought on board by an unwitting passenger, and so on.[36]

Merari's quotation reproduces the general perception that ICAO has always reacted to terrorist attacks. However, the depiction of ICAO as a reactive body does not accurately reflect the reality, but then again perpetuates the myth that the organization is continuously *fighting the last war*. Nonetheless, Merari's overgeneralization[37] sets the ground for testing the present research's hypothesis. Indeed, his viewpoint offers an angle from which the LRF is examined throughout this study.

In summary, the four major aspects discussed in section 1.3 (above) allowed for the identification of three factors that are the foundation of the present research: (1) a *Problem*, (2) a *Response*, and (3) a *Concern*. Furthermore, it is the argument of this dissertation that the interaction of these three factors produces instability in the industry by (1) yielding undesirable economic consequences for civil aviation, (2) creating fear of flying or, at the very least, raising a feeling of uncertainty in the traveling public, and (3) aggravating the perception that authorities always react to terrorist attacks instead of being proactive.

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36. Ariel Merari, "Attacks on Civil Aviation: Trends and Lessons," chap. 2 in *Aviation Terrorism and Security*, eds Paul Wilkinson and Brian M. Jenkins (London: Frank Cass, 1999), 24. *See also* Jin-Tai Choi, *Aviation Terrorism*: *Historical Survey, Perspectives and Responses* (New York: St. Martin, 1994).

37. W. Lawrence Neuman, *Social Research Methods: Qualitative and Quantitative Approaches,* 6 ed. (Montréal, Pearson, 2006), 5. Neuman defines *overgeneralization* as a statement that goes far beyond what can be justified based on the data or empirical observations that one has.

1.4 Overview, of Methodology

The present study is, in fact, an evaluation research aimed at finding out if the LRF has had an impact on aviation terrorism. Five approaches were required to conduct the present study, empirically test the hypothesis, and answer the research question. The approaches are conceptual, deductive, inductive, quantitative, and qualitative. Except for the conceptual and quantitative approaches that used a predetermined sequence and steps, the other parts of the process were not linear but flowed in several directions before the response to the research question could be found. Along the way, new factual information was gathered, verified and put in context.

At the conceptual level, a three-variable relationship clarifies the chain of causality and shows that the measurement process links together the three variables, moving deductively from the abstract to the concrete. In this research, what the author calls the *Problem-Response-Concern* equation expresses variables and the relationships among them in abstract terms. For instance, aviation terrorism (the *problem*) acts as the dependent variable, the international legal and regulatory framework (the *response*) as the independent one, while ICAO's reaction mode (*the concern*) acts as the intervening variable. For its part, the world of civil aviation dictates the global context in which the effect of the three variables must be tested.

Table 1.1 (below) builds on this and displays the path to answering the research question. First, it presents the three seeds at the origin of this research (*what* are the two main issues and *why* is there a concern). Then, it offers the three-faceted methodology needed for the study (*how* will the information be extracted, quantitatively and qualitatively, and *when* did events happened). Finally, it specifies the three main sources feeding the necessary material for the research (*where* are the main streams of information coming from and *who* are the authors supporting the arguments).

TABLE 1.1   Seeds, Needs, and Feeds

Seeds *Topics of Research*		Needs *Methodology*		Feeds *Sources of Information*	
What	*Problem*: Aviation Terrorism (dependent variable)	How	Quantitative	Where	GACID/ATSD
	Response: LRF (independent variable)		Qualitative		ICAO documents
Why	*Concern*: Reaction Mode (intervening variable)	When	Timeline	Who	Literature Review

Although circumstantial deductions have been used in the past to demonstrate the correlation between changes to the LRF and the number of terrorist attacks against civil aviation, no study has ever convincingly tested this correlation in an empirical manner. This appeared to be a major flaw in the scholarship given the huge human and financial resources dedicated to aviation security. The notion of

"impact" brought by changes to the LRF played a crucial role in the preparation of the research question and, therefore, necessitated measurement. In order to rectify this, three tools were essential: (1) Global and Modus Operandi specific statistics on aviation Terrorism, (2) an analysis of ICAO documents (legal, operational, and administrative) leading to changes to the LRF, and (3) time-specific analyses of the LRF and its impacts (if any) on aviation terrorism.

The next steps of this research project were done in a very inductive manner by observing the empirical civil aviation world and attempting to transpose policy-oriented schemes into academic models. Data was gathered from a variety of sources. After a thorough analysis, it became apparent that the scarce literature on aviation terrorism was insufficient to empirically identify and discuss actual effects the LRF has had on aviation terrorism. This problem became even more evident after consulting Schmid's cutting-edge research on terrorism.[38] Indeed, with the exception of references to certain specific aviation terrorism attacks, this seminal book was practically mute on the tactic of aviation terrorism, not to mention its legal and regulatory framework. Thus, a more extensive literature review was performed and its results suggested that a deductive approach would be more appropriate.

As chapter 3 demonstrates, quantitative work using ATSD statistics allowed for the depiction of a global picture of aviation terrorism and its MO. These statistics were very carefully collected, verified, and analyzed. The information gathered aim at explaining terrorist attacks, understanding aviation terrorism trends, and evaluating the effectiveness of civil aviation security measures.

Chapter 4 presents a qualitative analysis evaluating all security-related Conventions, Protocols, Annex 17, Resolutions, and Working Papers developed by ICAO since its inception in 1946. Chapter 4 also used both quantitative and qualitative sets of data in a time-specific analysis in order to assess the decision-making process leading to the current LRF. For instance, either direct or circumstantial evidence can provide a response. In the case of aviation terrorism, direct evidence could be obtained by interviewing terrorists. However, while such evidence could be straightforward, it would not help answering the question.

In short, this thesis' methodology is built around the conceptual PRC equation. A measurement process links together the variables of the equation, which is tested with a quantitative analysis (statistics) itself enhanced with qualitative strata (legal instruments). Statistics are generated based on descriptions extracted from seven different lists of aviation terrorist attacks, while elements of the LRF are collected, explained and listed to complement the series of information. Finally, this information is gathered in figures and timelines to facilitate their analysis.

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38. Alex P. Schmid, ed., *The Routledge Handbook of Terrorism Research* (New York: Routledge, 2011).

1.4.1 Global- and MO- Specific Statistics on Aviation Terrorism

The first action taken towards meeting the aviation terrorism statistical requirement was to obtain global- and MO-specific statistics on aviation terrorism suitable to the needs of this research. More specifically, a search was done to find any lists of terrorist attacks against civil aviation from which statistics could be generated. Two such lists were found: the first on a website called Skyjack,[39] maintained by Hillel Avihai, an Israeli academic specializing in aviation terrorism; the second in the work of Mary F. Schiavo, former Inspector General of the United States Department of Transportation (DOT).[40] While both lists appeared credible on the surface, a fundamental flaw was revealed during a cross-analysis. The content of each database differed greatly in terms of quantity of terrorist attacks. Avihai's included 198 attacks, whereas Schiavo's listed 1338. Looking further at the contents of each list revealed that Avihai's list was dedicated solely to politically-motivated attacks, mostly perpetrated by terrorist groups, whereas Schiavo's included both politically- and criminally-motivated incidents. Additionally, Schiavo's list included politically motivated attacks that were not included in Avihai's, and vice versa.

This is why further research was conducted to find possible alternatives to those two lists. Five more lists or databases focusing in part or entirely on aviation terrorism were found. The cross-analysis of the seven lists revealed the same problems: major discrepancies in terms of content, as well as a lack of focus on genuinely politically motivated terrorist attacks against civil aviation. (These additional lists are (1) Aviation Safety Network,[41] (2) RAND Database of Worldwide Terrorism Incidents,[42] (3) *Flights of Terror: Aerial hijacking and sabotage since 1930,*[43] (4) Global Terrorism Database,[44] and (5) *Skyjack: The Story of Air Piracy*.[45])

From then on, it was deemed necessary to build a new database on aviation terrorism based on the seven aforementioned lists, since each of those lists were deemed incomplete and most of them lacked focus on actual aviation terrorist attacks. Their amalgamation and consolidation was a logical step towards resolving the aforementioned issues.

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39. Skyjack Database, http://www.skyjack.co.il/chronology.htm.
40. Mary F. Schiavo, "Chronology of Attacks against Civil Aviation," chap. 10 in *Aviation Security Management,* vol. 1, *The Context of Aviation Security Management*, ed. Andrew R. Thomas (Westport, CT: Praeger, 2008).
41. Aviation Safety Net Database, http://aviation-safety.net/database/.
42. RAND Database of Worldwide Terrorism Incidents, http://www.smapp.rand.org.
43. David Gero, *Flights of Terror: Aerial hijack and sabotage since 1930*, 2nd ed. (Sparkford, UK: Haynes, 2009).
44. Global Terrorism Database, http://www.start.umd.edu/gtd/.
45. David Phillips, *Skyjack: The Story of Air Piracy* (London: Harrap, 1973).

1.4.2   ICAO Documents Leading to Changes to the LRF

The various components of the legal and regulatory framework are generally discussed in legal books on international air laws. While it would normally be appropriate and easier to use the comments already provided by legal experts on the subject matter, it was decided that in order to address rigorously and specifically the needs of the present research, analyzing publicly available LRF documents was deemed essential. However, an examination of ICAO database revealed that no such composite list exist, nor does a unified timeline bringing together all security-related information (i.e., Conventions, Protocols, aviation security documents, and ICAO Assembly Resolutions and Working Papers). Such a list and timeline are fundamental for cross-referencing data with ATSD. Only by having aviation terrorism statistics and ICAO legal instruments in the same timeline would it be possible to appreciate the impact of terrorist actions and ICAO's reactions and vice versa. Thus, the author created such a composite timeline, previously non-existent in academic literature. This timeline represents an original contribution to research on aviation terrorism, and offers a wealth of information about how aviation terrorism was dealt with by ICAO authorities and Member States. Although ICAO normally puts all of its documentation online, no IACO *Council* Resolutions, Working Papers, or documents pertaining to specific aviation security measures are yet available to the general public. However, as discussed in chapter 4, the amount of information currently accessible (Conventions, Annexes, Protocols, ICAO *Assembly* Resolutions and Working Papers, synopses of security documents) is comprehensive enough to allow for answering the research question.

1.4.3   Time-Specific Analysis of the LRF Impact

A time-specific analysis of the impacts (if any) the LRF might have had on aviation terrorism was the last crucial part of this methodological process. This analysis was necessary to this dissertation for two main reasons. Firstly, it was the necessary quantitative step to answering the research question. Secondly, as will be discussed in more detail later, the statistics and empirical research cited in the secondary literature on civil aviation terrorism were often deeply flawed or simply inaccurate. The author was thus forced to create a more reliable source of empirical information (GACID/ATSD) in order to complete this time-specific analysis, and to do so in a way that was more accurate than would have been possible if the author had relied on the existing statistics available in the secondary literature.

This was accomplished in two steps. First, information on aviation terrorism and changes to the LRF were gathered into a simple table. Then, all the information was placed into a timeline, where the possible impact of LRF changes could be seen alongside aviation terrorism statistics. Though the list of changes to the LRF was easy to gather, aviation terrorism statistics were much harder to represent in such a timeline. Filling 80 years of aviation terrorism statistics into a

timeline was achievable, but the charts became so heavy that the analysis was almost impossible. In order to obtain a thorough picture of aviation terrorism, ATSD statistics and LRF changes were then blended into one figure— this will be discussed in chapter 5. This greatly facilitated the analysis.

1.5 *Limitations and Delimitations*

This study is limited in three ways. The first limitation lies in the incomplete open source data used in building GACID/ATSD. However, the data that was obtained and included in the databases may be judged to be largely (if not perfectly) comprehensive and reliable. The world of civil aviation is highly regulated. Member States have an obligation to report any information about the circumstances of the offence[46] (e.g., name and target of assault, date, location, duration of incident, etc.). Consequently, this regulation lessens incorrect data. Repeated crosschecking using this data confirms that the sections entitled "Categories Used to Answer Research Questions" and "Summary of Incidents" of GACID/ATSD are sound. However, information about aggressors is much more difficult to obtain. This became particularly challenging with terrorist attacks (e.g., identification of the terrorist and his/her affiliation, structure of terrorist groups, etc.). In addition, terrorist attacks are, (1) often well-structured commando operations; (2) not always claimed—and when they are, unrelated groups seeking publicity might be misleadingly making the claim; and (3) the work of very secretive organizations, which makes their identification difficult, often ascribing the blame for an attack to a splinter organization.[47]

The second shortcoming relates to access to other sources of information. Ideally, interviews with actors involved on both sides of the spectrum—including legislators, law enforcement officials and intelligence agents, as well as terrorists themselves—could shed light on additional reasons for the decline of terrorist attacks observed at particular moments in the timeline. For instance, access to ICAO decision-makers would help researchers to determine their rationale for adopting particular Conventions, Protocols, Resolutions, and Working Papers; this could also have brought a different perspective to this evaluation. Unfortunately, the author had limited or no access to such interviews and decision-makers.

Thirdly, the research was also limited in the sense that self-imposed boundaries were used to restrict the scope of the study. Hence the decision to concentrate only on international legal instruments set forth by ICAO, which could be interpreted by critical readers as limiting the acquisition of information on all

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46. The Hague Convention 1970, Art. 11; Montréal Convention 1971, Art. 13; ICAO Resolution A37-17, Appendix D, Art. 10, sec. b (8 October 2010), 35.
47. As a case in point, Palestinian groups operated under the leadership of various terrorist figureheads who quickly created splinter groups in instances of disagreement. For an illustration of this, *see* chap. 3, fig. 3.22.

possible impacts of laws and regulations on aviation terrorism. Indeed, in the last 50 years, many countries and regional organizations have made significant contributions by adopting domestic laws and implementing security measures to prevent and thwart aviation terrorism. However, the reality is that most leading national and regional legal instruments are either inspired by ICAO's work or, vice versa, that ICAO was influenced by the enhancement of aviation security at the national and regional level. Therefore, the decision to concentrate on ICAO's LRF allows the author to cover the whole spectrum of measures while avoiding redundancy.

1.6 Significance of the Study

In addition to adding value to the concept of aviation terrorism, the present study has intrinsic importance because
1. previous research has yielded incomplete and conflicting evidence concerning the specific issue of aviation terrorism;
2. through the creation of the first comprehensive database of aviation terrorism, it fills existing gaps in the literature;
3. it allows one to determine if a correlation exists between changes to the legal and regulatory framework and fluctuations observed in aviation terrorism statistics;
4. data collected in the Aviation Terrorism Sub-Database (ATSD) offers a great tool for further research on the tactic of aviation terrorism;
5. the problem of aviation terrorism affects the lives of nearly three billion travelers every year, and this number is growing annually;
6. the knowledge gathered on aviation terrorism is a useful instrument for decision-makers (governments, international civil aviation legislators, leaders in civil aviation, security practitioners, and law enforcement).

1.7 Thesis Structure

This dissertation is divided into six chapters. Chapter 1 introduces the context and the background of the study, the identified problem and the research question, the aim and significance of the study, an overview of the methodology, and limitations and delimitations of the research. The literature review in chapter 2 offers a historical perspective on the phenomena of both terrorism and aviation terrorism, selects an apposite working definition of terrorism, and identifies signature characteristics of aviation terrorism. These characteristics are central to determining whether incidents are criminal or terrorist in nature. Chapter 3 quantifies aviation terrorism in time; explains at length how ATSD was created; presents statistics to support the determination, in chapters 4 and 5, of the impact that changes to the LRF have had on aviation terrorism; identifies statistical categories, including the number of attacks, the number of deaths, and their

perpetrators; and categorizes the four main MO that aviation terrorists have used over time as ground attacks, hijackings, sabotage and suicide missions. Chapter 4 presents a short history of international civil aviation and ICAO; provides an annotated list of all LRF essentials in a chronological order; describes the main changes made to the LRF over time, including the dates at which changes were signed, ratified and entered into force; examines security standards established by ICAO; and explains that changes to the LRF are aimed at closing operational and tactical loopholes greatly exploited by terrorists. Chapter 5 gathers and analyses the main elements obtained from the two previous chapters; changes to the LRF are presented in the linear charts on aviation terrorism included in chapter 3; charts are thoroughly analyzed to gauge the impact that changes to the LRF have had on aviation terrorism through the number of attacks and deaths. Chapter 6 concludes the dissertation by analysing interesting but unexpected findings that emerged from this research.

2

Literature Review

Introduction

The aim of this chapter is two-fold: firstly, to provide a synopsis of existing knowledge regarding the concept and history of both terrorism and aviation terrorism; secondly, to search for and provide an adequate definition of aviation terrorism, which will then be used throughout this dissertation. This chapter is divided into three sections: (1) the first examines the origins, history, and evolution of terrorism in the last two millennia, (2) the second is a comprehensive review of research on terrorism, with an emphasis on the difficulties of reaching a broadly accepted definition of this phenomenon, and (3) the last is central to the whole thesis as it analyses the tactic of aviation terrorism as a specific part of political violence and terrorism. The literature review presented below leads to the identification of a number of characteristics of aviation terrorism. These features are the main components of a new working definition to be used throughout this research. Thus, it is in the interest of intellectual clarity and understanding of the process leading up to this definition that it is presented early on in this dissertation. It reads as follows:

> Aviation terrorism is a political act against civil aviation carried out by non-state actors who systematically target civilians and intentionally use violence in order to create terror and coerce authorities, at times, by making demands.

However, it is through the study of each of those characteristics that the reader will be able to fully appreciate the broad scope of aviation terrorism. For example, the definition will be core to the creation of a specific database on aviation terrorism in chapter 3; and it will be a primary reference in the study of the legal and regulatory framework in chapter 4. Altogether, this definition will be the foundation on which the answer to the research question will be established.

2.1 Terrorism: The Historical Context of Its Evolution

Individuals, groups, and states participating in various forms of terrorist activities have been around since ancient times. At this point, an examination of the evolution of terrorism is important for three primary reasons: (1) it demonstrates that terrorism is an old phenomenon that has evolved over time, (2) it highlights many of the axioms and variables of terrorism that endure today, despite progressive changes to terrorist ideologies, strategies, tactics, MO, and targets, and (3) it focuses on the political nature of terrorism, which is the core element of the concept. This historical perspective will be useful throughout this research because it offers depth to the present study, it shows the many roads converging in modern day aviation terrorism, and it emphasizes the dynamic of aviation terrorists—which can be summarized as *Old Game, New Tricks.*

Zalman argues that the "history of terrorism is as old as human's willingness to use violence to affect politics."[48] In fact, terrorism can be traced back to the early days of the Christian era.[49] Although terrorism has persisted in history, it has also undergone profound changes*,* as the tactics of terrorists were adapted to different circumstances. Thus, terrorism has remained a dynamic phenomenon. Schmid concurs, stating that terrorism was not a static phenomenon because it changes as the instruments of violence and communications change and as contexts evolve.[50]

Yet, throughout its evolution and whatever the various ideologies, strategies, tactics or MO[51] used by terrorists, their basic objectives have generally remained the same: (1) to attract attention to their cause, (2) to instil fear in the population, and (3) to coerce foes with threats of further attacks if their demands are not met. In 1976, the US Department of Justice succinctly described the issue: "Terror is a natural phenomenon; terrorism is the conscious exploitation of it."[52] This is

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48. Amy Zalman, "The History of Terrorism," http://terrorism.about.com.

49. For comprehensive reviews of the history of terrorism, *see* Walter Reich*, Origins of Terrorism: Psychologies, Ideologies, Theologies, States of Mind* (Washington, DC: Woodrow Wilson International Center for Scholars, 1998); Michael Burleigh, *Blood and Rage: History of Terrorism* (New York: Harper, 2011); Gérard Chaliand and Arnaud Blin, *The History of Terrorism: From Antiquity to Al Qaeda,* trans. Edward Schneider, Kathryn Pulver, and Jesse Browner (Berkeley, CA: University of California Press, 2007); Randall Law*, Terrorism: A History* (Malden, MA: Polity Press, 2009); Jean Rosenfeld, *Terrorism, Identity, and Legitimacy: The Four Waves Theory and Political Violence* (New York: Routledge, 2011); John Murphy, "Defining International Terrorism: A Way Out of the Quagmire," *Israel Yearbook on Human Rights*, 13:14 (1989).

50. Schmid, *Handbook*, 2.

51. See Appendix C, *Ideologies, Strategies, Tactics, and Modi Operandi*.

52. US, National Advisory Committee on Criminal Justice Standards and Goals, *Report of the Task Force on Disorders and Terrorism* (Washington, DC: Dept. of Justice, 1976), 3.

absolutely true of modern aviation terrorism, and proof of its connection to historical terrorism. Mahan and Griset would later broaden the scale on which terrorism should be analyzed; they argued that terrorism is carried out by ideologues on the left and the right, by wealthy aristocrats and poverty-stricken farmers, and by men and women.[53] Although a similar diversity of actors will be analyzed in the following chapters, it is important to note what unites all of these seemingly disparate actors—and that is *intent*, the *intent* to terrorize, and the *intent* to commit political violence and convey a message.

In this context, the following pages present a historical overview of the evolution of terrorism, highlighting the origins of some of the key variables of its "modern-day" version.[54] There are four main predecessors of contemporary terrorism: (1) the Zealots (and their splinter group: the Sicarii), (2) the Assassins, (3) the Thugs,[55] and (4) the Jacobins, the group leading the Reign of Terror during the French Revolution. After examining those four groups, Rapoport's model will be used in section 2.1.2 to discuss the anarchists, the anti-colonialists, the left-wing terrorist organizations, and the religious terrorist groups as representative of major

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53. Sue Mahan and Pamala L. Griset, *Terrorism in Perspective,* 2nd ed. (Thousand Oaks, CA: Sage, 2008), 44.

54. There are differing opinions amongst academics, journalists, and policy-makers on whether or not the type of terrorism unleashed by al-Qaeda and others in the past 20 years or so represent a "new terrorism" different from terrorism from the past. For examples of scholars who believe we are confronted by a "new terrorism," *see* Bruce Hoffman, *Inside Terrorism* (New York: Columbia University Press, 1998); Daniel Benjamin and Steven Simon, *The Age of Sacred Terror: Radical Islam's War Against America* (New York: Random House, 2002); Walter Laqueur, *The New Terrorism: Fanaticism and the Arms of Mass Destruction* (New York: Oxford University Press, 1999); Ian Lesser et al., *Countering the New Terrorism* (Santa Monica, CA: RAND, 1999); Matthew Morgan*,* "The Origins of the New Terrorism," *Parameters*, 34:1 (Spring 2004): 29-43. *See also* Peter Neumann, *Old and New Terrorism* (Malden, MA: Polity Press, 2009), who investigated how and why terrorism's organizational structures, MO, political agendas and types of warfare have changed over the years. For examples of scholars who believe the so-called "new terrorism" is not new but rather an evolution of the terrorism of the past, *see* David Tucker, "What Is New About the New Terrorism and How Dangerous Is It?" *Terrorism and Political Violence,* 14:3 (Fall 2001): 1-14; Thomas Copeland, *"*Is the 'New Terrorism' Really New? An Analysis of the New Paradigm for Terrorism," *Journal of Conflict Studies,* 21:2 (Winter 2001): 7-27; Isabelle Duyvesteyn, "How New is the New Terrorism?" *Studies in Conflict and Terrorism,* 27:5 (2004): 439-454; Doron Zimmerman, *The Transformation of Terrorism* (Zurich: Andreas Wenger, 2003).

55. Louise Richardson, *What Terrorists Want: Understanding the Enemy, Containing the Threat* (New York: Random House, 2006), 23-28. *See also* Mia Bloom, *Dying to Kill: The Allure of Suicide Terror* (New York: Columbia University Press, 2005), 4. Bloom describes how three groups justified violence in the name of their respective religion: Judaism, Hinduism and Islam.

trends in the history of modern terrorism, before moving on to the conceptual academic literature on terrorism.

2.1.1 Pre-Modern Terrorism: The Ancestors

2.1.1.1 The Zealots-Sicarii (66-73 CE)

One of the first known terrorist movements was the Zealots-Sicarii, a fierce Jewish group that never hesitated to innovate during their quest to fight the Romans in occupied Palestine during the 66-73 CE period.[56] They launched a subversive assassination campaign against Roman forces and Jewish collaborators, whose piety was deemed unscrupulous.[57] Their objectives were both political and religious. In addition to inducing fear by cutting their victims' throats in the middle of crowds in broad daylight, they emphasized the fact that they could strike at any time. The Sicarii also kidnapped and demanded ransoms from prominent people to raise money, gain the release of captured compatriots, and compel authorities to grant their demands, thereby spreading a sense of chaos and instability.[58] The group was extinguished when it committed mass suicide at Masada, thus showing that they were ready to die for their cause.[59]

2.1.1.2 The Assassins (1090-1275)

Like the Zealots-Sicarii, the Hashshashin, commonly known as the "Assassins," is another historical example of religious terrorist organizations. They were a breakaway faction of Shia Islam called the *Nizârî Ismâ'îlîs*.[60] Very active between 1090 and 1275, they specialized in suicide missions, where a lone assassin would kill a key enemy leader and then wait to be killed or captured.[61] Their base of operation was large as they spread from present-day Iran and Iraq up to the Syrian and Lebanese mountains. Their MO was to threaten various governments and to

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56. Laqueur, *New Terrorism*, 11.
57. Chaliand-Blin, *History Terrorism*, 55.
58. Law, 27-30. *See also* David C. Rapoport, "Fear and trembling: Terrorism in three religious traditions," chap. 1 in *Terrorism Studies: A Reader*, ed. John Horgan and Kurt Braddock (New York: Routledge, 2011), 14.
59. Josephus, *The Works of Josephus,* trans. William Whiston (Peabody, MA: Hendrickson, 2008), 769.
60. Marshall G. S. Hodgson, *The Secret Order of Assassins: The Struggle of the Early Nizârî Ismâ'îlîs Against the Islamic* World (Philadelphia, PA: University of Pennsylvania Press: 2005), 1-2. He claims that the word "assassin," which the West uses for terrorist murderers in general, was originally a nickname of the sect, and had nothing to do with killing. Assassinations and suicidal work came later (*see* pp. 82-83). Hodgson names them the Nizârî Ismâ'îlîs.
61. John Pichtel, *Terrorism and WMDs: Awareness and* Response (Boca Raton: CRC, 2011), 4.

kill governors, caliphs, or Crusaders—such as Conrad of Montferrat, the King of Jerusalem, who was killed in 1192.[62]

Their victims were murdered in holy sites and royal courts in front of numerous witnesses.[63] The dominant Sunni sect in the Muslim world considered the Assassins to be infidels and persecuted them. It is presumed that the Assassins did not have sufficient means to lead a conventional armed struggle, and so instead sent lone killers to eliminate prominent Sunni personalities.[64]

2.1.1.3 The Thugs (13th-19th Century)

The Thugs ("thug" meaning deceiver) operated in Northern India. In some Southern provinces, they were also known under the name of Phansigars, or stranglers.[65] Like the Zealots-Sicarii and the Assassins, the Thugs were well recognized for their particular strategy. They were known to mingle with their victims for some time, patiently waiting for an opportunity to strike and to kill them with either a silk handkerchief or poison, to avoid spilling blood. Interestingly, Sleeman explained that for some unknown reason, they only attacked travelers and worked in groups of two or three.[66]

The Thugs, Thornton writes, claimed to terrorize their victims for the pleasure of Kali, the Hindu goddess of destruction, and in her name they practiced their execrable art; their victims were immolated in her honour.[67] Martin explains that this "secret cult of murder" existed in India during the thirteenth through the nineteenth Century.[68] The British stamped out the "Thuggees" in the 1830s, after a long campaign.[69] Richardson explains that they "were both the longest lasting and

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62. Laqueur, *New Terrorism*, 11.

63. David C. Rapoport, "Fear and Trembling: Terrorism in Three Religious Traditions," *American Political Science Review,* 78:3 (1984): 665.

64. US Army, *A Military Guide to Terrorism in the 21st Century* (Fort Leavenworth: US Army Training and Doctrine Command, 2003), 20.

65. Edward Thornton, *Illustrations of the History and Practices of the Thugs: And Notices of Some of the Proceedings of the Government of India, for the Suppression of the Crime of Thuggee* (London: Nattali & Bond, 1851), 8. Nabu Press published a reproduction of this book in January 2010. Phansigar comes from the Hindostanee word "phansi," meaning a "noose," referring to their weapon of choice.

66. Captain W. H. Sleeman, *The Thugs or Phansigars of India: Comprising a History of the Rise and Progress of that Extraordinary Fraternity of Assassins* (Philadelphia: Carey & Hart, 1839), 19. He published this single most influential document on Thugs anonymously in 1830, http://www.books.google.ca.

67. Thornton, *History Thugs*, 44.

68. Gus Martin, *Understanding Terrorism: Challenges, Perspectives, and Issues*, 3rd ed. (Thousand Oaks, CA: Sage, 2009), 184.

69. Rachel Fell McDermott and Jeffrey J. Kripal, eds, *Encountering Kali: In the Margins, at the Center, in the West* (Berkeley, CA: University of California Press, 2003), 5.

most destructive group" in history, as well as the "first precursors of state-sponsored terrorism, which in part explains their longevity."[70]

2.1.1.4 The Jacobins and the Reign of Terror (1789-1799)

Machiavelli, the father of modern political theory,[71] considered terror the essential stratagem for rulers seeking to establish a new political regime.[72] Yet, the term 'terror' first received its current political connotations during the French Revolution (1789-1799).[73] The short-lived *Régime de la terreur* ("Reign of Terror," June 1793 to July 1794), led by the Jacobins, gave legal status across France to a number of emergency measures, including an extensive programme of executing "traitors" by means of guillotines.[74] The agents of the Revolutionary state enforcing the new regime's policies were dubbed "terrorists".[75] In response, Maximilien de Robespierre, one of the most well known and most influential heads of the new state, argued that such terrorism was virtuous and justified since it was necessary for the transformation of the monarchy and for the defence of the newly liberal democracy.[76] Robespierre further claimed "terror is nothing but justice, prompt, severe and inflexible."[77] Many authors believe that this dogmatism inspired waves of modern terrorists and left its footprint across the following two centuries. For instance, Zalman posits that Robespierre "laid the foundations for modern terrorists, who believe violence will usher in a better system."[78] Moreover, Simonsen et al. argue that the "seminal concepts of terror tactics as a part of political strategy arose from these bloody episodes."[79]

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70. Richardson, 27-28.

71. Jo Eldridge Carney, ed., *Renaissance and Reformation 1500-1620* (Westport, CT: Greenwood, 2000), 239. Niccolò di Bernardo dei Machiavelli (1469-1527) wrote his famous book *The Prince* in 1513 but it was published posthumously five years after his death. The main theme of his book is that the end justifies the means if it enables the establishment or the safeguard of the State.

72. Arno J. Mayer, *The Furies: Violence and Terror in the French and Russian Revolutions* (Princeton, NJ: Princeton University Press, 2000), 99.

73. Gérard Chaliand and Arnaud Blin, ed., *L'histoire du terrorisme: De l'antiquité à Al Qaida* (Paris: Bayard, 2006), 115.

74. Schmid, *Handbook*, 41. *See also* John Murphy, "Defining International Terrorism: A Way Out of the Quagmire," *Israel Yearbook of Human Rights*, 19:14 (1989): 14.

75. Hoffman, *Inside Terrorism* 1998, 15.

76. Joseph J. Easson and Alex P. Schmid, "Appendix 2.1, 250-plus Academic, Governmental and Intergovernmental Definitions of Terrorism," in Schmid, *Handbook* 2011, 99.

77. Brian Forst, *Terrorism, Crime and Public Policy* (New York: Cambridge University Press, 2009), 44.

78. Zalman, op. cit. 19n48.

79. Clifford E. Simonsen and Jeremy R. Spindlove, *Terrorism Today: The Past, The Players, The Future* (Upper Saddle River, NJ: Prentice Hall, 2000), 15.

2.1.2 Modern Terrorism: Imposing a New World Order

The historiography of the last two centuries reflects the constant emergence of terrorist groups declaring new objectives, developing contacts with organizations around the world, and using new weapons. To help delimit the major eras of modern international terrorism and introduce aviation terrorism in its proper context, Rapoport's broad periodizing classification of modern non-state terrorism will be used here as the appropriate template for the purpose of this research.[80] The subtle delineation of non-state terrorism as opposed to state-sponsored terrorism will be discussed below in section 2.3.10. Rapoport situates the waves as follows:

1. Anarchist Wave (from the 1880s until 1920);
2. Anti-Colonial Wave (from the 1920s until the 1960s);
3. New Left Wave (from late 1960s until the 1990s);
4. Religious Wave (from 1979 to present).

Although McAllister and Schmid identify problems of specificity and find some shortcomings in Rapoport's classification model, they nevertheless describe it as powerful in its ability to illustrate the relationship between motivation for violence and modes of violent activity.[81]

2.1.2.1 The Anarchist Wave (1880-1920)

The roots of modern-day terrorism can be found in the mid-1800s, when radical socialists and anarchists in Germany, Russia, and other countries began to embrace a philosophy of violence targeting oppressive leaders and governments.[82] Sinclair contends that the nationalist secret society became more international in its aims after the urban revolutions of 1848.[83] Laqueur and Alexander report that in 1849, Karl Heinzen, a European immigrant to the US, called for the use of murder to achieve political objectives in unequivocal terms: "Even if we have to blow up half a continent or spill a sea of blood, in order to finish off the barbarian party, we should have no scruples about doing it."[84] The Italian anarchist movement also finds its roots in the mid-nineteenth century. Hoffman suggests that Italian Republican extremist Carlo Pisacane[85] played a major role in creating anti-state

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80. David C. Rapoport, "The four waves of modern terrorism," chap. 3 in *Terrorism Studies: A Reader,* eds John Horgan and Kurt Braddock (New York: Routledge, 2011), 41.
81. Bradley McAllister and Alex P. Schmid, "Theories of Terrorism," chap. 4 in Schmid, *Handbook*, 233.
82. Brigitte Nacos, *Terrorism and Counterterrorism* (New York: Pearson Longman, 2005), 38.
83. Andrew Sinclair, *An Anatomy of Terror: A History of Terrorism* (London, Pan Books, 2003), 130.
84. Walter Laqueur and Yonah Alexander, *The Terrorism Reader: The Essential Source Book on Political Violence Both Past and Present* (New York: Penguin Books, 1987), 59.
85. According to Hoffman, Carlos Pisacane is one of the most prominent forerunners of modern terrorism. Initially belonging to the Italian aristocracy, he turned away from his

and revolutionary movements.[86] Piscane set forth the theory of "propaganda by the deed," which he developed in his *Political Testament*.[87] Marshall reports that Piscane claimed ideas were the result of deeds, not the other way around.

> The Propaganda of the idea is a chimera. Ideas result from deeds, not the latter from the former, and the people will not be free when they are educated, but educated when they are free. The only work a citizen can do for the good of the country is that of cooperating with the material revolution.[88]

This theory appears to have had a great influence on terrorists and rebels emerging thereafter.[89] Pisacane advocated the didactic value of violence for educating people and gaining support for revolutionary purposes.[90] Other anarchists engaged in political violence were growing impatient with theory and words. One of them was "bitter, ascetic, and militant," Russian nihilist revolutionary Sergey Gennadiyevich Nechayev who devoted his entire adult life in the pursuit of revolution.[91] His *Catechism of a Revolutionary*, co-written with Mikhaïl Bakunin in 1869, was promoting the hard-hearted destruction of society and state by small groups.[92] One of the first organizations to strongly adhere to Pisacane's school of thought (as well as Nechayev-Bakunin's) and put it into practice was *Narodnaya Volya*,[93] which challenged Russia's tsarist rule from 1878 on.[94] They terrorized all

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class, relinquished his related societal position, and dedicated himself to a yearlong fight against the Bourbons. He finally committed suicide out of disillusionment after a failed revolt in Southern Italy in 1857. *See also* Law, 85.

86. Hoffman, *Inside Terrorism* 1998, 17.

87. The document was written in a letter format in Genoa on 24 June 1857 and does not seem to have ever been published. *See* Benoit Malon, *Histoire du socialisme* (Lugano: Imprimerie F. Veladini, 1879), 548, http://books.google.ca.

88. Peter Marshall, *Demanding the Impossible* (Oakland: PM Press, 2010), 629.

89. Originally advocated by Pisacane before his death in 1857, the first reference to *propaganda by the deed* occurs in a letter written by Errico Malatesta to Carlo Cafiero on 3 December 1876. *See* Gerald Brenan, *The Spanish Labyrinth: An Account of the Social and Political Background of the Civil War* (Cambridge: University Press of Cambridge, 1943), 168.

90. Law, 85.

91. Lawrence Freedman, *Strategy: A History* (New York: Oxford University Press, 2013), 276. Freedman is a leading authority in war studies and international politics.

92. Adam B. Ulam, *Prophets and Conspirators in Prerevolutionary Russia* (New Brunswick, NJ: Transaction, 1998), 183-184.

93. *Narodnaya Volya* (People's Will) was a Russian organization and supporter of the political struggle against autocracy. It created a centralized, well-disguised group, and became the most significant organization in a time of diverse liberation movements in Russia.

94. Hoffman, *Inside Terrorism* 1998, 5.

major centers of authority by perpetrating notorious bombings and had tremendous success at murdering heads of state, government representatives, Orthodox Church officials, as well as police and military officers. In 1881 they succeeded in assassinating the head of government, Tsar Alexander II, in a suicide attack.[95] Seeking a radical transformation of society, *Narodnaya Volya's* members considered terrorism to be a temporary necessity for raising the support of the masses. Rapoport claims that although their objectives were never met, the group's influence lived long enough to create "a 'culture of terror' for successors to inherit and improve."[96] Vladimir Ilyich Lenin and Ché Guevara were greatly influenced and inspired by Nechayev's theoretical work.[97] For instance, Guevara built his terrorist organization around tight little combat units as suggested by Nechayev nearly a century before.

Anarchist groups differ from modern terrorists insofar as they were generally reluctant to perpetrate attacks that could cause massive casualties.[98] They were also famous for their widespread distribution of "do-it-yourself"-type manuals similar to the ones that flourished on the Internet in the late twentieth century.[99] These types of publications were and still are an easy way for terrorists to learn from each other and to exchange terrorist knowledge and practices. In the end, a lack of organization, the refusal to cooperate with other political or social movements, and the retaliation of the Communist authorities in Russia rendered the Anarchist movement ineffective and unsuccessful.[100]

The assassination of Austrian Archduke Franz Ferdinand and his wife on 28 June 1914, in Sarajevo, Bosnia, by Gravilo Princip, a Bosnian Serb, is a good example of an attack that created pandemonium. Princip shot dead the couple, heirs to the Austro-Hungarian Empire, in the hope of liberating his country from foreign rule. Exactly one month later, Austria-Hungary declared war on Serbia. The stage was set for World War I, which eventually overwhelmed most of the world and claimed three empires, 20 million military and civilian deaths, as well as 21 million wounded.[101] This world conflict redefined both the map and the social order of

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95. Forst, 44-45.
96. David C. Rapoport, "The Fourth Wave: September 11 in the History of Terrorism" *Current History,* 650 (2001): 419.
97. Daniel James, *Ché Guevarra: A Biography* (New York: Stein and Day, 1969), 314-315.
98. Walter Laqueur, *No End to War: Terrorism in the Twenty-First Century* (New York: Continuum, 2002), 13.
99. Michael Newton, *Age of Assassins: A History of Conspiracy and Political Violence, 1865-1981* (New York: Faber & Faber, 2012), Kindle, locator 5310. Here Newton refers to the Anarchist Cook Book, "the 'how to' book for terrorists and assassins."
100. Walter Laqueur, *The Age of Terrorism* (Boston: Little, Brown, 1987), 16.
101. Christopher Clark, *The Sleepwalkers: How Europe Went to War in 1914* (Toronto: Harper, 2013), Kindle, locator 236. For more details on Gravilo Princip, the killer, *see* locator 1352, 1379.

Europe, causing the demise of empires and the birth of nations, and left an unforgettable mark on the world.

2.1.2.2 The Anti-Colonial Wave (1920-1960)

The period between 1920 and 1960 was characterized by the spread of nationalism and anti-colonialism around the world. Its principal stimulus was the "national self-determination" movement. As states began to stress the importance of national identity, populations that had been conquered or colonized were pressed to assimilate or to struggle for liberation. Two groups were a source of inspiration for upcoming ones: Irish and Jewish nationalists.

Irish Nationalists

The story of Irish groups engaging in violent attacks to overthrow British rule and obtain an independent state in Ireland is a long one. Although their struggle started in the mid-nineteenth century, it continued through most of the twentieth century as well, and thus overlaps with two waves of Rapoport's model. The modern struggle for Irish independence can be helpfully divided into three phases: the Easter Rising of 1916, the anti-treaty movement of 1922-1923, and more than 80 years of violent activities by the IRA (and its many splinter groups) following 1923. The history of these nationalists is prescient, as the politico-military model they developed over the years would become common amongst terrorist groups in mid-twentieth century. Within the broader history of Irish nationalist violence, one particular group stands out from all others. Founded in New York City in 1867, the secret nationalist and revolutionary Clan na Gael (Irish Family) was the most powerful criminal organization in the US at the time.[102] In 1873, it replaced the rather ineffective Fenians Brotherhood (created in 1858) as the American counterpart of the Irish Republican Brotherhood, which carried out terrorist attacks in England. These groups were skilled at innovating and developing their terrorist MO. For example, in 1883, Clan na Gael began using sophisticated time-delayed explosive devices in order to avoid being caught.[103] As many terrorist groups in the twentieth century would later do, they targeted parliament buildings, town halls, bridges, and mass transportation systems—especially subway systems—to maximize the impact of their operations.[104] The key aspects of Irish nationalists' actions during this period can be summarized in three points: (1) the leaders of various Irish groups embraced the asymmetric nature of terrorism both in their homeland and abroad,[105]

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102. Timothy J. Meagher, *The Columbia Guide to Irish American History* (New York: Columbia University Press, 2005), 240.
103. David C. Rapoport, ed., *Terrorism: Critical Concepts in Political Science*, vol. 1, The first or Anarchist Wave, 1st ed. (New York: Routledge, 2006), 308.
104. Niall Whelehan, *The Dynamiters: Irish Nationalism and Political Violence in the Wider World, 1867-1900* (New York: Cambridge University Press, 2012), 85.
105. Meagher, 109.

(2) these leaders were the first to understand the disproportionately large political gains that terrorism could bring compared to the effort needed to launch an attack,[106] and (3) homesick Irish immigrants in the US diaspora developed a powerful nostalgia for their homeland and did not hesitate to support the terrorist cause financially.[107]

The early activities of the Clan reached a climax during the First World War: on Easter Monday, 24 April 1916, Irish Nationalists participated in a rebellion commanded by Patrick Pearse and James Connolly. Termed "the Easter Rising," it failed, and was suppressed within a week by the British Army. Both leaders, as well as many of their comrades, were executed shortly afterwards.[108] Nevertheless, the struggle for self-determination continued under the leadership of Michael Collins and Éamon de Valera.[109] Five years later, an anti-treaty movement was created to oppose a proposition by the British Government offering a limited Irish Free State. This represents the second phase of Irish nationalist activities as in April 1922 this movement led to a year-long civil war. Although the war officially ended in 1923, it was not until 1949 that the state was officially declared to be the Republic of Ireland. In the meantime, Northern Ireland decided to remain with the United Kingdom. However, this partition brought Nationalists (mainly Roman Catholic) into a long powerful fight to obtain the unification with the Republic. It continued through several armed episodes until 2005, when the IRA suspended its violent activities.[110] In retrospect, McCaffrey argues, the revolutionary republicanism of both the Easter Rising and the IRA during the Anglo-Irish guerrilla war (1919-1921), allowed for the emancipation of Ireland from British colonialism, and established a nation-state that has survived as a successful example of liberal democracy.[111] In brief, in a conflict going back centuries, Irish nationalists or republicans have come a long way towards becoming the political movement it is today. It is now seeking its goal by peaceful and democratic means.

Jewish Nationalists

Created in the early 1930's, the Irgun Zvai Leumi (National Military Organization) was one of many terrorist groups challenging Britain's rule over Palestine. Menachem Begin became leader of the group on 1 December 1943. In the years preceding the founding of the Israeli state in 1948, he devised a strategy to actively

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106. Chaliand-Blin, *Histoire terrorisme*, 113.
107. Richardson, 33.
108. Jonathan White, *Terrorism and Homeland security* (Belmont, CA, Wadsworth Cengage Learning, 2013), 22-23.
109. Martha Crenshaw and John Pimlott, *International Encyclopedia of Terrorism* (Chicago, IL: Fitzroy Dearborn, 1997), 69.
110. Rachael M. Rudolph and Annisseh Van Engeland, *From Terrorism to Politics* (Burlington, VT: Ashgate, 2008), 51.
111. Lawrence J. McCaffrey, *The Irish Question: Two Centuries of Conflict* (Lexington, KY: University Press of Kentucky, 1996), 150.

fight the British, whom he regarded as illegal occupiers.[112] On 22 July 1946, the group blew up a wing of the King David Hotel in Jerusalem, killing 91 people and injuring 45 others. The hotel housed both the British government's secretariat and the headquarters for the British security forces in Palestine and Transjordan.[113] Despite the attack's high death toll, the main tipping point bringing the end of British rule in Palestine, and thus the creation of the state of Israel, was the hanging by the Irgun of two British Army sergeants on 31 July 1947, a crime British newspapers decried as an act of "medieval barbarity".[114] Hoffman suggests that maintaining security thereafter emerged as a liability that Britain could no longer afford.[115] The Irgun uprising suggests six potentially instructive indicators that link with today's terrorism: (1) considering their resources, they were not hoping for a decisive military victory, (2) they adopted a strategy of relentlessly targeting functional sites or equipment, as well as symbolic institutions or security personnel representing the enemy, (3) they used the simultaneous attacks MO, (4) an integral and innovative part of their strategy was the use of dramatic acts of violence intended to attract worldwide attention to their cause, (5) in their march towards statehood, they sought to garner the sympathy of powerful allies and international organizations in order to get political support,[116] and (6) Begin never considered his members to be terrorists but "freedom fighters".[117] Later, rebels stopped calling

112. Stephen E. Atkins, *Encyclopedia of Modern Worldwide Extremist and Extremist Groups* (Westport, CT: Greenwood, 2004), 139. Begin became prime minister of Israel in June 1977.

113. William F. Shughart, "An analytical history of terrorism, 1945–2000," *Public Choice*, 128:1-2 (2006): 19.

114. Bruce R. Hoffman, "Jewish Terrorist Activities and the British Government in Palestine, 1939-1947," (PhD diss., University of Oxford, 1985), 84, 294, 353-354.

115. Bruce Hoffman, *Anonymous Soldiers: The Struggle for Israel, 1917-1947* (Toronto: Alfred A. Knopf, 2015).

116. Hoffman, *Inside Terrorism* 1998, 48-56. For thorough research on the Irgun terrorist group, *see* Hoffman, Ph.D. diss., 1985.

117. Karl Heinzen first used the term "freedom fighter" to refer to terrorists in 1850, in his short treatise *Murder and Liberty*, originally written in German. *See* Daniel Bessner and Michael Stauch, "Karl Heinzen and the Intellectual Origins of Modern Terror" *Terrorism and Political Violence*, 22:2 (2010), where a new translation into English of the treatise is provided on pp. 153-167. *See also* Schmid, *Handbook*, 19, 223, 230. Jeffrey Simon also observe that the familiar phrase "one person's terrorist is another person's freedom fighter" really goes to the heart of the terrorist phenomenon. What one observer views as terrorism, another can view as freedom fighting. This debate highlights the subjectivity encircling the definition and is a reflection of the political factors. It appears that the perception of terrorism really lies in the eye of the beholder. *See also* Menachem Begin, *The Revolt: Story of the Irgun* (New York: Tolmitch e-Books, 2013); Leonard Weinberg, Amu Pedahzur, and Sivan Hirsch-Hoefler, "The Challenges of Conceptualizing Terrorism," *Terrorism and Political Violence*, 16:4 (2004): 778. They argue that Menachem Begin, as the leader of the Irgun in postwar Palestine, was the first to see the propaganda advantage of using the truism

themselves terrorists when the term had acquired a negative connotation. Instead, they began referring to themselves using terms like separatists, liberators, revolutionaries, vigilantes, militants, paramilitary guerrillas, rebels, or mujahedeen.

2.1.2.3   The New-Left Wave (1960-1990)

As many countries achieved independence in the 1960s and 1970s, the anti-colonialist and nationalist movements dwindled, but terrorism nevertheless remained revolutionary in character. Moghadam explains that their violence was usually directed against their own governments, which they saw as authoritarian and fascist.[118] Left-wing terrorist organizations were common in Western Europe and North America between the late 1960s and the early 1980s, and many operated internationally. According to Zwerman et al., most of the groups were heavily influenced by the writings of Che Guevara or Mao Zedong, while the radical wing of the Palestine Liberation movement, which drew on the same ideological sources, inspired in return some German and Japanese groups.[119]

2.1.2.4   The Religious Wave (1979 to present)

Created in 1928, the Muslim Brotherhood is considered to be the world's oldest and most influential Islamist organization.[120] Their credo is "God is our objective; the Quran is our constitution; the Prophet is our leader; Struggle is our way; and death for the sake of God is the highest of our aspirations."[121] The reach of their organization spreads from Syria, Jordan, Kuwait, Sudan, Saudi Arabia and Yemen.

However, a father figure of the modern Islamic fundamentalism can be found in Sayyid Qutb, a writer, intellectual and educator, born in 1906. He was radicalized by the British invasion of Egypt and King Farouk's compliance with the British occupation.[122] In February 1949, he published—*Social Justice in Islam*—his first major work about religion and social criticism. According to Qutb, there could only be one true system: Islam. His reinterpretation of traditional Islam

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"freedom fighters" when referring to his followers; David C. Rapoport, "The Four Waves of Modern Terrorism" in *Attacking Terrorism: Elements of A Grand Strategy,* eds. Audrey Cronin and James Ludes (Washington, DC: Georgetown University Press, 2004), 54.

118. Assaf Moghadam, *The Roots of Terrorism*, eds Leonard Weinberg and William L. Eubank (New York: Chelsea House, 2006), 52, 56-57.

119. Gilda Zwerman, Patricia G. Steinhoff, and Donatella della Porta, "Disappearing Social Movements: clandestinity in the cycle of new-left protests in the US, Japan, Germany, and Italy," *Mobilization: An International Journal*, 5:1 (2000): 86-87.

120. Robert S. Leiken and Steven Brooke, "The Moderate Muslim Brotherhood," in *Foreign Affairs*, (1 March 2007), http://www.foreignaffairs.com/articles/62453/robert-s-leiken-and-steven-brooke/the-moderate-muslim-brotherhood.

121. Benjamin-Simon, *Sacred Terror*, 57.

122. Lawrence Wright, *The Looming Tower: Al-Qaeda and the road to 9/11* (New York: Alfred A. Knopf, 2006), 9.

led to the emergence of other radical Islamic groups.[123] Imprisoned since 1954, he received a death sentence in Egypt and was hanged on 29 April 1966. After his death, Qutb became the prophet and martyr of jihad. His ideological influence remains unchallenged.[124] Ayman al-Zawahiri was a leader of the group when it perpetrated the assassination of President Anwar al-Sadat on 6 October 1981 by members of Tanzim al-Jihad, an Islamic group created in 1980, is a reminder that many groups are working together to achive their goal of creating a new Caliphate.

The return of terrorist attacks inspired by religion in the 1980s was marked by two political uprisings. First, after the 27 April 1978 downfall of the Afghan government following a Marxist military coup, the tribal groups reacted to the instability with a self-declared holy war against the new government in the following year. Berman suggests the coup made the Soviet Union so worried that they invaded Afghanistan on 24 December 1979, fearing the possibility of being neighbour to an unstable Islamist State.[125] On 11 February 1979, a similar situation in Iran ousted the Shah and saw the return in December of Ayatollah Khomeini as the country's new spiritual leader. During the late 1960s and early 1970s, Harrison writes, there were several attempts at introducing religion into terrorism, but it only became identifiable after the Iranian Revolution.[126] In 1982, following Israel's invasion of South Lebanon, Iran expanded its Shiite Muslim reach by supporting the creation of the Lebanese Hezbollah, or Party of God, which became one of Iran's terrorist substitutes.[127] They quickly became a threat in the Near and Middle East. On 23 October 1983, near-simultaneous truck-bombings at French and American barracks in Beirut killed 241 US servicemen as well as 58 French paratroopers.[128] These attacks were such a major blow that the US and France decided to withdraw their forces from Lebanon.[129] For its part, Sunni terrorism emerged in different places with large Islamic populations, such as Egypt, Syria,

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123. Barbara Zollner, *The Muslim Brotherhood: Hasan Al-Hudaybi and Ideology* (New York: Routledge, 2001), 62.
124. Benjamin-Simon, *Sacred Terror*, 63..
125. Eli Berman, *Radical, Religious and Violent: The new economics of terrorism* (Cambridge, MA: MIT Press, 2009), 30-31. *See also* Andrei Zagorski, "Lessons from Soviet Experiences of Socialist Modernization in Afghanistan (1978-89)," in Michael Emerson, ed., *Readings in European Security,* vol. 4 (Brussels: European Security Forum, 2007), 211.
126. John Harrison, *International Aviation and Terrorism: Evolving threats, evolving security* (New York: Routledge, 2009), 19-20.
127. Gilles Kepel, *Terreur et martyre: relever le défi de civilisation* (Paris: Flammarion, 2008), 80-81.
128. Ariel Merari, "The readiness to kill and die: Suicidal terrorism in the Middle East," chap. 10 in *Origins of Terrorism: Psychologies, Ideologies, Theologies, States of Mind,* Walter Reich ed. (Washington, DC: The Woodrow Wilson Center Press, 1998), 203.
129. Andrew H. Kydd and Barbara F. Walter, "The Strategies of Terrorism," *International Security*, 31:1 (Summer 2006): 49; citing Thomas L. Friedman, "Marines Complete Beirut Pullback: Moslems Move In," *New York Times*, 27 February 2004.

Tunisia, Morocco, the Philippines, and Indonesia. After fighting in Afghanistan, Sunni warriors went back home with the will to overthrow their own governments.[130] The objective of terrorist groups gradually shifted from creating secular sovereign states to using religious justification to engage radical Islamic groups in proxy terrorism.[131]

2.2   Terrorism: Through the Eyes of Experts

The following section of the literature review on terrorism examines the evolution of terrorism through the eyes of experts in many fields of study. The objective of this review is to obtain a picture of terrorism in the modern age and to investigate definitional issues in the study of terrorism. Schorkopf sets the tone of the review by indicating that academic research on terrorism is closely related to all disciplines of the social and behavioural sciences, including psychology, criminology, sociology, history, international relations, religious studies, and political science, as well as law.[132] Later, Schmid's seminal study on terrorism narrows down the conceptual lenses through which it can be examined to five: crime, politics, warfare, communications, and religious crusade/jihad.[133] Supported by a survey he directed with leading scholars, Schmid suggests that some of the main sub-topics of terrorism discussed in the literature include, inter alia, definitions, ideology, strategies, tactics, MO, terrorist groups, psychology, violence, and consequences.[134]

2.2.1 The Challenges of Defining Terrorism

Experts agree that terrorism is one of the most confusing and contested terms of the political lexicon. Etymologically, the word "terror" derives from the Latin word

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130. Rapoport, "Fourth Wave," 421.

131. Laqueur, *No End to War*, 222.

132. Frank Schorkopf, "Behavioural and Social Science Perspectives on Political Violence," chap. 1 in *Terrorism as a Challenge for National and International Law: Security Versus Liberty?* Eds Christian Walter, Silja Vöneky, Volker Röben, Frank Schorkopf (New York: Springer, 2004), 3-22. He believes that terrorism cannot be considered a distinct academic discipline because it touches on so many different fields of study. As such, it should be explored into other social science disciplines. Suffice it to say that the same thing was said of criminology and political sciences in the 1960s. The author disagrees with Schorkopf's point of view and, for reasons developed below, maintains that aviation terrorism is a distinct field of study.

133. Schmid, *Handbook,* 2, 34. Schmid presents many examples showing that these frameworks are not exclusive in the sense that acts of terrorist violence can be in one or more categories.

134. Schmid, *Handbook*, 7-9. In 2011, Schmid asked leading scholars on terrorism to identify some of the main research priorities in the field of political terrorism, its prevention, and counter-measures against terrorism. Respondents identified nearly 70 different priorities.

terrere, which means to *make tremble*.[135] For Hoffman, terrorism is a quest for power and dominance, a desire to coerce, control, and intimidate, as well as a way to trigger fundamental political change.[136] Harmon supports Hoffman's view by claiming that terror is not an end in itself, but a means to political power.[137] Still, one idea garners consensus amongst the authors—that terrorism is one of the most confusing and contested terms of the political lexicon. [138]

From a legal point of view, Saul explains that the term has proven notoriously difficult to define and also remains the subject of continuous debate in international bodies.[139] For example, in 1985, shocked by a series of terrorist attacks and concerned about the increasing loss of American lives in those attacks, US President Ronald Reagan created a Cabinet-level Task Force on Combating Terrorism, chaired by Vice President George H. W. Bush. The authors of the task force's report spoke to the inescapable difficulties of defining terrorism in no uncertain terms: "terrorism is a phenomenon that is easier to describe than define."[140] In the end, like many authors, the task force made the decision to define the indefinable and created its own definition to serve for legal purposes.

This strenuous undertaking seems to be the norm rather than the exception, and can be traced back to the first attempt made by the League of Nations to circumscribe terrorism over 75 years ago.[141] Schmid, an internationally-renowned scholar in terrorism studies, argues that the lack of a definition of terrorism hinders good cooperation between countries: "the absence of consensus on a legal definition on a global level is a serious matter, as it impedes international cooperation against an inhumane practice of waging conflict."[142] Leaning towards disbelief, Carlton is amazed that no terrorism specialists have yet seemed able to

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135. Chaliand-Blin, *History Terrorism*, vii.
136. Bruce Hoffman, *Inside Terrorism* (New York: Columbia University Press, 2006), 254-255.
137. Christopher C. Harmon, *Terrorism Today* (New York: Routledge, 2000), xv.
138. Boaz Ganor, "Defining Terrorism: Is One Man's Terrorist another Man's Freedom Fighter?" *Police Practice and Research: An International Journal,* 3:4 (2002): 288. *See also* Benjamin Netanyahu, *Fighting Terrorism* (New York: Farrar, Strauss & Giroux, 1995), 8; David Aaron, ed., "Three Years After: Next Steps in the War on Terror," (RAND Conference Proceedings, Santa Monica, CA, 2005); W. B. Gallie, "Essentially Contested Concepts," *Proceedings of the Aristotelian Society*, vol. 56 (1956), 167-168; William Connelly, *The Terms of Political Discourse* (Princeton, NJ: Princeton University Press, 1993), 10.
139. Saul, 12.
140. US, "Public Report of the Vice President's Task Force on Combating Terrorism" (Washington, DC: US Government Printing Office, February1986), 2.
141. The idea of adopting a standardized definition for terrorism was first discussed in November 1937 when the League of Nations tried to introduce the Convention for the Prevention and Punishment of Terrorism. The idea never materialized because of the Second World War.
142. Schmid, *Handbook,* 87.

agree about how to define terrorism and claimed that amateur definitions account for a considerable part of the literature on terrorism.[143]

The terrorist attacks of 9/11, simultaneously the most publicized terrorist attack and more specifically an *aviation* terrorist attack, galvanized the international community into overcoming these divisive debates over a definition of terrorism. After all, the greater objective should be to actually and effectively cooperate with one another to meet and overcome the threat that attacks such as 9/11 posed to countries around the globe. Thus, the lack of cooperation that Schmidt criticized was to a meaningful degree overcome; however, the challenges of defining terrorism—and civil aviation terrorism as a distinct phenomenon—remained, and continue to plague the international community.

2.2.2 Experts on Terrorism

Academic research on terrorism has been the provenance of a limited number of scholars.[144] Thornton and Walter were two of the earliest scholars of terrorism; they wrote some of the founding texts on the topic in the 1960s.[145] Jenkins, Wilkinson, Bell, Alexander, Laqueur, and Crenshaw followed in the 1970s and became the leading authors in the field of terrorism studies.[146] This was the beginning of the

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143. David Carlton, *The West's Role to 9/11: Resisting, Appeasing and Encouraging Terrorism Since 1970* (New York: Palgrave MacMillan, 2005), 4, 8.

144. Alex P. Schmid and Albert J. Jongman, *Political Terrorism: a new guide to actors, authors, concepts, databases, theories, and literature* (New York: Transaction, 1988). At the time, they only identified only 32 leading researchers specializing in terrorism. *See also* Edna Reid, "Evolution of a Body of Knowledge: An Analysis of Terrorism Research," *Information Processing and Management*, 33:1 (1997), 91-106. In her comprehensive review of terrorism publications, Reid found only 1,166 studies for the period 1960-1990. In addition, the review showed that the specific growth of terrorism as a research speciality had not evolved steadily over time, but rather had gone through four different periods of expansion and contraction. Furthermore, the study revealed that the terrorism research community was a small one, with only 24 scholars classified as "High" and "Moderate Producers," having contributed at least ten articles or books on the topic. For additional reviews of the literature on terrorism, *see* Schmid, *Handbook*; Bruce Hoffman, "Current Research on Terrorism and Low Intensity Conflict in Studies," *Conflict and Terrorism*, 15:1 (1992): 25-37; Theresa Romano, *Terrorism: An Analysis of the Literature* (New York: Fordham University, 1984); Edna Reid et al., *Domain Mapping of Contemporary Terrorism Research in Terrorism Informatics: Knowledge Management and Data Mining for Homeland Security* (New York: Springer, 2008), 3-26.

145. Thomas Perry Thornton, "Terror As A Weapon of Political Agitation," in *Internal War, Problems and Approaches,* ed. Harry Eckstein (New York: Free Press of Glencoe, 1964), 71-99; Eugene Walter, *Terror and Resistance: A Study of Political Violence with Case Studies of Some Primitive African Communities* (Oxford: Oxford University Press, 1969).

146. Jenkins is a Vietnam veteran and Wilkinson a UK academic turned specialist on how government must deal with terrorism. Jenkins is very policy-oriented and his empirical

emergence of terrorism as a distinct interdisciplinary field of academic study. Issues of contemporary relevance drove research during this period and in the early 1990s, especially in the US and other Western countries.[147] Some of the more influential research pieces include Wilkinson's study of democratic options for fighting terrorism;[148] Coogan's authoritative work on the IRA;[149] Alexander's valuable examination of the role of media in relation to terrorism;[150] Laqueur's historical analysis;[151] Hoffman's work on contemporary terrorism, including thorough research on the Irgun;[152] and Crenshaw's organizational theories of terrorism.[153] Later came the inspired work of authors like Sageman's psycho-sociological theory of social networks,[154] and Moghadam's psychodynamic theory of terrorist behaviour.[155] Silke, criminologist and renowned international expert on terrorism, also recognizes the value of Pape's long-term research on suicide terrorism,[156] as well as Clarke and Newman's insightful situational crime prevention (SCP) approach to terrorism.[157] Silke believes these authors have

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research is well appreciated. Bell is more journalistic in his writings, but he is one of the few who were able to interview revolutionaries and terrorists. Alexander and Laqueur are two very prolific American academics in the field of terrorism studies. Crenshaw is a purely academic scholar who has mainly focused her research on terrorism as a revolutionary tactic. *See* Schmid and Jongman, 181-182.

147. Schmid, *Handbook,* 459.

148. Paul Wilkinson, *Terrorism Vs Democracy: The Liberal State Response* (New York: Routledge, 2001).

149. Tim Pat Coogan, *The IRA: Fully revised and updated* (New York: Palgrave, 2002).

150. Yonah Alexander and Robert G. Picard, eds, *In the Camera's Eye*: News Coverage of Terrorist Events (New York: Brassey's, 1990); Yonah Alexander and Richard Latter, eds, *Terrorism & The Media: Dilemmas for Government, Journalists and the Public* (New York: Brassey's, 1990).

151. Walter Laqueur, "Post-Modern Terrorism: New Rules for An Old Game," in *Foreign Affairs* (September-October 1996). Laqueur is also the author of *A History of Terrorism* (New Jersey: Transaction, 2001), and Laqueur, *No End to War*.

152. Hoffman, *Inside Terrorism* 1998 and 2006; Hoffman, *Anonymous Soldiers; See also* Thomas R. Mockaitis, *The New Terrorism: Myths and Reality* (New York: Routledge, 2009).

153. Martha Crenshaw*, ed., Terrorism in Context* (University Park, PA: University of Pennsylvania Press, 2007).

154. Marc Sageman, *Understanding Terror Networks* (Philadelphia: University of Pennsylvania Press, 2004). Sageman is also the author of *Leaderless Jihad: Terror Networks in the Twenty-First Century* (Philadelphia: University of Philadelphia Press, 2008).

155. Moghadam, 2006.

156. Robert Pape, *Dying to Win: The Strategic Logic of Suicide Terrorism* (New York: Random House, 2005). He is also the co-author of *Cutting the Fuse: The Explosion of Global Suicide and How to Stop It,* written with James Feldman (Chicago: The University of Chicago Press, 2010).

157. Clarke and Newman, 2006.

written some of the "most significant and influential books on terrorism because of their extensive use of statistics to support their arguments."[158]

More recent books on specific issues concerning terrorism demonstrate the evolution of terrorism research in recent years. They include Richardson's unique and engaging analysis of terrorism, its causes, and the motivations of terrorists;[159] Smelser's convincing study on the social and psychological dimensions of terrorism;[160] Dolnik's shrewd comprehensive theory of terrorist innovation; and Mueller's critical analysis of governmental exaggeration of the terrorist threat level and the overreaction demonstrated in response to it.[161] The authors cited above are academic leaders who offer a solid basis for a better understanding of this phenomenon. Nevertheless, the paucity of two major aspects of terrorism research is striking. These are (1) studies on the strategies that terrorist organizations employ and the conditions under which these strategies succeed or fail,[162] and (2) the insufficiency of books, dissertations, analytical, and comparative studies on terrorism by criminologists. LaFree and Dugan are surprised by this shortage—terrorists break laws, and that phenomenon is normally of great interest to criminologists.[163]

2.2.3 Main Focus of the Existing Research

In the wake of the 9/11 terrorist attacks, academic research on terrorism and counter-terrorism increased dramatically in quantitative terms.[164] Ranstorp claims

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158. Andrew Silke, "Research on Terrorism: A Review of the Impact of 9/11 and the Global War on Terrorism," in *Terrorism Informatics: Knowledge Management and Data Mining for Homeland Security*, eds, Hsinchun Chen, Edna Reid, Joshua Sinai, Andrew Silke and Boaz Ganor (New York: Springer, 2008), 36.
159. Richardson, 2007.
160. Neil J. Smelser, *The Faces of Terrorism: Social and Psychological Dimensions* (Princeton, NJ: Princeton University Press, 2007).
161. John Mueller, *Overblown: How Politicians and the Terrorism Industry Inflate National Security Threats, and Why We Believe Them* (Toronto: Free Press, 2006); "Is There Still a Terrorist Threat?: The Myth of the Omnipresent Enemy," *Foreign Affairs* (September-October 2006); John Mueller and Mark G. Stewart, *Terror, Security, and Money: Balancing the Risks, Benefits, and Costs of Homeland Security* (New York: Oxford University Press, 2011).
162. Andrew H. Kydd and Barbara F. Walter, "The Strategies of Terrorism," *International Security*, 31:1 (Summer 2006): 49.
163. Gary LaFree and Laura Dugan, "How Does Studying Terrorism Compare to Studying Crime?" in Mathieu Deflem, ed., *Terrorism and Counter-Terrorism: Criminological Perspectives, Sociology of Crime, Law and Deviance, Vol. 5* (New York: Elsevier, 2004), 53.
164. Cynthia Lum, Leslie W. Kennedy and Alison Sherley, "The Effectiveness of Counter-Terrorism Strategies: A Systematic Review," *Crime and Justice*, 2:2 (16 January 2006), 1, http://www.campbellcollaboration.org/lib/project/11/. They surveyed over 20,000 studies on

that in the aftermath of 9/11, the "field of terrorism studies catapulted from the relative periphery into the absolute vortex of academic interest and policy concern worldwide."[165] Silke goes even further by arguing that the sheer number of published research pieces on terrorism nowadays is intimidating and makes it difficult for researchers to review it all.[166] This is one of the reasons why the present study does not pretend to offer a comprehensive review of the wide-ranging literature on terrorism or to even summarize the main schools of thought. As mentioned in the introduction, the purpose of this literature review is to enable the author to select a definition of aviation terrorism. This definition will, in later chapters, be used as the cornerstone for the analysis of ATSD data as well as the civil aviation legal and regulatory framework. Finally, the definition and the results of the analyses will become the platform for answering the research question.

2.2.4 Comments on the Existing Terrorism Research

Lum et al. explain that in the first decade of the twenty-first century there was a massive increase in "personal, commercial and governmental expenditures in the US on anti-terrorism strategies and programmes designed to fight terrorism."[167] However, this increase in the funding of terrorism research did not necessarily result in better quality results. In line with this, Schmid argued that new empirical research did not increase proportionally with the production of new publications and he criticized the fact that few scholars created their own data to formulate original conclusions, therefore yielding an insufficient number of new studies

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terrorism in 2006; Andrew Silke argues that terrorism has become the defining issue of international politics in the first decade of the twenty-first century. In his survey of terrorism research published in the first five years after the 9/11 attacks, he found that there are decidedly more researchers working on the subject than ever before. Based on his assessment, there has been a small shift away from literature review-based research and an increase in the use of descriptive and influential statistical analysis. *See* Andrew Silke, *Research on Terrorism: Trends, Achievements, and Failures* (New York: Frank Cass, 2004); Andrew Silke, "The Devil You Know: Continuing Problems with Research on Terrorism," *Terrorism and Political Violence*, 13:4 (2001): 1-14; and Andrew Silke, *"The Impact of 9/11 on Research on Terrorism,"* chap. 4 in *Mapping Terrorism Research: State of the Art, Gaps and Future Direction,* ed. Magnus Ranstorp (New York: Routledge, 2007), 76-93.

165. Magnus Ranstorp, ed., *Mapping Terrorism Research: State of the Art, Gaps and Future Direction* (New York, Routledge, 2007), 4.

166. Andrew Silke, "Research on Terrorism: A Review of the Impact of 9/11 and the Global War on Terrorism," chap. 2 in *Terrorism Informatics: Knowledge Management and Data Mining for Homeland Security*, eds Hsinchun Chen, Edna Reid, Joshua Sinai, Andrew Silke and Boaz Ganor (New York: Springer, 2008), 27-50.

167. Lum et al., 1.

supported by statistics or involving new empirical research.[168] Along the same line, Silke argued that 65 percent of new research published shortly after 9/11 consisted of literature reviews.[169]

Of course, collecting information on terrorists is a challenging task due to their clandestine nature and the dangers associated with the first-hand collection of data. This lack of data is surely one of the reasons why research on terrorism has been marginalized within academia and subjected to much criticism for its lack of rigour and for failing to meet rigorous standards.

Other damaging critiques characterized terrorism research as "impressionistic, superficial, and offering far reaching generalizations on the basis of episodic evidence,"[170] or argued that the evaluative studies lacked rigor.[171] Czwarno criticized the general lack of scholarly attention given to terrorist groups;[172] Silke estimated that studies relied almost exclusively on secondary sources with questionable credibility,[173] or relied on open-source information only.[174] It was also suggested that they often relied on each other's work, hence creating a circular research scheme ultimately generating methodological concerns.[175] Finally, Reid argued that such a circular system produced "a static environment, the same hypotheses, definitions and theories that continued to be analyzed, assimilated, published, cited and eventually retrieved."[176] Richardson captured the convolution of research on terrorism and argued that terrorism is a complex phenomenon employed by many different groups, in pursuit of many objectives, in many parts of the world, further adding that the key is to understand the nature of the group you confront.[177] This research takes these criticisms seriously, and hopes that future researchers working on terrorism and aviation terrorism specifically will do

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168. Schmid, *Handbook*, 460. *See also* Lum et al., 8, in which the authors' examination of 4,458 peer-reviewed articles on terrorism concluded that 96 percent of these studies were thought pieces, 3 percent had an empirical bases, and 1 percent were case studies.
169. Silke, "Review of Impact," 34.
170. Schmid and Jongman, 177.
171. Lum et al., 489-516. For their research, they reviewed more than 20,000 articles published on terrorism between 1971 and 2004; *See also* Gary LaFree and Joshua D. Freilich, "Editor's Introduction: Quantitative Approaches to the Study of Terrorism," *Journal of Quantitative Criminology*, vol. 28 (2012): 1-5.
172. Monica Czwarno, "Misjudging Islamic Terrorism: The Academic Community's Failure to Predict 9/11," *Studies in Conflict and Terrorism*, 29:7 (2006): 657-694.
173. Silke, "Devil You Know," 1-14.
174. Joshua Sinai, "New Trends in Terrorism Studies: Strengths and Weaknesses," chap. 2 in *Mapping Terrorism Research: State of the Art, Gaps and Future Direction,* ed. Magnus Ranstorp (New York, Routledge, 2007), 33.
175. Ranstorp, 6. *See also* Avishag Gordon, "Terrorism and the Scholarly Communication System," *Terrorism and Political Violence*, 13:4 (Winter 2001): 116-124.
176. Reid, "Evolution Knowledge," 91.
177. Richardson, xxi.

likewise. The best way to overcome this criticism is to collect new data, including new empirical data. It is the aim of this dissertation to break out of the "circular research scheme" and, through original research and the presentation of new and empirical data, to contribute to this endeavour.

2.2.5 General Observations on the Definition of Terrorism

Experts write in particular historical contexts. Not least because of this, the way that they define terrorism is influenced by the terrorist attacks that impact their generation, and the problems (intellectual and political) that their research addresses. In the wake of new terrorist attacks, fresh and nuanced definitions of terrorism proliferate. In periods of relative tranquility, other definitions of terrorism are, generally speaking, not created. This observation seems to confirm the popular view that terrorism only becomes a priority for governments in the aftermath of terrorist attacks.

Additionally, what 'counts' as terrorism appears to be fairly relative or subjective. Jenkins argues that what is called terrorism seems to depend on one's point of view: "the use of the term implies a moral judgement, and if one party can successfully attach the label terrorist to its opponent, then it has indirectly persuaded others to adopt its moral viewpoint."[178] Concurring, Naftali emphasizes the fact that aircraft hijackings to Cuba in the 1960s were then considered "routine domestic criminal matter" by the US,[179] but Stampnitzki contends that acts like these would now be treated as "terrorism".[180] Cline and Alexander add that it is the responsibility of each sovereign state to decide what is, and what is not, terrorism according to its own context and needs.[181] Unsurprisingly, Schmid observes that those involved in defining terrorism mould the definition to fit their unique purposes or specific requirements, resulting in the politicization of such definitions.[182]

2.3 *Aviation Terrorism: A Unique Phenomenon*

For many people, images from past attacks of aviation terrorism serve as a constant reminder of the devastating consequences of political violence. Regardless of the

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178. Hoffman, *Inside Terrorism* 1998, 31.

179. Timothy Naftali, *Blind Spot: The Secret History of American Counterterrorism* (New York: Basic Books, 2005), Kindle, locator 488.

180. Lisa Stampnitzky, *Disciplining Terror: How Experts Invented "Terrorism"* (New York: Cambridge University Press, 2013), Kindle, locator 132.

181. Ray S. Cline, and Yonah Alexander, "State Sponsored Terrorism," chap. 3 in *Terrorists or Freedom Fighters*, eds Ely Tavin and Yonah Alexander (Fairfax, VA: Hero Books, 1986), 21.

182. Alex Schmid, "Terrorism: The Definitional Problem," *Case Western Reserve Journal of International Law*, 36:2-3 (2004): 384.

fact that terrorist attacks of all kinds are quickly circulated around the world through modern communications technology, it appears that, in the collective imagination, there is an assumption that terrorism is simply a synonym for a hijacked plane, for the wreckage of a bombed aircraft floating on top of the ocean or for the live images of two airliners hitting the Twin Towers in New York City on 9/11. This is not true. Aviation terrorism is a specific type of terrorism. Three fundamental reasons support the claim that aviation terrorism is a field of study in its own right and a tactic-specific kind of terrorism rather than a simple variation of local terrorism gone global. These are:

1. **The nature of the act:** Terrorist attacks against civil aviation jeopardize the safety and security of the public and undermine the confidence of the peoples of the world in the safe and orderly conduct of civil aviation.[183] This is especially significant when considering the fact that crowds at airports are made of transient populations that easily becoming disoriented and vulnerable when they have lost traditional points of reference. Attacks also have serious consequences on the operation of airports, air services, and civil air navigation services, thus creating dire economic consequences for a fragile industry.

2. **The specific legal environment:** Under the aegis of ICAO, civil aviation has its own specific legal and regulatory framework complemented by national justice systems. It precludes Member States from unilaterally determining what, in their view, constitutes aviation terrorism by invoking their inalienable right of complete and exclusive sovereignty over the airspace above their territory as was seen numerous times in the 1970s.[184] Moreover, it excludes the possibility for certain rogue states to take advantage of treaties' loopholes to misuse or elude the "*prosecute* or *extradite* doctrine".[185] From that angle, civil aviation levels the playing field and becomes a unifying international rallying point for countries by treating aviation terrorism as a distinct category of criminal offenses. In the words of Saul, it sends the powerful message that the international community rallies to condemn and stigmatize "terrorism".[186]

3. **The intricate enforcement problem:** Prevailing threats recognize no national boundaries, are connected, and must be addressed at the global and regional as well as national levels.[187] This rule was epitomized by the 9/11 attacks. Indeed, in the air, civil aviation overcomes all national borders. Consequently, an attack that occurs once an aircraft is airborne

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183. Montréal Convention 1971, Preamble; Beijing Convention 2010, Preamble.
184. *See* 214n646.
185. Saul, 5. In legal terms, the *prosecute* or *extradite* doctrine is also known as the *Aut dedere, aut judicare* doctrine. It will be discussed further in chapter 4.
186. Saul*,* 11.
187. UN, "A More Secure World: Our Shared Responsibility," (2004), 9.

creates a fragile environment requiring immediate action. According to Article 6 of the Tokyo Convention 1963, the aircraft commander is the supreme authority of the territory, although the enforcement capabilities attached to the position are quite limited. To help fulfil his/her duties, the captain has the prerogative to require or authorize the assistance of any crewmember or passenger to resolve any breach of security.[188] This specific law enforcement capacity encapsulates the distinctiveness of civil aviation and the power bestowed to its officers. It also guarantees that the public receives a consistent, coordinated, and rupture-free international legal response to aviation terrorism.

2.3.1   The Influence of the Past on Aviation Terrorism

In the words of Chaliand and Blin, terrorism is above all a "tool or technique as old as warfare," showing that, as a phenomenon, it continuously adapts and transforms through its users.[189] This literature review demonstrates that pre-modern, modern, and aviation terrorism all have two common denominators: (1) the intent to create terror, and (2) the use of weapons and tactics to achieve this.

2.3.1.1   Terrorism Through the Ages

In hindsight, terrorist groups of the past foreshadowed terrorist attacks against civil aviation in two main ways. Firstly, the Zealots-Sicarii introduced specific patterns of activity that are continued by modern and contemporary terrorists, political and religious. As discussed earlier, the Zealots-Sicarii operated in broad daylight, and always succeeded in eluding arrest. They induced fear in the population by showing they could strike at any time and get away with it. The Zealots-Sicarii were also the first known terrorists to kidnap people and negotiate with authorities to obtain the release of their accomplices.

The Assassins, by contrast, made it a point of honour to never escape the scene of their crimes, and their accomplices would never attempt to rescue them. In fact, they sought martyrdom. In a way, this makes them the harbingers of today's suicide attackers. For Lewis, a renowned British-American scholar specializing in the history of Islam, the Assassins may well resemble modern Islamic terrorists. He suggests that the Assassins' decision to select well-protected targets and to decide on a MO that did not allow them to distance themselves from their victims was indeed a calculated choice.[190] Lewis goes further and emphasizes the fact that the vast majority of the Assassins' victims were Muslims, more particularily dominant

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188. Tokyo Convention 1963, Article 6(2).
189. Chaliand-Blin, *History Terrorism*, 5.
190. Bernard Lewis, *The Assassins: A radical sect in Islam* (New York: Basic Books, 2003), xi-xii.

elites and representatives of apostate regimes of the Islamic world, both Shiite and Sunni.

Today, considering how much the industry has tightened its security measures in the last decades, the same can be said in the case of aviation terrorism. In this context, it is interesting to compare the motives invoked by the 9/11 hijackers to justify their suicide attacks and the motivation showed by the age-old Assassins:

> the calculated use of terror; the total dedication of the assassin emissary, to the point of self-immolation, in the service of his cause and in the expectation of heavenly recompense. Some have seen a further resemblance in that both directed their attack against an external enemy, the Crusaders in one case, the Americans and the Israelis in the other.[191]

Similarly, Stern maintains that, from a strictly religious point of view, the Assassins' political system and religious institution were inseparable and, like that of some of today's violent Islamist extremists, that their main objective was to spread a purified version of Islam.[192]

2.3.1.2 The Evolution of Tactics

As mentioned above, although the intent to create terror has remained consistent throughout the history of terrorism, the tactics with which terrorists have attempted to create that terror have changed constantly in order to adapt to the particular circumstances in which the terrorists or terrorist groups were operating. In the nineteenth century, anarchist attacks mainly caused damage to the property. The reaction to these violent attacks was the increased feeling of fear within the population. The twentieth-century nationalists' objective was quite different; they sought to cause economic losses to the occupiers. Their cause gained public support and legitimacy. They were able to collect money for their cause and were great innovators. However, they quickly transformed their MO and showed they were ready to kill in order to achieve their political objectives. Clark explains that behind the Sarajevo assassination of Archduke Franz Ferdinand and his wife in the summer of 1914 was a self-declared secret extra-territorial terrorist organization with links to a sovereign government (Serbia), which was scattered in cells across political borders and maintained a cult of sacrifice, death, and revenge.[193]

This evolution in tactics and MO was also adopted by many other terrorist organizations in the twentieth century, starting with the PFLP in the 1960s; it

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191. Lewis, xi.
192. Jessica Stern, *The Ultimate Terrorists* (Boston: Harvard University Press, 1999), 15.
193. Clark, *Sleepwalkers*, Kindle, locator 329. For an in-depth account of the suicide aspect and particularly the plot to assassinate Archduke Franz Ferdinand, *see* locators 1190, 1352, and 1379.

shares similarities with al-Qaeda in the 1990s and 2000s. The tactic of aviation terrorism rose to prominence in the twentieth century. Zwerman et al. studied four terrorist groups involved in aviation terrorism: the Japanese Red Army or JRA (1970-2000), the American Weathermen-Weather Underground Organization (1969-1977), the Black Liberation Army or BLA (1968-1982), and the Fuerzas Armadas de Liberación Nacional or FALN (1974-1988).[194] Many other groups have also been involved in aviation terrorism. The importance of stating this here is to show that aviation terrorism is an integral part of the dynamic history of terrorism and the evolution of terrorist tactics.

TABLE 2.1   Groups, Motivations, Weapons and Tactics

Motivations		Tactics and MO	
Killing in the name of God	Assassins, Thugs, Religious movements	Suicide missions	Assassins, Narodnaya Volya. Al-Qaeda
Instilling fear	Zealots, Jacobins, Anarchists, Irgun, al-Qaeda	Mass casualties	Thugs, Jacobins, Anarchists, Irgun, al-Qaeda
Expelling Occupiers	Zealots, Clan na Gael, Irgun, al-Qaeda	Targeting travelers	Thugs, Clan na Gael
Seeking radical transformation of society	Zealots, Assassins, Clan na Gael, Anarchists, Narodnaya Volya, Irgun, Nationalists, Anti-colonialists, PFLP, New Left organizations	Asymmetric warfare	Assassins, Clan na Gael, Anarchists, Irgun
		Simultaneous attacks	Irgun, PFLP, Religious movements
		Dramatic violence	Irgun, PFLP, Clan na Gael

2.3.2 Defining Aviation Terrorism: Determining the Research Process

The author's initial search for an academic or professional definition of aviation terrorism yielded only one result (Avihai's definition), and that definition was deemed inadequate (the reasons for this will be explained below). Thus, in order to devise a suitable and rigorous definition of aviation terrorism as a specific phenomenon, the author decided to perform a comprehensive review of existing definitions of terrorism. When none of these definitions turned out to be suitable to *aviation* terrorism, the author was then forced to select elements of these

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194. Zwerman et al., identified the other groups as follows: from Germany: Red Army Fraction or RAF (1970-1990s), Movement of the Second of June (1970-1972), and Revolutionary Cells (1973-1990s); from Italy: Red Brigades (1970- mid-1990s), Front Line (1976-1982), Communist Fighting Formation (1977-1980); from Japan: Red Army Faction (1969-1974), Revolutionary Left Faction (1969-1973), United Red Army (1971-1972), East Asia Anti-Japanese Armed Front (1972-1975); from the US: United Freedom Front (1976-1984), and EPB Los Macheteros (1978-1988).

definitions and to craft an original definition of *aviation* terrorism from their elements. The following sections will describe this process of selection and modification leading to the creation of the original definition.

There are two reasons why an appropriate definition of aviation terrorism is essential to the present research. The first one is academic—a well-established conceptual framework, built on clear definitions, facilitates communication and argumentation. In practical terms, chapter 3 will show that a definition can objectively determine if an attack is deemed criminal or terrorist. This type of decision is the foundation on which the *Global Aviation Criminal Incidents Database* (GACID) and the *Aviation Terrorism Sub-Database* (ATSD) were created. The second reason behind the need for a specific definition of aviation terrorism is legal. As will be discussed in chapter 4, such a definition influences the legal and regulatory instruments dealing with aviation terrorism. It establishes the roles, jurisdiction, and legal responsibility of anyone involved in an incident. This will be the basis used to assess the efficiency of international conventions and protocols in the fight against aviation terrorism, the central theme in the quest for an answer to the research question.

Doubtlessly, it would be awkward to research aviation terrorism without being able to find or shape a definition. Consequently, for the sake of this research, a six-step process was developed to select such definition. These steps are: (1) to peruse literature in pursuit of an appropriate definition of terrorism or a pre-existing definition of aviation terrorism suitable for this thesis, (2) to evaluate the potential definitions found in Step 1, (3) to analyze the existing terrorism definitions, (4) if the definitions identified in Step 3 are not suitable for this research, to test core components of the definitions of terrorism identified in Step 2, (5) to confirm the main aviation terrorism characteristics identified, and (6) assuming no suitable definition is found, devise a specific definition of aviation terrorism.

Step 1: Examine Aviation Terrorism Literature

2.3.3 The Search for an Appropriate Definition

Nowadays, academics, policy-makers, and the international community continue to debate the concept of terrorism at length, but fall short of finding an unequivocal definition.[195] Hence, many authors complain that this lack of consensus is reflected

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195. For discussion on differing definitions on terrorism, *see* William Connelly, *The Terms of Political Discourse* (Princeton, NJ: Princeton University Press, 1993); Omar Malik, *Enough of a Definition of Terrorism* (London: Royal Institute of International Affairs, 2000); Philip Herbst, *Talking Terrorism: A Dictionary of the Loaded Language of Political Violence* (Westport, CT: Greenwood, 2003); Schmid, "Definitional Problem," 375-419; Reuven Young, "Defining Terrorism: The Evolution of Terrorism as a Legal Concept in International Law and Its Influence on Definitions in Domestic Legislation," *Boston College*

in the academic literature.[196] As Herbst points out, terrorism has been used as a label for many different forms of political violence and, as it is often the case, this label has been exploited to condemn the enemy and "place one's own group on a high moral plane".[197] On the other hand, Gibbs tackles the central definitional problem and argues that it is "absurd to pretend to study terrorism without at least some kind of definition of it because leaving the definition implicit is the road to obscurantism."[198]

In addition to these considerations, it was also decided at this point that pre-9/11 legal and law enforcement definitions of terrorism would not be considered in the present research because they adopt a criminal justice approach that looks at the problem from the outcome perspective. A review of many pre-9/11 definitions showed that, as a rule, legalistic definitions made reference to acts of terrorism exclusively as crimes against a person or property (by and large usually prohibited by criminal laws of every nation) and were written with the sole objective of supporting a criminal prosecution. However, as Crelinsten explains, the fact remains that treating acts of terrorism as crimes has a delegitimizing effect on the terrorists, as it evacuates vital components of terrorism, such as ideological or political motives, fear, and psychological effects.[199] In the criminal justice system, these aspects are used for sentencing reasons only once the perpetrator is found guilty. Such an approach treats acts of terrorism as crimes and ipso facto serves different needs than those of academic research.[200] It is true that this approach has changed to some extent after 9/11 when many Western countries enacted anti-terrorism legislation.[201] For this reason, post-9/11 legal definitions were considered in the following search for an appropriate definition process.

Mindful of these considerations, a five-step method was developed to search for appropriate definitions. These steps involved the collection, elimination,

International and Comparative Law Review, vol. 29 (2006); *The Definition of Terrorism: A Report by Lord Carlile of Berriew, QC, Independent Reviewer of Terrorism Legislation*, Cm 7052 (London: Home Department, March 2007), 47; Seth Carus, *Defining Terrorism* (Washington, DC: Center for the Study of Weapons of Mass Destruction, National Defense University, 2008); Boaz Ganor, "Defining Terrorism: Is One Man's Terrorist Another Man's Freedom Fighter?" (1 January 2010), http://www.ict.org.
196. For example, James F. Hoge and Gideon Rose, eds *How Did This Happen: Terrorism and the New War* (New York: Public Affairs, 2001), 183.
197. Herbst*, 163-164.
198. Jack P. Gibbs, "Conceptualization of Terrorism," in *Terrorism Studies: A Reader*, eds John Horgan and Kurt Braddock (New York: Routledge, 2011), 63.
199. Ronald Crelinsten, "Perspectives on Counterterrorism: From Stovepipes to a Comprehensive Approach," *Perspectives on Terrorism*, 8:1 (February 2014), 3.
200. *See* the following definitions: FBI (1984), UN Ad Hoc Committee on Terrorism (2001), Title VIII, Section 802 of the USA PATRIOT Act, in Schmid, *Handbook,* 126-147. *See* Appendix D, *Aviation Terrorism Characteristics Selection Methodology.*
201. For example, *see* Title VIII, Section 802 of the USA PATRIOT Act.

examination and selection of definitions. The final step was the identification of axioms and variables related to aviation terrorism.

2.3.3.1   Collecting Definitions

The literature shows that two main sources are consistently quoted as the leading references for definitions of terrorism: Alex P. Schmid's most recent version of the *Handbook of Terrorism Research* (262 definitions),[202] and John Richard Thackrah's *Dictionary of Terrorism* (89 definitions).[203] Because these two sources are by far the most prominent references in the academic literature, the initial collection of possible definitions was limited to the total of 351 definitions of terrorism contained in their books.

2.3.3.2   Eliminating Definitions

A review of the 351 definitions initially collected allowed for the elimination of 51 duplicates, leaving a total of 300 definitions to be assessed. The goal of this second step was fourfold: (1) to find definitions specifically addressing aviation terrorism, (2) if none were found or if a definition was found but did not correspond to the needs of this research, to collect and compare the fundamentals of each of the 300 remaining definitions, (3) to synthetize core and innovative variables, (4) if, at the end of the process, no appropriate aviation terrorism definition was found, to select the core characteristics appropriate to delineating such definition.

2.3.3.3   Examining Definitions

A selection grid was created at this stage of the process. Four objective criteria were used to proceed with the removal of unsuitable definitions:
1. **Materiality:** All things being equal, precedence was to be given to definitions explicitly addressing aviation terrorism, since this is the theme and major focus of this research.
2. **Relevancy:** Definitions, axioms, and variables that were too vague or inadequate to defining or delineating terrorism, and ideally aviation terrorism, were to be rejected since they could not help identify or construct a suitable definition of aviation terrorism.
3. **Impartiality:** Subjective, emotional or politically biased definitions were to be discarded. In other words, only definitions that were unprejudiced and politically and linguistically neutral were to be kept.[204]
4. **Simplicity:** Excessively long, broad, or descriptive definitions were also to be removed.[205]

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202. Schmid, *Handbook,* 99-157.
203. John R. Thackrah, *Dictionary of Terrorism* (New York: Routledge, 2004), 66-78.
204. A definition should be objective, apolitical, and linguistically neutral, meaning that inflammatory connotations and inaccuracies should be excluded.

An understanding exists amongst authoritative authors suggesting that the ultimate aim is to find a universal definition that is not dependent on the identity, motives, or religion of the actors involved in the attack, or on the nationality of the aircraft or victims, or the countries' national interest.[206] As seen in table 2.2, 300 definitions were analyzed and, at the end of the examination phase, a total of 113 definitions were kept as they passed the test of relevancy, impartiality, and simplicity. Unfortunately, none of those 113 definitions specifically fulfilled the materiality criteria, as they did not specifically address aviation terrorism.

TABLE 2.2 Five-Step Definition Analysis Process

	Phase 1 Collection	Phase 2 Elimination	Phase 3 Examination	Phase 4 Selection	Phase 5 Identification
Start	0	351	300	113	29
Remarks concerning the progression in the process	Schmid (262) Thackrah (89)	Duplicates Redundant Dismissal Rejects	Materiality Relevancy Impartiality Simplicity	25 definitions selected and addition of Avihai (1) Others (3)	Tinnes' definition was selected as the most adequate definition
Finish	351	300	113	29	1

2.3.3.4 Selecting Definitions

Due to the fact that there were still 113 definitions left after the three first rounds of analysis, the selection phase was initiated. This selection phase consisted in the elimination definitions, using the four criteria listed above in section 2.3.3.3. This permitted a reduction in the number of definitions from 113 to 25. A closer analysis showed that many of those definitions were created by academics to support their own studies. Many of them showed similarities.

Because these remaining 25 definitions did not specifically address aviation terrorism, the work of four more authors was consulted and added to the list, on the grounds that they were often quoted in the literature review on aviation terrorism. These four authors were not considered in the initial collection and review phase because they were not included in either Schmid's or Thackrah's books. These are: (1) Hillel Avihai's dissertation, one of the few documents dedicated solely to *aviation* terrorism;[207] (2) Bruce Hoffman, a recognized expert on aviation terrorism,

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205. According to Schmid, *Handbook,* 5: "broad (and changing) definitions have a tendency to say different things to different people using the same term."

206. Ganor, *Counter-Terrorism Puzzle,* 24; Brian Michael Jenkins, "Foreword," in Ian O. Lesser et al., *Countering the New Terrorism* (Santa Monica, CA: RAND, 1999), iv-v; Paul Wilkinson, "Can a State Be a Terrorist?" *International Affairs,* 57:3 (Summer 1981): 1.

207. Hillel Avihai, *Aviation Terrorism: Evolution, Motivation and Escalation* (Saarbrücken, Ger.: VDM Verlag, 2009), 35-36.

and a professor who has studied terrorism and political violence for over 30 years and written a world-renowned book on it;[208] (3) Neil J. Smelser, professor emeritus and co-author of a major report in the aftermath of 9/11,[209] who studied the 'Infernal Problems of Definition and Designation' of terrorism and devised his own academic definition from a sociological and psychological point of view;[210] (4) finally, the post-9/11 Patriot Act enacted in the US as a direct consequence of the 2001 attacks, was also selected because it defined terrorism and offered a practical illustration of issues related to aviation terrorism.[211]

2.3.3.5 Identifying Variables

At this stage, it became evident that no universal and suitable definition of terrorism would be found. However, as table 2.3 shows, 26 variables related to definitions of terrorism were identified.

TABLE 2.3   Significant variables extracted from selected definitions

Actor, Non-state actor, Sub-state group	Politics
Anxiety, Insecurity	Power
Civil Aviation	Psychological effect. coercion
Civilian (non-combatant)	Publicity
Clandestinity	Recurrence, Repetition, Series
Communication of a message	Spectacle, Theatricality
Creation of terror	Symbolism
Fear	Systematicity, Method
Indiscrimination	Target of demands (influence, coercion)
Intentionality, Deliberateness, Premeditation	Target of violence (direct victims)
Instability	Target of terror (wider audience)
Organization	Unpredictability
Preparation	Violence

Step 2: Evaluate Existing Definitions

2.3.4 Opting for the Most Adequate Definition of Terrorism

The five-step analytical process discussed in the above section revealed that, to the best of the author's knowledge, there is no universally agreed upon, comprehensive, and unambiguous definition of terrorism, let alone aviation

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208. Hoffman, *Inside Terrorism* 1998, 43.
209. Committee on Science and Technology for Countering Terrorism, *Making the Nation Safer: The Role of Science and Technology in Countering Terrorism* (Washington, DC: National Academies Press, 2002).
210. Smelser, 242. *See also* pp. 229-250 for his definitional examination.
211. Title VIII, Section 802 of the USA PATRIOT Act.

terrorism. In an attempt to refine the exploration for such a definition, the 29 remaining definitions were once more analyzed with the help of a new grid prepared with the 26 variables identified in table 2.3. The definition that scored the highest according to that grid was that of Schmid and Jongman, which contained 17 key words. However, after a closer examination, it was rejected on the grounds that the text was more a narrative of terrorism than a definition. Therefore Judith Tinnes's definition, which scored the second highest, was selected. Although her definition does not explicitly address aviation terrorism, it still represented the best option for the creation of a tool for analyzing aviation terrorism and answering the research question. According to the analytical process discussed above, her definition respected three of the four criteria: relevancy, impartiality, and simplicity. It reads as follows:

> Terrorism is a communication strategy of sub-state actors that, by its asymmetrical, systematically planned unpredictable violence against targets selected arbitrarily or for their symbolic value (including civilians), is meant to create a mood of extreme fear or insecurity in the civilian population. By means of psychological manipulation, maximum pressure is meant to be created in order to bring about a desired reaction.[212]

However, Tinnes' definition displays a surprising major flaw. It does not address the key characteristic that delineates terrorism from a criminal act: the overwhelmingly *political* nature of the attack. In fact, aside from violence, which is the core element of all terrorist attacks, the political aspect is the second most important characteristic included in the vast majority of definitions of terrorism.[213] For most leading authors on terrorism the political component is the foundation on which terrorism is based. For example, Richardson argues that if a terrorist act is not politically motivated, then it is simply a crime.[214] Anderson refines the idea by adding, "terrorism differs from ordinary criminal violence not merely because it involves politically motivated violence but mainly in its targeting and intended

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212. Judith Tinnes, "Internetbenutzung islamistischer Terror- und Insurgenten gruppen unter besonderer Berücksichtigung von medialen Geiselnahmen in Irak, Afghanistan, Pakistan und Saudi-Arabien," (PhD diss., Universität des Saarlandes, Saarbrücken, 2010), trans., Alex P. Schmid, in Schmid, *Handbook*, 148. Her definition ranked the highest in the first and second round of selection using 26 variables. It ranked second behind Schmid and Jongman's definition (1988) in the third and final phase. This time around, the grid used 10 axioms and 30 variables. Although Schmid and Jongman's definition offered an interesting perspective and corresponded to more variables, it was nevertheless disallowed because it was too long and descriptive. *See* Appendix D.
213. Of the 29 selected definitions, 28 considered violence as a core feature of terrorism, while the political aspect was ranked second by the 23 authors including it in their definition.
214. Richardson, 4.

effects."[215] In the end, simply put, there can be no terrorism without political motivation.

Furthermore, there are three terms in Tinnes' definition that call for questioning because their meaning is unclear. The first is *asymmetrical,* which is obvious and implicit in the context of terrorism. One would argue that if terrorist groups had the same resources as military forces, then they would operate in a context of war, not terrorism. The second term is *unpredictable.* This expression is redundant since the factor of unpredictability is always the fundamental objective sought in any clandestine operation that has to be kept secret until the very last moment before the attack. If the imminence of a terrorist attack is ever disclosed or leaked to the authorities, it forces the government to rapidly take all necessary measures to thwart the attack. The third is *maximum pressure*, which refers to an idea that is totally subjective and imprecise. How much pressure authorities can sustain is a difficult matter to assess because it depends, inter alia, on the actors involved, the context in which they operate, and the resources deployed by both sides. Hence, because of these conflicting elements, the terms "asymmetrical," "unpredictable," and "maximum pressure" should be removed from Tinnes' definition. In spite of these shortcomings, it was decided that Tinnes' definition had enough positive features to be the best starting point to eventually achieving a good working definition. However, the need to make such a decision regardless of the identified flaws speaks volumes as to what is at stake when searching for a suitable definition that would help explain why terrorist target civil aviation.

2.3.5 Why is Civil Aviation Targeted?

The literature review offers seven reasons why civil aviation has long been targeted by terrorists. The first five reasons relate to incentives directly influencing terrorists' decision to attack civil aviation. The last two reasons are external conditions over which terrorist have no direct control but that nevertheless provide them great advantages when attacks are launched. In order to put these reasons in perspective, it is important to examine the context in which aviation terrorism operates. As briefly discussed in chapter 1, aviation has grown to be the cornerstone of modern-day travel. In 2014, over three billion people were transported.[216] At any given time, civil aviation keeps 1.2 million passengers aloft.[217] Civil aviation has become a major generator of global commerce and tourism, as well as a creator of economic and social development. The aerial transportation network supports some "57 million jobs and $2.2 trillion in

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215. Sean K. Anderson, "Warnings versus Alarms: Terrorist Threat Analysis Applied to the Iranian State-Run Media," *Studies in Conflict and Terrorism*, 21:3 (Fall 1998): 281.
216. IATA, "Annual Report 2014," 6, http://www.iata.org.
217. Ruwantissa Abeyratne, "The conundrum of the inflight security officer (IFSO)," *Journal of Transportation Security,* 7:2 (2014): 199.

economic activity, which is about 3.5 percent of global GDP."[218] However, in the words of Boubacar Djibo, ICAO's Transport Bureau Director in 2013, "all facets of civil aviation are at risk: passenger aircraft, air cargo, airports, and related facilities and operations."[219] Just like everyone else, terrorists have acknowledged the importance of this industry by targeting it with various MO. Since the first hijacking in 1931, nearly every country has been the target of aviation terrorism, directly or indirectly. Crenshaw contends, "on a global basis, few major industries have been affected by the growing menace of terrorism as much as civil aviation."[220]

TABLE 2.4   Factors Affecting Terrorist Targeting of Civil Aviation

1. International Prominence of the Palestinian Cause
2. Air Carriers Are National Symbols
3. Powerful Economic Consequences
4. High Lethal Potential
5. Authorities' Hesitation to Confront Terrorists
6. Information Age Technology
7. Global Inter-Connectedness

2.3.5.1   International Prominence of the Palestinian Cause

The first Palestinian group to be militarily active was Yasser Arafat's Fatah; the group's main objective was to obtain support from Arab countries and international recognition for the Palestinian cause.[221] In 1964, Arafat convinced Fatah's highest authorities to initiate military action against Israel.[222] It conducted its first sabotage raid in Israel on 2 January 1965. Between this attack and the Six-Day War in June 1967, approximately 122 attacks were carried out against Israel of which the Israeli security forces thwarted almost 80 percent.[223] In 1967, in the wake of Israel's military victory in the Six-Day War, George Habash, Wadi Haddad, and Ahmed Jibril created the Popular Front for the Liberation of Palestine (PFLP), becoming

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218. IATA, *"2013 Annual Review*," 4, http://www.iata.org.
219. Paul Tinder, "International Civil Aviation Organization outlines anti-terrorism efforts," *BioPrep Watch*, 5 August 2013, http://bioprepwatch.com.
220. William A. Crenshaw, "Civil Aviation: Target for Terrorism," *Annals of the American Academy of Political and Social Sciences*, 498 (July 1988): 60.
221. Jacques Baud, *Encyclopédie des terrorismes et violences organisées* (Panazol, FR: Charles Lavauzelle, 2009), 376-377.
222. Atkins, 22-23.
223. Simon Dunstan, *The Six-Day War: Sinai* (New York: Osprey, 2009), 7. From 5 to 10 June 1967, Israel and Arab states fought the Six-Day War. Israel swiftly defeated the Arab coalition and occupied considerable parcels of land, including in the territory of Palestine. Whereas Arabs perceived this defeat as another disaster, the conflict renewed the PLO's conviction to fight Israel.

the second largest group under the PLO umbrella behind Fatah.[224] Henceforth, Palestinian terrorist groups launched an international campaign against Israel whereas the Palestinian crisis became a major preoccupation for the Western World.[225] Chapter 3 will offer more information on the PFLP.

2.3.5.2 Air Carriers are National Symbols

Jenkins theorizes that national airlines are highly visible symbols of a country (similar to embassies and diplomats), as are big corporations with brand names; these are, statistically, the two favourite targets of terrorists.[226] Aviation terrorism is an ideal way to embarrass the targeted country, and to attack its national pride. This helps the terrorist to coerce the state authorities into conceding to specific demands. Sampson suggests, "the airlines, though they seem to defy geography, are among the most national of industries, inextricably bound up with their home country's ambitions and security."[227] Indeed, despite the inherently corporate character of the aviation industry, countries have traditionally exercised strong control over it, including through ownership and management. Citizens take pride in seeing their "national" air carrier in international skies.

2.3.5.3 Powerful Economic Consequences

Terrorist attacks against the air transportation industry have the potential to cause both direct and indirect economic devastation. In addition to the loss of life and damage to the aircraft, an attack on aviation can have fall-out effects on other industries. Beyond every physical "object" that has a direct or remote monetary value (e.g., life, aircraft, buildings), the long-term consequences of terrorist attacks on civil aviation run very deep. Although new measures have greatly improved aviation security, they are not without costs. In addition to the direct expenditures associated with the security apparatus (needs for more personnel and equipment), indirect costs also have to be added to the equation (longer time allocated to travel, supplementary stress, extra delays, etc.). As a case in point, the 9/11 attacks embody the best modern example of the large-scale economic devastation

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224. Daniel Baracskay, *The Palestine Liberation Organization: Terrorism and Prospects for Peace* (Santa Barbara, CA: ABC-CLIO, 2011), 51. Habash was the PFLP leader and the intellectual. Haddad was the man of action and PFLP's military chief. On Habash, *see* Scott MacLeod, "Terrorism's Christian Godfather," *Time Magazine*, 28 January 2008, http://content.time.com.
225. Nathalie Cettina, *Terrorisme: L'histoire de sa mondialisation* (Paris: L'Harmattan, 2001), 28-29.
226. Brian M. Jenkins, "The Terrorist Threat to Commercial Aviation" (Paper presented at the International Seminar on Aviation Security, Herzliya, Israel, 5-9 February, 1989), http://www.rand.org; Mockaitis, 4, concurs with Jenkins.
227. Anthony Sampson, *Empires of the Sky: The Politics, Contests, and Cartels of World Airlines* (New York: Random House, 1984), 19.

following terrorist attacks against civil aviation. Mueller and Stewart estimate the full cost of losses experienced from the 9/11 attacks at $200 billion.[228] Much more difficult to estimate are the costs of the psycho-economical domino effect that physical destruction triggered worldwide. Disruptions in the transportation system following the attacks resulted in significant revenue losses not only for air carriers but also for several industries, most notably tourism. Caldwell and Williams Jr argue that the significant decline of the stock market following the 9/11 attacks "showed both the degree to which the American and international economies are interdependent and the way in which mass panic could cripple the US economy in a way that even al-Qaeda had not expect."[229] To that effect, Flynn reports that in an interview with Al-Jazeera Television Network, Osama bin Laden stressed the billions of dollars of losses engendered by "an attack that happened with the success of Allah lasting one hour only."[230] Libicki et al. argue that terrorists appear to have learned so much from 9/11 that they urge Muslims around the world to "bleed the US dry through repeated strikes against key pillars of the country's economy."[231]

2.3.5.4 High Lethal Potential

Terrorists seeking spectacular attacks have used civil aviation as an often lethal MO. In contrast to trains or ships, aircrafts are compact and provide perfectly enclosed environments, resulting in highly credible threats of destruction by crash or explosions that are likely to cause large-scale casualties.[232] In fact, having a large number of people concentrated in a relatively small area, whether in the aircraft itself or in an airport terminal, is a sure way for a small group of terrorists to easily take control of the environment they decide to attack. Acts of mid-air sabotage have proven to be especially lethal, considering that only five attacks were responsible for 992 deaths (70 percent of all deaths associated with sabotage).

228. John Mueller and Mark G. Stewart, *Terror, Security, and Money* (New York: Oxford University Press, 2011), 61. For an in-depth evaluation of the economic consequences of 9/11 *see* Walter Enders and Todd Sandler, *The Political Economy of Terrorism,* 2nd ed. (New York: Cambridge University Press, 2011), 288-316; Mikel Buesa and Thomas Baumert, eds, *The Economic Repercussions of Terrorism* (New York: Oxford University Press, 2010), 15-24.

229. Dan Caldwell and Robert E. Williams Jr, *Seeking Security in an Insecure World* (Lanham, MD: Rowman & Littlefield, 2006), 175.

230. Stephen Flynn, "The Neglected Home Front," *Foreign Affairs,* 83:5 (2004).

231. Martin C. Libicki, Peter Chalk and Melanie W. Sisson, *Exploring Terrorist Targeting Preferences* (Santa Monica, CA: RAND, 2007), 60. For further discussion on this issue, *see* Tanner Campbell and Rohan Gunaratna, "Maritime Terrorism, Piracy and Crime," chap. 2 in *Terrorism in the Asia Pacific: Threat and Response*, ed. Rohan Gunaratna (Singapore: Eastern Universities Press, 2003), 73-74.

232. Richard Clutterbuck, *Kidnap, Hijack and Extortion: The Response* (Basingstoke, UK: Macmillan, 1987), 57.

These five acts of sabotage are: (1) Gulf Air 771 on 23 September 1983 (112 killed), (2) Air India Flight 182 on 23 June 1985 (329 killed), (3) Pan Am Flight 103 on 21 December 1988 (270 killed), (4) UTA Flight 772 on 19 September 1989 (171 killed), and (5) Avianca Flight 203 on 27 November 1989 (110 killed). Except for the 9/11 attacks, these sabotage are etched in memory as the five single deadliest terrorist attacks against civil aviation. Terrorists take advantage of the fact that, once airborne, an aircraft becomes a place where passengers and crew are on their own, without appropriate protection. Furthermore, since civil aviation brings together people from a wide variety of different nationalities onboard an aircraft or airport, this has the added benefit of formally impacting a great number of different governments.

2.3.5.5 Authorities' Hesitation to Confront Terrorists

Many terrorist groups have benefited from the hesitancy of certain government leaders to either engage them or to order a rescue operation to put an end to a terrorist attack. The hijacking of Egypt Air Flight 648 to Malta on 23 November 1985 was a stark reminder of harsh costs paid by authorities when showing reluctance or hesitation to abide quickly by terrorist demands. During a 20-hour long negotiation with the Maltese government, the hijackers warned that they would start shooting passengers every fifteen minutes if their demands were not met. Six persons were shot and thrown onto the runway by the hijackers to demonstrate their unyielding determination. Four survived their gunshots and injuries.[233] This disaster showed that, if not well managed, a terrorist crisis can create havoc and shake the faith citizens have in their government. Until Western countries decided to resist terrorism and get tough in their negotiations with terrorists, hijacking was a MO greatly used in the late 1960s and 1970s.[234]

Arguing an exception to Article 2(4) of the *Charter of the United Nations* allowing military intervention within the territorial integrity of another state, Israel made the decision to launch a military operation to rescue hostages held at the Entebbe, Uganda airport on 4 July 1976. The Israeli intervention team rescued 106 passengers and crew taken hostage during the hijacking of Air France Flight 139 a week before (27 June 1976). Seven terrorists and 13 Ugandan soldiers were killed during the fighting. There were five other fatalities: the commander of the assault force and four passengers.[235] Nanda agrees with the Israeli position on the grounds that "for such an action to be justified, an imminent danger to human lives—

233. Charles Daniel Saliba, *Hijacking in the Mediterranean: The Five Cases of Malta* (Malta: BDL, 2010), 113. For a full account of this crisis, *see* 85-123.
234. Peter H. Merkl, "West German Left-Wing Terrorism," chap. 5 in *Terrorism in Context,* ed. Martha Crenshaw (University Park: Pennsylvania State University Press, 1995), 160-210.
235. Iddo Netanyahu, *Entebbe: A Defining Moment in the War of Terrorism* (Green Forest, AZ: Balfour Books, 2003), 8, 193-194.

indicating an overwhelming necessity for prompt action—is a prerequisite."[236] Concurring, Schrijver claims that the right of a state (if not a duty) to rescue its nationals, if necessary by military coercion, is unaffected by the UN Charter.[237] However, many authors argue differently. For instance, after explaining that Israel's main argument presented at the UNSC was based on self-defence of its nationals, Gray postulates that this point of view is a narrow interpretation of Article 2(4) of the UN Charter.[238] Shaw offers a wider perspective by going back to the *Caroline* case of 1837, a seminal legal opinion, which came to be accepted as part of customary international law. Essentially, this decision sets out four specific criteria determining that the necessity of self-defence must be "instant, overwhelming, leaving no choice of means, and no moment for deliberation."[239] Shaw contends that, currently, the self-defence doctrine needs to be understood through Article 51 of the UN Charter. Assessing both Articles 2(4) and 51 of the Charter, he concludes that:

> on balance, and considering the opposing principles of saving the threatened lives of nationals and the preservation of the territorial integrity of states, it would seem preferable to accept the validity of the rule in carefully restricted situations consistent with the conditions laid down in the Caroline case..[240]

As table 2.5 shows, a total of nine rescue operations were carried out between 1972 and 1994. The first one took place at Lod Airport on 8 May 1972 when an Israeli commando engaged Black September hijackers. Two terrorists and a passenger were killed during this raid and two more terrorists were arrested. However, this military operation triggered two more retaliatory terrorist attacks against Israel: (1) on 31 May 1972, Japanese Red Army (JRA) terrorists, linked to the PFLP, slaughtered 26 persons and wounded 70 more at Lod airport; (2) the Black September Organization (BSO), a splinter group of the PLO, conducted a second attack against Israel during the 1972 Munich Summer Olympic Games at the end of which 11 Israeli athletes and coaches were killed.[241] After the 1976 Entebbe raid, only three out-of-jurisdiction commando operations were launched in foreign countries (Somalia, Cyprus, and Malta). The Egypt Air 648 raid on 24

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236. Ved P. Nanda, "Humanitarian Military Intervention," *Worldview Magazine*, 23:10 (1 October 1980): 23.
237. Nico Schrijver, "The Use of Force under the UN Charter: Restrictions and Loopholes" (Paper, ACUNS 2003 John W. Holmes Memorial Lecture).
238. Christine Gray, *International Law and the Use of Force, 3rd ed.* (New York: Oxford, 2008), 32.
239. Shaw*,* 1131.
240. Ibid., 1145.
241. Naftali suggests it is then that "the terms "counter-terrorism" and "international terrorism" formally entered the Washington political lexicon; *Blind Spot* 55.

November 1985 in Malta discussed above is the only one that had been authorized by the sovereign government. That is to say that the necessity of self-defence in aviation hostage-taking situations was only used twice after the Entebbe raid (Somalia, Cyprus).

TABLE 2.5   Examples of rescue operations following terrorist hijackings

Date	Location	Airline	Rescuers
1972-05-09	Lod Airport, Israel	Sabena 517	Israel's Sayeret
1976-07-04	Entebbe, Uganda	Air France 139	Israel's Sayeret
1976-08-23	Luxor, Egypt	Egypt Air 321	Egypt's Sa'aqa
1977-10-18	Mogadishu, Somalia	Lufthansa 181	Germany's GSG-9
1978-02-18	Larnaca, Cyprus	Cyprus Airways	Egypt's Force 777
1984-12-09	Tehran, Iran	Kuwait 221	Iran's Security
1985-11-24	Valetta, Malta	Egypt Air 648	Egypt's Force 777
1991-03-26	Singapore	Singapore Airlines 117	SAF Commando
1994-12-26	Marseille, France	Air France 8969	France's GIGN

From a strict law enforcement perspective, with the exception of the three Egyptian operations, the others were such a great success that it became a deterrent for those who wished to attack civil aviation. According to O'Kane, it was after the successful 1976 Entebbe and the 1977 Mogadishu rescue operations that the PFLP slowly died out from the international scene and confined itself to Gaza and the West Bank in accordance with the Fatah position.[242] By deciding to confront aviation terrorism the way they did, governments were showing that, regardless of the attacker, they were ready to take all necessary means to secure the life of their citizens against violence.

2.3.5.6 Information Age Technology

Schmid argues that terrorism is a combination of violence and communication, where the immediate victims are often civilians and the main addressee of the "language of blood" is often a government or its citizens.[243] For Bassiouni, terrorism seeks to instil terror as a way to communicate to the general public the cause at stake, which is the total opposite of criminals who shun publicity.[244] Alexander and Latter assert that public awareness of the growing incidence of terrorist activity may be traced back to 1968.[245] Furthermore, many authors have specifically identified the 23 June 1968 hijacking of El Al Flight 426 as the date of

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242. Rosemary H.T. O'Kane, *Terrorism*, (New-York: Routledge, 2013), 102.

243. Schmid, *Handbook*, 2.

244. M. Cherif Bassiouni, "Prolegomenon to Terror Violence," 12 *Creighton Law Review*, 12:13 (1979): 752.

245. Alexander and Latter, 7.

the beginning of modern international terrorism.[246] However, Mahan and Griset explain that interaction between the media and terrorists intensified in the last part of the twentieth century because of the increase in information technology and news coverage, enabling terrorists to communicate their message to a wider audience.[247] Purdue argues that the traditional media platform serves as the ransom paid to terrorists who take hostages since the media gives them the possibility to convey their message directly to the world.[248] Globalization and 24/7 media services offer new opportunities to terrorists; this situation further victimizes hostages.

Additionally, the first decade of the twenty-first century saw the outbreak of a new trend in mass communication: social media.[249] This new platform instantly connects people from around the world and allows them to exchange information, videos, and ideas. For better or worse, both law-abiding citizens and terrorists use it, giving them the power to amplify the impact of a terrorist attack. For this reason, Stewart argues that traditional media has lost its predominance as the only terror magnifier.[250] A spectacular image of terrorist attacks result in almost guaranteed, rapid, and prolonged traditional and social media coverage, which has powerful psychological and emotional effects on the population.[251] Terrorists know their attacks greatly magnify their demands or cause.

Publicity as "ransom" is a vital issue when it comes to aviation terrorism because all international airports have a greater chance of getting intensive media coverage than attacks in war zones or remote areas. The idea that terrorists are publicity-seekers agrees with Richardson's theory, which asserts that terrorists search for immediate glorification and publicity through such media exposure.[252] This was clearly seen on 9/11, when people were riveted to their TV sets to watch the events unfold live. Purdue contends that for the vast majority of people, terrorism is a matter more of images than words.[253] Because, for most people, mass media and popular culture are the major sources of information about events with which they do not have direct experience, this has a strong negative effect on

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246. *See* 20n54, as well as sect. 3.4.5.
247. Mahan and Griset, 219.
248. William D. Purdue, *Terrorism and the State: A Critique of Domination through Fear* (Westport, CT: Praeger, 1989), 47.
249. The rapid social media evolution is exemplified by the arrival on the market of leaders like: Facebook (4 February 2004), Vimeo (November 2004) You Tube (14 February 2005), Twitter (21 March 2006), Instagram (6 October 2010).
250. Scott Stewart, "Cutting Through Hysteria," *Stratfor Global Intelligence* (6 November 2014).
251. Audrey Kurth Cronin, *How Terrorism Ends: Understanding the Decline and Demise of Terrorist Campaigns* (Princeton, NJ: Princeton University Press, 2009), 4.
252. Richardson, 94.
253. Purdue, 2.

people's sense of security and fear.[254] Knowing that highly dramatic media coverage maximizes the impact of their attacks and the expression of their grievances, terrorists take great advantage of this platform.

2.3.5.7 Global Inter-Connectedness

Mobility is another great asset for terrorists attacking civil aviation since it enables them to escape arrest and prosecution. O'Kane contends that modern technologies and infrastructure set the stage for international terrorism. She uses civil aviation as an example, explaining that a hijacked airliner can fly from one country to another, with global communications allowing for negotiations and contacts with other terrorists on different continents.[255] It is true that modern aircraft are faster and safer than ever before, allowing business people, tourists, and cargo to move from one country to another in matter of hours. For terrorists, it means that their activities know no boundaries. Given the global inter-connectedness of the industry, it is feasible for terrorists to board an aircraft in one part of the world with a less stringent security system and attack elsewhere.

From a legal perspective, international aviation terrorism requires the following elements: (1) the perpetrator and victim are citizens of different states, (2) the attack is conducted in whole or in part in more than one state, and (3) civil aviation is de facto an international target.[256] Globalization also enables terrorist groups to recruit, train, and indoctrinate their recruits anywhere on the planet. Benjamin and Simon argue that information technology and the internet have become "the delivery vehicle par excellence for a set of powerful ideas, which now ricochet around the world at lightning speed." They also suggest that in the case of aviation terrorism, the Internet goes beyond spreading propaganda since it has become a key operational tool and is transforming how terrorists do business.[257] Hijackers, bomb makers, and suicide mission operatives can be scattered around the world and still be able to cooperate easily. From a tactical point of view, engaging civil aviation targets from different locations simultaneously, as occurred on "Skyjack Sunday" (6-9 September 1970)[258] or on 9/11, exemplify global inter-connectedness.

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254. David L. Altheide, *Terrorism and the Politics of Fear* (Toronto: Altamira Press, 2006), 1-2.

255. O'Kane, 97.

256. Bassiouni, *International Criminal Law*, 752. *See also* Dana Milbank, quoted by Conrad V. Hassel, "Terror: The Crime of the Privileged – An Examination and Prognosis," *Terrorism: An International Journal*, 1:1 (November 1977): 8.

257. Daniel Benjamin and Steven Simon, *The Next Attack: The Failure of the War on Terror and a Strategy for Getting it Right* (New York: Times Books, 2005), 59, 75.

258. On 6 September 1970, the PFLP stunned the world with the first coordinated hijacking of four aircraft bound from Europe to New York. The most significant target was an El Al airliner attacked as it took off from Amsterdam, but the operation was blocked. The other

2.3.6   Theoretical Perspectives on Aviation Terrorism

This section focuses on examining the modern-day literature on aviation terrorism. As suggested by Harrison, this exercise will be best accomplished by looking at four broad sources of information: academic, professional, journalistic, and governmental.[259] This exercise will facilitate the acquisition of a comprehensive array of perspectives that will all be necessary to address the research question. Some academics specializing in aviation terrorism analyze the relationship between terrorist attacks and the way democracies deal with the problem. Legal scholars scrutinize the full complexities of the civil aviation legal and regulatory framework, international law, and domestic criminal law; these legal instruments address both the relationship between States in matters related to civil aviation and the manner in which they collectively and individually deal with terrorist attacks. Aviation security professionals develop practical security strategies and systems to detect, prevent, and deter attacks. Journalists offer a distinct point of view on aviation terrorism by writing on day-to-day stories as they unfold, and they often write books on specific aspects of the phenomenon. Finally, governments and international institutions rely on the support of their administration to anticipate and confront the terrorist threat.

2.3.6.1   Academic Sources

Currently, the literature on the general concept of terrorism is colossal. In the 1990's, academia had its pioneers in the field of aviation terrorism. St. John wrote an account of the evolution of international aviation terrorism in the aftermath of the 1985 Air India Flight 182 sabotage attack.[260] His thorough analysis of airline and government initiatives inspired many authorities and scholars to continue developing innovative solutions for enhancing aviation security and acquiring a new understanding of terrorists. In 2013, during an interview with a journalist, St. John called for more resilience, suggesting it was important for citizens to continue living normal day-to-day lives and to refuse to let terrorists instil fear in the

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three attacks succeeded and the planes were diverted to Dawson's field in Zarya, Jordan. One aircraft, being too big for the airport's runway, was redirected to Cairo. As soon as it landed, passengers and crew were evacuated and the Boeing 747 was blown up. The other two aircraft were joined three days later by a fifth hijacked aircraft. Though many hostages were liberated along the way, it was only after intense negotiations that the last 57 passengers and crew were finally released on 30 September (after being detained for 25 days) in exchange for convicted terrorists. At the end of the ordeal, as a final act of revenge, the terrorists used explosives to destroy the three aircraft in full view of media cameras. At the end of the crisis, the PFLP described the attacks as the first strike in punishing the US for its peace initiative in the Middle East and for equipping Israel with weapons.

259. Harrison, 8.

260. Peter St. John, *Air Piracy, Airport Security, and International Terrorism: Winning the War against Hijackers* (New York: Quorum Books, 1991).

community.[261] In the UK, Wilkinson established the study of terrorism as an academic field in its own right, in the face of scepticism and even hostility.[262] Although Wilkinson always had a special interest in aviation terrorism, it is the 22 December 1988 sabotage of Pan Am 103 over Lockerbie that brought him to the public eye. He produced a powerful body of books, articles, and lectures, and was regular presence in the media on the evolving threats to aviation security.[263] Jenkins, an internationally renowned authority in the field, has been studying terrorism for over 40 years. His publications present constant pragmatic and down-to-earth analyses on terrorism and aviation terrorism as well as options for preventing and deterring attacks.[264] He is a relentless advocate of the need for international cooperation and the coordination of domestic agencies dealing with aviation terrorism. During an interview in 2008, Jenkins insisted that authorities must have a better understanding of the terrorism threat and refrain from the simplistic view that terrorists are mentally disturbed people. He also suggests "knowledge is the antidote to anxiety."[265]

Some of today's prominent authors on aviation terrorism are Wilkinson's former doctoral students at the University of St. Andrews. Jin-Tai Choi's book *Aviation Terrorism* suggests that governments have failed in their efforts to be one step ahead of terrorists because their responses are reactive in nature.[266] Omar Malik's doctoral dissertation contends that despite certain operational successes, the aviation terrorism tactic used by Palestinians was counterproductive as it allowed Israel to label them as terrorists.[267] John Harrison's book *International Aviation and Terrorism* examines how the international civil aviation community has dealt with terrorism, particularly through its international conventions and improved pragmatic security measures.[268] Though he is not one of his former pupils, Hillel Avihai followed Wilkinson's academic legacy by studying the

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261. Jim Bender, "Terrorist attacks can happen anywhere, retired University of Manitoba terrorism prof says after Boston Marathon explosions," *Winnipeg Sun*, 16 April 2013, http://www.winnipegsun.com.

262. Nicolas Rengger, "Paul Wilkinson, Britain's leading academic specialist in the study of terrorism," *Guardian*, 18 August 2011, http://www.theguardian.com.

263. He was co-editor of an influential book on the subject: Paul Wilkinson and Brian M. Jenkins, eds, *Aviation Terrorism and Security* (London, Frank Cass, 1998).

264. Brian M. Jenkins, *Unconquerable Nation: Knowing your Enemy Strengthening Ourselves* (Santa Monica, CA: RAND, 2006).

265. Greg Krikorian, "Brian Jenkins - Confronting terror, calmly," *Los Angeles Times*, 31 January 2008, http://www.latimes.com.

266. Jin-Tai Choi, *Aviation Terrorism: Historical Survey, Perspectives and Responses* (New York: St. Martin, 1994).

267. Omar Malik, "A Strategic Analysis of the Origins of International Terrorist Attacks on Aviation and the British Responses" (PhD diss., University of St. Andrews, 1997).

268. Harrison, op. cit. *See also* by the same author: "The evolution of international aviation security, from politics to warfare" (PhD diss., University of St. Andrews, 2006).

evolution of global aviation terrorism. His book *Aviation Terrorism: Evolution, Motivation, and Escalation* scrutinises significant terrorist attacks and security measures put in place to prevent recurrence. He argues that targeting civil aviation is a calculated and rational decision made by terrorists.[269]

Political disagreements and an early apathy towards research on terrorism as a field of study have plagued attempts to define the concept of aviation terrorism in public international air law. Nevertheless, the persistence of terrorist attacks against civil aviation since the 1960s has compelled academics and scholars specializing in air law to look into the matter. It is mainly through their perspectives that ICAO was able to lay the cornerstone on which today's legal and regulatory framework is built. Starting in the early 1970s, McWhinney paved the way in this direction with the publication of 23 books and several hundred legal articles on the subject.[270] Most of today's authors specializing in aviation terrorism still cite him regularly as the foundational reference in international law and terrorism. Currently Abeyratne, former ICAO Senior Legal Officer, is probably the world's most influential author concerning civil aviation law, with dozens of books and several hundred scientific and legal articles on the subject.[271] Over the years, he has become a primary source of information on the international civil aviation legal and regulatory framework.

The literature review has demonstrated that the concept of terrorism is discussed by many, but questioned by few. Security expert Bruce Schneier is the exception confirming this rule. He is well known for his candid and lucid questioning of the effectiveness of civil aviation security systems. His main message is that security measures are about trade-offs. If one wants more, trade-offs necessarily have to come into play. In the case of aviation security, Schneier posits that civil aviation "deserve additional security because they have catastrophic failure properties."[272]

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269. Avihai, 257.

270. Edward McWhinney, *The Illegal Diversion of aircraft and international law* (Leiden, NL: Sijthoff, 1975); McWhinney also wrote the following books: *Conflict and Compromise: International Law and World Order in a Revolutionary Age* (Toronto: CBC, 1981); *UN Law Making: Cultural and ideological Relativism and International Law Making for an Era of Transition* (New York: Holmes & Meier, 1984); *Aerial Piracy and International Terrorism* (Hingham, MA: Kluwer, 1987).

271. The following will be the main references for chapter 4: Abeyratne, *Convention of International Civil Aviation* (New York: Springer, 2014); *Aviation Security Law* (New York: Springer, 2010); *Aeropolitics* (New York: Nova Science, 2009); *Aviation in Crisis* (Burlington, VT: Ashgate, 2004); *Aviation Security: legal and regulatory aspects* (Brookfield, VT: Ashgate, 1998).

272. Bruce Schneier, *Schneier on Security* (Indianapolis: Wiley, 2008), 50. *See also* by the same author, *Beyond Fear: Thinking Sensibly About Security in an Uncertain World* (New York: Copernicus, 2003), 3-5.

Academic sources in other fields of study offer interesting perspectives. For example, the fields of sociology, psychology, and management can help develop ways to take charge of operations in case of a terrorist attack, or even better, ways to prevent or mitigate them. As a case in point, the work of Weick and Sutcliffe should be an alarm bell for the aviation industry, where the potential for error and disaster is overwhelming.[273] The authors address the importance of building capacity to prevent and deter catastrophic incidents. Their theory contends that high-reliability organizations (HRO) consistently deliver high quality performance even in unpredictable situations. Doing so prevents catastrophic and costly crises. In other words, the authors argue that organizations should always be proactively concerned with anticipating and deterring unexpected minor failures, and that the strategy of merely reacting to events is simply not a good one.

2.3.6.2 Aviation Security Professional Sources

The main obligation of security practitioners is to prevent, deter, or thwart terrorist attacks against civil aviation. This is the most difficult and important responsibility. This is why the body of professional literature covering specific security measures or responses to the terrorist threat has proliferated in the aftermath of 9/11. Ever since, efforts have been made towards exchanging best practices, recognizing pre-incident indicators, and developing innovative security measures. Because the US had been the victim of major attacks in their homeland, and since the American civil aviation market is the world's largest, most of the related professional research originates in the US. When Moore, a US aviation security professional, wrote his first book in 1976, he was a pioneer.[274] At the time, only a few lawyers and security practitioners had developed comprehensive studies on the various aspects of aviation security.

Nearly two decades later, Rodney Wallis, retired director of security for IATA, became one of the more important contributors in aviation security. His first book presents a thorough reflection on the problem of aviation terrorism. Many examples of terrorist attacks against civil aviation are presented in his work and he uses them to point out the many deficiencies in security measures. Although not complacent towards the industry, he makes clear that there is no silver bullet for combating aviation terrorism.[275] His second book, written in 2003, was more upsetting, and showed that threats were evolving while security measures were still

273. Karl E. Weick and Kathleen M. Sutcliffe, *Managing the Unexpected: Assuring High Performance in an Age of Complexity* (San Francisco: Jossey-Bass, 2001).
274. Kenneth C. Moore, *Airport, Aircraft & Airline Security*, 2nd ed. (Los Angeles: Security World, 1991). A search at the Library of Congress on 30 July 2014 using four keywords—Aviation Security (140), Airport Security (73), Aircraft Security (3), and Airline Security (10)—retrieved 226 results and showed that Moore was the first one to write on these issues.
275. Wallis, *Combating Terrorism*, 43.

reacting to attacks rather being a step ahead of the evolving threats.[276] Years later, other authors added their contribution to the enhancement of aviation security: Price and Forest examined the various components of aviation security from facilities, actors and operations,[277] Sweet presented the broad historical context of international terrorism and discussed how the recurrent attacks were affecting the industry as well as the traveling public,[278] and Elias examined the equilibrium between security measures and aviation business, and also offered an in-depth perspective on post-9/11 debates, discussions on inquiry commissions and acts passed in the US in reaction to the terrorist attacks.[279] Other studies focused more on the impact and effect of implementing specific tactical security measures and new technology at airports, rather than the overall impact of strategic-level legal and regulatory measures. In chapter 4, many of the authors cited above will offer their points of view on the context in which the evolution of the LRF is to be understood. Most aspects of the debates related to aviation terrorism have also been covered in two journals dedicated to the subject: *Aviation Security International Magazine* and the *Journal of Airport and Airline Security*.

2.3.6.3 Journalistic Sources

Many journalists have written on the subject of aviation terrorism. Among the notable investigators of attacks that marked the history of aviation terrorism are: (1) David Philips, author of *Skyjack*, *The Story of Air Piracy* wrote the story of the hijacking phenomenon that was very prominent in the late 1960s and early 1970s. His insightful account of the early series of attacks on civil aviation offers a precious perspective on the context of this epoch. His work is useful for grasping the magnitude of the problem with which international organizations and governments had to deal with at the time, and, with the help of hindsight, it offers an interesting perspective from which to evaluate ICAO's reaction time to catalytic events; (2) Kim Bolan, award-winning investigative reporter for the Vancouver Sun, covered the downing of Air India Flight 182 in 1985. Shedding light on international terrorism, her investigation explains how a political decision taken halfway around the globe could trigger a lethal terrorist attack elsewhere. In this case, it was the decision of the Indian government to launch a military assault against the Sikh's holiest place of worship in the city of Amritsar, Punjab, that later triggered the sabotage of two Air India flights departing from Canada, which killed

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276. Rodney Wallis, *How Safe Are Our Skies? Assessing the Airlines' Response to Terrorism* (Westport, CT: Praeger, 2003).
277. Jeffrey C. Price and Jeffrey S. Forrest, *Practical Aviation Security: Predicting and Preventing Future Threats* (Burlington, MA: Elsevier, 2009).
278. Kathleen M. Sweet, *Aviation and Airport Security: Terrorism and Safety Concerns* (Boca Raton, FL: CRC, 2009).
279. Bartholomew Elias, *Airport and Aviation Security: US Policy and Strategy in the Age of Global Terrorism* (Boca Raton, FL: CRC, 2010).

331 persons;[280] and (3) Matthew Carr, a journalist who has written on multiple violent conflicts in the world, offers a well-balanced perspective on the history of terrorism through the ages and presents an insightful account of the origins of the PFLP's interest for civil aviation.[281]

2.3.6.4 Governmental Sources

ICAO has played a leading role in the safety and security of civil aviation since its creation in 1944. Historically, governments have performed a regulatory role while air carriers and airports have provided security. As Coughlin writes, the airlines have usually been "responsible for security from the screening checkpoints to the aircraft, whereas the airports have been responsible for law enforcement and general security of the premises."[282] Private security firms acting as service providers usually accomplished the airlines' duties. In the 1960s, when the industry began facing a flood of attacks,[283] ICAO and many governments around the world began developing a new aviation security infrastructure, which was evidently reformed in the aftermath of the 9/11 attacks. Among other things, governments created national security authorities like the US Transportation Security Agency (TSA), the Canadian Air Transport Security Authority (CATSA), etc. Thereafter, governments, aviation security authorities, national and international committees, and courts commissioned studies, reports, and heard testimonies related to aviation terrorism and aviation security. Currently, these documents represent a great source of knowledge and information for researchers.

Aside from ICAO, whose sole responsibility is civil aviation, other international organizations and governments have been key contributors to the enhancement of knowledge about aviation security and aviation terrorism. The UN, the International Air Transport Association (IATA), the European Union (EU), the European Civil Aviation Committee (ECAC), the US General Accounting Office (GAO), and the US Congress are some of the most prolific authors on the subject.

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280. Kim Bolan, *Loss of Faith: How the Air India Bombers Got Away with Murder* (Toronto: McLelland & Stewart, 2005).

281. Matthew Carr, *The Infernal Machine: A History of Terrorism from the Assassination of Tsar Alexander II to Al-Qaeda* (New York: New Press, 2006), 199.

282. Cletus C. Coughlin, Jeffrey P. Cohen and Sarosh R. Khan, "Aviation Security and Terrorism: A Review of the Economic Issues," *Federal Reserve Bank of St. Louis Review*, 84:5 (September-October 2002): 9-25, http://www.questia.com.

283. In civil aviation parlance, attacks are called "unlawful interferences," a technical term used by ICAO for acts or attempted acts that jeopardize the safety of civil aviation (e.g., unlawful seizure of aircraft-in-flight or in-service; destruction of an aircraft-in-flight or in-service; forcible intrusion on board an aircraft, at an airport or on the premises of an aeronautical facility; introduction on board an aircraft or at an airport of a weapon or hazardous device for criminal purposes; and communication of false information jeopardizing the safety of an aircraft-in-flight or in-service, of passengers, crew, ground personnel or the general public, at an airport or on the premises of a civil aviation facility).

A search on the GAO website for "aviation security" yielded over 500 documents—but these related to all aspects of aviation security, not merely to aviation terrorism. The same search on the US Congress website provided nearly 2,000 results.[284]

2.3.6.5 Shortcomings in the Existing Research on Aviation Terrorism

In the existing research on terrorism, there are two major gaps in the study of aviation terrorism. These are: (1) empirical studies specifically addressing the impact of changes to the international legal and regulatory framework (the present dissertation aims at filling this gap in the literature), and (2) studies examining the tactic of aviation terrorism. Wallis writes, "history has shown that motivation to achieve good security frequently, perhaps normally, comes in the wake of tragic incidents."[285] Although the probability of an aviation security breach leading to a catastrophic event is relatively low, Birkland explains that when such attacks happen, it reinforces the idea that civil aviation is a desirable target for terrorists, and it reveals why it is in everyone's interest to ensure that the aviation security system prevents serious attacks.[286] As ATSD reveals, such attacks are a low probability, but if they happen, they have a high impact.

Step 3: Analyze Prevailing Definition of Aviation Terrorism

2.3.7 Hillel Avihai's Definition of Aviation Terrorism

As discussed above, Hillel Avihai is an academic who does distinctive research on global aviation terrorism. Like most authors addressing aviation terrorism, Avihai was faced with the absence of a consensus on the definition of aviation terrorism. It is worth emphasizing the fact that the comprehensive analysis of the 304 definitions discussed in section 2.3.2 resulted in the identification of only one definition specifically designed for aviation terrorism: Hillel Avihai's.[287] In fact, to the author's knowledge, no other scholar has specifically proposed a definition of aviation terrorism. Quite the reverse—the literature review showed that authors choose instead an all-purpose definition of terrorism and then connect it to civil aviation. Considering this, Avihai's work was a great contribution. For instance, he

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284. The search on the US GAO website showed that the vast majority of these publications were linked to topics associated with Homeland Security (265) and Transportation (25). http://www.gao.gov. The exploration of the US House of Representatives website displayed a wealth of information on topics as varied as: legislation, funding, technology, research and development, hearings, governance, etc. http://www.search.house.gov.
285. Wallis, *Combating Terrorism*, 79.
286. Birkland, *Lessons of Disaster*, 63.
287. Avihai, 35-36.

explored the characteristics and trends of aviation terrorism for the period of 1968-2004 and focused on the evolution of terrorists' MO, motives, and periods of operation. Along the way, he gathered information on 198 terrorist attacks against civil aviation.[288] His definition established the distinction between "aerial violence" (an act committed for the purposes of obtaining personal benefits and achieving other objectives), "aerial piracy" (illegal acts of violence committed for private ends by the crew or passengers of an aircraft), and aviation terrorism.[289] He laid out this definition:

> Aviation terrorism is a deliberately violent act, sometimes indiscriminate, aimed at commercial/civilian aircraft and/or against passengers and/or crew on board, conducted by individuals, clandestine agents or sub-national groups in order to promote general political objectives but not fulfill personal benefits exclusively.[290]

Avihai enhanced his definition of aviation terrorism by including five criteria that set terrorist attacks apart from criminal acts;
1. The act of violence is considered as a terrorist act;
2. The attack is aimed exclusively at an aircraft and/or its passengers;
3. The attack is against a civilian carrier only;
4. The attack was aimed at an international or domestic flight;
5. The action is conducted by sub-national groups and/or unofficial representatives.[291]

Avihai's analysis of thirteen definitions[292] allowed him to identify nine characteristics he deemed important to his own definition. These are: that
1. terrorism is aimed "*deliberately*" against <u>*civilians*</u> and *non-combatants* at the time of the event;
2. terrorism is related to a *political* issue;
3. terrorism is an ideology;[293]
4. the act contains *violent* action;
5. terrorism contains a *psychological* element;
6. the act is perpetrated by a *sub-national group*, *non-state entity*, *individuals* or *clandestine* agents;

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288. Avihai, 308-346. This was one of the seven databases used to create GACID/ATSD.
289. Ibid., 34.
290. Ibid., 35-36.
291. Ibid., 36-41.
292. Ibid., 12-13.
293. Stating that terrorism is an ideology is another concrete example of the confusion surrounding the concepts of ideology, strategies, tactics or MO discussed in Appendix C.

7. terrorist attacks are not meant in all cases to cause death of the hostages or people involved;
8. the "*indiscriminate*" element within terrorist activities;
9. terrorism may be conducted by individuals.[294]

Avihai further identified a series of MO used by terrorists targeting aviation. His list include hijackings or attempted hijacking (both against commercial and cargo aircraft), hostage taking, destroying aircraft after releasing hostages, on-board or in flight assassination, sabotage or sabotage attempt in the air or on the ground, flying aircraft into selected symbolic targets, and using aircraft as vehicles for the spread of Weapons of Mass Destruction, such as chemical or biological weapons.[295] These various MO can be consolidated in three categories: hijackings, sabotage, and suicide missions. However, awkwardly, this list does not cover attacks launched on or from the ground, even though the literature review persistently refers to catalytic attacks committed on the ground. The terrorist ground attacks listed in table 2.6 are etched in history as coordinated, deliberate and lethal attacks committed against civil aviation.

TABLE 2.6   Examples of Ground Attacks

Date	Description	Summary
1970-02-10	Munich airport	Airport bus transporting passengers to an El Al aircraft
1972-05-31	Lod airport, Israel	Terrorists had just deplaned and were still in the sterile area, pick up their weapons and started shooting
1976-08-08	Istanbul airport	Airport bus transporting passengers to an El Al aircraft
1985-12-27	Rome and Vienna airports	Two synchronized machine-gun and grenade attacks were aimed indiscriminately at passengers waiting at an El Al airline counter or waiting areas of both airports

Examples of important ground attacks against civil aviation are that of the 10 February 1970 and 11 August 1976 terrorist attacks, which deliberately targeted El Al passengers waiting to catch an airport bus driving them directly to or from an aircraft. Only a short distance away from their aircraft, they were attacked by a group of PFLP terrorists. Moreover, the 31 May 1972 attack at Lod airport in Israel, as well as the 27 December 1985 Rome and Vienna synchronized airport attacks were targeting identical groups of victims and were claimed by the same

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294. Avihai, 14-28. The words in italics represent variables listed in both Avihai's definition and table 1.1 of his book. Item 3 stating that terrorism is an ideology is irrelevant in the context of a definition. The variable labeled 'individuals' is repeated twice in items 6 and 9. In his book, Avihai emphasized the words 'deliberately' (item 1), and 'indiscriminate' (item 8) by putting them between single quotation marks.
295. Ibid., 36.

terrorist group.[296] Furthermore, Wadi Haddad, the mastermind behind the PFLP aviation terrorism tactic made clear that his group aimed at striking not only El Al planes, but also their check-in counters at airports and their offices away from these facilities.[297] These five ground attacks all demonstrate the importance of including this MO in any consideration of aviation terrorism as a phenomenon.

For this reason, and in line with the spirit of two ICAO legal instruments,[298] the present research will therefore incorporate in its database all potential targets in civil aviation (aircraft in-flight or in-service, ground assets, airport and its infrastructure, general aviation, cargo/mail, and civil air navigation facilities), and all attacks against civil aviation that use the ground attack MO. Based on the above discussion, four MO will be examined: (1) Ground attacks, (2) Hijackings, (3) Sabotage, and (4) Suicide Missions.

2.3.7.1 Assessing Avihai's Five Criteria[299]

1. **The act of violence is considered as a terrorist act:** Although it is difficult to "prove" that any given attack deliberately targeted civilians, this aspect is nonetheless fundamental to any study regarding terrorism. In fact, it is probably the first reason supporting the need to find a working definition of aviation terrorism with regard to the present research. Avihai contends that to be considered terrorists, attackers need to fulfil three conditions: (1) they must have no prior intention of terrorizing "innocent" (sic) civilians, (2) there must be no political ideology involved, and (3) they must demonstrate altruism, in the sense that the attacker must not receive any personal gain from the attack. However, his three conditions imply three necessary actions: (1) proving the "deliberate" intention of the attacker, (2) investigating whether or not the attacker had "no prior intention of terrorizing innocent civilians," and (3) knowing whether or not the attacker adhered to any "political ideology."[300] This raises a baffling question: how is it possible for a researcher to "prove" any of the three elements?

2. **The attack is aimed exclusively at an aircraft and/or its passengers:** Considering that Avihai's study makes this criterion a keystone of his research, it is awkward that this rule does not include all attacks directly and indirectly involving the global civil aviation environment the way ICAO does.

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296. Since they are catalytic attacks, the Lod, Rome and Vienna attacks will be discussed further in chapter 3.
297. Carr, 199.
298. Montréal Convention 1971; and particularly art. 2 of Montréal Protocol 1988.
299. Avihai, 36-41.
300. Ibid., 37.

3. **The attack is against a civilian carrier only:** This point reflects Article 3 of the Chicago Convention 1944 and will also be used in the present research.
4. **The attack was aimed at an international or domestic flight:** This point also reflects the terms of the Chicago Convention 1944 and its Annex 17. Therefore, it will be used in this research.
5. **The action is conducted by sub-national groups and/or unofficial representatives:** Although his arguments are weak and the notion of terrorist actors is blurred, the examples presented by Avihai in support of this criterion are valid and this variable will therefore be used in this research.

2.3.7.2   Assessing Avihai's Nine Characteristics[301]

Avihai develops nine characteristics that complement his five criteria, and touch on three points crucial to a desirable definition of aviation terrorism (the presence of non-state actors, civil aviation, and violence). However, many of the characteristics are a repetition of ideas developed in the five criteria. At best, they emphasize fundamental aspects of what constitutes aviation terrorism. For example, they present defining features of the perpetrators (non-combatants, sub-national group, non-state entities, individuals); they highlight violent acts (indiscriminate and deliberate targeting of civilians, not necessarily causing death but creating psychological effects); and they emphasize the political character as the definitive attribute of terrorist attacks. However, although both criteria and characteristics make for a decent description of what constitutes an aviation terrorist attack, including all these features would result in an excessively long definition.

2.3.7.3   Inadequacies of Avihai's Definition

Bearing in mind the materiality, relevancy, impartiality, and simplicity criteria discussed in section 2.3.3.3, and after a close examination of Avihai's work, it was deemed that his definition contained too many shortcomings to be used in the present research on aviation terrorism. The points of contention relate to five core aspects of his definition:

1. **Non-inclusive:** Avihai makes the aircraft the sole criterion on which his aviation terrorism definition establishes the grounds on which to decide if an attack is terrorism-related or not. Thus, all other types of attack not involving an aircraft are excluded (i.e., at an airport, on civil air navigation-communication facilities, etc.) Yet, the Montréal Protocol 1988 specifically covers acts of violence committed at airports serving international civil aviation (including terminal installations, gates, waiting areas, parking lots, civil air navigation systems, air communication

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301. Avihai, 14-27.

facilities, etc.). Hence, his definition is too restrictive and contrary to the spirit and provisions of many ICAO legal instruments as it fails to reflect the entire range of civil aviation services. Furthermore, it simply disregards conspicuous, catastrophic, and historical events that have left indelible scars on civil aviation.[302]

2. **Outcome-oriented:** Rejecting a plot, failed, foiled, or thwarted attack[303] is counter-productive with respect to the objective of this study. Their exclusion from ATSD because of the narrowness of the definition hinders the discovery of a thorough answer to the research question, which aims at assessing the impact of the LRF on aviation terrorism. Engelhardt makes a strong argument when he explains that, in the context of asymmetrical warfare, terrorists never have to strike an actual target or even build a bomb that works.[304] They simply have to say they will do such things to move the tectonic plate of aviation security. This idea was exemplified with the 2010 UPS and FedEx attacks.[305] The US reaction gave al-Qaeda the opportunity to mock the authorities for calling these attacks a "foiled plot," as it cost America and other Western countries billions of dollars in new security measures.[306] It is only by dwelling on the reasons for the interruption of all terrorist attacks, effective or not, that an answer to the research question can be found.

3. **Motivation-driven:** Even though they are often related to each other, intent should not be mistaken with motive. For the purpose of this research, a definition of aviation terrorism should only seek to answer the following question: *what* did the terrorist(s) *want* or *intend* to happen? (Intent). The *intent* to cause harm or damages, to terrorize, and possibly to coerce authorities into concessions *for political reasons* is what defines a terrorist attack. Given that a terrorist attack is always politically motivated, there is no need to further investigate *why* an attack was perpetrated (Motive) as Avihai suggests. A motive is an idea located upstream, which may never come to completion. It precedes intent in terms of action and is the reason behind the attack, but has no legal standing.[307] Intent is based on facts and actions (terrorists took up arms, hijacked an aircraft, and shot

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302. For examples of Avihai's disregarded catastrophic airport attacks, *see* table 2.6.
303. For more details, s*ee* Appendix E, *Plotted, Foiled, Thwarted, or Failed attacks*.
304. Tom Engelhardt, *The United States of Fear* (Chicago: Haymarket, 2011), 23.
305. On 29 October 2010, two packages, each containing a bomb made of plastic explosives and detonating mechanisms were found on separate cargo planes. They were bound from Yemen to the United States, and were discovered at en route stopovers, one in the UK and one in Dubai, UAE. Each bomb had already been transported on both passengers and cargo planes.
306. [AQAP], "$4,200," *Inspire Magazine,* Special Edition, November 2010, 15.
307. In a court of law, the motive only plays a role in aggravating or mitigating the sentence.

people). Intent resides in the field of law alongside means and opportunity, it is the final step between idea and deed, and it reveals a guilty state of mind or deliberate determination to commit a crime. For example, an attack against an aircraft in-flight impairs the live of people; thus it is deemed that the mere perpetration of the attack involves intent. Simply put, Ekaterina Stepanova argues that "there are no terrorist goals; there are terrorist means,"[308] and these means are unlawful. This opinion finds echo in Article 1(2) of the *Arab Convention on the Suppression of Terrorism* (22 April 1998) stipulating that terrorism is: "any act or threat of violence, *whatever its motives or purpose* [italics added], that occurs in the advancement of an individual or collective criminal agenda and seeking to sow panic among people, causing fear by harming them, or placing their lives, liberty or security in danger, or seeking to cause damage…"[309]

4. **Narrowly-focused:** As discussed at length in section 2.3.3 above, the present research examined 304 definitions and identified 26 singular and essential variables of terrorism. Many of them were related to both terrorism and aviation terrorism.[310] Conversely, Avihai's analysis only covered 13 definitions, out of which he developed five criteria, nine characteristics, and 11 core variables of terrorism. Moreover, three of the most often quoted variables are not included: fear, influence (in the sense of coercion), and Target Audience (in the sense of wider audience).[311] This dissertation must necessarily go beyond the narrow scope of Avihai's research.

5. **Discourse-reliant:** With his definition, criteria, characteristics, and comments, Avihai's definition is quite long. Against this, Schmid and Jongman, recognized by many to be the authority in the field, suggest that a definition must be a short stand-alone text, sufficiently complete to not require any other material to substantiate its meaning.[312]

These five shortcomings have important consequences. For example, any database on aviation terrorism built with incomplete data (as would necessarily

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308. Schmid, *Handbook*, 20.
309. Donald J. Musch, *International Terrorism Agreements: Documents and Commentary* (Dobbs Ferry, NY: Oceana, 2004), 294.
310. Many authors have identified the following terrorism variables, which are also applicable to aviation terrorism: recurrent victimization (repeatedly targeting specific airlines or flights), MO and weapons (hijackings, Manpads), innovation (suicide missions), spectacular or theatrical attacks (Skyjack Sunday, 9/11), and symbolic and functional significance (national carriers, Twin Towers, civil air navigation services). *See* table 2.3.
311. The last segment of this research's analysis dissected 113 definitions and the seven most mentioned key words were: violence (97), political (57), fear (41), influence (40), target audience (36), deliberate (31), and civilians (31).
312. Schmid and Jongman, 28.

follow from using Avihai's too-narrow definition of aviation terrorism) undermines the trustworthiness of the tool, and lessens the universality of conclusions. It also hinders the creation of sufficient data and knowledge to find ways to thwart aviation terrorism.

<div style="border:1px solid black; text-align:center;">

Step 4: Assess Core Components

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Since no definition of aviation terrorism suitable for the present research was found, the author decided to create one. This was crucial in the context of this study because the chosen definition helps to delineate what counts as a criminal or a terrorist act throughout this research. In general terms, crimes always fall under national jurisdiction while the general orientation and strategy of how to thwart aviation terrorism is developed at the international level. In other words, the advantage of having such a definition is that it helps to create objective criterion for evaluating the international initiatives. If an act of unlawful interference against civil aviation is not related to terrorism, it falls under national jurisdiction. As it will be discussed in chapter 4, this demarcation also facilitates the appraisal of the quantity, quality, and effectiveness of international efforts put forward to address aviation terrorism. This element is core to the current study.

2.3.8 Selection Process for an Appropriate Definition

At this point, a process was developed to shape a definition of aviation terrorism. The chosen approach was to (1) review all 29 selected definitions discussed in section 2.3.4 in order to identify, select, and confirm agreed-upon variables, as well as adapt or add variables explicitly associated with civil aviation; (2) use pertinent components, criteria and characteristics of Tinnes and Avihai's definitions; (3) blend all identified variables into a single list, eliminate redundancy, and evaluate each individual characteristic; (4) from this list, to identify wide-ranging themes and make them axioms; (5) with the remaining variables, to select those supporting each axiom, and assess their relevance and features; (6) use the newly identified axioms and variables to create an appropriate definition of aviation terrorism; (7) test the validity of the created definition by analyzing nine catalytic terrorist attacks representing the four MO,[313] and make adjustments if necessary; and (8) finally, to

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313. The new definition was tested in accordance with the four criteria developed in sec. 2.3.3.3. Since the definition already addressed the materiality criterion (civil aviation), the three remaining criteria (relevancy, impartiality, and simplicity) were appraised in nine catalytic attacks selected according to four conditions: historical context, target selection, innovation and reaction by authorities. Each of them embodies or explains a crucial trend in aviation terrorism that seems to have had a catalytic effect on the aviation international legal and regulatory frameworks (*see* sec. 3.4.5 for more details). The selected attacks are: (1) Hijackings: 23 July 1968 - El Al Flight 426, 6-9 September 1970 - Skyjack Sunday, and 14

create a new figure illustrating all the axioms and variables specifically related to aviation terrorism.

2.3.8.1 Framework for a Definition of Aviation Terrorism

According to Schmid, "the art of making a good definition is to include as few elements as possible but also as many as necessary," without succumbing to the temptation of drafting a description instead of a definition.[314] The literature review and the selection process discussed in the previous section led to the identification of ten axioms divided into three clusters:

1. *Targets of attacks:* Influence (Civil Aviation), Violence, Terror, Demands, and Choice (Civilians)
2. *Features of attacks*: Violence, Politics, Intentionality, and Systematicity
3. *Perpetrators of attacks*: Non-State Actors

These axioms and their associated variables will show the complexity of what is at stake when an attack on civil aviation is launched. They will also unveil the intricate character of the various actors involved. Moreover, the newly created definition will also add, differentiate, classify, and simplify a variety of elements belonging to the specific tactic of aviation terrorism, while excluding other unrelated ones.

2.3.8.2 Schmid and Jongman: Incorporating Targets into a Definition

Schmid and Jongman accomplished an important breakthrough in 1988 when, determined to build a consensus on a definition of terrorism, they introduced the notion of targets into their conceptual discussion.[315] It was a break away step from endless definitional bewilderment because it provided an innovative means of characterizing major components of an attack. Although the concept of targets has evolved since Schmid and Jongman first introduced it, it nevertheless offers a solid starting point for refining a suitable definition of aviation terrorism. In the beginning, they explored five different types of targets and labelled them as follows:

1. Target of violence (direct targets of violence are not the main targets);
2. Target of opportunity (victims usually chosen randomly);

June 1985 - TWA 847; (2) Ground Attacks: 30 May 1972 - Lod Airport massacre, and 27 December 1985 - Vienna-Rome synchronized airport attacks; (3) Sabotage: 22 June 1985 - Air India Flight 182, and 21 December 1988 - Pan Am 103; (4) Suicide Missions: 9/11 in 2001, and 10 August 2006 - Liquids and Gels (LAGs) Plot. From an empirical perspective, the definition revealed itself to be a trusting evaluation tool to demarcate a terrorist act from a criminal one with a worthy degree of certainty.

314. Schmid, *Handbook*, 61, 73.
315. Schmid and Jongman, 28.

3. Symbolic target (victims are chosen selectively from a target population);
4. Target of terror (main targets are used to manipulate a distant audience);
5. Target of demands (or target of attention, are those who are coerced).

The "target of violence" is composed of victims directly encountering the aggressors. During an attack, they become the terrorists' bargaining chips in dealings with authorities. As Richardson notes, "The victim of the violence and the audience the terrorists are trying to reach are not the same."[316] The distant audience watching a terrorist attack as it unfolds is the one that terrorists want to impress. The "target of opportunity" refers to the idea that victims are chosen randomly. For example, this happens when passengers become hostages during a hijacking attack that originally targeted the airline company or the country it represents. When the victims are selected because of whom they are (state representatives, heads of agencies, etc.) or whom they represent (e.g. functional targets like defence HQ, military or police staffs, security systems, etc.) they are called "symbolic victims." Finally, the "target of demands" is the group of people or authorities that terrorists wish to influence or coerce into complying with their requests during an attack. In the case of aviation terrorism, this would be the airline company responsible for the security of their passengers and crew onboard the aircraft or the government being requested to act in order to solve the crisis. In 1988, Schmid and Jongman also identified four core components of any definition of terrorism:

1. Psychological methods (anxiety-inspiring method);
2. Repeated attacks (repeated violent action);
3. Aggressors ("semi-" clandestine individuals, groups, or state actors);
4. Motives (idiosyncratic, criminal, or political reasons).[317]

Although a list of nine items usually makes for a long and broad definition, which is always subject to criticism, this particular list of targets and characteristics has the great advantage of succinctly including the many aspects of a terrorist attack. This is why all these notions will be considered in the selected aviation terrorism definition.

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316. Richardson, 5. It is her sixth characteristic.
317. Schmid and Jongman, 28.

Step 5: Identify Main Characteristics of Existing Definitions

2.3.9 Consolidated Aviation Terrorism Characteristics (CATC)

Schmid and Jongman explain that "a definition is basically an equation: a new, unknown, or ill-understood term (the definiendum) is described (defined) by a combination of at least two old, known, understandable terms (the definiens)."[318] Gibbs makes an important point when addressing the importance of brevity: "defining terrorism is a humongous challenge when considering the task of capturing the main concepts using [the] simplest words in one brief sentence."[319] In this sense, there is a degree of consensus (if not in the wording), at least in the work of academic researchers such as Schmid and Jongman, Tinnes, and Avihai. Based on the analysis of the literature review, table 2.7 is an integrative effort to categorize the most important characteristics of aviation terrorism. Ten generally accepted definitional axioms were identified, and sometimes rephrased to better describe an idea related to aviation terrorism. Together, they support a definition of aviation terrorism as a distinct form of political violence. These axioms are:

TABLE 2.7   Definitional Axioms

Targets of Attacks	Features of Attacks
1) Target of Interest (Civil aviation)	6) Violence
2) Target of Violence (Direct victims)	7) Politics
3) Target of Terror (Distant audience)	8) Intentionality
4) Target of Demands (Those coerced)	9) Systematicity
5) Target of Choice (Civilians)	**Perpetrators of Attacks**
	10) Non-State actors

Targets of Attacks

1. Target of Interest (Civil Aviation)

A terrorist attack has many targets. Milde contends that, "the real target of terrorist attacks is not the airline itself but the State it represents."[320]
Aviation Infrastructure. This variable comprises all assets, activities, and civil infrastructure (aircraft, airport and vicinity, civil air navigation facilities). Groenewege defines a civil aircraft as "any aircraft, excluding government and

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318. Schmid and Jongman, 5.
319. Gibbs, 64. He suggests that "in keeping with a social science tradition, most definitions of terrorism are set forth in a fairly brief sentence."
320. Michael Milde, "The International Fight Against Terrorism in the Air," chap. 12 in *The Use of Airspace and Outer Space for all Mankind in the 21st Century*, ed. Chia-Jui Cheng (Cambridge, MA: Kluwer Law International, 1995), 157.

military aircraft, used for the carriage of passengers, baggage, cargo and mail"; and civil aviation as "all aviation activities other than government and military air services."[321]

Economy. Mockaitis argues that terrorism is not only socially and emotionally debilitating, but also very expensive.[322] Terrorists understand the effects of attacks against civil aviation on the economy and capitalize on this, knowing that all the security measures implemented cannot prevent or deter all attacks.

Commercial Activities. One aspect of aviation terrorism that is not frequently addressed is the potential for terrorists to strike crucial components of the aviation infrastructure beyond the aircraft in order to destabilize the industry financially. According to one definition, their aim is to jeopardize the life, freedom, and the physical, material, and moral well-being of the traveling public.[323]

2. Target of Violence (Direct Victims)

The notion of the *Target of Violence* addressed by Schmid is a distinguishing trait of unilateral attacks by the armed against the unarmed and defenceless.[324] These powerless people are instrumental victims and play a central role in all acts of terrorism.

Direct Victims. In the context of aviation terrorism, the direct victims of violence are those confronted by the perpetrators; they are usually unknown to the attackers until the very last moment. According to Schmid and Jongman, they are chosen randomly (targets of opportunity) or selectively (representative, functional, or symbolic targets).[325]

Eyewitnesses. This variable refers to the people who are direct witnesses to an act of terror (Near Audience), not to the millions of people watching in the media (Distant Audience). Because they see others go through terrible things, Howie claims that these "targets are the living witnesses, those that die in the pursuit are a means to an end."[326]

Symbolic Victims. Martin claims that terrorists consider airline passengers as legitimate symbolic targets, which makes terrorizing or killing them justifiable in their minds.[327] In contrast to "assassination, which aims at having the victim dead, terrorism does not care about the victim itself because these unlucky few are not the real targets."[328]

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321. Groenewege, 536. *See also* his chap. 5, 373-845.

322. Mockaitis, xiii.

323. *See* "Inter-American Convention against Terrorism (draft)," in Schmid, *Handbook,* 140.

324. Schmid, *Handbook ,* 47, 125.

325. Ibid., 130.

326. Luke Howie, *Witnesses to Terror: Understanding the Meanings and Consequences of Terrorism* (New York: Palgrave Macmillan, 2012), 30.

327. Martin, *Understanding Terrorism*, 276.

328. Schmid, *Handbook*, 62.

3. **Target of Terror (Distant Audience)**

Target of Terror includes any victims affected by the terrorist's ruthlessness, cruelty, excessive destructiveness, and surprise.[329] Hacker contends that terror and terrorism share the ruthless use of violence and a clearly demonstrated indifference towards human life.[330]

Wider Audience. Terrorists want their violence to be theatrical and watched so that they can influence an audience beyond the direct victims. Maximizing fear and spreading terror to other people not directly involved in incidents helps terrorist groups garner additional support and sympathy for their cause through media attention.[331]

Creation of Insecurity. Crenshaw-Hutchison argues that terrorism upsets the social fabric and undermines predictability in social relations, thus creating insecurity and instability in the community. The level of trust between community members is reduced and individuals turn inward, concentrating on their own survival.[332]

Creation of Despair. Howie explains that terrorism causes people to feel terror, the name given to the uncertainty felt in the face of global violence. He adds that if terrorism does not cause terror, then it is not terrorism.[333]

4. **Target of Demands (Those coerced)**

What makes terrorism different and complex is that the terrorist actor can move and remove the target of violence while also freezing and immobilizing the target of terror, impacting the target of demands and manipulating the target of attention (or target of interest).[334]

Negotiators. Negotiators interact directly with terrorists, but are not decision makers. Decisions are always deferred to a higher authority. Their task is to mediate, pacify the situation, and reclaim control of the crisis. The period of hijackings in the 1970s showed it was through negotiators that catastrophic situations were solved or went wrong.[335]

Governments/Authorities. During a terrorist crisis, governments have to make the pivotal decision to negotiate or not negotiate with violent non-state actors. If they do, this grants legitimacy to terrorists. If they do not, they put people at

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329. Schmid, *Handbook*, 82.
330. Friedrich Hacker, "Terror: Mythos, Realität, Analyse (1973)," in Schmid, *Handbook*, 105-106.
331. Wallis, *Safe Skies*, locators 207 and 222.
332. Martha Crenshaw Hutchinson, "The concept of revolutionary terrorism," *Journal of Conflict Resolution*, 16:3 (September 1972): 383-396.
333. Howie, *Witnesses to Terror*, 28.
334. Dilip K. Das and Peter C. Kratcoski, eds, *Meeting the Challenges of Global Terrorism: Prevention, Control, and Recovery* (Oxford, UK: Lexington, 2003), 36.
335. The TWA Flight 847 hijacking is a textbook example of the use of aviation as a terrorist tool.

risk. Coercing governments by threatening the lives of non-combatant victims puts an enormous burden on decision makers' shoulders.

Aviation Industry. Terrorist attacks have major repercussions on the aviation industry. During such a crisis, the airline company (the target of interest) is caught between the government(s) and the terrorist(s). In the 1970s, the pressure was so high that two airline companies chose to make large payments to the PFLP in return for not attacking their aircraft.[336]

5. Target of Choice (Civilians)

Attacking civilians is a way for terrorists to challenge human rights as well as the rule of law. It usually triggers swift reactions from countries whose citizens are affected by the attack. In this way, "terrorism differs from ordinary criminal violence in its targeting and intended effects."[337]

Non-Combatants. The term "Non-Combatant" includes both "civilians as well as military personnel (whether or not armed or on duty) who are not deployed in a war zone or a war-like setting."[338] The UN uses similar terms as in the US definition to describe a specific category of victims: "a civilian or any other person not taking an active part in the hostilities in a situation of armed conflict."[339] Although it refers to this category of persons, it never uses the term non-combatant.

Indiscriminate Selection. Regardless of motive, means, or scope, an attack is usually indiscriminate in the sense that it is launched regardless of who could become a casualty.[340]

Bargaining Chip. By attacking civilians, terrorists are sure to get publicity and attract media attention. As Howie explains, "terrorism can be seen as theater for the living, but those who die in a terrorist attack are instrumental victims that terrorists use as messages generators."[341] As governments and authorities must react rapidly to end a crisis situation involving victims of terrorism, civilians are becoming increasingly valuable victims to terrorists.

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336. Carr, 199; Mark Ensalaco, *Middle Eastern Terrorism: From Black September to September 11* (Philadelphia, PA: University of Pennsylvania Press, 2008), 17.
337. Anderson, 281.
338. US Department of State, "Legislative Requirements and Key Terms," chap. 7 in *Country reports on terrorism 2007* (April 2008): 310-312. http://www.state.gov.
339. UN, *International Convention for the Suppression of the Financing of Terrorism*, art. 2, para. 1 (b), adopted by the UN General Assembly on 9 December 1999 and entered into force 10 April 2002.
340. Schmid, *Handbook,* 125-126, 129-130.
341. Luke Howie, "Real Fiction: Witnessing terrorism without violence" (paper presented at The Australian and New Zealand Sociological Associations, Auckland, NZ, December 2007).

Features of Attacks

6. Violence

Violence is an important aspect of terrorism, which includes an actual attack or the credible threat of one. Violence can take many forms during and after a terrorist attack.

Fear. Jenkins, a leading scholar in the field of terrorism, has addressed the issue of fear in many different ways since 1975. He asserts that: (1) "…violence designed primarily to instil fear—to terrorize—may be called terrorism;" (2) "terrorism is violence or the threat of violence calculated to create an atmosphere of fear and alarm—in a word, to terrorize;" and (3) "it is aimed at people watching."[342] For Aly and Balnaves

> fear is perhaps the most intense of human emotion and can manifest itself in a variety of ways: a rationale response to an imaginary danger; it can paralyze or it can motivate; it can serve a political purpose or it can serve a deep psychological need, it can be instinctive, inherent to our psychological makeup or it can be historically specific.[343]

Neumann and Smith rightly assert that terror is a description of a particular kind of extreme fear, which consequently makes terrorism refer to the creation, or attempted creation, of that sense of fear.[344] Fromkin contends that, "Force usually generates fear, and fear is usually an additional weapon. But terrorism employs the weapon of fear in a special and complicated sort of way."[345]

Physical/Psychological Effects. For Chaliand, terrorism is a particular form of psychological warfare; a battle of wills played out in people's minds.[346] Crenshaw contends that terrorists' aim at creating fear and hostility in an

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342. Brian M. Jenkins, *International Terrorism: A New Model of Conflict* (Los Angeles: Crescent, 1975), 1-2. He is also the author of: "International Terrorism: The Other World War," chap. 1 in *The New Global Terrorism: Characteristics, Causes, and Controls*, ed. Charles W. Kegley Jr. (Upper Saddle River, NJ: Prentice Hall, 2003), 16.

343. Anne Aly and Mark Balnaves, "They want us to be afraid: Developing a Metric for the Fear of Terrorism," *International Journal of Diversity in Organizations, Communities and Nations*, 6:6 (2007): 113-114.

344. Peter R. Neumann and M. L. R. Smith, *The Strategy of Terrorism: How it Works, and Why it Fails* (New York: Routledge, 2008), 1.

345. David Fromkin, "The Strategy of Terrorism," *Foreign Affairs*, 53:4, (July 1975), http://www.foreignaffairs.com.

346. Gerard Chaliand, *Terrorism: From Popular Struggle to Media Spectacle* (London: Saqi Books, 1987), 107-112, as quoted in Neumann and Smith, *Strategy of Terrorism,* 8.

audience identified as the "enemy."[347] Adler and Denmark argue that terrorism is an MO using violence against selected victims to deliberately create psychological effects.[348]

Intimidation. The ancient Chinese proverb "*Kill one, frighten ten thousand*" perhaps best captures the fundamental aim of intimidation in terrorism.[349] According to Waldron, there are important differences between coercion, on the one hand, and terror and terrorization, on the other. The latter is an action that induces "desperate panic and overwhelms a person's rational decision-making capability, and distinguishes it from coercion, which concerns actions that leave room for rational deliberation on the part of the victim."[350]

7.   Politics

Political objectives are the *raison d'être* of terrorism. A striking example of this is the bold political statement made by the PFLP with the hijacking of El Al Flight 426 on 23 July 1968.[351] Such a political statement distinguishes the terrorist act from the criminal act.

Propaganda of the Deed. The existence of terrorists is based on the actions they undertake. It is their way to communicate their message to the population, to demonstrate their existence, and to show their strength. Knowing their attacks are a provocation, they hope to incite governments into overreactions that would further help the terrorists' cause.

Undermining Governments. Richardson suggests that terrorist groups very often act with the intent of undermining the legitimacy of the state.[352] Terrorists seek to humiliate their enemies, as it is for them "a source of power and perpetuation for their cause by enabling them to attract new recruits, cause political concessions."[353]

Seeking Reaction. If the State retaliates forcefully, this often stimulates terrorists even more. This is one important difference between criminals and

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347. Martha Crenshaw, "The Causes of Terrorism," chap. 7 in *Terrorism Studies: A Reader*, eds John Horgan and Kurt Braddock (New York: Routledge, 2011), 104.

348. Sarlito Wirawan Sarwono, "Violence in Indonesia," chap. 6 in *International Perspective on Violence,* eds Leonore Loeb Adler and Florence L. Denmark (Westport, CT: Praeger, 2004), 105.

349. Richard L. Clutterbuck, *Terrorism in an Unstable World* (New York, Routledge, 1994), 3.

350. Jeremy Waldron, "Terrorism and the uses of terror," *Journal of Ethics*, 8:1 (2004): 11-12. For a thorough perspective *see* pp. 5-35. *See also* Tamar Meisels, *The Trouble with Terror: liberty, security and the response to terrorism* (New York: Cambridge University Press, 2008), 9.

351. Hoffman, *Inside Terrorism* 1998, 67.

352. Richardson, 78.

353. Chris Eisenbies, "What Terrorist Want: Understanding the Enemy, Containing the Threat," *Air and Space Power Journal*, 22:2 (Summer 2008): 108-109.

terrorists, as the former usually commit crimes without worrying how lawmakers will react, while the latter often attack in order to generate a reaction from the authorities.[354]

8. Intentionality

This axiom refers to the intention of the perpetrators, not to the consequences of their attack. Because it is a highly spectacular, theatrical, and strategic act of violence, a terrorist attack targeting civil aviation is never spontaneous.

Premeditated. Terrorists targeting civil aviation focus on high profile and symbolic targets. In order to avoid setbacks, "such sophisticated attacks require multiple operatives and longer planning cycles [rather] than a simply constructed, less-spectacular plan."[355]

Deliberate. "Terror and terrorism very rarely represent senseless, explosive outbursts, symptomatically signifying loss of control, but are predominantly instances of strategic, deliberate purposeful aggression, carefully timed and figured out to produce optimal results, that is, maximal audience reaction and participation."[356]

Innovative. Terrorists targeting civil aviation always try to overcome security measures using new technologies, to alter and improve their approach, and to find ways to improve their already-existing capabilities.[357] In their search to exploit vulnerabilities, terrorists will adjust their MO. For example, when explosive detection systems were implemented at airports in reaction to previous attacks, terrorists found innovative methods in order to conceal their devices.[358]

9. Systematicity

Drake contends that, "ideology supplies terrorists with an initial motive for action and provides a prism through which they view events and the actions of other people."[359] Terrorists usually follow a pattern according to their ideology,

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354. LaFree and Dugan, 66.
355. Lauren B. O'Brien, "The Evolution of Terrorism since 9/11," *FBI Law Enforcement Bulletin* (September 2011), http://www.fbi.gov.
356. Frederick J. Hacker, "Terror and Terrorism: Modern Growth Industry and Mass Entertainment," *Terrorism: An International Journal*, 4:1-4 (1980): 144.
357. Dolnik, 6.
358. Explosives have been concealed in a wide variety of objects like: (1) *Suitcase* (booby-trapped): 28 July 1971, El Al flight; (2) *Cake*: 1 September 1971, El Al flight; (3) *Radio*: 23 June 1985, Air India 182; (4) *Eyes-contact lenses bottle*: 11 December 1994, Philippine Airlines; (5) *Shoes*: 22 December 2001, American Airlines 63; (6) *Beverage bottle*: 10 August 2006, multiple flights from the UK; (7) *Underwear*: 25 December 2009, Northwest Airlines 253; and (8) *Printer Cartridges*: 29 October 2010, FedEx and UPS.
359. C. J. M. Drake, "The Role of Ideology in Terrorists: Target Selection," *Terrorism and Political Violence*, 10:2 (Summer 1998): 53.

strategy, tactics, and preferred MO. All of these criteria leave a particular signature and reveal the evolution of a terrorist campaign.

Terrorist campaign. Terrorism can be understood as a form of sustained violence. Knowing whom the enemy is enables one to know if an attack is part of a broader plan or if it is an isolated incident. However, the most lethal terrorist groups involved in long-term campaigns have a propensity to use creativity and innovation as a hallmark of their trade.[360]

Communicating a Message. Terrorist acts are used to garner attention and publicity in order to communicate a message to the largest population possible about the terrorists' cause, ideology, and objectives. Attacks can become massive media events ensuring terrorists remain in the spotlight for a while. Richardson believes that terrorists aim at sending a message rather than at defeating an enemy.[361]

Recurrent targets. Civil aviation was an obsession for the PFLP in the late 1960s and 1970s. Later, the Twin Towers in New York City became a fixation for al-Qaeda. Consistently targeting the same targets also leaves the attackers' particular signature.

Perpetrators of Attacks

10.   Non-State Actors

Burleigh explains that terrorism is "primarily used by non-state actors to create a psychological climate of fear in order to compensate for the legitimate political power they do not possess."[362] Engene further explains that terrorism has to do with the means employed, not the identity of the actor or his motives for employing violence.[363]

Attackers. Terrorist groups incite individuals, like lone wolves or lone attackers, to commit terrorist acts without following specific orders or chains of command. Although lone wolves have been involved in terrorism in the past,[364] LaFree and Dugan argue that most terrorist activity is committed by

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360. James J. F. Forest, "The Modern Terrorist Threat to Aviation Security," *Perspectives on Terrorism*, 1:6 (2007), http://www.terrorismanalysts.com.

361. Richardson, 81.

362. Michael Burleigh, *Blood and Rage: A Cultural History of Terrorism* (New York: Harper Perennial, 2010), xiii.

363. Jan Oskar Engene, *Terrorism in Western Europe: Explaining the Trends since 1950* (Cheltenham, UK: Edward Elgar, 2004), 12.

364. Lone wolves really act alone from start to finish. They are most often involved in ground attacks perpetrated ahead of the security screening area of an airport. Although they appear to be acting alone, lone attackers are different because there are always supported by conspirators involved with them before, during, and after an attack. The best example of such a case is the 25 December 2009 attack, by Umar Farouk Abdulmutallab, the 'Underwear Bomber.' Trained in Yemen, given an already prepared innovative explosive device by a skilled bomb maker, helped to prepare his travel itinerary to go through three

groups of individuals whose membership is dynamic.[365] Nevertheless, single actors (*Lone wolves* or *Lone attackers*) continue to perpetrate terrorist attacks.[366]

Clandestine (or semi-clandestine). In contrast to criminal organizations, terrorist groups are distinguished by the isolation of their practitioners and by their clandestine operations. Although both operate in secrecy, criminal operations are based on the creation and continuing existence of broad network of groups and individuals amenable to buying their products and services. In contrast, terrorist groups need to be totally clandestine so their plan can go undetected until the very last moment. Zwerman et al. studied sixteen terrorist groups that all went underground because there was, inter alia, a climate of intense police and state activity intended to chill dissent, and increase repression.[367]

Conspirators. The notion of the perpetrator extends far beyond the individual "pulling the trigger".[368] It includes the mastermind of the operation and all those involved in planning, funding, supporting (before, during and after the attack), and cooperating with those committing the terrorist act. A good example of the wide network of conspirators is the case of Richard Reid, the "Shoe Bomber." When Saajid Badat was arrested, it was revealed that he was a second "would-be plane Shoe Bomber," a part of a wider plan. Both Reid and Badat worked with the same planners and handlers, although they did not know about each other.[369]

different countries in order to avoid detection before the last leg of his mission, and guided through Amsterdam airport by a conspirator—these facts are all evidence that he was not acting as a "lone wolf" coming out of nowhere. He was a lone attacker with team and a plan behind his attack.

365. LaFree and Dugan, 68. This is supported by Martha Crenshaw, "The Psychology of Terrorism: An Agenda for the 21st Century," *Political Psychology*, 21:2 (June 2000): 409.

366. For further discussion on this issue, *see* Jeffrey Kaplan, Helen Lööw, and Leena Malkki, "Introduction to the Special Issue on Lone Wolf and Autonomous Cell Terrorism," *Terrorism and Political Violence*, 26:1 (2014); Jeffrey D. Simon, *Lone Wolf Terrorism: Understanding the Growing Threat* (Amherst, NY: Prometheus), 2013; George Michael, *Lone Wolf Terror and the Rise of Leaderless Resistance* (Nashville: Vanderbilt University Press, 2012); Ramon Spaaij, *Understanding Lone Wolf Terrorism: Global Patterns, Motivations and Prevention* (New York: Springer, 2011).

367. Zwerman et al. "Disappearing Social Movements" *Mobilization: An International Journal*, 5:1 (2000): 93.

368. The Hague Convention 1970, Art. 1, and Montréal Convention 1971, Art. 1.

369. BBC News, "Terrorist suspect admits plane plot," 28 February 2005. http://www.newsbbc.co.uk.

2.3.10 State-Sponsored Civil Aviation Terrorism

State-sponsored terrorism has been considered throughout this study. Indeed, many states unwilling or unable to fight their opponents directly have often decided to fight them furtively by supporting aviation terrorism as a coercive tactic used to achieve political ends and create a climate of terror. Going back nearly two centuries, Duncan demonstrates that state-sponsored terrorism is an old phenomenon.[370] Addressing the rationale behind this state sponsorship, Richardson explains that states have taken advantage of existing terrorist groups to carry out terror attacks rather than directly using their own state apparatus.[371] That is, states chose to give financial and other assistance to existing terrorist groups rather than to create their own or to carry out terrorist attacks using government forces. Showing that this kind of agreement was valuable for both states and terrorists groups, Byman explains that, "during the 1970s and 1980s, almost every important terrorist group had some ties to at least one supportive government."[372] However, as Hanhimäki and Blumenau expound, many aspects and mechanisms of the 1970s and 1980s terrorism were Janus faced—on the one side there was the known protagonist, on the other side the intelligence agencies and secret policies, whose exact influence on the events is still a matter of dispute.[373] They also assert that without state support and international cooperation among the groups themselves during these two decades, terrorists would most certainly not have been as effective and operational as they were.[374]

Based on an analysis of the literature, the author of this study decided not to exclude allegedly state-sponsored terrorist attacks against civil aviation from ATSD since it would offer a blinkered representation of the actual phenomenon of aviation terrorism. Consequently, for the sake of this research, every terrorist and terrorist group that has attacked civil aviation is deemed to be a non-state actor. This might seem to be an unwarranted interpretation of the rule set up by the aviation terrorism definition presented below, but it is not. It is quite the opposite since it asserts that dismissing terrorist groups that received a helping hand from rogue states in their path to achieving their political or religious goals would simply be wilful blindness. As a case in point, disregarding the key role played by Libyan terrorists in the sabotaging of Pan Am 103 on 21 December 1988 (270

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370. Ken Duncan, "A Blast from the Past: Lessons from a Largely Forgotten Incident of State-Sponsored Terrorism," in *Perspective on Terrorism*, 5:1 (2011), http://www.terrorismanalysts.com/pt/index.php/pot/article/view/133/html

371. Richardson, 52.

372. Daniel Byman, *Deadly Connection: State That Sponsor Terrorism* (New York: Cambridge University Press, 2005), 1.

373. Jussi M. Hanhimäki and Bernhard Blumenau, eds, *An International History of Terrorism: Western and Non-Western Experiences* (New York: Routledge, 2013), Kindle, locator 3230.

374. Ibid., locator 3526.

fatalities) as well as the bombing of UTA flight 772 (171 fatalities) on 19 September 1989 because of the involvement of the Libyan government would be inappropriate. Incidentally, the international community, in a 2003 UNSC Resolution, recognized the utmost significance of Libya's involvement in these attacks and sanctioned the country accordingly.[375] The Libyan government accepted responsibility for both attacks and agreed to pay appropriate compensation to the families of the victims. This concession constituted a rare recognition by Libya of its involvement in terrorist activities. This is one more reason supporting the decision to include such attacks in ATSD.[376]

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375. UNSC, Resolution 1506 (12 September 2003).

376. ATSD also lists two terrorist attacks against civil aviation directly linked to North Korea: (1) The Seoul's Kimpo international airport perpetrated on 14 September 1986, and (2) the sabotage of Korean Airlines 858 on 20 October 1987. The Iranian-sponsored Hezbollah is similarly responsible for an airport attack in Kuwait (1983-12-12) as well as four hijackings (Kuwait Airlines 221, 1984-12-04; TWA 847, 1985-06-16; Iraqi Air 163, 1986-12-25; Air Afrique 56, 1987-07-24).

Step 6: Devise a New Definition of Aviation Terrorism

2.3.11 Ten Most Salient Characteristics of Aviation Terrorism

For the purpose of the present research, a short, unambiguous, and pragmatic definition was devised. This polycentric definition does not pretend to solve the problem of defining, once and for all, the phenomenon of aviation terrorism. This was not the objective. Rather, a clear and objective definition, however provisional, was needed for the specific context of the present research. For example, it will be used to differentiate criminal and terrorist attacks in chapter 3. In chapter 4, it will be used to evaluate if aviation terrorism is in fact specifically addressed in the legal and regulatory framework, because it cannot be denied that criminal incidents have also shaped civil aviation.

Bearing in mind the essential characteristics identified in Tinnes' definition (discussed in section 2.3.4 above), a new definition of aviation terrorism was formulated. This adaptation was made with the help of the series of ten fundamental axioms harvested from the collection of definitions discussed above.[377] Furthermore, each of the 10 axioms was enhanced by three variables. The list of 40 characteristics (10 axioms, 30 variables) aims to disclose both the concept of aviation terrorism and the terrorist calculus behind the tactic. This adapted definition is based on three core aspects (targets, features and perpetrators), and reads as follows:

> Aviation terrorism is a political act against civil aviation carried out by
> non-state actors who systematically target civilians and intentionally
> use violence in order to create terror and coerce authorities, at times,
> by making demands.

As a result, figure 2.1 synthesizes all the information necessary to define aviation terrorism. The list of ten axioms (and 30 variables) can also be used as a checklist to verify if an attack meets the requirements for classifying an act of aviation terrorism. As explained above, this matrix will be used in chapter 3 to delineate criminal incidents and terrorist attacks in GACID/ATSD.

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377. *See also* Appendix D.

FIGURE 2.1   Consolidated Aviation Terrorism Characteristics (CATC)[378]

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378. Sequential order in which all ten axioms were inserted in the new definition: (1) Aviation terrorism (Civil Aviation); (2) is a *political* act (Politics); (3) carried-out by *non-state actors* (Non-State Actors); (4) who *systematically* (Systematicity); (5) *target* (Target of Violence); (6) *civilians* (Civilians); (7) and *intentionally* (Intentionality); (8) use *violence* (Violence); (9) in order to create *terror* (Target of Terror); and, at times, make *demands* (Target of Demands) to coerce authorities.

Summarizing Remarks

The purpose of this dissertation is to assess whether or not the international legal and regulatory framework has had any impact on aviation terrorism. To complete this study, it was necessary to conduct a comprehensive and critical review of the academic literature on terrorism and aviation terrorism as, although aviation terrorism is the focus of this research, the history of terrorism is the history from which aviation terrorism emerged, and an understanding of that history is integral to any effort to comprehend or evaluate the phenomenon of aviation terrorism. This review provided an understanding of the context, history, and evolution of aviation terrorism, which is central to the current research.

The objective of this chapter was to two-fold: firstly, to provide a systematic assessment and analysis of the literature related to terrorism and aviation terrorism and, secondly, to search for and provide an adequate definition of aviation terrorism. As mentioned above, academic research on aviation terrorism as a specific field of study is neglected compared to the field of study on the broad concept of terrorism. Nevertheless, this literature review was able to gather and review a series of documents written on aviation terrorism and aviation security. It showed that, in the last three decades, aviation terrorism has garnered a lot of attention from international organizations, governments, and the press. These extra-academic entities have brought new perspectives to a problem (aviation terrorism) that is no longer seen as a mere series of episodic shock waves. However, from an academic perspective, much still remains to be done to enlarge the spectrum of knowledge concerning the singular phenomenon of aviation terrorism.

This chapter revealed that terrorism is an old phenomenon that has evolved over two millennia, changing with the objectives of its perpetrators and the contexts they were facing. Terrorism has served as a vehicle for the claims of groups from very disparate horizons, from India's Thugs to Italy's Anarchists, the PLO to al-Qaeda. Weak actors have shown a predilection for terrorism. By destabilizing their enemies through unconventional means, terrorists have sought to achieve their objectives. Yet, despite its ancient roots, there exists no consensus on the definition of terrorism, whether at the international, academic, and even national level. Most actors involved in counter-terrorism have tailored the definition to their specific needs and objectives. Despite this, similarities exist between the overly abundant definitions of terrorism. Indeed, words such as violence, politics, fear, multiple targets, and non-state actors were part of the common vocabulary for describing terrorism. Based on these similarities—as well as the shortfalls of the hundreds of definitions analyzed—a new and "enhanced" definition of aviation terrorism was created. This was done by using 10 axioms and 30 variables aimed at leaving no room for interpretation as to what constitutes aviation terrorism. The author believes that, after being challenged by the problem for nearly half a century, the time is now ripe for academics to include aviation

terrorism in the more comprehensive lexicon of terrorism. It is with this objective in mind that this distinctive definition is offered, with the hope that it will become the foundation on which other researchers can now further their studies to enhance and enshrine the concept of aviation terrorism.

The next chapter examines statistics related to attacks against civil aviation. The new definition of aviation terrorism will be used to delineate criminal and terrorist acts. This categorization will allow for the isolation of all terrorist attacks, which are the main academic interest of the present research.

3

Aviation Terrorism
Sub-Database

Introduction

This thesis' research question demands that aviation terrorism be quantified in time in order to measure the extent to which the international legal and regulatory framework (LRF) has impacted aviation terrorism in terms of reducing the number of attacks and casualties. Chapter 3 achieves this task using statistics on civil aviation terrorist attacks obtained through the creation of the *Aviation Terrorism Sub-Database* (ATSD) described in chapter 1. The main objectives of gathering such statistics are: to identify statistical trends of aviation terrorism, to identify correlations between sequences of events, and to draw some conclusions regarding this phenomenon. Compared to common crimes, terrorist acts are rare, if not unique; this makes it difficult to speak of patterns and common dimensions.[379] However, as discussed in chapter 2, section 2.3.11, terrorist attacks against civil aviation all share common characteristics[380]—these will be used in this chapter to delineate criminal from terrorist attacks.

This chapter has three main sections. The first one provides supplementary information on the process that led to the creation of ATSD. The second section presents and analyses time-specific statistics on aviation terrorist attacks committed between 1931 and 2011. These statistics are divided in two main clusters: attacks and fatalities. The first cluster shows that a grand total of 586 terrorist attacks were gathered in ATSD. These attacks are further delineated in the four MO discussed in chapter 2. They reveal 299 ground attacks, 218 hijackings, 52 sabotage, and 17 suicide missions. The second cluster discloses that aviation terrorism is a lethal matter with its 6,105 fatalities. In the third section, statistics on aviation terrorism are briefly put into perspective with regards to general terrorism and terrorist groups.

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379. Lee Clarke, *Worst Cases: Terror and Catastrophe in the Popular Imagination* (Chicago: University of Chicago Press, 2006), 6.
380. Consolidated Aviation Terrorism Characteristics (CATC) at fig. 2.1.

3.1 Why Create A New Database?

As described in the introduction, the *Global Aviation Criminal Incidents Database* (GACID) and the *Aviation Terrorism Sub-Database* (ATSD) were created to overcome the two main problems in the seven most credible lists of civil aviation attacks found: (1) major discrepancies in content, and (2) a lack of focus on genuine aviation terrorist attacks.[381] At this stage, it is important to mention that both GACID and ATSD were built to fulfill the specific needs of the thesis' research question.

3.1.1 Discrepancies in Existing Databases

The content discrepancy issue was revealed through a preliminary cross-analysis of the seven lists. Table 3.1 shows the chronological order in which these lists were consulted and provides details on their content and authors. A total of 6,918 entries were examined; Avihai Skyjack Database (ASD) contained the smallest number of entries (198), and the Aviation Safety Network (ASN) database the greatest (1,527). Given the dramatic differences between the sources, it was difficult to select any of the seven lists as a statistical base for the dissertation. The discrepancies were simply too large for any of the lists to be considered academically viable. Moreover, when cross-analyzed, even the largest lists were missing a significant number of entries. In some cases, these differences were attributable to divergences in the time periods covered by each of the lists. However, this lacuna only emphasized the fact that none of the seven lists were sufficiently thorough for the purpose of the present research. This is why the seven lists were merged (*see* below)—to offer a meticulous empirical quantification of all attacks against civil aviation. Developing this powerful tool was the best way to lay a solid foundation on which the answer to the research question.

At this stage, it is important to underline that the statistics developed in this thesis do not pretend to be flawless. All efforts were deployed to meet empirical standards while building GACID, and subsequently ATSD; but the fact remains that GACID and ATSD consist of a consolidation of other databases. (As explained below, manual additions to correct omissions in GACID/ATSD were done.) Likewise, the classification of data conducted to generate statistics was a highly subjective endeavour even though its methodology was carefully designed. The

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381. The seven sources of reference from which GACID/ATSD obtained its information are: (1) Avihai, Skyjack Database (ASD); (2) Maria Schiavo, "Chronology of Attacks against Civil Aviation" (MS); (3) Aviation Safety Network (ASN) Database; (4) RAND Database of Worldwide Terrorism Incidents; (5) David Gero, *Flights of Terror: Aerial hijack and sabotage since 1930* (FT); (6) Global Terrorism Database (GTD); and (7) David Phillips, *Skyjack: The Story of Air Piracy* (DP). Further details on these references can be found in the Bibliography. *See also* Appendix F, *GACID and ATSD: Methodology.*

categorization of GACID and ATSD data relied heavily on the descriptions available in the source databases, and was based on the assumption that these summaries were accurate.

TABLE 3.1   Lists used to Create a New Database

Name	Author	Period	Parts Used	Format	Acronym	Entries
Skyjack	Hillel Avihai	1968-2004	Not all used	Internet	SKY	198
Chronology of Attacks against Civil Aviation	Mary F. Schiavo	1930-2007	Not all used	Book chapter	MS	1338
Aviation Safety Network	Flight Safety Foundation	1943-2011	All factors under "Security (Contributory) cause"	Internet	ASN	1527
Database of Worldwide Terrorism Incidents	RAND Corporation	1968-2009	Target - Airports and Airlines	Internet	RAND	821
Flights of Terror	David Gero	1930-1997	Not all used	Book	FT	1437
Global Terrorism Database	National Consortium for the Study of Terrorism and Responses to Terrorism	1978-2008	Target type – Airports Airlines	Internet	GTD	1178
Skyjack: The Story of Air Piracy	David Philips	1931-1972	Not all used	Book annex	DP	419

3.1.2 Lack of Focus on Aviation Terrorism

The second problem was that only one of the seven lists, Avihai's Skyjack Database (ASD), focused exclusively on terrorist attacks against civil aviation. The six others all contained both criminal and terrorist incidents. Furthermore, except for ASD,[382] the six lists also failed to use a specific definition of aviation terrorism. The fact that some of them addressed terrorism in general, or only sporadically included specific categories for aviation terrorism, explains this lack of focus but does not justify it.

An aphorism says that all terrorists are criminals, but not all criminals are terrorists. This is as much applicable to aviation terrorism as it is to terrorism in general. Although the intent and actions demonstrated during an attack is what

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382. As discussed in sec. 2.3.7.3, Avihai's definition also presented some limitations.

determines if its perpetrator is either a terrorist or a criminal, incidents were included in most of the seven lists based on the public information available to their authors. This reality leaves room for subjective interpretation. For instance, a lone assailant having hijacked a flight from the US to Cuba using a handgun was considered as a terrorist in many of the lists. This was particularly the case in Gero's *Flights of Terror* (FT). But did the assailant actually want to terrorize people or simply to get free transportation from point A to point B? Was this act terrorist or criminal? If no political proclivity emerged from the aggression, the actions were deemed in this study to be criminal rather than terrorist.

Similarly, in GACID and ATSD, and as stipulated by Avihai, hijacking an aircraft to claim political asylum in another country is considered intrinsically personal, and *not* political.[383] Such hijackers aim at "escaping" a country in which they feel threatened in order to pursue a better life somewhere else. This is true regardless of the scale or dramatic character of an incident. Indeed, an individual may carry out a grandiose aviation crime and cause the deaths of hundreds of people for an entirely personal motive. This happened on 7 December 1987 when a suicidal former employee of Pacific Southwest Airlines assassinated his former supervisor and the pilots on Flight 1771, bringing 42 people with him to his death.[384] A more recent example of an aircraft-assisted suicide is the co-pilot's deliberate crashing of Germanwings flight 9525 in the French Alps on 24 March 2015, which took the lives of 150 people.

3.2. *Creating GACID and ATSD*

The consequence of these two major issues was that no list was both exhaustive enough and solely focused on aviation terrorism, and thus no list could be used to empirically answer the research question. However, as explained in the introduction, the merging and consolidation of the seven lists into GACID emerged as a viable solution. By consolidating the entries from the seven lists into GACID, and then isolating the genuine terrorist attacks (using the criterion of intent), ATSD was created; this rigorous process ultimately provided the empirical data on aviation terrorism. The first step of this process was to compile all 6,918 entries of the seven lists in an Excel document in order to create GACID. The seven lists were consulted in the same order as in table 3.1 and the results were used in a cumulative manner to populate GACID. The dates, geographical locations, deaths, and summaries of incidents were utilized as common denominators to avoid duplication of incidents. When the same incident was mentioned in more than one list, only the most complete description was kept as a reference. As many entries were repeated in as many as six lists, incident descriptions were not systematically compiled; this kept the Excel document containing GACID/ATSD user-friendly.

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383. Avihai, 37-38.
384. Schiavo, 220.

However, incident descriptions for the same incidents were systematically compiled when their content varied. Table 3.2 explains the contribution of each list in the creation of GACID/ATSD. (The "GACID" and "ATSD" columns refer to how many incidents from each contributing database were incorporated into the author's own databases of those names.) Given the cumulative way in which GACID/ATSD was built, the first lists consulted played predominant roles. For example, virtually all descriptions from Avihai's Skyjack Database and Schiavo's Chronology were included in GACID/ATSD; their event descriptions were impressively concise and consistent. Lists that were consulted later in the process, such as Gero's *Flights of Terror* (FT) and GTD Database, had a smaller impact on GACID/ATSD—not because they had less relevant data, but rather because other lists had already provided most of the elements.

TABLE 3.2   Sources of Information for GACID/ATSD

Name	GACID	ATSD	Contribution
Avihai Skyjack Database (ASD)	172	166	• Basic layer for GACID/ATSD • Descriptions used in close to 84% of ATSD
Schiavo Chronology of Attacks against Civil Aviation (MS)	1214	231	• Basic layer for GACID/ATSD • Descriptions used in close to 100% GACID and also in 231 of ATSD content
Aviation Safety Network Database (ASN)	222	50	• Provided a lot of details on deaths • MS used it a lot to build her database, so skipped a lot for GACID/ATSD • Complementary role for GACID/ATSD
Database Of Worldwide Terrorism Incidents (RAND)	292	193	• Prominently used for ATSD • Very similar results from ASD
Flights of Terror (FT)	178	25	• Enhanced GACID
Global Terrorism Database (GTD)	350	223	• Enhanced ATSD • Great contribution for ground attacks
Skyjack: The Story Of Air Piracy (DP)	39	0	• Enhanced GACID for some old events

The descriptions available for each GACID/ATSD incident made possible the creation of 37 categories of data for quantifying aviation terrorism in time. As specified in the introduction, the creation of the maximum number of data categories suited the author's intent to build an advanced database and simultaneously gave this research a scope beyond that of his own thesis. GACID and ATSD are unique tools that can guide future research projects on aviation terrorism. The possible applications of GACID and ATSD reach far beyond this thesis and the field of academic research. The use of the databases by practitioners, policy makers, businesses, and airlines could even prove to have tangible impacts on the aviation industry.

One must understand that not all GACID/ATSD data categories were created at the same time. Some key categories, such as *Start Date*, *MO, Intent* and

Fatalities were planned from the outset, according to the research question whereas others, for example *Coordinated Attack* and *Region*, were gradually added as the author grasped their pertinence. The classification of certain categories was remodelled several times and several reviews were conducted before the final version of GACID/ATSD was attained. Details on the creation of each category are available in Appendix F. Whereas some categories (e.g., Start Date) were relatively simple to fill out, tens of thousands of cells required that decisions be made through deduction and analysis. The *MO* and *Intent* categories proved particularly challenging to fill out since many incidents were perpetrated using more than one MO and with more than one intent. On the one hand, it was very important that statistics fully reflect the incident descriptions available; on the other hand, having incidents with multiple MO and intents was not generating conclusive and usable statistics to answer the research question. It was then decided that *MO* and *Intent* would each have two categories: the first fully reflecting incident descriptions; the second, if necessary, only mentioning the main MO used for the incident and its main intent. It is this last category that was used to generate the statistics on MO and intents presented in this chapter.

Table 3.3 shows the 37 categories included in GACID/ATSD. The first column includes the categories that were essential to answering the research question. The statistics discussed in this chapter revolve around those core categories. The second column shows categories whose statistics are used in a number of limited instances to support the main data. However, they could be useful to other research projects on aviation terrorism. The third column lists GACID/ATSD categories that are indirectly used in this thesis. They are merely informative and could not be systematically filled out given the lack of information on incidents. They include categories such as *Airline* and *Tail Number*.

TABLE 3.3   GACID Categories

Categories Used to Answer Research Question (10)	Other Main Categories (8)	Additional Categories (19)
Start Date	Injuries	Name of the event
Year	Total Fatalities + Injuries	Airline
Numerical Index	Result	Flight #
MO	Coordinated Attack	Aircraft
MO - Consolidated	Suicide Mission with Deliberate Crashing into Target	Flight Origin
Intent	American or Israeli Target for Terrorist Attacks	Flight Destination
Intent - Consolidated	Hijacking for Transportation Purposes	Diverted to
Terrorist Group	Region	# Passengers
Fatalities		# Crew
Summary of incidents		# Perpetrators
		Perpetrators - Others
		Weapons Used

Categories Used to Answer Research Question (10)	Other Main Categories (8)	Additional Categories (19)
		Perpetrator's Demands
		Date Created
		Date Modified
		Date end
		Time End
		Model
		Tail Number

3.2.1 Clarifications

As shown in figure 3.1, the aviation system has two main components: civil aviation and state aviation. The cells under the civil aviation cluster reflect all aviation activities other than state aviation. This delineation is enshrined in Article 3 of the 1944 Chicago *Convention of International Civil Aviation*. Section (b) of the Article stipulates that an "aircraft used in military, customs and police services shall be deemed to be state aircraft." Sovereign states can shape their civil aviation systems according to their own needs. Nevertheless, countries typically divide civil aviation into two main components: commercial aviation and general aviation. For the purpose of this research, terrorist attacks against both commercial and general aviation were considered and listed in GACID/ATSD.

Abeyratne explains that civil aviation is "aviation activities carried out by civil aircraft, which is any aircraft used for the carriage of passengers, baggage, cargo and mail."[385] Included in this category are all civil aviation airplanes and helicopters. By extension, the whole civil aviation infrastructure (air navigation, communications facilities, etc.) as well as airports, inevitably have to be included in the civil aviation terrorism equation since all aircraft must take-off or land in a defined area on land or water intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.[386]

Of course, as ATSD and Appendix B demonstrate, there is always the possibility for hijackers to force pilots to land in undefined areas, for bombers to sabotage an aircraft before it lands or for terrorists to take command of an aircraft and turn it into a weapon of mass destruction. Consequently, attacks against civil aviation equipment and facilities, or any other activity, which "purpose is inconsistent with the aims of the Chicago Convention 1944" were included in GACID/ATSD.[387] As Abeyratne explains, such activities are deemed to represent threats to general security.[388]

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385. Abeyratne, *Convention Civil Aviation*, 53.

386. ICAO, *Annex 2, Rules of the Air,* chap. 1; *Annex 3, Meteorological Service for International Air Navigation,* Art. 1(1); *Annex 4, Aeronautical Charts,* Art..1(1); *Annex 6, Operation of Aircraft,* chap.1.

387. ICAO, Chicago Convention 1994, Art. 4.

388. Abeyratne, *Convention Civil Aviation, 93.*

FIGURE 3.1 Components of the Aviation System

Commercial air transport services refers to the use of aircraft for hire or reward, that is to say any payment, consideration, gratuity or benefit, directly or indirectly charged, demanded, received or collected by any person.[389] It can be divided into two sub-groups: scheduled air services, and non-scheduled air transport operations. Scheduled air services correspond to flights operating on a published timetable or with such a regular frequency that it constitutes a recognizable and systematic series of flight.[390] For example, the vast majority of aircraft from airline companies like Air Canada, United Airlines, Air France, as well as companies with regular cargo flight routes (e.g., FedEx, UPS), fit in this category. According to Abeyratne, the concept of non-scheduled air transport operation is blurry,[391] but generally refers to charter air services such as humanitarian and emergency flights. General aviation consists of all civil aviation operations other than scheduled air services and non-scheduled air transport operations.[392] It accounts for the lion's share of civil aviation. For example, in the US, aircraft fitting in the general aviation category conduct 75 percent of all take-offs and landings.[393]

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389. Canada, *Aeronautics Act* (R.S.C., 1985, c. A-2), sec. 3, http://laws-lois.justice.gc.ca.
390. Groenewege, 408.
391. Abeyratne, *Convention Civil Aviation*, 100.
392. Chicago Convention 1944, Annex 6, *Operation of Aircraft*, Part II, 9.
393. US Department of Transportation, Federal Aviation Administration, General Aviation Airports: A National Asset (May 2012), http://www.faa.gov/.

General aviation can be divided into two categories: private flying for business, and private flying for pleasure. The first branch covers a large range of activities for both commercial and non-commercial purposes. Also known as specialized services and commonly called "aerial work," this includes aircraft flying for purposes such as advertisement, agriculture, airborne news gathering, traffic reporting, construction, emergency medical evacuation, observation and patrol, overnight package delivery, photography, surveying, search and rescue, etc.[394] The second category, private flying for pleasure, refers to people flying for their own leisure, without receiving any kind of remuneration.[395] All aircraft, be they airplanes or helicopters, necessarily fit in one of the aforementioned sub-categories based on the way they are used.

3.2.1.1 Plotted, Foiled, Thwarted, and Failed Attacks

Because the objective was to create a comprehensive database, the decision was made that all *plotted*, *foiled*, *thwarted*, *and failed* attacks against civil aviation would be included in the GACID/ATSD. The rationale of this decision is that a rigorous depiction of terrorist activities against civil aviation guarantees a better decision-making process by authorities. For example, sounder statistics are the seeds for improved preparedness, for the efficient mitigation of surprise attacks, and for an unobstructed identification of the threat by the security apparatus. All-embracing knowledge is essential in the security field.

Accordingly, for the needs of this research, the decision to include, or not, an attack in the database was based on the following definitions: (1) a *plot* is a conspiracy to attack civil aviation that goes beyond mere words (e.g., the suspects met several times and did a reconnaissance of targets), (2) a terrorist attack is *foiled* when law enforcement and intelligence communities overthrow a plan before it is carried-out, (3) an attack is *thwarted* when the last line of defence stops terrorists (e.g., a concealed weapon is detected at the security screening checkpoint of an airport), and (4) an attack is considered to have *failed* when terrorists were able to go through security screening undetected, but were nevertheless unable to achieve their ultimate objective for various reasons (e.g., the terrorist decided to opt out, the weapon or explosive device malfunctioned, the terrorist was overpowered by passengers, etc.).[396]

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394. Groenewege, 536; *See also* Aircraft Owners and Pilots Association, "What is general aviation?" 22 July 2013, http://www.aopa.org.
395. Canada, "Business Aviation – Private Operator Passenger Transportation," Transport Canada, http://www.tc.gc.ca.
396. For more details concerning these categorizations, *see* Appendix E.

3.2.1.2   Additional Resources Consulted

During the research process, evidence demonstrated that a limited number of incidents were not mentioned in any of the seven source lists. Those incidents were added to GACID with the designation "FR," standing for *Further Research*. Additional sources beyond the seven original lists were also consulted occasionally to enhance incomplete or contradictory incident descriptions. For example, the *Plane Crash Info*[397] database often provided clarification on the number of deaths for specific incidents. Given that Middle Eastern groups were known to have conducted some of the most notorious attacks of aviation terrorism attacks, the Chronology section of *The Middle East Journal*, published since 1947, was also used. Over 250 sections of the Journal were consulted to ensure that no criminal or terrorist aviation incidents that occurred in the Middle East had been forgotten.

   Another important clarification to make is the fact that the seven source lists largely focused on commercial air services, and more specifically on scheduled air services. The vast majority of GACID/ATSD incidents involved passenger aircraft operated by commercial airlines. A certain number of incidents pertaining to non-scheduled air transport operations, such as transport airplanes, were also included. Nevertheless, the seven source lists did not include many incidents fitting in the general aviation category. A few incidents involving private aircraft hired for business were listed, but virtually none of the seven source lists the private flying for pleasure section of general aviation. For this reason, additional sources of information were consulted (these sources appear in the database as "FR," for Further Research) in order to be able to provide an accurate summary of *all* terrorist attacks against civil aviation. In accomplishing this, the author rectified a defect in the seven databases that would have distorted statistics. This is another reason why GACID and ATSD represent original research and a contribution to the field, and will be of great use to future researchers.

3.2.1.3   The Importance of Context

From the inception of GACID/ATSD, a series of decisions were made to put all incidents imported in the database in their proper context. Mockaitis delineates perception from reality, facts from myths, and context from surrounding conditions. He advocates that these distinctions need to be taken into consideration when discussing statistics.

   Popular perceptions about the danger of terrorism have been profoundly shaped by a few high-profile incidents involving mass casualties, most notably 9/11. This gap between perception and reality mirrors similar perceptions about the risks of flying versus the hazards

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397. The information can be found at: http://www.planecrashinfo.com.

of driving. Statistically, flying has always been safer, but the number of casualties per plane crash and the media coverage of such incidents merit makes air travel seem more dangerous than driving.[398]

A good example showing the importance of context relates to a certain number of incidents involving aircraft flying political leaders. Whereas some small countries use scheduled air services to fly their political leaders, the norm is that they are flown on private aircraft. As a case in point, in North America, most of those aircraft are not strictly private but rather "commercial-type" airplanes belonging to and operated by state military forces. Such flights technically fall within the state aviation category and must not be considered civilian. Yet, because of their context, the decision was made to include such incidents in GACID/ATSD based on the fact that they targeted political leaders and thus were politically motivated attacks. Furthermore, other incidents listed in the seven source lists were purposely excluded from GACID/ATSD due to the surrounding conditions in which the attacks were launched. For example, all incidents involving direct actions by state armed forces were not included in GACID/ATSD[399] because they involved aircraft fitting in the state aviation category.[400]

Attacks against civil aviation perpetrated by one of the belligerents of World War II, the Korean War, or the Vietnam War were also excluded. Similarly, terrorist attacks against civil aviation that took place in Somalia as of 1991, Afghanistan as of 2002, and Iraq as of 2003 were also excluded. Insurgents active in those three conflict theatres have launched a significant number of rockets and mortar attacks against local airports. It was deemed inappropriate to include such incidents in GACID/ATSD for two reasons. First, those incidents took place in armed conflict zones, or at the very least in failed or slowly recovering state contexts.[401] Second, and most importantly, the vast majority of airports targeted by such insurgents were militarized, taking away their "civil aviation" character.

Another important exclusion from GACID/ATSD pertains to attacks against airline offices or crew members off airport sites. While several sources lists (e.g.,

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398. Mockaitis, 40.
399. A few examples of such excluded incidents relate, inter alia, to the downing of: (1) Korean Air Lines Flight 007 by a Soviet interceptor aircraft over the Sea of Japan on 1 September 1983; (2) Iran Air Flight 655 by USS Vincennes a US Navy guided missile cruiser in the Persian Gulf on 3 July 1988; (3) Siberia Airlines Flight 1812 by Ukrainian military over the Black Sea on 4 October 2001. These three incidents took the lives of 429 people.
400. The following ICAO conventions specifying that these treaties shall not apply to aircraft used in military, customs, or police services: Tokyo Convention 1963, Art. 1(4); The Hague Convention 1970, Art. 3(2); Montréal Convention 1971, Art. 4(1).
401. For a good discussion on the inappropriate inclusion of war zone statistics in terrorism database, *see* Daniel Benjamin, "What Statistics Don't Tell Us About Terrorism," (30 May 2008), http://www.brookings.edu.

RAND, GTD) included these attacks, they were excluded from GACID/ATSD on the ground that they *did not directly disrupt air services* as defined in Article 96 of the Chicago Convention 1944.[402] The reasoning here is that the international civil aviation legal and regulatory framework limits its jurisdiction solely to those air services. Consequently, the decision to exclude these incidents from the GACID/ATSD is consistent with the steadfast determination to concentrate only on conditions permitting an answer to the research question to be found.

3.2.2   GACID Statistics

The aforementioned creation process led to the reconciliation of 6,918 incidents into a 1,965-incident consolidated list called GACID, which covers the 1931-2011 period.[403] The following pages provide an overview of GACID statistics. Despite the fact that this thesis focuses on aviation terrorism, and though the real database of interest for answering the research question is ATSD, GACID statistics are sometimes referred to in the rest of this dissertation. They provide an important context for understanding ATSD statistics. ATSD being a sub-database of GACID, there exist several intrinsic links between the two sets of data; the evolutions in terrorism, civil aviation, and criminal activities against civil aviation have influenced aviation terrorism over the years.

Figure 3.2 shows the evolution in the number of GACID incidents for the 1931-2011 period. The chart demonstrates that the number of incidents against civil aviation was rather marginal between 1931 and the late 1960s. However, there was an explosion in the number of incidents in 1968 leading to an all time peak of 105 incidents in 1969 (104 incidents in 1970). The number of incidents dropped significantly in the following years, stabilizing at an average of 48 occurrences per year between 1971 and 2000. The year 2001 marked a steep declining trend.

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402. Chicago Convention 1944, art. 96 (a): Air service "means any scheduled air service performed by aircraft for the public transport of passengers, mail or cargo;" See also Groenewege, 408-409, 461. He posits that the words air service and airport involve the ground or marine-based civil aviation infrastructure, including airport terminal, buildings, installation and equipment used for the arrival, departure and surface movement of aircraft, air navigation support, communications facilities, etc.
403. The consolidation of the seven databases took place in 2011 and was last updated on 23 April 2015.

FIGURE 3.2   Global Aviation Criminal Incidents (GACID) 1931-2011

As mentioned in the previous section, statistics were also gathered on the number of people killed in incidents.[404] Fatalities have been the most tangible outcome of aviation incidents, whether criminal or terrorist. Whereas injuries and hostages have contributed to generate media attention, fatalities have always played a key role in the public attention given to specific incidents. This has been especially true for the acts of sabotage of aircraft that have resulted in the death of hundreds of passengers. When there were discrepancies in the numbers of fatalities reported in the seven source lists used to build GACID/ATSD, preference was always given to the lowest number.

According to GACID, for the period 1968-2011, a total of 7,942 people were killed as a result of the 1,825 incidents. The most striking trend in figure 3.3 is the peak of 3,029 fatalities in 2001. This peak is so unequalled that it renders the rest of the chart barely noticeable. Another major fluctuation occurred during the whole decade of the 1980s. With 472 fatalities, 1985 was the second deadliest year of the 1931-2011 period.

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404. These statistics include perpetrators killed while carrying their attacks, as well as the deaths of crew members and people on the ground.

FIGURE 3.3   GACID Fatalities

In order to better appreciate the significance of the charts presented in figures 3.2 and 3.3, table 3.4 provides the 1968-2011 statistics used to create them.

TABLE 3.4   GACID Incidents and Fatalities–1968-2011

Year	Incidents	Fatalities		Year	Incidents	Fatalities
1968	33	1		1990	69	134
1969	105	44		1991	58	24
1970	104	88		1992	52	74
1971	74	56		1993	50	220
1972	77	260		1994	49	62
1973	37	205		1995	34	106
1974	36	94		1996	38	132
1975	35	20		1997	38	107
1976	38	220		1998	36	145
1977	42	118		1999	36	239
1978	57	96		2000	51	25
1979	49	71		2001	27	3,029
1980	57	152		2002	31	145
1981	57	19		2003	20	23
1982	51	25		2004	12	89
1983	56	253		2005	9	2
1984	47	37		2006	9	4
1985	54	472		2007	13	20
1986	55	210		2008	13	2
1987	29	231		2009	13	13
1988	30	342		2010	10	6
1989	44	329		2011	4	39
				TOTAL	**1,839**	**7,983**

As mentioned above, GACID includes all criminal incidents, terrorist attacks, and events in which intent could not be determined. However, figure 3.4 presents a summary of all GACID incidents committed against civil aviation minus the 586 terrorist attacks that will be discussed below. The remaining 1,379 incidents were separated into eight clusters representing decades. This fragmentation offers a glimpse of the evolution of acts of unlawful interference against civil aviation for the period ranging from 1931 to 2011. For example, the figure discloses that the most active decade for both the number of criminal incidents and the number of people killed in those incidents is the 1971-1980 segment (353 incidents and 810 fatalities).

FIGURE 3.4   Summary of GACID Statistics by Decades 1931-2011

3.3   *Aviation Terrorism Sub-Database (ATSD)*

3.3.1   Creating ATSD from GACID

Using the *Intent* category, all 1,965 GACID incidents were analyzed to determine whether or not they had been perpetrated for political reasons. This is the category that necessitated by far the most trial and error. Academic rigour was imperative given the subject of this dissertation. Based on their respective description, each occurrence was classified in one of three categories of intent: terrorism,

criminal/personal, and unknown. The "terrorism" classification was based solely on the definition of aviation terrorism set forth in chapter 2.

> Aviation terrorism is a political act carried out by non-state actors who systematically target civilians and intentionally use violence in order to create terror and, at times, make demands to coerce authorities.

The "criminal/personal" classification was used for incidents perpetrated for asylum, transportation, ransoms, and theft purposes, as well as any other type of non-political intent. Finally, the "unknown" classification was used to categorize incidents where motive could not be identified, even after additional research. Limited incident descriptions meant that deductions had to be made in order to carry out the classification process. For instance, hijackings for which very few details were available were generally deemed to have been committed for criminal/personal interests. As a general rule, incidents were classified in the "unknown" category only if descriptive elements were insufficient to determine an intent. For example, the author deemed it empirically inappropriate to deduce that an unclaimed sabotage act that caused 20 victims was a terrorist attack; perhaps the intent of the perpetrator was to murder specific individuals and not to terrorize. On this basis, it was determined that only 586 of the 1,965 GACID incidents, that is to say 30 percent, had actually been terrorist attacks, as shown in figure 3.5. Those 586 attacks formed ATSD. Of all of GACID incidents, 59 percent (1,159) had been perpetrated for criminal/personal reasons, and the motive of 11 percent of them (220) could not be determined.

FIGURE 3.5   GACID Incidents per Intent

The vast majority of GACID fatalities were attributable to terrorist attacks rather than criminal/personal incidents. As shown in figure 3.6, 6,105 of the 8,667 GACID deaths, that is to say 70 percent, were the direct results of terrorist attacks.

Incidents perpetrated for criminal/personal and unknown reasons caused 1,698 and 864 deaths, respectively. This signifies that terrorist attacks have been proportionally far more lethal than incidents carried out for other purposes.

FIGURE 3.6   GACID Fatalities per Intent

Figure 3.7 offers a different perspective showing that terrorist attacks are really the tip of the iceberg in comparison to the total number of incidents involving civil aviation.

FIGURE 3.7   ATSD Attacks vs GACID 1931-2011

3.3.2   ATSD Attacks Statistics

Before turning to ATSD statistics, the reader must note that the terms "incident" and "attack" are used to refer to GACID *criminal incidents* and ATSD *terrorist attacks,* respectively. This terminology is used throughout this research. Figure 3.8 shows the evolution of ATSD terrorist attacks over the years.[405] Based on the chart line, three main eras are discernable. The first era, from 1931 to 1967, was relatively quiet. Only 14 of the 586 ATSD terrorist attacks (2 percent of all attacks) occurred during this period. There simply were no terrorist attacks between 1932 and 1947. Several minor fluctuations followed this period, but there were never more than two attacks per year (in 1958, 1959, and 1961).

The second era ran from 1968 to 2002. It forms the core of ATSD, with 526 terrorist attacks or 90 percent of all recorded attacks. The era began with a rapid increase in the number of attacks, increasing from 5 in 1968, to 11 in 1969 and 23 in 1970. Despite a slight decrease in 1971, the number of attacks continued to intensify until the climax of 30 attacks in 1981. Severe fluctuations followed that high point, dipping to a mere three occurrences in 1997. However, the overall incidence of attacks remained high until 2002.

The third and last era ran from 2003 to 2011, and saw only 46 attacks (eight percent of all attacks). It records an important diminishing trend, in which the number of attacks annually remained below seven.

FIGURE 3.8   Aviation Terrorism Attacks (ATSD) 1931-2011

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405. For more details concerning these attacks, *see* Appendix B.

3.3.3   ATSD Fatalities Statistics

Figure 3.9 illustrates the evolution of the number of deaths from terrorist attacks. The number of victims was indeed relatively low between 1931 and 1967, totalling a mere 62, or 1 percent of all 6,105 ATSD deaths. It was the 1968-2002 era that accounted for the bulk of victims with a total of 5,866 (96 percent). The clearest and most important trend identifiable runs from 1983 to 1989, during which time the number of victims almost constantly remained above 200 per year. It is important to note that figure 3.9, just like table 3.6 below, shows a steady decrease in the number of deaths during the 2003 to 2011 period, with a total of 177 deaths or 3 percent of the total 6,105 terrorist attack victims.

FIGURE 3.9   ATSD Fatalities Including 2001

Figure 3.10 reveals that when the 2001 statistics are excluded from the computation, three distinct phases emerge: 1970-1979, 1983, and 1993-1998.

FIGURE 3.10   ATSD Fatalities Excluding 2001

The 6,105 deaths caused by terrorist attacks must be put into perspective before one can fully comprehend their scope. Indeed, the vast majority of terrorist attacks listed in ATSD caused no deaths. Four hundred twenty-four of the 586 terrorist attacks (or 72 percent) did not result in any fatality. In other words, the 6,105 people killed in aviation terrorist attacks died in only 162 attacks. Moreover, as table 3.5 shows, ATSD also reveals that 381 terrorist attacks (65 percent) resulted in neither deaths nor injuries.

TABLE 3.5   Terrorist Attacks without Casualties

Aviation Terrorist Attacks	#	% of Total
No one Killed	424	72
No one Killed or Injured	381	65

Table 3.6 provides the bulk of aviation terrorism statistics used to create figures 3.6 to 3.10 discussed above.

TABLE 3.6   ATSD Terrorist Attacks and Fatalities--1931-2011

Year	Attacks	Fatalities	Year	Attacks	Fatalities
1931	1	0	1972	17	65
1932	0	0	1973	16	40
1933	0	0	1974	8	89
1934	0	0	1975	12	18
1935	0	0	1976	17	124
1936	0	0	1977	12	8
1937	0	0	1978	15	72
1938	0	0	1979	20	61
1939	0	0	1980	17	1
1940	0	0	1981	30	10
1941	0	0	1982	17	17
1942	0	0	1983	17	253
1943	0	0	1984	15	37
1944	0	0	1985	22	469
1945	0	0	1986	22	210
1946	0	0	1987	12	183
1947	0	0	1988	6	277
1948	1	24	1989	19	317
1949	0	0	1990	12	5
1950	0	0	1991	17	23
1951	0	0	1992	21	13
1952	1	1	1993	10	137
1953	0	0	1994	16	40
1954	0	0	1995	13	103
1955	1	19	1996	9	1

1956	1	0		1997	3	0
1957	0	0		1998	16	141
1958	2	17		1999	15	12
1959	2	1		2000	17	22
1960	0	0		2001	15	3,028
1961	2	0		2002	14	31
1962	1	0		2003	7	22
1963	1	0		2004	4	89
1964	0	0		2005	4	1
1965	0	0		2006	4	2
1966	0	0		2007	4	5
1967	1	0		2008	6	0
1968	5	1		2009	7	13
1969	11	5		2010	7	6
1970	23	49		2011	3	39
1971	15	4		**Total**	**586**	**6,105**

3.3.4 ATSD Modi Operandi

Terrorists' MO is another ATSD category that must be taken into consideration in answering the research question. ATSD revealed that four distinctive MO have been used to perpetrate the 586 terrorist attacks: ground attacks, hijackings, sabotage, and suicide missions. Both figure 3.11 and table 3.7 show that all terrorist MO started to be used consistently as of the late 1960s and early 1970s. Terrorists targeted civil aviation very sporadically and to a much lesser extent before that turning point.

FIGURE 3.11   ATSD Attacks per MO

110

Based on ATSD, table 3.7 demonstrates that, with 299 incidents, the most popular terrorist MO used to target civil aviation was ground attacks (51 percent of all attacks). Hijacking follows with 218 incidents (37 percent). Then follow sabotage with 52 attacks (9 percent) and suicide missions with 17 (3 percent). In terms of fatalities, suicide missions and sabotage come first and second, respectively, with 3,143 fatalities (51 percent), and 1,418 fatalities (23 percent). Ground attacks come in third position with 1,265 fatalities (21 percent), and hijackings come last with only 279 fatalities (5 percent). Thus the most frequently used terrorist MO, ground attacks and hijackings, have been the least lethal ones, whereas the least frequently used terrorist ones, sabotage and suicide missions, have been the most lethal.

TABLE 3.7   ATSD per Modi Operandi

ATSD Incidents and Fatalities Per Modi Operandi 1931-2011				
Modi Operandi	**Attacks**	**%**	**Fatalities**	**%**
Ground Attacks	299	51.02	1,265	20.72
Hijackings	218	37.20	279	4,57
Sabotage	52	8.87	1,418	23.23
Suicide Missions	17	2.90	3,143	51.48
TOTAL	**586**		**6,105**	

Table 3.8 provides the bulk of aviation terrorism statistics used to build figure 3.11 concerning the number of attacks by MO over the period of 1931-2011. The same statistics will be used below for figures 3.12 to 3.19.

TABLE 3.8   ATSD Attacks and Fatalities per MO—1931-2011

Year	Ground Attacks		Hijackings		Sabotage		Suicide Missions	
	#	Fatalities	#	Fatalities	#	Fatalities	#	Fatalities
1931	0	0	1	0	0	0	0	0
1932	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	0
1938	0	0	0	0	0	0	0	0
1939	0	0	0	0	0	0	0	0
1940	0	0	0	0	0	0	0	0
1941	0	0	0	0	0	0	0	0
1942	0	0	0	0	0	0	0	0
1943	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0

Year	Ground Attacks		Hijackings		Sabotage		Suicide Missions	
	#	Fatalities	#	Fatalities	#	Fatalities	#	Fatalities
1946	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0
1948	1	24	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0
1950	0	0	0	0	0	0	0	0
1951	0	0	0	0	0	0	0	0
1952	1	1	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0
1955	0	0	0	0	1	19	0	0
1956	0	0	0	0	1	0	0	0
1957	0	0	0	0	0	0	0	0
1958	0	0	2	17	0	0	0	0
1959	0	0	2	1	0	0	0	0
1960	0	0	0	0	0	0	0	0
1961	0	0	2	0	0	0	0	0
1962	1	0	0	0	0	0	0	0
1963	0	0	1	0	0	0	0	0
1964	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0
1967	0	0	0	0	1	0	0	0
1968	1	1	4	0	0	0	0	0
1969	2	1	6	3	3	1	0	0
1970	1	1	19	1	3	47	0	0
1971	0	0	11	4	4	0	0	0
1972	1	28	14	10	2	27	0	0
1973	8	38	8	2	0	0	0	0
1974	2	0	4	1	2	88	0	0
1975	4	13	6	5	2	0	0	0
1976	8	16	6	35	3	73	0	0
1977	5	5	7	3	0	0	0	0
1978	10	56	3	16	2	0	0	0
1979	15	61	5	0	0	0	0	0
1980	9	0	7	1	1	0	0	0
1981	12	6	14	1	4	3	0	0
1982	9	15	7	1	1	1	0	0
1983	12	141	4	0	1	112	0	0
1984	7	32	7	5	1	0	0	0
1985	11	78	9	60	2	331	0	0
1986	11	100	5	90	6	20	0	0
1987	7	66	3	1	2	116	0	0
1988	2	5	3	2	1	270	0	0
1989	10	36	6	0	2	281	1	0

Year	Ground Attacks		Hijackings		Sabotage		Suicide Missions	
	#	Fatalities	#	Fatalities	#	Fatalities	#	Fatalities
1990	9	4	3	1	0	0	0	0
1991	8	11	6	5	2	7	1	0
1992	20	13	1	0	0	0	0	0
1993	7	136	3	1	0	0	0	0
1994	10	14	4	4	2	22	0	0
1995	6	101	5	2	0	0	2	0
1996	6	1	3	0	0	0	0	0
1997	3	0	0	0	0	0	0	0
1998	8	140	7	1	0	0	1	0
1999	7	10	8	2	0	0	0	0
2000	10	22	7	0	0	0	0	0
2001	8	30	1	2	0	0	6	2,996
2002	12	31	1	0	1	0	0	0
2003	5	1	1	0	0	0	1	21
2004	2	0	0	0	0	0	2	89
2005	4	1	0	0	0	0	0	0
2006	3	2	0	0	0	0	1	0
2007	3	5	1	0	0	0	0	0
2008	6	0	0	0	0	0	0	0
2009	5	11	1	2	0	0	1	0
2010	5	6	0	0	2	0	0	0
2011	2	2	0	0	0	0	1	37
Total	**299**	**1,265**	**218**	**279**	**52**	**1,418**	**17**	**3,143**

3.3.4.1 Ground Attacks

Airport and aircraft attacks are two distinct types of terrorist MO that have one major point in common: both are launched on or from the ground. ATSD defines airport attacks as violent acts targeting airport or terminal installations such as gates, passenger areas, parking lots, civil air navigation and communication facilities, etc. Such attacks are typically conducted with firearms or explosive devices. In contrast to this, an aircraft attack is launched on or from the ground and specifically targets an aircraft, be it gated, taxiing, taking off, landing, or flying at any altitude. It can be conducted using guns, grenades, RPGs or Manpads, or any other appropriate weapon. Although the distinction between the two categories seems clear, ATSD incident descriptions did not always allow for the differentiation of the two. For instance, should a grenade attack launched against a gated aircraft and killing people in the airport terminal be considered as an airport or ground attack? Such examples explain the reason why the two categories were merged into a single MO entitled ground attacks. The first terrorist ground attack listed in ATSD occurred on 21 December 1948, when Greek insurgents shot down Ceskoslovenske Aerolinie Flight 584 in service from Rome to Athens; all 24

occupants were killed.[406] The most recent terrorist ground attack recorded in ATSD took place on 9 June 2011, when militants from the Justice and Equality Movement attacked Heglig (Hajlij) Airport, South Kordofan, Sudan. According to GTD, this last attack caused some damage but no casualties were reported. Figure 3.12 reveals that ground attacks were not used in a consistent manner by terrorists until the early 1970s. Seventy-three percent of all ground attacks were committed between 1978 and 2002. The chart shows a substantial cycle of terrorist ground attacks between 1989 and 1997, as well a lesser cycle between 1998 and 2002. The year 2003 marked a substantial decline in the number of terrorist ground attacks, with the number of annual occurrences falling to pre-1977 levels.

FIGURE 3.12   ATSD Ground Attacks

With 299 attacks and 1,265 fatalities, terrorist ground attacks have generated an average of 4.2 fatalities per attack. Figure 3.13 shows a very highly fluctuated line, illustrating the fact that the number of fatalities is generally more volatile than the number of attacks per year. Major fluctuations in the number of fatalities from terrorist ground attacks occurred between 1983 and 1998. Ninety-five percent of fatalities occurred between 1972 and 2002. However, specific attacks rather than the accumulation of separate attacks explains these trends. For example, 130 of the 141 fatalities deriving from ground attacks in 1983 occurred when *União Nacional para a Independência Total de Angola* (UNITA) struck with a Manpads a Líneas Aéreas de Angola aircraft on 8 November 1983, killing all occupants.

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406. Gero, 108.

FIGURE 3.13   ATSD Ground Attacks Fatalities

3.3.4.2   Hijackings

ATSD uses ICAO's definition of an aircraft hijacking as involving the unlawful act of seizure or the wrongful exercise of control, by force or violence or threat of force or violence, or by any other form of intimidation, and with wrongful intent, of any aircraft. The aircraft must be in an in-flight status, which begins when the doors to the aircraft are closed; thus a hijacking can occur on the ground.[407] Commandeering is a different type of hijacking; it occurs when an aircraft is attacked on the ground while its doors are still open. Given the general conflation of commandeering with hijackings, and the impossibility of clearly differentiating commandeering from hijackings based on ATSD descriptions, they were both combined into the single category referred to as "hijacking." Although commonly associated with the seizure of an aircraft, the term hijacking also designates the same action against other types of vehicles, such as boats or cars. Authors have coined the term "skyjack" to specifically refer to aviation hijackings.

Alona Evans wrote an important article concerning the hijacking situation of the 1960s in which she (1) describes hijacking as the act of taking or changing the private use of an aircraft as a mean of transportation and forcibly ordering to the pilot to proceed to a specific destination, (2) explains that one of the most common first steps of hijackings has been to hold up a flight attendant, and (3) concludes that hijacking is theft, since hijackers assume no responsibility for restoring the aircraft to its rightful owner.[408] In the early days of that MO, the assailant's weapon of choice was the gun, plausibly because hijackers could threaten crew members

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407. Tokyo Convention 1963, Art. 11(1); *See also* The Hague Convention 1970, Art. 1(a); Montréal Convention 1971, Art. 1(1)(a), 1(2) and 2(a); and Beijing Protocol 2010, Art. 4.
408. Alona E. Evans, "Aircraft Hijacking: Its Causes and Cure," *American Journal of International Law*, 63:4 (October, 1969): 696.

and passengers without having to get physically close to them, which in turn secured the hijacker's weapon.[409] Wilson argues that most hijackings have involved five primary demands: (1) release of specific prisoners, (2) release of a general group of unnamed prisoners,[410] (3) transportation, (4) publicity, and (5) money.[411] Regardless of the circumstances, the objective of a hijacking is always to use the vehicle and passengers seized as a means to extort something. The necessity of being physically present on an aircraft in order to conduct the hijacking probably consists of the biggest disadvantage of the MO. Whereas ground attacks, sabotage, and suicide missions can all be performed in an underhanded and anonymous manner, a hijacker will not even get close to achieving anything unless he or she gets up and commits the crime. Therefore, the attacker risks reprisals, including being subdued by passengers or crew, being killed by sky marshals, or having to face justice. Abramovsky identifies five basic types of hijackers: (1) the disgruntled national, (2) the "flying commando," (3) the mentally deranged, (4) the common criminal, and (5) the extortionist.[412] However, since hijackers can be motivated by more than one reason, hijackings are often divided into two broad categories: hijacking for transportation or extortion, and politically motivated hijackings.[413] The first category refers to the hijackings conducted for personal reasons by people wishing to be taken somewhere, whether they are escapees, criminals, refugees, or people fleeing repressive regimes. This category also includes extortion hijackings, which refers to hijackings perpetrated for criminal purposes, namely monetary gain. The second category focuses on politically motivated hijackings in which terrorists seek some sort of political concession from the targeted authorities; it corresponds to the "terrorist" intent classification of ATSD. The first recorded terrorist hijacking was a commandeering that took place

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409. Kavita K. Prakash, "A Historical Perspective US hijackings and Airline Security," (master's thesis, California State University, Long Beach, 2002).
410. Paul Wilkinson, "Weaknesses in airport security must be fixed," *Scotsman* (8 February 2000), 16. Wilkinson explains that the Hezbollah hijackers of TWA 847 (14 June 1985) were able to use the threat against their hostages to get 756 prisoners released from jails in Israel and South Lebanon.
411. Margaret A. Wilson, "Toward a Model of Terrorist Behavior in Hostage-Taking Incidents," *Journal of Conflict Resolution*, 44:4 (2000): 403-424.
412. Abraham Abramovsky, "Multilateral Conventions for the Suppression of Unlawful Seizure and Interference with Aircraft, Part I: The Hague Convention," *Columbia Journal of Transnational Law*, vol. 13 (1974): 382-383.
413. For scholarly discussions on the early history of hijackings, *see* Frank E. Loy, "Some International Approaches to Dealing with Hijacking of Aircraft," *International Lawyer*, 4 (1970): 444-452. *See also* Stansfield J. Turner, "Piracy in the Air," *Naval War College Review*, 22 (1969), 86-116; Marya A. Mintz, "Note on the Hijacker: His Criminal Evolution from Hijacks to Revolution," *Sociological Inquiry*, 43 (1973): 89-93; Nancy Douglas Joyner, *Aerial Hijackings As An International Crime* (New York: Oceana, 1974); R.T. Holden, "The Contagiousness of Aircraft Hijacking," *American Journal of Sociology,* 91 (1986): 874.

on 21 February 1931, when Peruvian revolutionaries seized a Pan American Airways System mail plane, demanding that the pilot fly over Lima, Peru, to drop propaganda leaflets over the city.[414] The most recent terrorist hijacking listed in ATSD[415] occurred on 12 June 2009 when Uighur terrorists attempted to take control of a Tianjin Airlines flight with a crutch and explosives. Passengers and crew overpowered the terrorists.[416]

Figure 3.14 illustrates the evolution of terrorist hijackings. Its most obvious trend is the steep increase in terrorist hijackings between 1968 and 1970, with a rapid augmentation from zero in 1967, to four in 1968, to six in 1969, and 19 in 1970. This rapid increase gave way to several waves of terrorist hijackings. Despite major fluctuations in 1981 (14), 1985 (9), and 1999 (8), one will notice a general decreasing trend in the number of hijackings as of 1974. Just like for terrorist ground attacks, 2004 marked a return of terrorist hijackings to their pre-1968 level, with the number of attacks per year not surpassing one between 2004 and 2011.

FIGURE 3.14   ATSD Hijackings

Figure 3.15 shows two major variations in hijacking fatalities during: (1) a PFLP hijacking on 27 June 1976 (25 killed), and (2) two ANO attacks: on 23 November 1985 (59 killed), and on 25 December 1986 (69 killed).

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414. Gero, 8.
415. ATSD collected statistics up to 31 December 2011.
416. ASN Database.

FIGURE 3.15   ATSD Fatalities

3.3.4.3   Sabotage

ATSD uses ICAO's definition of sabotage as being an act occuring when an explosive device is triggered from within an aircraft, be it on the ground or flying, with the intention of causing malicious or wanton destruction of property, endangering or resulting in unlawful interference with civil aviation (explosives can either be packed in a checked baggage or abandoned by a passenger after leaving a flight). For the purposes of ATSD, an important clarification must be made about acts of sabotage occurring while the aircraft is still on the ground: aircraft bombed on the ground while not in active use for civil aviation purposes is considered a ground attack. For example, the IRA bombed several planes at the Belfast Airport in July 1989.[417] However, those aircraft were not being readied to board passengers, and the attacks were therefore classified as ground attacks in ATSD.[418] For the purpose of this study, incidents in which luggage or parcels containing explosive devices were intercepted were considered thwarted acts of sabotage. Moreover, incidents including the use of small or fake explosives (e.g., grenades) for hijacking purposes were considered as hijackings rather than sabotage.

Various methods may be used to sabotage an aircraft, such as damaging some of its parts or tampering with its navigation systems. Based on ATSD attack descriptions, explosives have clearly been the most popular tool terrorists have used over the years to conduct airborne or ground sabotage. Airplanes are robust and well-designed machines able to sustain extreme conditions. Although an explosive device triggered from the inside of the aircraft will almost certainly

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417. Two attacks were committed on 3 July and one on 9 July 1989.
418. Montréal Convention 1971, Art. 1(1)(b), and 2(a) and (b).

jeopardize its physical integrity and have deadly consequences, there are many examples where disaster was avoided. This was made possible either because: (1) pilots were able to keep control of the aircraft after the blast and land it safely, (2) passengers and crew overpowered the attacker carrying an explosive device, (3) the bomb simply malfunctioned, or (4) the aircraft was still on the ground at the time of the explosion.[419]

ATSD revealed a few cases where terrorists' relatives were simply duped into travelling—unwittingly transporting suitcases containing concealed explosives. For example, on 17 April 1986 an unsuspecting Anne-Marie Murphy, a pregnant Irish girl, was preparing to board El Al Flight 16 departing from London-Heathrow airport bound for Tel-Aviv. El Al security officers discovered the explosive device after a guard became suspicious of the bag's heavy weight. The investigation revealed that her fiancée, Nezar Narnas Mansur Hindawi, had convinced her to travel to Israel alone before their wedding—and that he had concealed ten pounds of explosives at the bottom of her suitcase. The bomb was set to detonate by a combination of timer-altimeter detonation systems, providing greater control over the timing of the explosion. Had the plot worked, the aircraft on which Miss Murphy was scheduled to fly would have been destroyed while in flight.[420]

ATSD indicates that the first acts of mid-air sabotage by terrorists took place on Air India Flight 300 between Hong Kong and Jakarta on 11 April 1955. According to disclosed reports in the early 1990s, the attack targeted Chinese Premier Zhou Enlai, who was supposed to be a passenger on the aircraft, but wasn't due to a medical condition.[421] The most recent act of terrorist sabotage in ATSD took place on 29 October 2010, when al-Qaeda attempted to blow up FedEx and UPS cargo planes. Security officials found and defused both explosive devices

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419. Examples taken from GACID/ATSD: (1) *landed safely after explosion*: (a) El Al Flight on 16 August 1972, (b) TWA Flight on 26 August 1974, (c) Pan Am Flight 830 on 11 August 1982, (d) TWA Flight 840 bombed over Corinth, Greece on 2 April 1986, (e) Philippines Airlines Flight 434 on 11 December 1994; (2) *attacker overpowered:* (a) the S*hoe-bomber,* American Airlines Flight 63 *on 22 December 2001,* (b) the *Underwear-bomber, Northwest Airlines Flight 253* on 25 December 2009; (3) *malfunctioned:* (a) TWA Flight 841 on 26 August 1974, (b) Saudi Arabian Airlines Flight 367 on 23 November 1989; (4) *still on the ground:* (a) Syrian Arab Airlines on 19 August 1983, (b) Kuwait Airlines on 9 September 1984.

420. St. John, 83.

421. Steve Tsang, "Target Zhou Enlai: The 'Kashmir Princess' incident," *The China Quarterly*, 139 (September 1994): 766-782. According to Tsang this act of sabotage was an attempt by one of the intelligence organizations of the Kuomintang (then Chiang Kai-shek's ruling party in Taiwan) to assassinate Premier Zhou Enlai. The People's Republic of China (PRC) had chartered an Air India Constellation passenger airliner to take its delegation to attend the Bandung Conference in Djakarta, Indonesia. On their way, there was an explosion on board causing the aircraft to plunge into the South China Sea, near the Natuna Islands. Miraculously, three passengers survived the crash.

hidden inside printer ink cartridges.[422] Four al-Qaeda militants were arrested in connection with the incident.[423]

All together, 52 terrorist sabotage attacks were perpetrated between 1931 and 2011, a relatively low number compared to the 299 terrorist ground attacks and 217 terrorist hijackings. Apart from the two first acts of terrorist sabotage in 1955 and 1956, and contrary to the figures presented above for terrorist hijackings and ground attacks, figure 3.16 shows a fairly equal distribution of 47 terrorist sabotage between 1967 and 1994. There were an uncommonly high number of attacks in 1971 (4), 1981 (4), and 1986 (6). The only three acts of terrorist sabotage from 1995 to 2011 also stand out: 2002 (1), and 2010 (2).

Given the potential dramatic consequences of such terrorist attacks, one may deduce that the main objective of airborne sabotage is to cause fatalities.

FIGURE 3.16   ATSD Sabotage Attacks

Despite the relatively small number of acts of sabotage by terrorists, they were deadly. Taking into account the 1,418 fatalities by the 52 acts of sabotage, each attack averages 27.3 deaths. Figure 3.17 shows a surge in fatalities during the 1983-1989, period with 1,130 people killed. This represents 80 percent of the grand total of 1,418 fatalities due to sabotage. Although there were three attempted acts of sabotage between 1995 and 2011, there were no victims.

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422. Vikram Dodd, Richard Norton-Taylor, and Paul Harris, "Cargo plane bomb found in Britain was primed to blow up over US," *Guardian*, 10 November 2010, http://www.theguardian.com.

423. GTD. *See also* Alan Travis and Haroon Siddique, "Al-Qaida in the Arabian Peninsula member arrested over UK bomb plot," *Guardian*, 3 November 2010, http://www.theguardian.com.

FIGURE 3.17   ATSD Sabotage Fatalities

3.3.4.4   Suicide Missions

The author defines a suicide mission as an attack in which an individual or a group of individuals intentionally commits suicide in order to destroy an aircraft or an aviation installation, with the objective of killing people. ATSD descriptions show that terrorists have mostly conducted their operations either using hijackings; crashing aircraft after killing their pilots; or through sabotage, by detonating devices that they carried on their persons or in their luggage be they aboard an aircraft or in an airport.[424] Pape summarizes such descriptions and explains that a suicide mission is "any operation that is designed in such a way that the terrorist does not expect to survive it."[425] However, he makes a clear distinction between the words *mission* and *attack.* An *attack*, Pape suggests, means the attacker essentially wants to die for the cause or send a specific message to authorities. Although the attacker knows there is a possibility to be killed during a rescue operation, it is only seen as part of risk-taking. However, in a suicide "*mission,*" the attacker not only wants to die, but wishes to turn his death into a lethal weapon. For example, a hijacking executed as a first step of a suicide "mission" is only but a stepping-stone towards the ultimate goal of mass destruction. Throughout a lengthy and well-prepared operation, the "mission" becomes the *raison d'être*. As a case in point, the 9/11 attackers wanted to sacrifice their own lives as long as they could kill as many people as they could during the attack, and they did.

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424. ATSD gives two recent examples of suicide missions committed at an airport: (1) the 4 March 2003 attack at Davao international airport in the Philippines, where a man exploded a bomb killing 20 people and injuring more than 150; (2) on 24 January 2011, a suicide bomber detonated himself in the arrival zone of Moscow's Domodedovo international airport, killing 37 people and injuring 168.
425. Pape, locator 169.

While a terrorist requires explosive material to generate maximal damages in a public place, they do not necessarily need sophisticated tools to kill hundreds of people on a plane. ATSD demonstrates that terrorists maximize the death toll of their missions by targeting people "sequestered" in a very compact space at 10,000 meters in the air. This is the main reason why all suicide operations against civil aviation were designated as "suicide missions," not "suicide attacks." Unlawfully accessing the flight deck or blowing up a hole in the fuselage is sufficient to jeopardize the plane's flight and the security of passengers.

Pape posits that the willingness of terrorists to die magnifies their powers of coercion in three ways: (1) their missions are generally more destructive than other terrorist MO, (2) their missions establish the foundation for credible signaling of more attacks to come, and (3) the elements of suicide credibly establishes that the attackers cannot be deterred.[426] Merari argues further that: (1) for many people, these attacks are the symbol of terrorism, (2) it demonstrates the attacker's determination and devotion to kill others indiscriminately, (3) because people are willing to die instils the impression that their cause is bound to win, and (4) the lethality of suicide attacks may explain the increasing attractiveness of this method for terrorist groups.[427] Guiora broadens the spectrum beyond the mere attacker and identifies four central actors typically involved in the planning of a suicide mission: the attacker, the planner, the driver or logistic person; and the financier backing the operation.[428] As for the profile of the attacker, Merari argues that a majority of would-be suicide terrorists were diagnosed with a dependent-avoidant personality that is characterized by (1) a pronounced lack of self confidence, (2) difficulty in making decisions independently, (3) reliance on other's opinions, (4) reluctance to express disagreement out of fear of disapproval and rejection, (5) willingness to carry out unpleasant tasks to please others, and (6) fear of criticism or of being ridiculed.[429] In a recent study, Lankford identified over 75 individual suicide-terrorists who exhibited classic suicidal traits, including depression, guilt, shame, hopelessness, and rage.[430]

From a historical perspective, there was a certain ambiguity in the literature about the first suicide mission against civil aviation. Early evidence suggested that the explosion of Trans World Airlines (TWA) Flight 841 on 8 September 1974, which killed all 88 people aboard, was a suicide mission. The Arab Nationalist Youth Organization for the Liberation of Palestine (ANYO) later claimed the

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426. Pape, locators 377, 400.
427. Ariel Merari, *Driven to Death: Psychological and Social Aspects of Suicide Terrorism* (New York: Oxford University Press, 2010), 3-4.
428. Amos N. Guiora, "License to Kill – How to Assassinate Terrorists," *Foreign Policy*, 13 July 2009, http://www.foreignpolicy.com.
429. Merari, *Driven to Death*, 112.
430. Adam Lankford, "Do Suicide Terrorists Exhibit Clinically Suicidal Risk Factors? A Review of Initial Evidence and Call for Future Research," *Aggression and Violent Behavior* (2010): 334–340.

attack and argued that one of its members travelling on the plane had detonated the bomb, making the ultimate sacrifice in order to kill the Mossad operatives among the passengers. However, it was later determined that it was an act of sabotage executed by the PLFP-GC.[431] Therefore, the first terrorist suicide mission recognized in ATSD took place on 23 November 1989, However, it was a failed attack since a malfunction prevented the detonation of the bomb placed in the luggage compartment of Saudi Arabian Airlines 367. The Saudi authorities subsequently arrested ten people in this case. The most recent terrorist suicide mission occurred on 25 December 2009, when Nigerian Umar Farouk Abdulmutallab, an al-Qaeda operative, attempted to trigger a bomb hidden in his underwear while Northwest Flight 253 was approaching its final destination of Detroit. Abdulmutallab was subdued by passengers and crew members and was arrested after the plane landed safely in Detroit.[432]

Suicide missions have been simultaneously the least used MO and the most violent form of aviation terrorism. Figure 3.18 shows the paucity of suicide missions in the history of civil aviation—and the dramatic burst in the number of attacks from none in 2000 to six in 2001. Four of these incidents were carried out on 9/11 by al-Qaeda operatives. Aside from this important fluctuation, the number of terrorist suicide missions has remained low over the years, never surpassing two per year. They constitute 3 percent of all terrorist attacks committed against civil aviation since 1931 (17 in total), but they are responsible for 51 percent of all the deaths (3,143).[433] Figure 3.19 shows that 3,028 people died from aviation terrorist missions in 2001, 2,996 of which perished in the US on 9/11.[434]

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431. This entry in GACID/ATSD is a relevant demonstration that contradictory written information often needs to be pondered and decided upon with the help of reliable sources. In this case, the account offered by both Skyjack and RAND was assessed to be more reliable than the early claim made by ANYO.

432. ATSD (ASN).

433. This disproportionate lethality is fully consistent with data revealed in a similar study by Atran on general terrorism. Then again, this deadly facet represents a major incentive for terrorists involved in suicide missions targeting civil aviation. *See* Scott Atran, "The Moral Logic and Growth of Suicide Terrorism," *Washington Quarterly*, Center for Strategic and International Studies, MIT, 29:2 (2006), 127.

434. US, National Commission on Terrorist Attacks upon the United States. *The 9/11 Commission Report: final report of the National Commission on Terrorist Attacks Upon the United States,* authorized ed., 1st ed. (New York: Norton, 2004), 552n188. This note reports 2,973 fatalities. A 2011 report established a new total of 2,996 victims. This is the number used in ATSD. *See* http://homeland.house.gov. *See also* Appendix G, *911 Death Statistics*.

FIGURE 3.18   ATSD Suicide Missions

The most revealing trend in figure 3.19 is that only seven attacks were responsible for the 3,143 victims, who all died between 2001 and 2004.

FIGURE 3.19   ATSD Suicide Mission Fatalities

3.3.5 Putting Main Trends Into Perspective

Figure 3.20 presents a summary of all terrorist attacks committed against civil aviation since 1931. Like figure 3.4 depicting the criminal side of the database, the figure below is also separated into the same eight decade-long clusters. This breaking up of data offers a glimpse of the evolution of terrorist attacks against civil aviation for the same 1931-2011 period. Two aspects of this figure need to be

highlighted: (1) the most active decade for the number of attacks has been 1981-1990, and (2) if the 9/11 outlier were taken out of this picture, it would show that the 1981-1990 was also the most lethal, with 1,778 people killed.

ATSD statistics demonstrate a steep increase in terrorist hijackings beginning in 1968, which was also a pivotal year worldwide for social turmoil: the Arab States and Palestinians were still recovering from their defeat in the Six-day War, the Prague Spring led to the invasion of Czechoslovakia by Warsaw Pact countries, France became close to full paralysis by a general strike, the Vietnam War was at its climax, the struggle for the end of segregation was raging in the US, and Martin Luther King and Robert Kennedy were assassinated. Other series of terrorist hijackings and ground attacks emerged in late 1970s. The year 1979 saw important changes that shaped the world for the decade to come: the Soviet Union invaded Afghanistan, the return of Ayatollah Khomeini to Iran led to the Iranian revolution and the US embassy hostage crisis, Saddam Hussein seized power in Iraq, Israel and Egypt normalized their diplomatic relations, Margaret Thatcher set the tone for a wave of conservatism in the Western World, and Islamist dissidents seized the Grand Mosque in Mecca.[435] Finally, global events in the late 1980s and early 1990s may also have had an important influence on the main trends of aviation terrorism in the 1990s. These years marked the beginning of fundamental changes in the international order, with the end of the Cold War and an increase in both the number and severity of ethnic and religious conflicts.[436]

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435. For a thorough account of the impact of 1979 in world affairs, *see* Christian Caryl, *Strange Rebels: 1979 and the Birth of the 21st Century* (New York: Basic Books, 2013).
436. Graeme C. S. Steven and Rohan Gunaratna, *Counterterrorism: a reference handbook* (Santa Barbara: ABC-CLIO, 2004).

FIGURE 3.20   Summary of Terrorist Attacks per Decades 1931-2011

3.3.5.1 The 9/11 Statistical Outlier

The 9/11 suicide missions stand out as an outlier, having completely unbalanced certain ATSD statistical trends so far. Table 3.9 shows what aviation terrorism statistics would look like if 9/11 had not occurred. The four 9/11 suicide missions did not have much of an impact on the total number of aviation terrorism attacks, and no consequences at all on the relative popularity of each MO over time. However, the subtraction of the 9/11's 2,996 fatalities severely unbalanced the proportional importance of each terrorist MO. Indeed, sabotage became the most lethal MO, with 1,418 fatalities (45 percent), followed by ground attacks with 1,265 fatalities (41 percent) and hijackings with 279 (9 percent). Suicide attacks drop from the first to the last position, with a meagre 147 fatalities (5 percent).

TABLE 3.9   Terrorist Attacks without 9/11

Terrorist Attacks Without 9/11				
Tactic	Attacks	%	Fatalities	%
Ground Attack	299	51.37	1,265	40.69
Hijacking	218	37.46	279	8.97
Sabotage	52	8.97	1,418	45.29
Suicide Mission	13	2.23	147	4.73
TOTAL	**582**	**-**	**3,109**	

These statistics demonstrate that the 9/11 attacks must be considered with certain reservations in the context of overall trends. One cannot ignore the fact that four simultaneous hijackings were able to generate 49 percent of the 6,105 fatalities from civil aviation terrorism. However, Milde (cited by Piera and Gill) offers a suitable perspective to fully grasp this incongruity: "nobody claims that the tragedy of 9/11 was contributed to by a void in international law or by any inadequacy or shortcomings in codified international instruments. It was a single event targeting the territory, airlines and airports of one single State."[437]

3.3.5.2 A New Terrorist Strategy post-9/11: Death by a Thousand Cuts

ATSD shows a steady decline in the number of attacks against civil aviation in the period following 9/11. However, this downward movement uncovers a new trend: death by a thousand cuts. Although not specifically addressing aviation terrorism, this metaphor nevertheless captures the idea that multiple isolated and non-lethal attacks can be devastating in the long run because they are part of an overarching slow and insidious strategy. According to Hoffman, this strategy contains five core elements, which al-Qaeda is already applying

1. focusing on flooding the already information-overloaded intelligence systems with countless threats and background noise;
2. stepping up a strategy of economic warfare;
3. trying to create divisions within the global alliance fighting against them by targeting key coalition partners;
4. aggressively pursuing and exploiting failed states and lawless regions;
5. recruiting members from non-Muslim countries who can easily travel to Western countries.[438]

In 2010, in order to reach out to potential candidates, al-Qaeda in the Arabian Peninsula (AQAP) began publishing an Internet magazine called *Inspire* to spread not just militant rhetoric but also practical tactical instructions. In its November 2010 issue, AQAP *Inspire* confirms that it has adopted the strategy dubbed "Death by a thousand cuts."

> To bring down America we do not need to strike big. In such environment of security phobia that is sweeping America, it is more

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437. Alejandro Piera and Michael Gill, "Will the New ICAO-Beijing Instruments Build a Chinese wall for International Aviation Security?" *Vanderbilt Journal of Transnational Law*, 47:145 (2014), 153n34.
438. Bruce Hoffman, "Al-Qaeda has a new strategy. Obama needs one, too," *Washington Post* (10 January 2010), 2.

feasible to stage smaller attacks that involve fewer players and less time to launch.[439]

The *Inspire* unsigned article clearly states that the objective of this strategy is not to cause maximum casualties, but to cause maximum losses to the aviation industry that is so vital to the US and Europe. It also explains that the objective of these low-cost attacks is to cause widespread and high costs to the Western world's economy. Hummel posits that by using this type of strategy, al-Qaeda has gradually become a leaderless organization, a "Loosely Affiliated Network."[440] Going as far back as Osama bin Laden's 1996 Declaration of War against the US, Gartenstein-Ross notes that al-Qaeda's emphasis on bleeding the US economy has been an explicit ambition since the early days of the terrorist organization.[441] As Balvanyos and Lave argue, "an attack that caused many deaths and injuries need not cause terror, just as an attack that did not cause deaths or injuries could induce terror."[442] Therefore, the rationale behind the new *death by a thousand cuts* logic can be summarized as follows: destroy the Western economy and create terror.

3.3.6 A Note on Terrorist Groups in ATSD

A terrorist subcategory was created in ATSD for every terrorist group that perpetrated more than one attack. This greatly facilitated statistical analysis of patterns of attacks, and enabled the author to manipulate the statistics in more adroit ways—for example, this enabled the author to calculate what the statistical patterns would have been had the 9/11 attacks not taken place. In some instances, individual terrorists from the same nationality were gathered under the label "individual groups" in order to collect disparate but nonetheless relevant data. This classification process resulted in a list of 67 terrorist groups that targeted civil aviation more than once. Based on incident accounts, a group needed to be clearly involved in an attack or to have claimed responsibility for it in order to be taken into consideration. In a limited number of cases, group links to attacks were based on authorities' suspicions rather than actual claims. Table 3.10 shows the 20 terrorist groups that have conducted the most attacks and made the most victims. Acronyms of certain groups are used to facilitate the page setup; their full names

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439. [AQAP], "The Objectives of Operation Hemorrhage," *Inspire Magazine,* Special Edition (November 2010): 3-7.
440. Michael L. Hummel, "Who is Running Al-Qaeda?" *Homeland Security Review*, 5:1 (2011): 5.
441. Daveed Gartenstein-Ross, "Death by a Thousand Cuts," *Foreign Policy* (23 November 2010), http://www.foreignpolicy.com
442. Tunde Balvanyos and Lester B Lave, "The economic implications of terrorist attack on commercial aviation in the USA," (Research paper sponsored by the Center for Risk and Economic Analysis of Terrorism Events (CREATE), 4 September 2005), 5, http://www.usc.edu.

can be found in Appendix F. All in all, 33 different terrorist groups are listed in table 3.10. Seven groups, highlighted in bold italics, appear in both lists, speaking to the relative concentration of terrorist attacks and deaths in the hands of only seven groups. The only terrorist group appearing in the top ten of each list is al-Qaeda, with 15 attacks and 2,998 deaths.

TABLE 3.10   Terrorist Groups: Attacks and Fatalities

Rank	Terrorist Groups	Attacks	Terrorist Groups	Fatalities
1	*PFLP*	*26*	*al-Qaeda*	*2,998*
2	*Various Palestinians*	*23*	Various Libyans	447
3	*UNITA*	*16*	*Various Sikhs*	*332*
4	*al-Qaeda*	*15*	LTTE	218
5	FARC	15	*ANO*	*214*
6	AMAL	14	*UNITA*	*193*
7	ASALA	14	Abkhazian Separatists	136
8	Various Pakistanis	13	PFLP-GC	135
9	Shining Path	13	Various Chechens	129
10	ETA	11	North Korean Agents	120
11	ELN	11	The Extraditables	112
12	IRA	11	Various Afghans	108
13	ELF	10	ZIPRA	107
14	Nepal's Maoists	10	*Various Cubans*	*90*
15	Fatah	10	Hezbollah	76
16	*Various Sikhs*	*10*	SPLA	74
17	*ANO*	*9*	*Various Palestinians*	*59*
18	*Various Cubans*	*9*	*PFLP*	*41*
19	Various Japanese	9	Various Croatians	38
20	Various Colombians	8	MNLF	32

Figure 3.21 shows the activities of the various groups that conducted the most destructive series of attacks against civil aviation. The figure reveals a concentration of trends during two main eras. The first era is the 1968-1987 period, during which Palestinian terrorist groups (*see* figure 3.22 below), Amal, and the Armenian Secret Army for the Liberation of Armenia (ASALA) were very active. The 1994 to 2010 era shows major sequences of attacks by both al-Qaeda and Nepal's Maoists. Furthermore, figure 3.21 also shows the relatively circumscribed periods of time during which each terrorist groups targeted civil aviation, with al-Qaeda being the terrorist group that used the aviation terrorism tactic most consistently.

FIGURE 3.21   Most Important Patterns of Attacks by Terrorist Groups

3.3.6.1 Palestinian Groups

Several Palestinian groups have been specifically mentioned in this sub-section so far: PFLP, PFLP-EO, PFLP-GC, Fatah/Black September, ANO, ANYO. Yet, the literature review found frequent errors in the use of these different labels. This can be explained by many reasons: (1) most of those groups cooperated at one point in time, (2) terrorist groups are clandestine organizations, therefore information about their structure is usually kept secret to prevent arrest or retaliation, and (3) often, there were multiple and unconfirmed claims for the same attack. Consequently, for the purpose of this research, a particular label was only attributed to a group when: (1) confirmation that a group had claimed the attack existed,[443] (2) identified actors were known to be involved in the attack, or (3) the signature of the attack reasonably led to this conclusion. For example, notorious terrorist Leila Khaled repeatedly acknowledged her association with the PFLP; Abu Nidal (ANO) had long focussed his terrorist activities on Vienna's airport, where he often left his deadly imprint All other Palestinian attacks were simply attributed to the all-encompassing label Various Palestinians. For statistical analysis, two reasons justified merging such groups: (1) it helped to gauge the overall Palestinian participation in aviation terrorism, and (2) despite their divergent political stances, all Palestinian groups conducted their attacks in the

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443. This confirmation could take the form of interviews with terrorists, intelligence or law enforcement reports, UN or government reports, or reliable journalistic source.

name of the same cause: eliminating Israel and replacing it with a Palestinian state.[444]

Figure 3.22 illustrates the landscape characterizing those Palestinian organizations in their efforts to target civil aviation. It shows that it was under George Habash's leadership that the PFLP initiated the use of aviation terrorism as a means of internationalizing the Palestinian struggle. The number of attacks and deaths attributed to each groups is mentioned in their respective circles. The figure reflects the collaborative relationship between groups as far as aviation terrorism is concerned. Two splinter groups were created from the PFLP (1) the Wadi Haddad-led PFLP-External Operations (PFLP-EO), known to be the PFLP cluster specializing in aviation terrorism, and (2) the PFLP-GC and its leader Ahmed Jibril, who both became notorious for their bomb-making expertise. Dolnik argues that the PFLP-GC, operating under heavy state sponsorship, is recognized as a highly innovative organization that was the first to use a barometric pressure detonation mechanism to blow up airliners in mid-course flight, which by itself constitutes one of the greatest advances in terrorist technology ever achieved.[445] Though the Pan Am 103 sabotage has been attributed to a Libyan connection, there are strong indications that the PFLP-GC was linked to the sabotage.[446] According to intelligence reports, one of those links was the involvement of Marwan Kreeshat, PFLP-GC bomb expert, in the preparation of similar bombs in Frankfurt in the days prior to the Pan Am 103 attack. The PFLP-EO and Black September (Fatah's terrorist cell) perpetrated some operations together in 1972 but ceased all cooperation following the creation of the Rejection Front in 1974.[447]

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444. Harold M. Cubert, *The PFLP's Changing Role in the Middle East* (New York, Frank Cass, 1997), x.
445. Dolnik, 8.
446. Samuel M. Katz, *Israel versus Jibril: The Thirty-Year War Against a Master Terrorist* (New York: Paragon House, 1993), 202-232.
447. Michael R. Fischbach, "Rejection Front," *Encyclopedia of the Palestinians,* rev. ed., Philip Mattar, ed., (New York: Facts on File, 2005), 421. The Rejection Front was formed in 1974 by Palestinian groups opposed to the strategy under discussion within the Palestine Liberation Organization (PLO) of seeking a negotiated settlement to the Arab–Israeli conflict based on recognition of Israel and creation of a Palestinian state in the Occupied Territories. Spearheaded by the Popular Front for the Liberation of Palestine, the Rejection Front argued for continuing armed struggle with the goal of liberating all of Palestine. The front included the PFLP-GC, the Palestinian Popular Struggle Front, and later the Palestine Liberation Front. Iraq and the Iraqi Ba'ath Party backed the Front.

FIGURE 3.22   Palestinian Groups Involved in Aviation Terrorism

3.3.6.2 Al Qaeda

On 11 September 2001, al-Qaeda became headline news worldwide. The world realized that what had begun as a small group of Arab and Afghan insurgents had evolved into a transnational Islamic movement. Although the international intelligence community knew it, the devastating events of 9/11 established al-Qaeda as an escalating threat and showed the world the sophisticated methods used by the organization.[448] From then on, al-Qaeda became a major threat to Western countries and publicly established its influence over the Muslim world.

While there is nothing exceptional about the number of attacks carried out by al-Qaeda (15 attacks compared to the grand total of 586 attacks perpetrated since 1931), their capacity to be deadly speaks volumes (they killed 2,998 people, which is 49 percent of all aviation terrorism deaths). As for Palestinian organizations, their 76 attacks and 460 deaths account for, respectively, 13 and 8 percent of ATSD terrorist attacks and deaths. These numbers are disproportionate compared to the other groups listed.

3.3.6.3 The Importance of Palestinian Groups and Al-Qaeda

If al-Qaeda and Palestinian organizations had not targeted civil aviation with their terrorist activities, the 586 terrorist attacks and 6,105 deaths revealed in ATSD would have been reduced to 495 attacks (minus 91) and 2,647 killed (minus 3,458). This proficiency can be explained by Dolnik's argument that one of the triggers for terrorist innovation is the unintended acquisition of a particular human resource.[449] In the case of the PFLP, the particular human resource was Wadi Haddad, whereas Khalid Shaikh Mohammed (KSM) was al-Qaeda's mastermind behind the organization's deadliest attacks against civil aviation.[450]

In October 1977, ICAO adopted a resolution granting the PLO the right to participate as an observer in the sessions and work of the ICAO Assembly.[451] This resolution was rather awkward considering that Palestinian groups were liable for 53 attacks (38 percent of all attacks) and 54 fatalities (13 percent of all fatalities) between 1968 and 1977. It is worth noting that the same groups committed 15 attacks between receiving the identical privilege from the UN General Assembly

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448. Rohan Gunaratna, *Inside Al Qaeda: Global Network of Terror* (New York: Berkley Books, 2003), 3.

449. Dolnik, 175.

450. Richard Miniter, *Mastermind: The Many faces of the 9/11 Architect, Khalid Shaikh Mohammed* (New York: Sentinel HC, 2011).

451. ICAO, Assembly Resolution A22-6: "Participation of the Palestine Liberation Organization (PLO) in ICAO as an observer." (October 1977).

(UNGA) on 22 November 1974 (Resolution 3237)[452] and the ICAO decision of October 1977. Other terrorist groups used aviation terrorism as a way to convey a message. For example, increasingly competing with Amal, Hezbollah targeted civil aviation to secure both the release of 766 prisoners[453] and the support of Lebanese Shiites. The disproportionate role and influence of al-Qaeda and Palestinian groups in aviation terrorism is illustrated in table 3.11.

For their part, Sikh expatriates used aviation terrorism to step up the escalation of violence in Punjab, and in all probability to react to Operation Blue Star.[454] In short, aviation terrorism was a means rather than an end for all these terrorist groups, a mere vehicle for political claims, grievances and objectives.

TABLE 3.11   Al-Qaeda and Palestinian Groups vs Other Terrorist Groups

Attacks and Deaths vs Other Groups				
Groups	Attacks	%	Fatalities	%
Al-Qaeda and Affiliates	15	3	2,998	49
Palestinian Organizations	76	13	460	8
Abkhazian Separatists	5	1	136	2
AMAL	14	2	1	0
ASALA	14	2	22	0
CGSB	6	1	1	0
Dev Sol	2	0	0	0
ELF	10	2	6	0
ELN	11	2	0	0
ETA	11	2	4	0
FARC	15	3	0	0
Hezbollah	6	1	76	1
IRA	11	2	0	0
JRA	14	2	28	0
LTTE	7	1	218	4
M-19	5	1	1	0
MNLF	5	1	32	1
MRTA	4	1	1	0
Nepal's Maoists	10	2	27	0
Shinning Path	13	2	4	0
SPLA	5	1	74	1
Taliban and affiliated groups/individuals	4	1	0	0
The Extraditables	4	1	112	2
UNITA	16	3	193	3
Various Sikh groups/individuals	10	2	332	5
ZIPRA	4	1	107	2

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452. UNGA, Resolution 3237, *Observer Status for the Palestine Liberation Organization,* http://unispal.un.org/UNISPAL.NSF/0/512BAA69B5A32794852560DE0054B9B2.
453. James J. F. Forest, *Countering Terrorism and Insurgency in the 21st Century,* Vol. 3, Lessons from the fight against terrorism (Westport, CT: Praeger, 2007), 39.
454. *See* chap. 2, 64n280. *See also* sec. 3.4.5.

3.4   Aviation Terrorism Statistics: Other Viewpoints

Up to this point, aviation terrorism has only been viewed through the prism of ATSD data. However, other statistics can also offer interesting perspectives on the issue of aviation terrorism. These statistics can help answer two recurrent questions about aviation terrorism: (1) what are the odds of dying in a civil aviation terrorist attack, (2) how does aviation terrorism compare to terrorism in general? In order to better appreciate the answers to those two questions, statistics on acts of unlawful interference against civil aviation are included below.

3.4.1   The Odds of Dying in a Terrorist Attack on Civil Aviation

Table 3.12 lists the official ICAO number of passengers that used civil aviation annually since 1950.[455] The number of fatalities resulting from aviation terrorism was subsequently added to determine the odds of dying in an aviation terrorist attack for each year. When dividing the roughly 56 billion passengers transported by civil aviation by the 6,103[456] victims of aviation terrorism between 1950 and 2011, the overall odds of dying in a terrorist attack against civil aviation are established at one in about nine million.[457] But table 3.12 reveals there have been important fluctuations in the odds of dying from aviation terrorism since 1931. For example, these odds were at one in about 30 million in 1975, one in two million in 1985, one in 13 million in 1995, and one in over two billion in 2005. In fact, they have been particularly low since 2005, almost steadily in the hundreds of millions. Yet, the odds of dying in an aviation terrorist attack must also be put into perspective in order to fully grasp them. According to Richard Barrett, former coordinator of the UN's al-Qaeda and Taliban Monitoring Team, the chance of dying in any type of terrorist attack in the US were about one in 20 million between 2007 and 2011.[458] Alternately, the odds of dying in a plane crash are estimated at one in 11 million, and the odds of dying in a car accident at 1 in 5,000.[459] In short, people have much more to worry about when driving their cars than when flying—never mind dying in a terrorist attacks against civil aviation.

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455. *See also* Appendix A.
456. It must be noted that some of these "passengers fatalities" may actually not have been passengers but may have simply been collateral victims of an attack.
457. In a similar exercise whose methodology cannot be verified, Jesus Diaz from Gizmodo.com calculated the odds of dying in aviation terrorism attacks at 1 in 10,408,947. For full details, *see* http://www.gizmodo.com.
458. Richard Barrett, "Don't turn security into theatre," *CNN*, 6 May 2013, http://globalpublicsquare.blogs.cnn.com.
459. Harold Maass, "The odds are 11 million to 1 that you'll die in a plane crash," *Week*, 8 July 2013, http://theweek.com.

TABLE 3.12 Number of Passengers vs Fatalities, and Odds

Year	Pax	Fatal.	Odds	Year	Pax	Fatal.	Odds
1950	38	0	N/A	1981	758	10	1 in 76
1951	52	0	N/A	1982	771	17	1 in 45
1952	57	1	1 in 57	1983	803	253	1 in 3
1953	66	0	N/A	1984	854	37	1 in 23
1954	73	0	N/A	1985	906	469	1 in 2
1955	84	19	1 in 4	1986	967	210	1 in 5
1956	95	0	N/A	1987	1,035	183	1 in 6
1957	106	0	N/A	1988	1,090	277	1 in 4
1958	109	17	1 in 6	1989	1,117	317	1 in 4
1959	121	1	1 in 121	1990	1,173	5	1 in 235
1960	131	0	N/A	1991	1,143	23	1 in 50
1961	137	0	N/A	1992	1,154	13	1 in 89
1962	150	0	N/A	1993	1,150	137	1 in 8
1963	167	0	N/A	1994	1,242	40	1 in 31
1964	192	0	N/A	1995	1,313	103	1 in 13
1965	219	0	N/A	1996	1,401	1	1 in 1401
1966	248	0	N/A	1997	1,467	0	N/A
1967	288	0	N/A	1998	1,482	141	1 in 11
1968	322	1	1 in 322	1999	1,573	12	1 in 131
1969	363	5	1 in 73	2000	1,686	22	1 in 77
1970	386	49	1 in 8	2001	1,667	3,028	1 in 1
1971	414	4	1 in 104	2002	1,665	31	1 in 54
1972	453	65	1 in 7	2003	1,719	22	1 in 78
1973	492	40	1 in 12	2004	1,918	89	1 in 22
1974	518	89	1 in 6	2005	2,054	1	1 in 2054
1975	538	18	1 in 30	2006	2,169	2	1 in 1085
1976	580	124	1 in 5	2007	2,360	5	1 in 472
1977	615	8	1 in 77	2008	2,395	0	N/A
1978	683	72	1 in 9	2009	2,385	13	1 in 183
1979	759	61	1 in 12	2010	2,593	6	1 in 432
1980	754	1	1 in 754	2011	2,738	39	1 in 70
TOTAL					**55,958**	**6,081**	**1 in 9**

Note: Passengers (Pax) and odds are calculated in millions, rounded up to nearest million.

3.4.2 Comparing Terrorism to Aviation Terrorism

The Global Terrorism Database[460] (GTD), which included 104,778 entries at the end of 2011, was used to compare the number of terrorist attacks and fatalities from terrorism in general versus aviation terrorism (ATSD) from 1971 and 2011. Table 3.13 shows that ATSD attacks account for less than one percent of all GTD terrorism incidents. The importance of aviation terrorism to terrorism in general was negligible between 1971 and 2011, although its significance was slightly higher in the early 1970s. Overall, fatalities from aviation terrorism account for only 2.5 percent of all mortalities recorded in GTD terrorism attacks over the 1971-

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460. GTD at http://www.start.umd.edu/gtd/.

2011 period. The prevalence of aviation terrorism fatalities was particularly high in the 1970s, with percentages above 10 in 1972, 1973, 1974, and 1976. Equally worth mentioning is the 40 percent of all fatalities from terrorism attributable to aviation terrorism in 2001.

However, the problem with such comparisons is that GTD may be casting its net too widely. For instance, it includes numerous terrorist attacks that have occurred in armed conflict zones, a criterion systematically excluded by many authors.[461] Again, applying a strict and empirical definition of terrorism to GACID, the author concluded that only 586 incidents were actual terrorist attacks. That is 30 percent of the 1,965 occurrences involving civil aviation recorded in GACID. In short, the issue here is that table 3.13, and the kind of academic research it represents, compares two very different sets of data: one that may be too broad (GTD), and another that is empirically based and limited to a very specific (and comparatively minor) phenomenon (ATSD). Consequently, no significant conclusions can be drawn from comparing the scale of terrorism to that of aviation terrorism. The exercise only serves as an indicator of the importance of both phenomena. It presents a global picture and a comparative perspective, nothing more.

TABLE 3.13   Global Terrorism versus Aviation Terrorism

Year	GTD Incidents	ATSD Attacks	%	GTD Fatalities	ATSD Fatalities	%
1971	470	15	3	174	4	2
1972	494	17	3	566	65	11
1973	473	16	3	370	40	11
1974	580	8	1	542	89	16
1975	741	12	2	617	18	3
1976	923	17	2	672	124	18
1977	1,318	12	1	454	8	2
1978	1,527	15	1	1,455	72	5
1979	2,661	20	1	2,101	61	3
1980	2,663	17	1	4,428	1	0
1981	2,585	30	1	4,851	10	0
1982	2,546	17	1	5,149	17	0
1983	2,871	17	1	9,435	253	3
1984	3,494	15	0	10,449	37	0
1985	2,917	22	1	7,085	469	7
1986	2,864	22	1	5,034	210	4
1987	3,186	12	0	6,486	183	3
1988	3,721	6	0	7,192	277	4
1989	4,322	19	0	8,121	317	4
1990	3,888	12	0	7,149	5	0
1991	4,683	17	0	8,436	23	0
1992	5,081	21	0	9,751	13	0

461. *See* 100n401.

Year	GTD Incidents	ATSD Attacks	%	GTD Fatalities	ATSD Fatalities	%
1993	748	10	1	6,531	137	2
1994	3,460	16	0	8,090	40	0
1995	3,083	13	0	6,094	103	2
1996	3,058	9	0	6,953	1	0
1997	3,206	3	0	10,955	0	0
1998	934	16	2	4,843	141	3
1999	1,395	15	1	3,388	12	0
2000	1,815	17	1	4,364	22	1
2001	1,905	15	1	7,587	3,028	40
2002	1,334	14	1	4,746	31	1
2003	1,261	7	1	3,181	22	1
2004	1,160	4	0	5,721	89	2
2005	2,013	4	0	6,248	1	0
2006	2,754	4	0	9,308	2	0
2007	3,240	4	0	12,809	5	0
2008	4,790	6	0	8,892	0	0
2009	4,725	7	0	8,839	13	0
2010	4,823	7	0	7,666	6	0
2011	5,066	3	0	8,154	39	0
Total:	**104,778**	**533**	**0.5**	**234,886**	**5,988**	**2.5**

3.4.3 Statistical Summary of Acts of Unlawful Interference

As mentioned above, GACID includes all criminal incidents, all ATSD terrorist attacks, and all events in which intent could not be determined. Figure 3.23 presents a global summary of all GACID/ATSD incidents, merging figures 3.4 and 3.20; this allows for a better comparison between criminal and terrorist aggressions perpetrated from 1931 to 2011. This comprehensive report sets the stage for a better understanding of how the international civil aviation legal and regulatory framework had to be developed to confront a long-lasting series of acts of unlawful interferences. The statistics gathered in GACID/ATSD also help evaluate the impact of the international civil aviation legal and regulatory framework on aviation terrorism.

ATSD	2001-2011	1991-2000	1981-1990	1971-1980	1961-1970	1951-1960	1941-1950	1931-1940	ATTACKS
	75	137	172	149	44	7	1	1	ATTACKS
586	3236	492	1778	482	55	38	24	0	KILLED
6105	43.15	3.59	10.33	3.23	1.25	5.43	24.0	0	RATIO

FIGURE 3.23 GACID/ATSD Statistics by Decades 1931-2011

GACID	1931-1940	1941-1950	1951-1960	1961-1970	1971-1980	1981-1990	1991-2000	2001-2011	
1379	3	23	42	247	353	320	305	86	INCIDENTS
2562	25	67	201	407	810	274	642	136	KILLED
1.86	8.33	2.91	4.79	1.65	2.29	0.86	2.10	1.58	RATIO

139

From a security perspective, the major highlights of the history of civil aviation extracted from figure 3.23 are the following:

1. In the first three decades (1931-1960), criminals committed 88 percent of all aggressions (68 incidents against nine terrorist attacks);
2. During the last five decades (1961-2011), criminals committed 1,311 of their 1,379 incidents (95 percent) while terrorists perpetrated 577 of their 586 attacks (98 percent);
3. On average, terrorist attacks were deadlier (10.42 fatalities per attack) than criminal incidents (1.86 fatalities per incident);
4. On average, terrorist ground attacks were deadlier (4.23 fatalities per attack) than criminal ones (0.98 fatalities per attack);
5. Ground attacks are an MO mostly used by terrorists (299 attacks) as opposed to criminals (161 incidents);
6. Hijackings are an MO mostly used by criminals (83 percent or 1,067 incidents) compared to terrorists (218 attacks);
7. Sabotage is an MO mostly used by criminals (70 percent or 119 incidents) compared to terrorists (52 attacks), although terrorist attacks were deadlier (55 percent of all victims of sabotage);
8. Terrorist suicide missions are the most lethal MO of all (51 percent of all the fatalities in GACID) although it was only used 17 times;
9. Hijackings are the criminals' MO of choice (1,067), followed by ground attacks (161), sabotage (119), and suicide missions (32);
10. Ground attacks are the terrorists' MO of choice (299), followed by hijackings (218), sabotage (52), and suicide missions (17);
11. Criminals were involved in more incidents against civil aviation (1,379 or 70 percent of all incidents), but terrorists were deadlier (6,105 fatalities or 70 percent of all fatalities);
12. Terrorist suicide missions are the deadliest MO (3,143 fatalities), followed by sabotage (1,418 fatalities), ground attacks (1,265 fatalities), and hijackings (279 fatalities).

Table 3.14 provides a non-exhaustive list of prominent statistical information presented in this chapter. At a glance, it offers quick reference global data related to acts of unlawful interferences committed against civil aviation as well as key statistics on the phenomenon of aviation terrorism.

TABLE 3.14   Aviation Terrorism by the Numbers

Number	Subjects
8,667	Fatalities in overall GACID incidents
6,105	Fatalities in terrorist attacks against civil aviation
3,143	Fatalities in terrorist suicide missions
2,998	Fatalities in al-Qaeda attacks (49 percent of all terrorism fatalities)
2,562	Fatalities in criminal incidents against civil aviation

Number	Subjects
1,965	GACID incidents
1,418	Fatalities in acts of terrorist sabotage
1,265	Fatalities in terrorist ground attacks
586	Terrorist attacks
447	Fatalities in various Libyan groups terrorist attacks
332	Fatalities in various Sikh groups terrorist attacks
299	Terrorist ground attacks
279	Fatalities in terrorist hijackings
218	Terrorist hijackings
135	Fatalities in PFLP-GC attacks
73	Percent of ATSD terrorist attacks that resulted in no fatality
70	Percent of GACID incidents perpetrated by criminals
70	Percent of GACID fatalities attributable to terrorist incidents
69	Terrorist groups have been involved in aviation terrorism
52	ATSD terrorist sabotage
41	Fatalities in PFLP-EO attacks
30	Percent of GACID incidents are terrorist attacks
26	PFLP-EO terrorist attacks
23	Terrorist attacks by various Palestinian groups
17	Terrorist suicide missions
15	Al-Qaeda attacks (3 percent)
4	*Modi Operandi* (ground attack, hijacking, sabotage, suicide mission)

3.4.4 Global Aviation Terrorism Statistics by Region

GACID/ATSD statistics reveal that aviation terrorism is not concentrated in any particular region, but that it is globally spread. Figure 3.24 illustrates the global reach of the 586 terrorist attacks, which extend to all parts of the world. To risk a truism, global problems require global solutions. The fact that terrorist attacks against civil aviation are globally distributed means that all countries with airports (effectively, all countries) are potentially at risk. It follows from this that all countries are responsible for supporting and participating in appropriate measures designed to improve the global aviation security web.

Terrorist Attacks per Region		
Region	# of incidents	%
Europe	152	26
South/Central America	117	20
Africa	94	16
Asia	83	14
Near Middle-East	78	13
North America	45	8
Post Soviet	13	2
South Pacific	4	1
Total	586	100

FIGURE 3.24   Geographical Distribution of Aviation Terrorist Attacks 1931-2011

3.4.5 Catalytic Attacks

During the literature review in chapter 2 (section 2.3.8 and 72n313), nine terrorist attacks were identified as important turning points in the world of civil aviation. Although other attacks are sometimes discussed in the literature, those nine terrorist attacks were selected according to four conditions: (1) their historical individualities—first of a kind, rarity, or deadliest attacks using each of the four MO, (2) their unexpected facets both in terms of scope and of singular targeting of specific national carriers, airports, or victims, (3) their innovative characteristics presenting a sign of rupture from the past, and (4) their generating of unambiguous and collaborative reactions from the UN, ICAO, and world leaders. Moreover, those attacks often serve as case studies in many books and dissertations. They were also used during this study to test the validity of 10 axioms and 30 variables chosen from 29 definitions of terrorism. Once validated, those axioms and variables eventually led to the creation of the Consolidated Aviation Terrorism Characteristics (CATC) discussed in chapter 2. Birkland suggests that a "potential focusing event is an event that is sudden, relatively rare, can be reasonably defined as harmful or revealing the possibility of potentially greater future harms, inflicts harms or suggests potential harms that are or could be concentrated on a definable geographical area or community of interest, and that is known to policy makers and the public virtually simultaneously."[462] For Johnston when applied to the transportation sector, an event is considered catalytic when it generates important policy changes.[463] Thus, the term "catalytic attack" will be used in the present research to refer to sudden, rare, and harmful attacks generating policy changes in civil aviation. Indeed, when looking at the content of ATSD, there appears to be some links between those catalytic attacks and changes to civil aviation terrorism. Table 3.15 presents the list of those catalytic terrorist attacks.

TABLE 3.15   Dateline of the Most Salient Aviation Terrorist Attacks

Date	Catalytic Attack	Significance	Changes to the LRF
1968-07-23	Hijacking of El Al Flight 426	First aviation terrorist attack of modern international terrorism	Brought about the long-awaited ratification of the 1963 Tokyo *Convention on Offences and Certain Other Acts Committed on Board Aircraft* as well as the adoption of The Hague *Convention for the Suppression of Unlawful Seizure of Aircraft* in 1970

462. Birkland, *After Disaster,* 22.
463. Van R. Johnston, "Terrorism and Transportation Policy and Administration: Balancing the Model and Equations for Optimal Security," *Review of Policy Research*, 21:3 (2004): 263-274.

Date	Catalytic Attack	Significance	Changes to the LRF
1970-09-06 and 1970-09-09	Skyjack Sunday[464]	First coordinated aviation terrorist attack consisting of four nearly simultaneous hijackings followed by a fifth one three days later	Led to the quick adoption on 16 December 1970 of The Hague *Convention for the Suppression of Unlawful Seizure of Aircraft* and the adoption on 23 September 1971 of the Montréal *Convention for the Suppression of Unlawful Acts Against the Safety of Civil Aviation*
1972-05-30	Lod Airport massacre	First aviation airport attack resulting in numerous victims	ICAO adopted the first edition of Annex 17 on 22 Mach 1974, which included, inter alia, new airport security rules that were eventually embedded in the LRF
1985-06-14	Hijacking of TWA Flight 847	First Hezbollah terrorist attack that successfully brought the release of 766 prisoners	Changes to Annex 17, amendment 6, adopted on 19 December 1985 in pursuance of ICAO Resolution A22-17
1985-06-23	Air India Flights 182	Deadliest terrorist sabotage and second deadliest aviation terrorism attack	Changes to Annex 17, amendment 6, adopted on 19 December 1985 in pursuance of ICAO Resolution A22-17. Also steered the adoption of the Montréal *Convention on the Marking of Plastic Explosives for the Purpose of Detection* in 1991
1985-12-27	Rome and Vienna airport attacks	First coordinated airport attacks resulting in numerous fatalities	Led to the adoption of the Montréal *Protocol for the Suppression of Unlawful Acts of Violence at Airports Serving International Civil Aviation* in 1988
1988-12-21	Pan Am Flight 103	Second deadliest sabotage and third deadliest aviation terrorism attack	Changes to Annex 17, amendment 7, adopted on 22 June 1989 in pursuance of ICAO Resolution A26-7. Also guided ICAO to the adoption of the Montréal Convention 1991
2001-09-11	9/11 attacks	Deadliest aviation suicide mission and deadliest al-Qaeda terrorist attack. First fully successful use of aircraft as WMD	Changes to Annex 17, amendment 10, adopted on 7 December 2001 in pursuance of ICAO Resolution A33-1
2006-08-10	UK liquids and gels plot	Plot to commit simultaneous suicide missions involving the bombing of 10 to 15 airliners over the Atlantic Ocean	Changes to Annex 17, amendment 12, adopted on 17 November 2010 in pursuance of ICAO Resolution A36-20. Brought the adoption of the 2010 Beijing Convention and Protocol addressing new and emerging threats

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464. *See* 58n258.

The 1950s and 1960s saw a series of civil aircraft hijackings. At first, most of them were committed for criminal reasons. However, practically every book or article written on aviation terrorism and security asserts that the hijacking of El Al Flight 426 on 23 June 1968 heralded the beginning of modern international terrorism.[465] In the aftermath of this attack, terrorists began to develop an international network, forging contacts with one another and cooperating in training, logistics and knowledge sharing.[466] ATSD confirms that this catalytic attack in July 1968 was a defining moment for aviation terrorism, not least because it was the first time that Palestinian terrorists targeted civil aviation as a means for conveying their political message.

The second catalytic moment in civil aviation, known as *Skyjack Sunday*, was the almost simultaneous hijackings on 6 September 1970 of four civil airliners bound for New York, carrying a total of over 600 people. One of the hijackings committed shortly after take-off failed as passengers and crew quickly overpowered the two hijackers. The three other hijackings succeeded. One plane was taken to Cairo, where the attackers deliberately blew up the aircraft after all crew members and passengers were evacuated. On 9 September, the crisis escalated when another plane was hijacked and flown to Jordan to join the two remaining hijacked aircraft. The standoff lasted for weeks and, as news media were filming the event, ended with the blowing up of the three empty hijacked aircraft. The PFLP instantly considered Skyjack Sunday as a complete success, in part because of the significant media attention that it attracted. The incident launched the beginning of what Cettina dubbed "terrorisme publicitaire," or terrorism advertising.[467] Terrorists were from then on convinced that they could manipulate global news. These attacks pushed ICAO to quickly adopt The Hague Convention 1970.

A catalytic ground attack was committed on 31 May 1972 at Lod airport in Israel, during which Japanese Red Army operatives who had received training in PFLP camps in Lebanon pulled out automatic rifles and hand grenades from their carry-on luggage and fired indiscriminately at the crowd, killing 28 people. The attack shocked the world and was a turning point in civil aviation. It prompted ICAO to develop new airport security rules that were eventually introduced in the first edition of Annex 17 and later embedded in the LRF. The 1972 Lod airport attack was the first time that terrorists shot their victims at close range in an airport terminal.

On 14 June 1985, Hezbollah militiamen hijacked TWA Flight 847. They demanded the release of Lebanese Shiites detained by Israel. A 17-day long negotiation between terrorists and authorities could not prevent the killing of a US serviceman by the hijackers. The crisis ended with the release of all remaining

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465. Hoffman, *Inside Terrorism* 1998, 67. *See also* Ensalaco, 14.
466. Steven and Gunaratna, 33.
467. Cettina, 27.

hostages and the gradual release by Israel of 766 prisoners over the following months making the hijacking of TWA 847 by far the most significant terrorist attack in terms of prisoner releases.[468]

The single deadliest act of aviation terrorism finds its roots on 3 June 1984, when approximately 500 people were killed when the Indian government stormed the Golden Temple at Amritsar to dislodge armed Sikh militants. The bombing of Air India Flight 182 was perpetrated on 23 June 1985 as an act of revenge by Sikh terrorists. The sabotage killed 329 passengers and crew members.

Simultaneous airport attacks were launched on 27 December 1985 at Rome and Vienna airports. The attackers targeted identical groups of victims waiting at El Al and TWA counters at both airports. The attack lasted only a few minutes but killed a total of 20 people, making it the deadliest coordinated ground attack ever. This prompted ICAO to pronounce new airport security rules and led to the adoption of the Montréal Protocol 1988.

On 22 December 1988, Pan Am Flight 103 crashed in the small town of Lockerbie, Scotland, resulting in 270 fatalities, making it the second deadliest singular terrorist attack in the history of civil aviation.

The 9/11 attacks are etched in history because of the number of fatalities as well as the impact they had on aviation security measures and public opinion. This suicide mission was unprecedented in scope: nationals from over 80 countries were killed, hundreds of billions of dollars of damages in direct and indirect costs occurred, and airliners were turned into weapons of mass destruction for the first time in history. But above all, with nearly 3,000 people killed, the 9/11 attacks were the most lethal aviation terrorist attacks in history. These attacks embodied a new kind of international terrorism, which Paul Wilkinson describes as being very difficult to monitor and address because they are more diffused than ever before.[469]

Lastly, on 10 August 2006, 21 young British citizens were arrested in the UK.[470] The men were plotting to simultaneously detonate bombs on several airliners flying from London to various North American cities. Their objective was to kill 2,000 victims, or more. The plot had an immediate impact on civil aviation security as new passenger screening procedures were implemented on the day of the arrest by the vast majority of national civil aviation authorities.

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468. Forest, *21st Century,* 39.
469. Wilkinson, "Enhancing Security," 151.
470. Maya Rudolph and Liam James, "Britain Arrests 21 In Foiled Plot To Blow Up Planes," *New York Times*, 10 August 2006. Three more people were arrested on 30 August 2006.

Summarizing Remarks

In seeking to quantify aviation terrorism, and in order to answer this thesis' research question, it was necessary to develop a timeline that situated all terrorist attacks in the correct sequence. Merging data from seven different databases created a comprehensive database from which to populate this timeline. Statistics collected in GACID/ATSD will help decision-makers get a better understanding of a situation at hand, put in-progress attacks in perspective, and develop shrewder responses.

Out of the 1,965 GACID incidents, only 586 (30 percent) were identified as genuine terrorist attacks; these subsequently formed the ATSD. Through ATSD statistics and figures presented, chapter 3 revealed important evolutionary trends in aviation terrorism that will play a crucial role in the analysis conducted further in chapter 5. With this chapter, the quantitative aspect of this dissertation is largely concluded. A qualitative evaluation of the LRF through core ICAO documents will now follow in chapter 4, before moving on to analytical discussion in chapter 5, and, finally, the conclusion in chapter 6.

4

The International Legal and Regulatory Framework

Introduction

This chapter will describe the history of the civil aviation's legal and regulatory framework. A general understanding of historical events and legal decisions over the last half-century is essential to comprehending the current international civil aviation security system. The examination of both the framework's developmental process and the legal instruments dedicated to the improvement of measures tackling aviation terrorism will allow one to grasp how the world of civil aviation security was shaped over the last half-century.

This examination will also permit one to determine whether or not terrorist attacks have been an impetus for change to the civil aviation international legal and regulatory framework, and if it was, to determine what impact this framework has had on aviation terrorism. With all the information obtained through the literature review, GACID/ATSD statistics, and now the legal instruments, all the necessary knowledge will be in place to find the answer to the research question.

To layout the legal aspects more clearly, this chapter is divided into three sections. The first section provides a brief history of civil aviation in the early days from a legal perspective. The second describes the pivotal role played by actors and organizations in the development of a comprehensive security web for civil aviation. The last section examines the international legal and regulatory framework that has been developed for civil aviation in the last 50 years. In addition to the analysis of Conventions, Protocols, Annex 17 to the 1944 Chicago *Convention on International Civil Aviation,* and ICAO's Resolutions pertaining to aviation terrorism, a description of core security measures developed from these procedures is also given.

4.1 Civil Aviation: A Brief Historical Survey

Since the accomplishment of the first flight by the Wright brothers on 17 December 1903, civil aviation has developed a profoundly international character insofar as once in the air, an aircraft is easily able to cross any national boundaries. From early on, this is why many states saw the need to establish rules regulating aerial navigation. The law of the air was born.[471] The first diplomatic conference concerning air traffic and the international aspect of flights crossing state boundaries was held in Berlin in 1903. Although no agreement was reached amongst the few nations present, efforts were nevertheless made to establish a number of rules and procedures to organize flight operations in order to create a safe aerial environment.[472] A second unsuccessful Diplomatic Conference was also held in Paris in 1910 to discuss air navigation.[473] In spite of these unproductive meetings, the young industry could still operate without official rules and regulations. In the words of Gilbert, "since all flights were of short duration and their completion as planned somewhat doubtful, they were mainly of the *keep to the right* variety."[474] Whatever the case may have been, commercial civil aviation was officially born on 1 January 1914 when Tony Jannus piloted the first recorded scheduled domestic commercial airline flight between St. Petersburg and Tampa, Florida.[475] At the time, commercial success and safety were the two main concerns of the industry. Airlines needed to offer good services in order to attract customers. In return, customers needed to be assured that it was safe to fly. This is one probable reason why safety trumped security for so long. Indeed, it was not until the 23 July 1968 attack on El Al Flight 426, which was also the dawn of modern aviation terrorism, that the international community perceived *acts of unlawful interference*[476] against civil aviation as a security concern. GACID/ATSD statistics shows there were 129 events (113 criminal incidents and 16 terrorist attacks) between the first attack in 1931 and the 23 July 1968 attack.

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471. Manfred Lachs, "Some Reflections on the State of the Law of Outer Space," *Journal of Space Law* 9 (1981), 3.
472. Paul Fitzgerald, *Government Regulation of Air Transport*, vol. 1 (Montréal, McGill University, 2009), 29.
473. Michael Milde, *International Air Law and ICAO* (Portland, OR: Eleven, 2008), 8.
474. Glen Gilbert, "Historical Development of the Air Traffic Control System," *IEEE Transactions on Communications*, 21:5 (1973): 365.
475. Tony Tyler, "Remarks of IATA's Director General and CEO on the State of the Industry," (Speech delivered in Cape Town, 3 June 2013). *See also* www.century-of-flight.net.
476. ICAO, *Annex 17 to the Convention on International Civil Aviation Security, Security - Safeguarding International Civil Aviation Against Acts of Unlawful Interference*, 9th ed. (March 2011), 1-1: "acts of unlawful interference" is how ICAO refers to any acts or attempted acts such as to jeopardize the safety of civil aviation. See Glossary.

4.1.1 Dawning of International Civil Aviation Regulation

With flights to different countries becoming more regular in Europe, the need for control and standardization in the industry started to be taken more seriously. In 1919, a post-war Peace Conference held in Paris created the League of Nations under the Treaty of Versailles, with the objective "to promote international cooperation and to achieve peace and security."[477] Rosenne reports that the Paris conference produced the *Convention Relating to the Regulation of Aerial Navigation*, the first general regulation for civil aviation.[478] This treaty was eventually ratified by 26 of the 38 participating countries.[479] The first article of the Convention established the seminal concept that states had complete and exclusive sovereignty over the airspace above their territory. This principle was never disputed thereafter in any convention relating to international civil aviation. Amongst other things, the 43 articles of the Paris Convention 1919 also dealt with the freedom of passage, as well as technical, operational, and organizational aspects of civil aviation.[480] Two important international civil aviation organizations were created as a result of the conference:

1. The International Commission on Air Navigation (ICAN), responsible for the establishment of a legal framework aimed at ensuring safety, and for operational rules for airports and flight standards;[481]
2. The International Air Traffic Association (hereafter *Old IATA*), which was a trade organization set up by six European airlines.[482]

The dissolution of both ICAN and the *Old IATA* in 1945 marked the end of the infancy of the legal and regulatory framework for civil aviation. As the new United Nations Organization distanced itself from the League of Nations, those who came together to create the International Civil Aviation Organization would

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477. UN, *Basic Facts about the United Nations* (New York: United Nations, 2004), 3, http://www.munkiconference.weebly.com.

478. Shabtai Rosenne, *The Perplexities of Modern International Law* (Boston: Martinus Nijhoff, 2004), 314; League of Nations, *Convention Relating to the Regulation of Aerial Navigation* (Paris, 1919), 11 L.N.T.S. 173.

479. Dawna L. Rhoades, *Evolution of International Aviation: Phoenix Rising*, 2nd ed. (Burlington, VT: Ashgate, 2008), 34.

480. For an interesting historical review of the early days of civil aviation and the evolution of conventional air law, *see* Dempsey, *Air Law*, 14-31.

481. John Braithwaite and Peter Drahos, *Global Business Regulation* (New York: Cambridge University Press, 2000), 724.

482. Brian F. Havel, *Beyond Open Skies: A New Regime for International Aviation* (Frederick, MD: Kluwer, 2009), 223.

look ahead to the future, not the past.[483] Thenceforth, the Chicago Convention 1944 became the essential and exclusive legal reference for civil aviation.

4.1.2 Chicago Convention 1944

As the early years of civil aviation demonstrated, there was a need for an international body to establish common standards for civil aviation. Thus, US President Roosevelt convened an international conference in Chicago from 1 November to 7 December 1944.[484] Fifty-four countries participated in the conference and discussions were dedicated to the business aspects of post-war civil aviation. The objectives were to "make arrangements for the immediate establishment of provisional world air routes and services; and discuss the principles and methods to be followed in the adoption of a new aviation convention."[485] This idea materialized with the signing of the Chicago *Convention on International Civil Aviation* on 7 December 1944. This Convention laid down the basic rules of international air law and still provided for the basis of the regulation of international civil aviation worldwide.[486] It also sanctioned the establishment of ICAO, which became a UN specialized agency in October 1947. Two articles of the Chicago Convention 1944 draw parallels with the Paris Convention 1919 and set up a kind of international civil aviation duality: (1) state sovereignty over its airspace (art. 1); and (2) applies only to civil aircraft (art. 3, a).

Indeed, the fundamental principle underlying the whole civil aviation system in terms of conventional international air law is the recognition of the complete and exclusive sovereignty of every state over its territorial airspace as an extension of state territorial sovereignty.[487] The concept of sovereignty determines the exclusive right to exercise supreme political authority over a defined territory and the people

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483. David MacKenzie, *ICAO: A History of the International Civil Aviation Organization* (Toronto: University of Toronto Press, 2010), 23.
484. Peter P. C. Haanappel, *The Law and Policy of Air Space and Outer Space: A Comparative Approach* (Frederick, MD, Kluwer, 2003), 43.
485. ICAO, "The Chicago Conference," http://www.icao.int.
486. Roderick D. van Dam, "Regulating International Civil Aviation: An ICAO Perspective," in Henri A. Wassenbergh, *Air and Space Law: De Lege Ferenda: Essays in Honour of Henri A. Wassenbergh*, eds Tanja L. Masson-Zwaan, and Pablo Mendes de Leon, (Norwell, MA: Martinus Nijhoff, 1992), 11.
487. Chicago Convention 1944, Art. 1 reads as follows: "The Contracting States recognize that every State has complete and exclusive sovereignty over the airspace above its territory." *See also* Paris Convention 1919, Madrid Convention 1926 (also known as the Ibero-American Convention), Havana Convention 1928 (also known as the Pan-American *Convention*), and Abeyratne, *Convention Civil Aviation*, 15-20, for a genesis of the sovereignty principle; Dempsey, *Air Law*, 3. The fact that the principle was discussed in Art. 1 of both Paris Convention 1919 and Chicago Convention 1944, that they used the same wording, and that the principle was never contested, made it a seminal rule of international law.

within that territory.[488] In other words, no other state can have formal political authority within that state. This golden rule was successfully maintained in a series of treaties after the Paris Convention 1919 on civil aviation.[489]

Drawing a comparison with the 1958 Geneva *Convention on the High Seas*, Matte explains that airspace not located above a sovereign territory is considered *communes omnium,* and is consequently for the common use of all nations.[490] An aircraft-in-flight (in ICAO vernacular) crossing multiple state boundaries during an international flight raises the question of the right of a state to exercise jurisdiction whenever a crime is committed. In this sense, once in the air, an aircraft somehow turns out to be a movable piece of territory over which national criminal jurisdiction applies.[491] The clarification of this legal issue becomes the foundation of the legal framework establishing which state has the authority to prosecute or extradite an offender. This legal doctrine, also known as the *aut dedere*, *aut judicare* doctrine, is fundamental for understanding the dynamics of aviation terrorism, especially during hijacking crises. In summary, based on the principle of complete and exclusive state sovereignty over its territorial airspace, a state has the right to:

1. authorize or refuse authorization of any international flight into and above its territory;
2. impose such regulations, conditions and limitations on the exercise of such flights as it may deem appropriate;
3. establish and, where practicable, enforce its jurisdiction and the territorial application of its laws with respect to both national and foreign aircraft while within its territory, as well as to the persons and goods on board such aircraft, and to the offences, torts or other acts committed on board, whenever territorial links are applicable according to law.[492]

As discussed in chapter 3, the absolute rule specifying that the Chicago Convention 1944, as well as all the following ICAO Conventions and Protocols that are directly or indirectly interconnected with the Chicago Convention 1944, only apply to civil aviation is inviolable. Consequently, all state aircraft are deemed not to be civil aircraft and are thus excluded from these legal instruments.[493]

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488. Robert Beckman and Dagmar Butte, *Introduction to International Law* (e-Book, 2010), 2, http://asaha.com.
489. *See* 151n487.
490. Nicholas M. Matte, *Aerospace Law* (London: Sweet and Maxwell, 1969), 15. The official English translation of *communes omnium* is *common to all*.
491. Joyner, 231.
492. Marek Zylicz, *International Air Transport Law* (Boston: Kluwer, 1992), 61.
493. Tokyo Convention 1963, Art.1.4; The Hague Convention 1970, Art. 3.2; Montréal Convention 1971, Art. 4.1.

4.2   Civil Aviation: Responses to Terrorism

From a civil aviation perspective, the jet age was instrumental in creating a "transportation revolution" whereby people hijacked aircraft to escape prosecution or persecution.[494] By offering greater mobility to people and goods on a global scale, civil aviation became the embodiment of globalization. This observation is substantiated by Appendix A, which shows the undisturbed growth of world passenger traffic since the early 1960s. Unfortunately, this also turned civil aviation into a frequent target of evildoers around the world. This is why government leaders and international organizations had to get involved and play a central role in tackling the problem of aviation terrorism.

4.2.1   United Nations (UN)

The powers of the UN were set out in its Charter of 26 October 1945, which contains a supremacy clause that makes it the highest authority of international law.[495] The General Assembly (UNGA) and the Security Council (UNSC) are the two most crucial components of the organization. Their respective authority varies greatly both from the legal and the operational perspective. On most matters, the UNGA is limited to discussing issues and making recommendations. Although it lacks the formal legislative authority to impose binding resolutions on its member States, the UNGA is highly active in norm-setting work and contributes significantly to the development of the international legal framework.[496] Some of its products are standards, principles, and strategies to which the countries of the world have agreed. The UN sometimes adopts Conventions and Protocols that become part of the legal framework of its Member States.[497] Though formally considered non-binding, UNGA Resolutions nevertheless have a legal character.[498]

The UNSC has the primary responsibility of maintaining international peace and security.[499] It is also the body ultimately responsible for adopting binding decisions that all Member States must comply with in order to respect Article 25 of the UN Charter. It can also impose sanctions on Member States. Research showed

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494. Jangir Arasly, "Terrorism and Civil Aviation Security: Problems and Trends" (Paper presented to a meeting of the Combating Terrorism Working Group of the PfP Consortium, Sarajevo, February 2004).

495. UN, *Charter of the United Nations,* Article 103: "In the event of a conflict between the obligations of the Members of the United Nations under the present Charter and their obligations under any other international agreement, their obligations under the present Charter shall prevail." (San Francisco, CA, 1945).

496. Gerald N. Hill and Kathleen T. Hill, "International Law," *The Free Dictionary,* http://legal-dictionary.thefreedictionary.com.

497. Irving Sarnoff, International Instruments of the United Nations Adopted by the General Assembly of the United Nations 1945-1995 (New York: United Nations, 1997), xi.

498. *See* Appendix H, *UNGA Legal Instruments and Appendix I for UNSC Resolutions*.

499. UN, ¨UN Security Council,¨ at http://www.un.org/en/sc/.

that over the last 50 years, 18 multilateral Conventions and Protocols (including ICAO's), and 117 UNGA and UNSC Resolutions, Declarations, and Reports, have been adopted to address how UN Member States should tackle terrorism.[500]

Historically reactive, these legal instruments were usually developed following specific terrorist incidents using various tactics, MO, and weapons such as: (1) attacks against civil aviation, (2) attacks on government representatives, (3) hostage-taking, (4) the manufacture and use of unmarked plastic explosives, (5) terrorist bombings, and (6) the financing of terrorism. These series of UN legal instruments kept pace with frequent declarations by world leaders unequivocally condemning all forms of terrorism committed by whomever, wherever, and for whatever purposes.[501] However, Gus Martin points out that international law is essentially a cooperative concept since no international enforcement mechanism exists that would be comparable to domestic courts, law enforcement agencies, or criminal codes.[502] Shaw argues that the "international system is horizontal, consisting of over 190 independent states, all equal in legal theory (in that they all possess the characteristics of sovereignty) and recognizing no one authority over them."[503] This is true for the UN in general, but it is crucial to recognize that this is also true for the aviation industry. This is the environment in which aviation terrorism occurs: an environment in which no international enforcement mechanisms comparable to national mechanisms exist, a horizontal system that recognizes no overarching authority. This is exactly why cooperation between member states is crucial to ICAO and to the development of a global aviation security network. Imposition from above is not possible: progress must be made cooperatively.

4.2.2 UN and International Aviation Terrorism

Daudet posits that international organizations had to take the lead in finding solutions to the issue of international terrorism as the problem worsened. He also argues that because terrorism undermines peace and security, the UN is the proper forum for organizing collaboration against this threat.[504] Freestone concurs and offers arguments showing the international nature of terrorism:

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500. S*ee* Appendixes G and I, *UNSC Resolutions*.

501. UNGA, "Actions to Counter Terrorism," at http://www.un.org/en/terrorism/. *See also* ICAO Resolution A31-4, App. A, Art. 1: "*Strongly condemns* all acts of unlawful interference against civil aviation wherever and by whomever and for whatever reason they are perpetrated."

502. Martin, *Understanding Terrorism*, 510.

503. Shaw, 6.

504. Yves Daudet, "International Action Against State Terrorism," in *Terrorism and International Law*, eds Rosalyn Higgins and Maurice Flory (New York: Routledge, 1997), 209.

> External support for terrorist operations, the possibility of terrorists escaping to safe havens across international boundaries and the switching of targets by terrorists to less well-protected persons and property abroad as security at home improves are indicators of the transnational nature of much political terrorism.[505]

More accurately, the UNSC is the competent authority empowered to impose sanctions on Member States representing a threat to international peace and security. The UN's will to tackle international terrorism is echoed in a declaration made by Nassir Abdulaziz al-Nasser, President of the 66th UNGA: "Our resolve is strong, but it requires action and results (…) through strong political will (…) and cooperation in global counter-terrorism efforts."[506] Likewise, Charters claims that apart from intelligence the most important tool in fighting international terrorism has been cooperation among like-minded states.[507] The importance of cooperation between Member States is particularly evident in the case of international civil aviation, since terrorist attacks have great potential for creating pandemonium. Indeed, time and again, history has shown that such attacks can cause disruption and numerous negative consequences for the population, the industry, and governments.

4.2.3 G7/G8 and Aviation Terrorism

The Group of 7/8 (G7/G8) has given particular attention to the issue of terrorism since its creation in 1975. The Group formally discussed this topic at 28 of its 40 summits, and has released 18 official statements or declarations exclusively dedicated to the matter.[508] Except for two two-year gaps (in 1982-83 and 1998-99), the G7/G8's interest in terrorism has been continuous since 1978. Aviation terrorism has been in great part responsible for this. Of the 28 summits during which terrorism was discussed, 20 referred to aviation security or terrorism, and nine specifically referred to ICAO. G7 leaders meeting at the Bonn Summit of 1978 dedicated their very first official statement to aviation terrorism. It explicitly warned rogue states protecting hijackers that, if they failed to meet their international obligations regarding civil aviation, flights to their countries would

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505. David Freestone, "The principle of cooperation: terrorism," in *The United Nations and the Principles of International Law: Essays in Memory of Michael Akehurst*, ed. Colin Warbrick (New York: Routledge, 1994), 137.
506. Nassir Abdulaziz al-Nasser, (opening remarks made at the third biennal review of the UN Global Counter-Terrorism Strategy, New York, 28 June 2012, UNGA/11259).
507. David A. Charters, *The Deadly Sin of Terrorism: Its Effect on Democracy and Civil Liberty in Six Countries* (Westport, CT: Greenwood, 1994), 29.
508. See Appendix J, *G7/G8 Official Documents Dealing with Terrorism*.

cease.[509] This warning was reiterated in many subsequent summit statements on aviation terrorism, namely in 1979, 1980, and 1986. The bulk of these statements on aviation terrorism were adopted between 1978 and 1992.[510] They expressed, inter alia, that: (1) countries have a responsibility to respect The Hague Convention 1970 and Montréal Convention 1971: (2) attacks against civil aviation are reprehensible: and (3) state-sponsored terrorism ought to be denounced.

G7/G8 leaders' reactions were often caused by specific attacks explicitly mentioned in their statements. This was the case with the hijacking on 2 March 1981 of Pakistan Airlines Flight 326,[511] the 21 December 1988 sabotage of Pan Am Flight 103,[512] the sabotage of UTA Flight 772 on 19 September 1989, and the sabotage of Avianca Flight 203 on 27 November 1989.[513] Between 1989 and 1992, the Group consistently made reference in its statements and declarations to the development of detection methods for plastic explosives, which could prevent additional aircraft sabotage.

Although G7/G8 summits focussed less on terrorism and aviation terrorism in the mid 1990s, the topic made a noticeable return in 2002 at the Kananaskis Summit where G8 leaders focused on terrorism in more general terms, notably denouncing extremism and vowing counterterrorism cooperation.[514] Later, number of documents continued to make references to aviation terrorism. For instance, the issue of Manpads used by terrorist groups to attack airliners was mentioned in three statements.[515] At the 2004 Sea Island Summit, G8 leaders launched the Secure and Facilitated International Travel Initiative (SAFTI) in order to increase "the security and efficiency of air, land, and sea travel."[516]

4.2.4 International Civil Aviation Organization (ICAO)

Two themes are ubiquitous in most ICAO literature: cooperation between Member States and uniformity of regulations and practices. Currently, ICAO serves as the mechanism of cooperation in all fields of international civil aviation among its 191

509. G7, "Statement on Air-Hijacking," Bonn, Germany (17 July 1978),
http://www.g7.utoronto.ca/summit/1978bonn/hijacking.html.
510. *See* Appendix J.
511. G7, "Summit Statement on Terrorism," Ottawa, Canada, 21 July 1981,
http://www.g8.utoronto.ca/summit/1981ottawa/terrorism.html.
512. G7, "Declaration on Terrorism," Paris, France, 15 July 1989,
http://www.g8.utoronto.ca/summit/1989paris/terrorism.html.
513. G7, "Statement on Transnational Issues," Houston, US, 10 July 1990,
http://www.g8.utoronto.ca/summit/1990houston/transition.html.
514. The G7 became G8 in 1998 with the addition of Russia.
515. The Sea Island Chair's Summary (US 2004); The Hokkaido Leaders Statement on Counter-Terrorism (Japan 2008); The Camp David Declaration (US 2012).
516. G8, "Chair's Summary," Sea Island, US (10 June 2004),
http://www.g7.utoronto.ca/summit/2004seaisland/summary.html.

Member States.[517] From a legal standpoint, Shaw explains that international institutions like ICAO formulate international agreements, which impose binding rules upon the signatories.[518] But then again, Shabtai Rosenne adds a subtle and distinguishing feature when considering that "international law [is] a law of co-ordination, rather than, as in internal law, a law of subordination."[519] Essentially, ICAO's role is to set international standards and recommended practices (SARPs) which States reference when developing their legally enforceable national civil aviation regulations concerning safety, security, efficiency, and regularity.[520] The fundamental objective is to have all Member States working together towards the continuous improvement of a system that could bring a safe, secure, and pleasant traveling experience from one country to another, ensuring that passengers can travel around the globe in a seamless environment.

Between 1948 and 1953, a series of Standards and Recommended Practices (SARPs) were adopted by ICAO's Council and subsequently attached to the Chicago Convention 1944 as annexes.[521] Indeed, technical standards and legal instruments have made a significant contribution to the development of an effective international civil aviation system. In order to build such a deeply rooted international civil aviation infrastructure, Member States have typically adopted ICAO's rules as their own respective national legislations. Without a doubt, none of ICAO's Conventions, Protocols, Articles or Annexes are easily enforceable, which concretely means that it cannot easily force its Member States to accept or comply with its standards and regulations. Moreover, a consensus must be sought for all amendments to any annex and new SARP.[522]

4.2.5 International Air Transport Association (IATA)

IATA was first established in 1919 as the International Air Traffic Association, but became dormant during World War II. The International Air Transport Association replaced it in April 1945 after the failure of the 1944 Chicago Conference to deal with the commercial issues of the aviation industry.[523] It has a membership of 240 airlines from 118 nations and is responsible for 84 percent of total air traffic.[524] From the time of its establishment, IATA has had a very narrow mandate in relation to ICAO, normally limiting its infrequent interventions to periods of crisis.

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517. ICAO website at www.icao.int.

518. Shaw, 6.

519. Shabtai Rosenne, *Practice and Methods of International Law* (New York: Oceana, 1984), 2.

520. ICAO website, http://www.icao..

521. During that period, 15 annexes related to technical and safety issues were adopted. All Member States were encouraged to adopt and enforce them at home.

522. MacKenzie, 103.

523. Ibid, 63.

524. IATA, International Air Transport Association, Fact Sheet, http://www.iata.org.

However, it has turned out to be a very useful technical advisor during frantic episodes. Indeed, the hijacking era of the 1960s and 1970s brought the airlines and their crews to the front line.

True to its mandate to promote the business side of civil aviation, IATA has also been very vocal about the costs and hassles brought to the industry by the implementation of new security measures.[525] Even so, Wallis argues that IATA has been recognized as an association always "trying to make things simple and better for both the airline customer and the (airline) operator."[526] For example, the aviation industry owes them for three major initiatives. In the 1970s, IATA developed the Recommended Minimum Security Standards for Implementation at International Airports known widely as the "8 points," which led, among other things, to the creation of sterile areas in airports.[527] This idea called for the pre-boarding screening (PBS) of passengers and their carry-on baggage before they access the restricted area of an airport where they await their departure. In 1988, recognizing the failure of governments and the international community to halt attacks on civil aircraft, they suggested a five-point programme for the internationalization of the response to aviation terrorism.[528] Finally, in 2010 they led an initiative aimed at creating the *Checkpoint of the future*,[529] a risk-based security apparatus leveraging new technologies in order to scrutinize passengers more thoroughly and continuously, through a security process running from the check-in counters to the gates, in contrast with today's slow-moving repeated security checkpoints.[530]

4.2.6 National and Regional Organizations

As the world's largest aviation market, the US has been unequivocal about its interest in securing civil aviation.[531] Since the creation of ICAO, it has performed a very powerful, influential, and pivotal role in establishing a safe and secure environment in the civil aviation industry. It also greatly influenced the international aviation system through its domestic legislation.[532] The fact that

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525. R. William Johnstone, *Protecting Transportation: Implementing Security Policies and Programs* (Waltham, MA: Butterworth-Heinemann, 2015), 113.
526. Wallis, *Combating Terrorism*, 108.
527. Yonah Alexander and Eugene Sochor, eds, *Aerial Piracy and Aviation Security* (Norwell, MA: Martinus Nijhoff, 1990), 23. A sterile area is also known as a restricted area.
528. Wallis, *Combating Terrorism*, 137.
529. IATA, "Security - Tunnel of technology," http://airlines.iata.org.
530. Michael Mulvey, "Checkpoint of the future takes shape at Texas airport," *USA Today* (19 June 2012), http://travel.usatoday.com
531. See appendix K, *Number of Passengers Carried by Air: Country Ranking*.
532. Due to their broad spectrum of legal instruments, it would be lengthy and unnecessary to describe all the actions taken by the US government regarding civil aviation security. However, *see* appendix L, *Main US Civil Aviation Security Initiatives* for a summary.

American airliners were regularly targeted in terrorist attacks around the globe is an additional reason for the US's persistent interest in the implementation of appropriate legislation domestically and through international organizations, like the UN, ICAO, etc.

Another important actor in the international civil aviation system is the European Civil Aviation Conference (ECAC), created in 1955. Its main mandate is to review and coordinate European aviation policies and to maintain very close ties with ICAO. Through the standardized civil aviation policies and practices agreed to by its Member States, ECAC promoted the development of an efficient and safe European air transport system.[533] ECAC acts as an official subsidiary body of ICAO and currently has 44 members, including all of the 28 European Union countries.[534]

Recently, other regional organizations have taken effective measures to tackle the terrorist threat (e.g., League of Arab States (LAS), Organization of American States (OAS), Organisation of the Islamic Conference (OIC), etc.). They have adopted treaties to maximize and complement the web of measures developed by international authorities to prevent aviation terrorism. They also serve as a reminder of the need to consider regional specificities in the global decision-making process regarding terrorism. It is worth noting that actions taken by regional organizations often mirror the conventions adopted by ICAO and other international organizations, or those embraced by the US or the ECAC.[535]

4.3 Civil Aviation Law: Thwarting Aviation Terrorism

This section presents the evolution of the general principles of the law on international civil aviation as well as a list of the main legal instruments available to states for combating aviation terrorism. The purpose of this exercise is not to develop a legal treatise but to be cognizant of the conventions, protocols, and "soft laws"[536] periodically enacted to thwart terrorist attacks against civil aviation. As civil aviation evolved, international organizations, states, and the industry made great strides towards building a series of legal instruments and standards to harmonize the way the industry operates. Because international law is by nature a cooperative concept, the international LRF has helped instil a culture of

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533. Price and Forrest, 122.
534. ECAC Website, https://www.ecac-ceac.org/.
535. For a much more detailed analysis of the legal instruments adopted by regional organizations, *see* Musch, 265-359.
536. Christine Chinkin, "Normative Development in the International Legal System," chap. 1 in *Commitment and Compliance: The Role of Non-Binding Norms in the International Legal System*, ed. Dinah Shelton (New York: Oxford University Press, 2000), 42. Chinkin argues "the concept of soft law facilitates international cooperation by acting as a bridge between the formalities of law-making and the needs of international life by legitimating behaviour and creating stability."

international harmonization among states. Goldsmith and Posner suggest that international law is an instrument used by "states acting rationally to maximize their interests, given their perceptions of the interests of other states and the distribution of state power."[537] They posit that the two elements of international politics—i.e., state power and state interest—serve for the advancement of national policy.

4.3.1 International Law

International legal instruments are established specifically to prevent or prosecute crimes committed outside national jurisdiction.[538] Beckman and Butte explain that international law specifically deals with the conduct of states and of international organizations in their relations with one another, private individuals, minority groups, and transnational companies.[539] These global actors need to respect three pivotal principles of international law: (1) the principle of the sovereign equality of states; (2) the principle of territorial integrity, codified in Article 2(4) of the UN Charter; and (3) the principle of non-intervention in the internal affairs of other states.[540] States create international organizations through international agreements and the powers given to them are limited to those conferred in their founding documents. As Beckman and Butte note, international organizations have a limited degree of "international personality," especially vis-à-vis Member States.[541] With specific regards to international terrorism, Daudet goes even further by underscoring this caveat:

> the solutions invoked by international law have proved both awkward and inadequate. Just as democratic States are internally almost defenseless against totalitarianism, terrorism and violence, precisely because they will respect law and individual rights and freedoms, so international society is not well protected from international terrorism as its actions are, perforce, limited by the precepts of international law.[542]

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537. Jack L. Goldsmith and Eric A. Posner, *The Limits of International Law* (New York: Oxford University Press, 2005), 3.
538. The Hague Convention 1970, Article 3(3); Montréal Convention *1971,* Article 4(2); Montréal Protocol 1988, Article III.
539. Beckman and Butte, 1.
540. Freestone, 140.
541. Beckman and Butte, 1.
542. Daudet, 201.

4.3.2 Domestic Laws and Civil Aviation

At the national level, the main objective of states seeking a stable existence is to govern by means that will create order and avoid chaos. The role of law then becomes central in the way these objectives can be reached. In a democratic society, this is usually done through the creation of fair rules and common principles. Hence, regardless of the pivotal sovereignty principle embedded in all ICAO Conventions and Protocols, Member States ratifying these documents have the obligation to integrate into their own national criminal law all crimes specified in these treaties.[543] The corollary is that they also have to enforce these treaties through their national justice system. In the context of civil aviation, Dempsey contends much of air law is domestic law that is required by the Chicago Convention 1944 to be promulgated in a manner consistent with ICAO's Standards and Recommended Practices (SARPs).[544] Even if Boyle and Chinkin find it important to specify "states retain their primacy position within the international legal order,"[545] Aust properly clarifies the prime doctrinal role played by international law, as opposed to the more operational character of domestic law:

> International law differs from domestic law in that it is sometimes even more difficult to find out what the law is on a particular matter. Domestic law is usually more certain and found mostly in legislation and judgments of a hierarchy of courts. In contrast, international law is not so accessible, coherent or certain.[546]

Considering that GACID/ATSD statistics clearly demonstrate that criminal acts (1,379) predominantly outnumber terrorist attacks (586), it is rather odd that ICAO has developed its seven security Conventions and Protocols in response to terrorist attacks.[547] For example, although the Tokyo Convention 1963 originated in response to the spate of criminal hijackings committed before this convention was signed on 14 September 1963, it was in fact finally ratified as a response to a series of terrorist attacks in 1968-1969.[548]

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543. Tokyo Convention 1963, Art. 3, The Hague Convention 1970, Art. 2; Montréal Convention 1971, Art. 3.

544. Dempsey, *Air Law*, 5, 53.

545. Alan Boyle and Christine Chinkin, *The Making of International Law* (New York: Oxford University Press, 2007), 2.

546. Anthony Aust, *Handbook of International Law,* 2nd ed. (New York: Cambridge University Press, 2010), 5.

547. *See* sec. 1.3.4, "ICAO's Alleged Reactive Mode," for examples of attacks that have triggered new legal instruments. *See also* Appendix M, *Major International Legal Instruments to Counterterrorism.*

548. According to GACID/ATSD, 160 acts of unlawful interference were committed between the date of the signing of the Tokyo Convention 1963 on 14 September and the

4.3.3 International Law and Aviation Terrorism

As GACID/ATSD statistics demonstrated in chapter 3, the last 50 years have seen their share of violent acts against civil aviation.[549] While the early hijackings were mainly the work of individuals seeking to evade persecution or prosecution, groups pursuing political objectives also began masterminding skyjackings. A close examination of the Chicago Convention 1944 and ICAO Resolutions since 1946[550] suggests that these man-made threats were simply unimaginable when the organization was created. The repeated attacks, the deliberate disregard for the safety of passengers and crews, and the important economic losses endured by airlines led ICAO and Member States to develop legal and regulatory measures to thwart such attacks.

4.3.4 Genesis of Aviation Security

Both World Wars were a significant impetus for the development of civil aviation.[551] Taking a flight went from being an exceptional phenomenon to being a regular mode of transportation. However, concern over crimes committed on board aircraft predated ICAO and were discussed as early as 1926, at the Comité international technique d'experts juridiques aériens (CITEJA).[552] As MacKenzie notes, the League of Nations had formed a committee to discuss the international aviation security issues as early as 1926, which is five years before the first terrorist attack on civil aviation.

> The reasoning was simple: aircraft were regularly flying over territory where there was no territorial sovereign or flying so quickly over several states that determining jurisdiction was next to impossible. In

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moment it came into force on 4 December 1969: 145 criminal incidents (132 hijackings) and 15 terrorist attacks (9 hijackings).

549. As fig. 3.23 demonstrated, 96 percent of incidents (1,888) against civil aviation have been committed between 1 January 1961 and 31 December 2011.

550. *See* appendix N, *ICAO Initiatives on Aviation Security: 1946-2013*.

551. Although great efforts to regulate the new industry were made after the First World War, it is only after the Second World War that passenger traffic really increased significantly. It leaped from 10 million in 1945 to 64 million in 1954. It could also be argued that this phenomenon was partly due to new technical developments and a greater availability of de-militarized aircraft. This growth also took place during a period of unprecedented economic boom in the Western World.

552. For a thorough review of the discussions held by CITEJA between 1926 and 1940 on two specific issues related to aviation security (1) Condition juridique du commandant et du personnel and (2) Loi applicable aux actes et aux faits à bord de l'aéronef, *see* Arnold Kean, ed., "The Legal Status of the Aircraft commander – Ups and Downs of a Controversial Personality in International Law," *Essays in Air Law* (Hingham, MA, 1982), 314-322.

such cases, jurisdiction could be claimed by several states and might never be satisfactorily determined.[553]

As discussed in chapter 3, the international civil aviation industry started facing a sustained, concerted, and deadly terrorist campaign beginning on 23 July 1968. Prior to that attack, only 15 terrorist attacks had been committed against civil aviation. As will be discussed below, ICAO's response was rather slow. The lengthy periods of time between the signing of a legal instrument by Member States and the moment it comes into force was, and is, a real concern. This on-going issue is reflected in the list of ICAO Resolutions and Working Papers found in Appendix N.[554] Of particular interest is the 17th Session of the Assembly (extraordinary) held in Montréal in June 1970, because it was the first ICAO meeting specifically dedicated to finding solutions to the unrelenting problem of criminal or terrorists acts committed against civil aviation.[555] The analysis of resolutions and working papers shows that, as a general rule, ICAO decisions regarding aviation security have sought to: (1) protect persons and property, (2) harmonize the prosecution of offenders, (3) ensure the upholding of public confidence in civil aviation, and (4) safeguard air service operations.[556] According to GACID/ATSD, prior to this meeting, criminals and terrorists had targeted civil aviation 310 times (270 criminal incidents and 40 terrorist attacks) and 816 people had been killed (700 by criminals and 116 by terrorists).

4.3.5 Initial Approach: Reacting to Aviation Terrorism

Despite the fact that the first terrorist attack against civil aviation took place in 1931, it was the widespread series of aircraft hijackings in the 1960s, combined with their impact on the international civil aviation industry, that culminated in the adoption of several treaties regulating specific aspects of aviation terrorism.[557]

Hijackers desiring to escape some form of persecution or prosecution in the wake of the Cuban revolution were common in this decade.[558] Likewise, the surge

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553. MacKenzie, 249.
554. From 1946 to 2013, ICAO Member States received and dealt with a total of 77 Resolutions and 302 Working Papers related to Aviation Security or Aviation Terrorism.
555. *See* Appendix N; 17th Session of the Assembly (Extraordinary); and Working Papers.
556. For example, the preambles of The Hague Convention 1970, the Montréal Convention 1971, the Montréal Protocol 1988, and the Beijing Convention 2010 all address these issues in similar and optimistic terms.
557. Ilias Bantekas and Susan Nash, *International Criminal Law* (New York: Routledge-Cavendish, 2007), 92.
558. Price and Forrest, 43. On 15 February 1973, in a move to crack down on criminals and persons who were committing violent acts in the process of seeking asylum, the two countries signed a five-year agreement. This accord was designed to act as a deterrent. It

of interest in the Palestinian cause in the Near and Middle East sparked a campaign of terror against civil aviation that became progressively more lethal over the years.[559] These tempestuous actions compelled international organizations to make aviation security a top priority. ICAO addressed both the criminal American-Cuban problem and terrorist attacks by developing three conventions: (1) the Tokyo Convention 1963, (2) The Hague Convention 1970, and (3) the Montréal Convention, 1971. Other powerful international, national, regional, and civil aviation organizations cooperated in resolving this alarming situation.[560]

4.3.5.1 Tokyo Convention 1963

The Tokyo *Convention on Offences and Certain Other Acts Committed on Board Aircraft* is incorrectly considered by many to be the first UN action against aviation terrorism.[561] In actual fact, while principally confronting the problem of piracy at sea, the 1958 UN Geneva *Convention on the High Seas* also addressed the issue of "air piracy." Nancy Douglas Joyner argues that Article 15 of the Geneva Convention even served as a reference in the development of Tokyo Convention 1963 since it specifically dealt with both piracy of ships or aircraft.[562] The article reads as follows:

1. Any illegal acts of violence, detention or any act of depredation, committed for private ends by the crew or passengers of a private ship or private aircraft, and directed:
   a. on the high seas, against another ship or **aircraft**, or against persons or property on board such ship or **aircraft**
   b. against a ship, **aircraft**, persons or property in a place outside the jurisdiction of any State…(Emphasis added)

Thus, in theory, the UN had already addressed issues related to the safety of civil aviation with the Geneva Convention 1958 when a hijacking cycle erupted in the 1960s. There are evident similarities between crimes committed against ships and aircraft: (1) both ships and aircraft are international means of transportation carrying passengers, crew, and cargo; and (2) both use very expensive equipment.

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stipulated that each country, in conformity with their own national laws, was compelled to extradite or impose stiff penalties on hijackers.

559. Ensalaco, 15.

560. Since the attacks on civil aviation threatened the life of passengers and crews in the air or on the ground, and carried important liabilities and costs, the following civil aviation partners were invited to cooperate: International Air Transport Association (IATA), International Federation of Airlines Pilots' Association (IFALPA), Airports Council International (ACI), US Federal Aviation Administration (FAA), European Civil Aviation Conference (ECAC). Other organizations from around the world followed suit.

561. For example, *see* O'Donnell, 854.

562. Joyner, 104-105.

However, in practice, laws pertaining to piracy at sea were found inapplicable in the case of aircraft hijacking.[563] As GACID/ATSD reveals, unlawful acts against civil aviation was undeniably a growing problem. Civil aviation had already been attacked 54 times before this convention was adopted on 29 April 1958.[564] During the period before the Geneva Convention 1958 came into force on 30 September 1962, an additional 35 criminal incidents and 5 terrorist attacks took place. The problem grew so worrisome that an ICAO Diplomatic Conference was called in Tokyo from 20 August to 14 September 1963 to solve the problem of crimes committed on board aircraft in flight. In effect, the Tokyo Convention 1963 was the foundation eventually supported by later legal instruments. From the onset, the Tokyo Convention 1963 determined the following recurrent themes: (1) the scope of the convention; (2) the status of the aircraft; (3) the jurisdiction, powers, and duties of states; (4) the powers of the aircraft commander; (5) the particularities of the offense; and (6) extradition. Eventually, all these themes were either better defined, enhanced, or complemented by later conventions and protocols.

In terms of provisions, the Tokyo Convention ensured that the law of the state of registry of the aircraft applied to the crime, in addition to whatever legal clause other states might be applying.[565] Article 1(1)(a) gave the convention scope over penal offences committed on board an aircraft *in-flight*. Article 1(1)(b) clarified that the convention shall apply in respect to acts, which may or do jeopardize the safety of the aircraft or of persons or property on board. Article 2 carefully emphasized that no provision of the convention should require Member States "to act in respect to offenses against penal laws of a political nature or those based on racial or religious discrimination." Articles 1(3) and 5(2) defined the status of aircraft in-flight, while Article 3 delineated states' competence to exercise jurisdiction over offences and acts described in Article 1(1). Because the aircraft commander is the supreme authority on board an aircraft in-flight, Articles 6, 8, 9, and 10 enunciated the powers of the officer. Finally, Article 11 briefly explained the responsibility of Member States in returning the hijacked aircraft and its cargo to the persons lawfully entitled to possession.

When ICAO called the 16th Session of the Assembly in Buenos Aires in September 1968, the Tokyo Convention 1963 was still not ratified despite the fact that civil aviation was repeatedly the victim of unlawful acts. This absence of support by Member States forced ICAO to recognize the limits of its legal

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563. Scholars have determined there were three reasons for excluding the Geneva *Convention* 1958: (1) a piratical act must be committed for private ends; (2) an offense must occur in a place outside the jurisdiction of any state; and (3) two craft must be involved. *See* Abramovsky, "The Hague Convention," 387-388.
564. Prior to 29 April 1958, there had been five ground attacks, 35 hijackings, 11 acts of sabotage, and three suicide missions. Five of these incidents were terrorist attacks.
565. Robert P. Boyle, "International Action to Combat Aircraft Hijacking," *Lawyer of the Americas* 4:3 (1972), 462.

instrument. As a result, Member States adopted Resolution A16-37, requesting ICAO's Council "at the earliest possible date, to institute a study of other measures to cope with the problem of unlawful seizure" of aircraft.[566] Consequently, ICAO called together an Extraordinary Assembly in Montréal in June 1970 to "deal with the alarming increase in acts of unlawful seizure and of violence against civil air transport aircraft, civil airport installations and related facilities."[567] The agenda of the Assembly was totally dedicated to finding solutions to prevent impending unlawful acts against civil aviation.[568]

Three months later, in spite of this unprecedented effort to cope with this issue, ICAO witnessed "*Skyjack Sunday*," a series of four simultaneous terrorist hijackings followed by a fifth one three days later.[569] These attacks were committed between 6 and 9 September 1970, and the crisis dragged on until 30 September, when all the remaining hostages were freed. Even more shocking was the way the terrorists decided to end the crisis. As the cameras of world media were shooting the release of the hostages, terrorists spectacularly blew up the four hijacked aircraft sitting at Dawson's Field in Jordan.[570] The images of the ground-sabotage created turmoil in civil aviation and provoked an upheaval within the UN and the international community. The UNSC quickly adopted a resolution appealing for the release of hostages and calling "on States to take all possible legal steps to prevent further hijackings or any other interference with international civil air travel."[571] ICAO followed with an Extraordinary Session of the Council, which adopted a "resolution establishing the basis for concerted action to suspend service in any case where an aircraft has been hijacked for international blackmail purposes."[572] In December 1970, ICAO convened an International Conference of Plenipotentiaries in The Hague to find ways to respond to this new predicament. This Session concluded its work by a new hijacking convention adopted on 16 December 1970.

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566. ICAO, Resolution A16-37, "Unlawful Seizure of Civil Aircraft" (Sept. 1968).
567. ICAO, Resolution A17-1, "Declaration by the Assembly" (16 June 1970).
568. *See* Appendix N; 17th Session of the Assembly (extraordinary), Montréal, 16-30 June 1970. A total of 24 resolutions were adopted and 167 working papers were presented to Member States. Ironically, there was a hijacking while the meeting was in session (Pan Am Flight 119 on 22 June 1970).
569. *See* chap. 2, 58n258.
570. A first aircraft was blown up on day one of the crisis, as the hijacked B-747 was diverted to Cairo because it was too big to land on the short strip of Dawson's Field.
571. UNSC, Resolution S/RES/286, "The situation created by increasing incidents involving the hijacking of commercial aircraft (Dawson's Field)," (9 September 1970).
572. Boyle, "Aircraft Hijacking," 466.

4.3.5.2 The Hague Convention 1970

The *Convention for the Suppression of Unlawful Seizure of Aircraft* adopted in The Hague in 1970 (also known as the Hijacking Convention or Unlawful Seizure Convention) aimed to solidify the provisions of the Tokyo Convention 1963 and to augment its reach. It defined three fundamentals of the offense of unlawful seizure of aircraft: (1) the perpetrator must be on board an aircraft in-flight when the act is committed; (2) there must be the use of force, threat to use force, or any other form of intimidation in order to seize or exercise control of the aircraft; and (3) the aircraft must be in "in-flight status" according to the Convention's specifications.[573] Additionally, Article 1(b) expanded the notion of "offender" to include any accomplice participating in or aiding someone in carrying out unlawful acts. Moreover, it made acts of unlawful seizure of or interference with an aircraft an extraditable offence covering both international and domestic flights provided the offence is committed outside the territory of the state of registration of the aircraft.[574] Article 3 stipulated that an aircraft was considered to be in-flight from the moment its external doors were closed after boarding and until the opening of doors after landing. Therefore, a hijacking taking place after boarding, but before the doors were closed, would be deemed a "commandeering" and would be addressed by domestic law rather than international law.

Article 4 of the Convention explained that four states possess jurisdiction to act against the offender: (1) the state of registration of the aircraft; (2) the state of landing if the alleged offender is still on board; (3) in the case of a leased aircraft, the state of business or residence of the lessee; and (4) the state where the alleged offender is present in its territory, once that state decides not the extradite the offender. The objective of this article was that by granting jurisdiction over a hijacker to every Member State, the Convention technically made it impossible for a hijacker or an accomplice[575] to avoid prosecution. The Convention also incorporated—for the first time in an international treaty—the important *aut dedere, aut judicare* principle.[576] This principle, which is established only by treaties, obliges parties to multilateral criminal law conventions to prosecute or extradite an offender.[577] With regard to extradition discussed in Article 8, Abeyratne asserts that if a Member State "receives a request for extradition from a State with which it has no extradition treaty, the convention shall be considered as the legal basis for extradition."[578] Article 10 emphasized that Member States ought to cooperate in connection with criminal proceedings related to the offense. Two

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573. The Hague Convention 1970, Art. 1, and 3(1).

574. Ibid., Art. 3(3), 7, and 8(1).

575. Ibid., Art. 1(b).

576. ICAO, "Special Sub-Committee on the Preparation of One or More Instruments Addressing New and Emerging Threats," Montréal, 3-6 July 2007, 1-3.

577. Bantekas and Nash, 91-92.

578. Abeyratne, *Aviation Security Law*, 235.

other obligations were imposed on Member States—to restore control of the aircraft to its lawful commander (Art. 9), and to promptly report to ICAO any relevant information on the circumstances of the offense, the return of the aircraft, and measures taken against the offender (Art. 11).

The capabilities offered by this Convention, although imperfect, are nonetheless a significant step towards thwarting aircraft hijacking.[579] Given the circumstances and the context of the Convention, it is quite understandable that Member States quickly adopted The Hague Convention 1970. In fact, only 301 days were necessary to go from the signing (16 December 1970) to the entry into force (14 October 1971) of the Convention. To this day, this is by far ICAO's best record for the speedy completion and ratification of an aviation security convention or protocol.[580]

4.3.5.3 Montréal Convention 1971

However, The Hague Convention 1970 left many gaps unfilled and created an uproar in the industry. It also outraged those who are always in danger of becoming potential victims of acts of unlawful interference: pilots and crew.[581] Moreover, since it only dealt with the hijacking of aircraft in-flight, it did not cover acts of ground-sabotage like the ones seen in *Skyjack Sunday*.[582] ICAO responded to these failings in 1971 by introducing the Montréal *Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation* (also known as the Montréal Civil Aviation Convention). Although it repeated many of the principles expounded in The Hague Convention 1970, it also brought together original ideas and clarified old ones to remedy gaps. In summary: (1) it refined the vague definition of acts of unlawful interference (Art. 1(1); (2) it addressed acts of sabotage of aircraft (Art. 1(1)(b) and (c)); (3) it introduced the notion of attacks against civil air navigation facilities (Art. 1(d); (4) it criminalized the communication of false information endangering the safety of an aircraft (Art. 1(e); and (5) it included attempts to commit an unlawful act against civil aviation as well as all conspirators involved in an attack in the list of perpetrators (Art. 1(2)). The new instrument also extended its reach by introducing the notion of aircraft-in-service, which included operations around aircraft before departure and after landing (Art. 2(b),) to offer better aircraft protection at airports. Moreover, by adding the inclusive term "aircraft in service" in Article 2(b), it broadened the scope and reach of the Convention to a new number of offences that could be

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579. This aspect will be further discussed in sec. 5.3.1 and table 5.19 below.
580. *See* table 4.6 below on the ratification pace of all ICAO legal instruments.
581. *See also* 214n646.
582. GACID reveals 96 hijackings in 1969 and 93 in 1970. ATSD reports terrorist hijackings only represented six in 1969, but 19 in 1970, an all time high.

carried out from outside an aircraft (e.g., against aircraft on the ground; destruction or damage to navigation aids and facilities, etc.).[583]

As Abramovsky explained, there is one major difference between the unlawful seizure of aircraft or hijacking and the act of unlawful interference, which is not committed on board an aircraft in-flight like a ground attack. Indeed, a hijacking usually involves a number of jurisdictions, including the state where the seizure occurs, the state of registration of the aircraft, the landing state, and those states through whose air space the aircraft travels. In the case of a ground attack, it involves only one nation or, more likely, two: the state of occurrence and the state of registration.[584] Article 3 reintroduced the vague notion of "severe penalties," which was not better defined than it was in The Hague Convention 1970. Abeyratne reports that this omission was criticized as one of the weaknesses of the Convention.[585] Abramovsky summed up the impact of the Montréal Convention 1971 by arguing that Member States signing the Convention agreed that acts of sabotage, or other offenses interfering with the security and development of international civil aviation, constituted a global problem that deserved to be countered in a collective and united way. He also argued for the necessity of a multilateral international convention extending the scope and effectiveness of national legislation and providing a legal framework for international cooperation on the prosecution and the punishment of an offender.[586]

4.3.5.4   Montréal Protocol 1988

In 1988, ICAO adopted the Montréal *Protocol for the Suppression of Unlawful Acts of Violence at Airports Serving International Civil Aviation, Supplementary to the Convention for the Suppression of Unlawful Acts Against the Safety of Civil Aviation* (Montréal 1971) (also known as the Airport Protocol).[587] The Protocol expanded the reach of the Montréal Convention 1971 to extend beyond aircraft in-flight or in-service and to include acts of violence against people and facilities where air passengers are assembled before and after traveling at airports serving international civil aviation.[588] Airport attacks of this type normally receive

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583. Elias, 6.
584. Abraham Abramovsky, "Multilateral Conventions for the Suppression of Unlawful Seizure and Interference with Aircraft, Part II: The Montréal Convention," *Columbia Journal of Transnational Law* vol. 14 (1975), 271.
585. Abeyratne, *Aviation Security Law*, 241.
586. Abramovsky, "Montréal Convention," 278-279.
587. It is officially known as the *Protocol for the Suppression of Unlawful Acts of Violence at Airports Serving International Civil Aviation, Supplementary to the Convention for the Suppression of Unlawful Acts Against the Safety of Civil Aviation* (1971).
588. Samuel M. Witten, "Introductory Note to the Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation and Protocol Supplementary to the

comprehensive media coverage and generally create a lasting effect on the collective imagination. Practically speaking, Wallis argues that the Montréal Protocol 1988 was ICAO's reaction to the synchronized terrorist attacks conducted against the Rome and Vienna Airports on 27 December 1985 (20 fatalities).[589] However, Dempsey suggests that three other airport attacks also influenced the development on the Montréal Protocol:[590] (1) the 31 May 1972 Lod Airport attack in Israel (28 fatalities);[591] (2) the 5 August 1973 attack on the TWA lounge at the Athens airport (5 fatalities);[592] (3) the 31 July 1982 bomb attack of the El Al counter at the Munich airport, in which no casualties were reported.

Article I of the Protocol state that, "the Convention and the Protocol shall be read and interpreted together as one single instrument." Hence, crimes included in the Protocol find their basis in two articles of the Montréal Convention 1971: (1) Article 5(3), which explains that Member States could still apply their national criminal law jurisdiction to address attacks against international civil aviation; and (2) Article 8(3), which suggests that Member States recognize offences against civil aviation as extraditable offences, thus bringing the extradition rules of the Convention into play. Article II of the Protocol clarifies the essential parts of the *actus reus* of the offense: (1) the unlawful and intentional use of any device, substance or weapon; (2) acts of violence against a person which causes or is likely to cause serious injury or death; and (3) the destruction or serious damaging of airport facilities or aircraft not in service and the disruption of airport services.

4.3.5.5 Montréal Convention 1991

Although the Montréal Protocol 1988 was intended to increase aviation security, it did little to mitigate the threat of mid-air acts of sabotage, which were used by terrorists in the second-half of the 1980s to devastating effect. On 23 June 1985, two Air India attacks (331 killed) were a stark reminder that there were still many malfunctions in the global web protecting civil aviation. In following years, other attacks using mid-air acts of sabotage left their deadly imprint: (1) the thwarted bombing of El Al Flight 016 on 17 April 1986 would have been the single deadliest terrorist attack against aviation (395 victims) had it succeed;[593] (2) a bomb intended for an Air India flight departing from New York's JFK Airport was discovered on 30 May 1986; (3) South Korean Flight 858 was sabotaged on 29 November 1987

Convention for the Suppression of Unlawful Seizure of Aircraft," *International Legal Materials/American Society of International Law,* 50:2 (2011): 141.
589. Wallis, *Combating Terrorism*, 12.
590. Dempsey, *Air Law,* 227n3.
591. For more details, *see* sec. 2.3.5.5.
592. *See* David Fromkin, "The Strategy of Terrorism," *Foreign Affairs*, 53:4 (July 1975), http://www.foreignaffairs.com.
593. Israel Security Agency, "Anne-Marie Murphy Case (1986)," http://www.shabak.gov.il/english/history/affairs/pages/anne-mariemurphycase.aspx.

(115 killed); (4) Pan Am Flight 103 was attacked on 22 December 1988 (270 killed); (5) UTA Flight 772 was attacked on 19 September 1989 (171 killed); and (6) Avianca Flight 203 was attacked on 27 November 1989 (110 killed). The world of civil aviation had to wait until 1 March 1991 to see a solution to this problem presented in the Montréal *Convention on the Marking of Plastic Explosives for the Purpose of Detection* (also known as the Plastic Explosives Convention).

Following the Pan Am 103 sabotage, the ICAO Council quickly established an Ad Hoc Group of Experts on the Detection of Explosives on 30 January 1989. During the deliberations of the Ad Hoc Committee another bomb exploded on board UTA 772.[594] A little over two years later, ICAO convened an international aviation law conference in Montréal, from 11 February to 1 March 1991, in order to settle on a final text concerning explosives. In general terms, it addressed the manufacturing and control of new marked explosives, and the destruction of unmarked ones. According to Milde, the general concept of the Convention was very simple: plastic explosives could be made detectable by a "marker"—a substance added to them.[595] Article II directed Member States to prohibit and prevent the manufacture of unmarked explosives; Article III related to the movement of unmarked explosives, and Article IV touched on the strict and effective control over the possession, transfer, and destruction of explosives. Despite the high number of casualties caused by sabotage attacks, the new Convention only entered into force seven years later, on 26 June 1998.

4.3.5.6   Annex 17 and the Aviation Security Manual

As previously mentioned, a spate of hijackings threatened the reliability and credibility of civil aviation in the late 1960s and 1970s. In 1970, ICAO recognized the fact that "acts of unlawful interference against civil aviation operations and facilities have produced a situation where the safety of international civil aviation operations is in jeopardy," and directed "the Secretary General to develop, with the utmost speed, a Manual of Security."[596] On 22 March 1974, following the work of three ICAO committees,[597] the Council adopted a series of security measures gathered in a document designated as Annex 17 to the Chicago Convention 1944,

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594. Milde, "International Fight," 151. Though the development process of the Montréal Convention 1991 was already under way, the sabotaging of UTA 772 should nevertheless be recognized as a major influence on ICAO's decision, as it is the third most deadly act of sabotage.

595. Milde, *International Air Law*, 242.

596. ICAO, "Implementation by States of Security Specifications and Practices adopted by the Assembly and further work by ICAO related to such Specifications and Practices" (Resolution A17-10 presented at the 17th Session of the Assembly (Extraordinary), Montréal, 16-30 June 1970).

597. The Air Navigation Commission, the Air Transport Committee, and the Committee on Unlawful Interference. *See* MacKenzie, 262.

originally entitled *Standards and Recommended Practices – Security – Safeguarding International Civil Aviation against Acts of Unlawful Interference*. Although it mainly presented best practices, the Aviation Security Manual (ASM),[598] as Annex 17 came to be known in 2005, also provided Member States with detailed information about procedures and guidance on various aspects of aviation security.[599] Milde contends that, in the form of Standards and Recommended Practices (SARPs), Annex 17 is a type of "secondary" legislation that would play a prominent role in the field of aviation security if Member States implemented it with determination.[600] In order to face emerging threats and new realities, Annex 17 has been updated 12 times between 1974 and 2011.[601] Every iteration of Annex 17 confirmed the obligation of Member States to "establish measures to prevent weapons, explosives or any other dangerous devices, articles or substances […] from being introduced by any means whatsoever, on board an aircraft engaged in civil aviation."[602] Moreover, Annex 17 strongly reinforced the security policies promoted by the Tokyo Convention 1963, The Hague Convention 1970, and the Montréal Convention 1971. It also introduced a number of measures to prevent and suppress all acts of unlawful interference against international civil aviation. The ASM seeks to coordinate the activities of those involved in security programmes and stresses the importance of cooperation and coordination. It also recognizes that airline operators have the primary responsibility for the protection of their passengers, assets, and revenues. This implies that states "must ensure that the carriers develop and implement effective complementary security programmes compatible with those of the airports out of which they operate."[603]

During a conference on aviation security held in February 2002 at ICAO's headquarters, it was concluded that an immediate revision of the regulatory guidelines in Annex 17 was needed,[604] and ICAO's objective was to have all Member States reinforce or implement the Standards and Recommended Practices for Security (SARPS). As Wallis points out, Annex 17 was major contribution to aviation security and is recognized as the essential rulebook for all those responsible for aviation security.[605] In contrast to the adoption of conventions and protocols—which is always up to the discretion of Member States—all Member

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598. ICAO, *Aviation Security Manual* (Document 8973, Restricted), 8th ed. (2011).
599. ICAO, *Annex 17 to the Convention on International Civil Aviation Security, Security - Safeguarding International Civil Aviation Against Acts of Unlawful Interference*, 8th ed. (April 2006).
600. Milde, "International Fight," 153, 157.
601. For more details on the 12 amendments, *see* Appendix O, *List of Amendments to Annex 17*.
602. Annex 17*,* 9th ed. (March 2011), 4.1.1.
603. ICAO, Annex 17 Information document, p.1, www.icao.int.
604. Ruwantissa Abeyratne, *Aviation in Crisis*, (Burlington, VT: Ashgate, 2004), 336.
605. Rodney Wallis, "The Role of the International Aviation Organisations in Enhancing Security," *Terrorism and Political Violence*, 10:3 (1998), 85.

States hitherto signatories of the Chicago Convention 1944 have *de facto* adopted Annex 17.

4.3.5.7 Aviation Security after 9/11

The 9/11 attacks were a rude awakening for many countries around the world and revealed many deficiencies in existing aviation security systems. ICAO played its leading actor role in the transformation that included the most comprehensive changes ever to aviation security in terms of magnitude: security measures were overhauled, aviation security authorities were put in place in many countries, new treaties were signed, new screening equipment was deployed, and more funds were allocated for security measures. Other leading actors also responded very quickly. In commenting on the UN's actions, Proulx described UNSC Resolution 1373[606] as the "most important instrument agreed upon" since 9/11, because it instituted a stand-alone obligation to prevent transnational terrorism.[607] Naturally, the events of 9⁄11 also resulted in the US making important strides towards overhauling its methods and ensuring a better security net against terrorist acts.

4.3.5.8 ICAO's Aviation Security Plan of Action of 2002

Held in September 2001 in the aftermath of the 9/11 attacks, the main focus of ICAO's 33rd Assembly shifted drastically towards aviation security. The first resolution to be adopted was the Declaration on Misuse of Civil Aircraft as Weapons of Destruction and Other Terrorist Acts Involving Civil Aviation.[608] This resolution called for a complete review of all ICAO's security policies and strongly supported the adoption of an aviation security programme (AVSEC). To facilitate the development of long-term strategies for improving and intensifying the implementation of SARPs found in Annex 17, the Assembly decided that the AVSEC Programme should become a permanent and mandatory programme involving all Members States.[609]

In February 2002, the Ministerial Conference on Aviation Security, called by the Assembly, was held in Montréal. All participants agreed that public confidence in the civil aviation industry could only be restored by international cooperation and the actions of the Member States.[610] The AVSEC's main objective was to assist Member States through:

606. UN, Resolution 1373, *Threats to international peace and security caused by terrorist acts* (28 September 2001).
607. Vincent-Joël Proulx, *Transnational Terrorism and State Accountability: A New Theory of Prevention* (Portland, OR, Hart, 2012), 207.
608. *See* ICAO, Resolution 33-1, (25 September 2001).
609. Bassiouni, *International Criminal Law*, vol. 1: Sources, Subjects and Contents, 3rd ed., (Leiden: Martinus Nijhoff, 2008), 848-849.
610. MacKenzie, 386.

the provision of advice to States on aviation security organization and techniques; the assistance in the execution of the ICAO audit Corrective Action Plan to meet requirements of Annex 17; the coordination of ICAO aviation security training programme, providing on-the-job training and certification; the staging of ICAO-sponsored, topic-focused workshops and regional training seminars; and in coordination with the ICAO Technical Cooperation Bureau, long term assistance in State.[611]

The conference also adopted a plan of action that included the implementation of a new Universal Security Audit Programme (USAP), which was launched in June 2002. The USAP is a security oversight programme involving regular, mandatory, systematic, and harmonized audits aimed at evaluating national aviation security programmes in order to strengthen worldwide aviation security and garner true commitment from Member States. It is through this programme that every security measure set forth in Annex 17 and implemented by Member States is assessed. If anomalies are detected, ICAO then provides recommendations in order to improve aviation security.

4.3.6 New Approach: Proactively Thwarting Aviation Terrorism

As discussed above, in its efforts to enhance aviation security, ICAO Member States ratified four Conventions and one Protocol between 1963 and 2010. It is important to reiterate that these legal instruments were always introduced in reaction to specific attacks against civil aviation. The 9/11 attacks highlighted that, despite the legal instruments already adopted, there were still possibilities to improve the international civil aviation legal and regulatory framework. Thenceforth, ICAO needed to follow suit and transform itself. The platform for launching the beginning of a new age for ICAO was the Diplomatic Conference on Aviation Security, held in Beijing in September 2010. At this venue, ICAO introduced a new forward-thinking approach to aviation security.

4.3.6.1 Beijing Convention 2010 and Beijing Protocol 2010

ICAO's new proactive approach was exemplified by the adoption in 2010 of two new legal instruments for securing international civil aviation: (1) the Beijing *Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation*, and (2) the *Protocol Supplementary to the Convention for the Suppression of Unlawful Seizure of Aircraft.*[612] The Beijing Convention 2010 and Protocol significantly strengthen and broaden the international civil aviation legal and regulatory framework, and facilitate the prosecution and punishment of

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611. Bassiouni, *International Criminal Law*, 849.
612. The Beijing Protocol is supplementary to the Protocol of The Hague Convention 1970.

offenders. The Beijing Convention 2010 corrects the flaws of the framework developed in the past half a century.[613] The Beijing Protocol 2010 updates The Hague Convention 1970 by expanding it to cover different forms of aircraft hijacking. According to Giemulla and Weber, these new legal instruments retained the important principle of "prosecute or extradite" while expanding jurisdiction and reinforcing extradition mechanisms included in previous conventions, namely by creating a number of new international offences.[614] The authors also highlighted the innovative and proactive initiative of ICAO pertaining to the provision for unlawful acts using or transporting any biological, chemical, or nuclear substances (BCN); this is included in Article 1(g), (h), (i) of the convention. Van der Toorn offers more precisions and explains that the new offences created by the Beijing legal instruments include: the use of aircrafts as weapons, the use of weapons of mass destruction on an aircraft, and the transport of dangerous materials (and their use in attacks against aircrafts or other targets on the ground).[615]

Both the Convention and the Protocol were meant to modernize the Montréal Convention 1971 and its Supplementary Protocol 1988 by giving Member States the capacity to criminalize "a number of acts constituting new and emerging threats against civil aviation, including certain preparatory acts."[616] Giemulla and Weber highlighted the importance of a newly created provision covering the criminal liability of those acting behind the scene and stressed the importance of new offences for "acts of organizing, directing or abetting acts of unlawful interference with civil aviation, or of forming a criminal organization for the purpose of committing such acts."[617] The provision for preventing the commissioning of offences certainly represents a defining moment for ICAO, as it has often been criticized for being too reactive in its fight against terrorism. The two new instruments also emphasize the importance of promoting better cooperation between states in combating unlawful acts directed against civil aviation. In any case, on 10 September 2010, an ICAO press release reported the words of Roberto Kobeh Gonzalez, President of the Council of ICAO, who captured in one sentence the real objective of the new Convention and Protocol: "Let's work together to construct a modern great wall to safeguard international civil aviation."[618]

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613. Piera-Gill, 145.
614. Elmar Maria Giemulla and Ludwig Weber, *International and EU Aviation Law: Selected Issues* (Frederick, MD: Kluwer, 2011), 293.
615. Damian van der Toorn, "September 11 Inspired Aviation Counter-Terrorism Convention and Protocol Adopted," *American Society of International Law* 15:3 (2010): 1.
616. ICAO, "Promotion of the Beijing Convention and the Beijing Protocol of 2010" (Working paper 15 – presented at the High-Level Conference on Aviation Security (HLCAS), Montréal, 12-14 September 2012).
617. Giemulla and Weber, 293.
618. ICAO Press Release, "Diplomatic Conference Adopts Beijing Convention and Protocol" (10 September 2010).

4.3.7 Improving Security Measures on a Regular Basis

While section 4.3.5.6 discussed the evolution of Annex 17, the present section demonstrates how security principles find their application at a tactical level. Suffice to say that from the beginning, Annex 17 was intended to establish an evolutionary framework for a multilayered security system that would not rely on a single layer to defend against all threats. On the contrary, the system imagined by ICAO aimed at deploying a variety of measures to protect the international civil aviation infrastructure. In this system, each layer was designed to form a defensive anti-terrorist structure to deter, prevent, and respond to various threats. While no system can be perfect, this multi-layered approach improves the chances of intercepting a threat at different stages of an on-going attack. For example, if a threat goes undetected at level 1 of the system, succeeding levels should be able to detect it and interrupt the attack. The provisions of Annex 17 and its amendments can be categorized in five different clusters:

1. General principles, organization, and administration
2. Airport operations
3. Aircraft operations
4. Aircraft in the air
5. International cooperation

Annex 17 Timelines

Tables 4.1 to 4.5 show five timelines explaining the numerous security standards adopted under the aegis of Annex 17 since 1975; together they offer a snapshot of the successive of measures developed over the last 40 years. Previous to this dissertation, no comparable tables existed in the academic literature, and the author was not able to find any material noting or comparing the successive measures developed under the aegis of Annex 17 in any of the sources he consulted (*see* Bibliography). These summaries are supplemented by table 4.6, which lists legal instruments and amendments to Annex 17. Implementation years are given with a short description of the standards, in order to show the evolution of Annex 17. To avoid repetition, standards that only clarify existing standards were ignored in this table. Similarly, standards were merged when they addressed the same issue. The main objective of these tables is to present the major steps taken for the betterment of civil aviation security. The dates inserted in these tables represent the period in which the measure's provisions became applicable.[619] Tables 4.1 to 4.5 were created based on the information available in publicly accessible ICAO documents.

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619. It is worth mentioning that the extended versions of amendments 1, 2, 3, and 5 were not accessible. Nevertheless, it was possible to gather the necessary information from publicly available summaries. In spite of this hurdle, the substance of the four amendments was eventually found in the second edition of Annex 17 (for amendments 1, 2, and 3), and the third edition (for amendment 5), respectively.

For security reasons, it would be inappropriate—and unnecessary for the sake of this research—to go beyond these public documents.

4.3.7.1 General Principles, Organization, and Administration

General Principles

The primary objective of Annex 17 is safeguarding the safety of passengers, crew, ground personnel, and the general public. However, preventing terrorist attacks is a highly complex matter. For instance, airlines' commercial concerns, where speed and efficiency are of the essence, often conflict with the safety of both people and goods. The sabotaging of Air India Flights 182 and 301 on 23 June 1985 and Pan Am 103 in December 1988 are examples of what can happen when speed and efficiency trump security.[620] It was to resolve this dilemma and many others that ICAO introduced overall standards as soon as 1975. However, 10 years later, at the time of the Air India sabotage, there were still many loopholes in the system. They called for continuous amendments to the ASM.

Organization

One of the first provisions of Annex 17 requested the creation of national civil aviation security authorities. The following year, the first amendment to the ASM demanded the creation of national civil aviation security programmes. To this day, these security programmes continue to call for: (1) effective coordination between departments, agencies, airport authorities, aircraft operators, and other entities that have an impact on aviation security; (2) a standardized and coherent level of security for aviation operations; (3) the implementation of training programmes to guarantee security effectiveness; (4) rapid response to any increased security threat; (5) proper allocation of tasks and resources; and (6) a safe civil aviation system that offers regular and efficient operations. Other provisions made it compulsory for Member States to establish an aerodrome security programme, to have aircraft operators adopt a security programme corresponding to the threat level, and to notify the state of registry upon the landing of a hijacked aircraft. Because the manpower factor is crucial to this framework, a heavy emphasis is put on certified training programmes, competent employees, and instructor certification. In the eventuality of an attack, reporting also plays a crucial role in the betterment of the security system. Indeed, gathering and transmitting to ICAO and Member States all pertinent information concerning an attack helps to improve the system. Annex 17 also establishes every actor's roles and responsibilities in the civil aviation security environment. Interestingly, major rearrangements were made

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620. For a full account on the failed decision-making process leading to these tragedies, *see* (1) Government of Canada, Air India Flight 182: A Canadian Tragedy, the final report of the Commission of Inquiry into the Investigation of the Bombing of Air India Flight 182, (17 June 2010), http://epe.lac-bac.gc.ca; (2) US White House Commission on Aviation Safety and Security, Final Report to President Clinton (12 February 1997), http://fas.org.

to Annex 17 in the aftermath of catastrophic events such as the Air India sabotage in 1985,[621] the Pan Am 103 sabotage,[622] and the 9/11 attacks.[623] The amendments following these catalytic attacks clarified the roles and responsibilities of Member States.

Administration

Whereas in 1986 Annex 17 explained in broad terms that civil aviation had to be safeguarded, the 1989 version specified that these measures were specifically aimed at safeguarding *international* civil aviation; the 2002 amendment then expanded the framework to take into account both international and *domestic* operations "to the extent practicable." Four years later, another amendment specified that these additional measures were to be applied to domestic operations "based upon security risk assessment carried out by the relevant national authorities." The tenth amendment to Annex 17 was adopted on 7 December 2001 and made applicable on 1 July 2002; this addressed the challenges brought upon the civil aviation industry by 9/11. This amendment included new definitions and provisions related to the suitability of this Annex to: domestic operations, international cooperation relating to threat information, national quality control, access control, measures related to passengers and their cabin and hold baggage, in-flight security personnel and protection of the cockpit, code-sharing/ collaborative arrangements, human factors, and management of response to acts of unlawful interference. In 2006, the eleventh amendment introduced new regulations regarding safety and response time in case of an unlawful interference. It also stipulated that the implementation of SARPs was compulsory for all Member States. Quality control plays a crucial role in the security equation. Hence, authorities must constantly review the level of threat, and re-evaluate the system if an attack is successful. Surveys as well as the verification of compliance through the Universal Security Audit Programme (USAP) are other means of obtaining feedback. Once again, this supports the author's argument that ICAO is not (or, at least, not solely) to blame for lax security measures. ICAO has taken many steps to develop and implement viable security programmes (for example, through USAP).

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621. ICAO, Amendment 6 of Annex 17, 3rd ed., applicable 19 May 1986, in pursuance of Resolution A22-17 (13 September 1977). ICAO Council instructed the Committee on Unlawful Interference and the Ad hoc group of experts on aviation security to revisit Annex 17 as a matter of urgency to thwart new attacks.
622. ICAO, Amendment 7 of Annex 17, 4th ed., applicable 16 November 1989, in pursuance of Resolution A26-7, (23 September 1986).
623. ICAO, Amendment 10 of Annex 17, 7th ed., applicable 1 July 2002, in pursuance of Resolution A33-1 (25 September 2001).

TABLE 4.1   General Principles, Organizations and Administration (34)

Safety of passengers, crew, ground personnel, and general public is primary objective (1975)
Protect safety, regularity and efficiency of int'l civil aviation through regulations (1975)
Member States (MS) shall establish a civil aviation security authority (1975)
Obligation of each MS to immediately notify of the landing of a hijacked aircraft (1975)
Establish a civil aviation security programme (CASP) (1976)
Air Traffic Services to collect, compile and transmit information on hijacked aircraft (1981)
Make sure security measures do not hinder speed of air transport (1981)
Organization to provide a standardized level of security for the operation of int'l flights (1986)
Protect safety, regularity and efficiency through regulations, practices, procedures (1986)
Authority to establish means to co-ordinate activities between agencies (1986)
Require security authority to define and allocate tasks between agencies (1986)
Keep level of threat under constant review and adjust security programme (1986)
Develop and implement training programme to ensure security effectiveness (1986)
Arrange for surveys and inspections of security measures (1986)
Provide ICAO with all pertinent information concerning unlawful interferences (1986)
Take adequate measures for passengers and crew subjected to hijacking (1989)
Ensure a hijacked aircraft is detained on the ground whenever practicable (1989)
Require its appropriate authority to re-evaluate security measures after attack (1989)
Establish a national aviation security committee for coordinating security activities (2002)
Provide protection for sensitive security information (2002)
Apply Standards and Recommended Practices (SARPs) to domestic operations (2002)
Establish an organization to provide security and rapid response to meet threat (2002)
Make available to airports/operators written version of national AVSEC programme (2002)
Require operators to establish/implement a written operator security programme (2002)
Ensure persons implementing security controls are subject to background checks (2002)
Ensure persons implementing security controls are trained and possess competencies (2002)
Ensure persons carrying out screening operations are certified (2002)
Authority to ensure development, implementation and maintenance of quality control (2002)
Ensure security restricted areas are established at each international airport (2002)
Apply ICAO's Standards and Recommended Practices (SARPs) (2006)
Ensure security measures are regularly subjected to verification of compliance (2006)
Ensure quality control is undertaken independently from security authorities (2006)
Require air traffic service providers to implement appropriate security provisions (2011)
Ensure development/implementation of training programmes and instructor certification (2011)

4.3.7.2   Security at Airports

The most visible aviation security measures are seen at the airport. Annex 17 lists the roles and responsibilities of airports authorities, screening operations, prevention activities, and activities in a rapid response to attacks. Airport authorities are responsible for the coordination of agencies involved in aviation security. The authorities also lead the airport security programme, the airport security committee, and prevention campaigns. It is responsible for the development and implementation of emergency plans. Airport design and the infrastructure plan of the airport are also key components in the efficiency of security systems.

For example, the layout of an airport identifies restricted areas, to which screened travelers, transit passengers, and duly identified employees can have access only if they carry travel documents or restricted area identification cards (RAIC). The core security activities revolve around the airport security programme (ASP) seeking: (1) the pre-board screening (PBS) of travelers and their carry-on baggage; (2) the hold-baggage screening (HBS); (3) the screening of employees and crew, also known as non-passenger screening (NPS); (4) the control of access to the restricted areas is done through the guidelines of the airport perimeter security (APS) programme, which is complemented by the airport perimeter intrusion detection system (PIDS); and (5) the supply chain and screening systems for cargo and mail. Trained officers whose qualifications are regularly tested perform all these activities. The boundary between a restricted area and a non-restricted area (landside area) of an aerodrome is divided by a primary security line. The landside area is where both traveling passengers and the non-traveling public have unrestricted access (e.g., public areas, parking lots and roads).

The objective of this security system is to locate weapons or any dangerous devices before they can be brought on-board an aircraft. Member States must have authorized officials deployed in international airports to assist and deal with suspected or actual situations of unlawful interference with civil aviation.[624] ICAO procedures or Annex 17 also request airport administrations to ensure particular security measures to specific flights upon request from other states. Security in the air begins with security on the ground, and it is the responsibility of Member States to ensure that ICAO's recommended security procedures are implemented. ICAO cannot enforce them, and must rely on the strict compliance of its members to accomplish this.

TABLE 4.2   Security at the Airports (35)

Adoption of an aerodrome security programme at each international aerodrome (1975)
Airport authorities must establish aerodrome security prevention committees (1976)
Aerodrome to provide supporting facilities for security services (1981)
Hold-Bag-Screening (HBS) is only required when deemed necessary for security reasons (1981)
Provisions for quick clearance of people, cargo, mail, goods for int'l flights (1981)
Clearance of goods from air to surface transport without delay (1981)
Rapid handling and clearance of passengers, crew, baggage, cargo/mail at int'l airports (1981)
Aerodrome emergency plans commensurate to aircraft operations shall be established (1981)
Emergency plans shall coordinate all agencies capable of responding to emergencies (1981)
Establish airport security programmes at each int'l airport (1986)
Establish airport security committees to advise on security measures and procedures (1986)
Ensure contingency plans are developed and resources available at int'l airports (1986)
Ensure duly authorized/suitably trained officers are readily available at int'l airports (1986)

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624. Sakeus Akweenda, "Prevention of Unlawful Interference with Aircraft: A Study of Standards and Recommended Practices," *International and Comparative Law Quarterly*, 35:2 (April 1986): 438.

Airport to arrange for supporting facilities for security services (1986)
Establish measures to prevent weapons or any dangerous devices on board aircraft (1986)
Establish adequate supervision over the movement of persons to and from aircraft (1986)
Control transfer and transit passengers/baggage to prevent unlawful articles on board (1986)
Ensure no possibility of mixing or contact between passengers and public (1986)
Protect cargo, baggage, mail, stores and operators' supplies within an airport (1986)
Establish procedures to prevent unauthorized access of persons/vehicles to airside (1986)
Authority at each int'l airport responsible for implementation of security measures (1989)
Establish secure storage areas at int'l airports for mishandled baggage (1993)
Architectural/infrastructure-related security measures to be integrated in airport design (1993)
Ensure all hold baggage gets appropriate security controls prior to being loaded in aircraft (2002)
Ensure hold baggage is protected from unlawful interference after checked-in (2002)
Ensure operators transport only hold baggage authorized for carriage by national regulations (2002)
Arrange for investigation/disposal of suspected sabotage devices at int'l airports (2002)
Ensure restricted areas identification systems are established for persons/vehicles (2006)
Ensure that a minimum of non-passenger screening (NPS) is done in restricted areas (2006)
Establish measures for transit operations to protect integrity of airport security (2006)
Ensure all hold baggage is screened (HBS) prior to being loaded into an aircraft (2006)
Fence to deter premeditated access onto a non-public area of aerodrome (2011)
Establish a supply chain security process for cargo/mail, including regulated agents (2011)
Ensure enhanced security measures to high-risk cargo/mail (2011)
Ensure vehicles are screened before being granted access to restricted areas (2011)

4.3.7.3 Security of the Aircraft

Security measures around the aircraft relate to three main spheres: the aircraft operator, the operations, and the actions taken to enhance the safety of people and equipment. As stipulated in Annex 17, airline operators have the primary responsibility for protecting their passengers and assets; since 2006 Member States have been obliged to ensure that the carriers develop and implement effective and complementary security programmes compatible with those of the airports out of which they operate. This involves: (1) pre-flight security checks to discover suspicious objects or anomalies; (2) the establishment of measures to prevent unauthorized access to the aircraft between pre-flight checks and departure; (3) the segregation and special guarding of aircraft liable to attacks while on the ground; and (4) the inspection of the aircraft after landing to make sure disembarking passengers do not leave threatening objects in the aircraft. All these measures aim at preventing weapons or dangerous devices from being brought on-board the aircraft. The operator is also the main decision-maker with regards to cargo, mail, couriers, catering, and material for their in-flight stores.

Decisions are made on threat-based security controls and the operator has full authority to randomly select and load cargo and baggage in order to circumvent any plans to sabotage the aircraft. This is done through security controls and physical examination of suspicious objects. As for cargo, it is the operator's responsibility to work in collaboration with duly certified regulated agents towards the development of appropriate security measures.

Finally, baggage reconciliation before the plane's departure, the most efficient last line of defense in preventing mid-air sabotage, was introduced in 1986. Had this ultimate control been in place and had it been well executed, tragedies such as Air India Flight 182 (329 killed), Pan Am Flight 103 (270 killed), and UTA Flight 772 (171 killed) would have been prevented. Since 2006, Annex 17 suggests that aircraft operators consider buying aircraft designed to withstand bomb blasts. Additionally, placing hold-baggage or cargo in the belly of the aircraft could prevent a crash. This highlights the interconnected, multi-player nature of aviation security: achieving security for aviation equipment, crew, and passengers requires the operators, Member States, and ICAO to cooperate with one another in a continuous way. Failure to implement ICAO's recommendations and requirements, by either the operators or the Member States, can have and has had disastrous and fatal consequences—the blame for which cannot be entirely laid at the feet of ICAO.

TABLE 4.3   Security of the Aircraft (23)

Adoption by aircraft operators of a security programme proportional to the threat level (1975)
Arrangements permitting operators to select/load cargo and baggage on outbound aircraft (1975)
Segregation and special guarding of aircraft liable to attack during stopovers (1979)
Take safety measures for passengers and crew of hijacked aircraft (1981)
Physical examination of cargo and unaccompanied baggage to be exported by air (1981)
Take measures to prevent weapons or dangerous devices from boarding aircraft (1981)
Establish measures to safeguard a threatened aircraft while on the ground (1986)
Establish measures to prevent unauthorized access to aircraft (1986)
Establish procedures for inspecting aircraft when well-founded suspicion exists (1986)
Ensure that aircraft operator and pilot are informed about passengers in custody (1986)
Establish measures for baggage-reconciliation (1987)
Special attention must be paid to detect concealed explosives devices in objects & baggage (1989)
Consignments checked-in as baggage by couriers on passenger flights to be controlled (1989)
Ensure that cargo/mail on passengers flights are subjected to threat-based security controls (1989)
Ensure pre-flight checks include measures to discover suspicious objects or anomalies (1993)
Ensure disembarking passengers do not leave items on board the aircraft at transit stops (1993)
Baggage originating from places other than airport check-in needs special protection (1993)
Cargo, courier, express parcels and mails to be subject to appropriate security controls (1993)
Consignments of cargo, courier, parcels, mail to be accounted for by regulated agent (1997)
Ensure that catering supplies and operators' stores are subjected to security controls (1997)
Ensure aircraft security checks are performed for international flights (2002)
Consideration should be given during design of aircraft for least-risk bomb location (2006)
Ensure aircraft is protected from unauthorized interference between search and departure (2006)

4.3.7.4 Security in the Air

Screening at the airport should normally be the last line of defence against terrorist attacks. However, aggressors have demonstrated they can be very innovative. Therefore, some additional measures have been adopted, including: (1) reinforced cockpit doors; (2) management of potential disruptive passengers; and (3)

guidelines concerning the carriage of weapons on board aircraft by on-duty law enforcement officers. Furthermore, the duty to provide assistance to a hijacked aircraft was also clarified. It is important to mention that although it is not mandatory at the international level, the US created a Sky Marshall programme in 1970.[625] Israel, Canada, and many other countries have adopted such programme. This is one example of a Member State-level initiative that has enhanced aviation security by responding to a specific threat.[626]   Depending on the will of the Member States, it could one day become ICAO policy, again demonstrating the horizontal and cooperative, Member State-driven nature of international regulation.

TABLE 4.4   Security in the Air (4)

Provide assistance to a hijacked aircraft (1989)
Ensure unauthorized persons are prevented from entering flight crew compartment (2002)
Ensure the carriage of weapons on board aircraft by law enforcement is authorized (2002)
Develop requirements for the carriage of potentially disruptive passengers (2006)

4.3.7.5 International Cooperation

The ASM seeks to coordinate the activities of those involved in aviation security programmes and insists on the importance of cooperation and coordination. Since the early days of ICAO, Member States have been urged to cooperate, inter alia, to combat terrorism and strengthen world security. In fact, international law is a cooperative concept, and this has influenced civil aviation since the early days of the industry. UNSC Resolution 1373 calls upon all States to cooperate to prevent and suppress terrorist attacks and take action against perpetrators, to become parties to the relevant international convention and fully implement them, reaffirmed the concept.[627] Cooperation is an important factor in the success of the international civil aviation legal and regulatory framework. From a practical point of view, it mainly involves the exchange of information concerning national civil aviation security and training programmes. Terrorist attacks against civil aviation have simply demonstrated the urgency and high stakes involved in building effective cooperation.

TABLE 4.5   International Cooperation (4)

Cooperate with other MS in the development of training programmes (1986)
Cooperate with other MS to adapt their respective national Aviation Security Programmes (1986)
Ensure additional special security measures when asked by other states (1986)
Cooperate in development/exchange of information on national security programmes (2011)

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625. US 109th Congress, Plane Clothes: Lack of Anonymity at the Federal Air Marshal Service Compromises Aviation and National Security (Washington, DC: GPO, 2006): 3.
626. *See* Appendix B for a better appreciation of such programme.
627. UNSC, Resolution S/RES/1373 (28 September 2001), Preamble.

The upper section of table 4.6 shows the intervals between the dates where Member States signed the five legal instruments (therefore adopting the Conventions and the Protocol) and the dates these treaties came into force. The lower section shows the dates that ICAO Council adopted the principle of Annex 17 or its amendments and the dates they became applicable. The whole table covers the period ending 31 December 2011. It clearly demonstrates that the entry into force of legal instruments has always been a lengthy process, with an average period of 1,256 days. Conversely, using Annex 17 and its succeeding amendments allowed responding to crises five-times faster with an average of 240 days between the day of adoption and the day it became applicable. The Beijing Convention 2010 and the Beijing Protocol 2010 were adopted on 11 September 2010, but at the time of writing they still had not been ratified by a sufficient number of Member States to come into force. This is why they are not included in table 4.6. Again, it is ultimately Member States that decide whether or not ICAO's recommendations are realized on an international level.

TABLE 4.6   Intervals between Adoption and Applicable Dates

Conventions and Protocols			
Title of the Legal Instrument	Adoption	Into force	Days
Tokyo Convention 1963 (Aircraft Convention)	1963-09-14	1969-12-04	2,272
The Hague Convention 1970 (Unlawful Seizure Convention, also known as. Hijacking Convention)	1970-12-16	1971-10-14	301
Montréal Convention 1971 (Civil Aviation Convention)	1971-09-23	1973-01-26	513
Montréal Protocol 1988 (Airport Protocol)	1988-02-24	1989-08-06	528
Montréal Convention 1991 (Plastic Explosives Convention)	1991-03-01	1998-06-21	2,668
		Grand Total	6,282
		Average	1,256
Annex 17 and Amendments			
Title of the Document	Adoption	Applicable	Days
Annex 17, 1st Edition (Security)	1974-03-22	1975-02-27	341
Amendment 1	1976-03-31	1976-12-30	273
Amendment 2	1977-12-15	1978-08-10	237
Amendment 3	1978-12-13	1979-11-29	350
Amendment 4, 2nd Edition	1981-06-15	1981-11-26	163
Amendment 5	1984-11-30	1985-11-21	355
Amendment 6, 3rd Edition	1985-12-19	1986-05-19	150
Amendment 7, 4th Edition	1989-06-22	1989-11-16	146
Amendment 8, 5th Edition	1992-09-11	1993-04-01	201
Amendment 9, 6th Edition	1996-11-12	1997-08-01	261
Amendment 10, 7th Edition	2001-12-07	2002-07-01	205
Amendment 11, 8th Edition	2005-11-30	2006-07-01	212
Amendment 12, 9th Edition	2010-11-17	2011-07-01	225
		Grand Total	3,119
		Average	240

Summarizing Remarks

The creation of IACO is one of the outcomes of the Chicago Convention 1944. In 1947, it became a UN specialized agency for civil aviation. During the next two decades it was focused on setting up the organization and working constantly to improve the safety of international civil aviation. Administrative, technical, and business matters were common grounds on which Member States could reach agreements. Security only became an issue in the 1960s, when a series of unlawful interferences shook up the industry. IACO responded to the problem with two types of actions: legal and technical. Legally, it initiated the preparation of a legal and regulatory framework (LRF) aimed at harmonizing a legal response dealing with illegal acts threatening the security of international civil aviation. Five Conventions and two Protocols were developed to address a series of criminal acts and terrorist attacks committed against civil aviation. Technically: (1) it created a Committee on Unlawful Interference of Aircraft to develop preventive measures and procedures to enhance aircraft security[628]; (2) it adopted Annex 17 and its standards and recommended practices; (3) it promoted better cooperation with Member States; and (4) it created committees to deal with specific problems.

This chapter has demonstrated both the complexity of adopting legal instruments and the presence of a multiplicity of actors cooperating collectively to thwart aviation terrorism. Without this collaboration, legal instruments would lose their effectiveness. Although the civil aviation legal and regulatory framework is a consent-based system, the impact of terrorism on civil aviation is a major political incentive to find solutions to the problem quickly. This is why political statements like those of G7/G8 leaders condemning terrorist attacks normally precede legal instruments and set the tone for upcoming reactions.[629] Indeed, declarations and statements without action amount to wishful thinking, sending a weak message to terrorist. In the aftermath of catalytic events, the greater general interest in improving security usually results in the rapid attainment of consensus amongst all Member States—as was seen after 9/11. Considering its 191 Member States, it is worth noting that, on 3 May 2015, ICAO's aviation security Conventions and Protocols are amongst the most ratified legal instruments. The ranking order is as follows: (1) Chicago Convention 1944 (191), (2) Montréal Convention 1971 (188), (3) Tokyo Convention 1963 (186), (4) The Hague Convention 1970 (185), (5) Montréal Protocol 1988 (173), and (7) Montréal Convention 1991 (152).[630]

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628. Alexander-Sochor, 5.

629. *See* Appendix J.

630. The ranking order of the other highly ratified treaties is: (6) *Protocol, Article 83 bis* 1980, Aircraft Registration (166), (7) Warsaw Convention 1929, Air Carriers Liability (152), and (7) *Protocol*, *Authentic Trilingual Text* 1968 (152).

5

Analysis

Introduction

The objective of the present chapter is to gather and make sense of the flood of information presented in the previous chapters, and to determine empirically the impact that changes to the international legal and regulatory framework (LRF) have had on terrorist attacks against civil aviation. To answer this question, two main sets of data are necessary. The first section of the chapter looks at ATSD statistics to identify significant variations in the evolution of aviation terrorism. The second section analyses legal instruments to determine the reasons for their adoption and to assess their implementation and effectiveness.

In short, aviation terrorism has been a two-way street—attacks force authorities to take appropriate actions, but the terrorist adaptation to new security measures also needs to be assessed. Consequently, the final objective of this process is to verify how terrorist attacks against aviation and the LRF response to these attacks have influenced one another.

In order to proceed with this analysis, 60 indicators of aviation terrorism were identified in the previous chapters of the dissertation as directly contributing to answering the research question. These 60 indicators are divided in six different categories: (1) first and last use of each MO, (2) increasing trends in the number of attacks and fatalities, (3) decreasing trends in the number of attacks and fatalities, (4) significant variations in the number of attacks and fatalities, (5) catalytic terrorist attacks against civil aviation, and (6) ICAO actions to thwart aviation terrorism.

Chapter 3 provided the bulk of these indicators in the form of ATSD statistics, which quantify aviation terrorism in time whereas chapter 4 offered all the necessary information concerning changes made to the international civil aviation legal and regulatory framework pertaining to aviation terrorism.

5.1 Making Sense of ATSD Statistics

As discussed above, thoroughly answering the research question necessitated the analysis of both ATSD statistics and legal instruments. The quantitative aspect of aviation terrorism was assessed through the analysis of all ATSD statistics. This was an important first step for empirically determining the relationship between terrorist attacks against civil aviation, and the international legal and regulatory response to those attacks.

5.1.1 Statistical Terminology

In order to analyze data collected in ATSD, the author has used statistical terminology to explain and compare results. The quantitative analysis developed below is quite basic—it is focused on identifying trends, surges, and bursts, as well as mean, median, and peak values. For the purpose of this research, a *trend* is a set of actions leading to an increase or a decrease in the number of attacks or fatalities lasting five years or more. A *surge* is a definite deviation of statistics from their course in consequence of an agitated movement producing an increase of attacks; it is shorter than a trend, and lasts between two and four years. A *burst* is an isolated and sudden fluctuation only lasting for a year. The time frames associated with each of the three statistical deviations (trends, surges, bursts) were determined by the author in order to delineate various tendencies in the evolution of aviation terrorism. A *mean* is the sum of the value of each year divided by the number of years. It is also known as the arithmetic average. In the present research, the mean is the basic reference used in quantitative analyses to determine the existence of any deviation in the ten MO or Total categories. A *median* is the middle statistical value of each MO, which has as many of the given number of attacks or fatalities above as below this value. A *peak* is the highest point of an MO or Total statistical graphs. They both offer interesting perspectives to appreciate the magnitude of patterns concerning aviation terrorism.

5.1.2 Overview of the Wave of Aviation Terrorism 1968-2011

Tables 5.1 and 5.2 display variations in statistics concerning the number of attacks and fatalities for the period between 1968 and 2011. To help capture the importance of these variations, a color code was given to each type of variation to help quickly decipher significant elements of the tables. The codes are:

Trend: 5 years and more
Surge: 2 to 4 years
Burst: 1 year
Decreasing trend
Peak

TABLE 5.1   Aviation Terrorist Attacks Between 1968-2011

Quartiles	Ground Attacks		Hijackings		Sabotage		Suicide Missions		Total	
	1968	1	1968	4	1968	0	1968	0	1968	5
	1969	2	1969	6	1969	3	1969	0	1969	11
	1970	1	**1970**	**19**	1970	3	1970	0	1970	23
	1971	0	1971	11	1971	4	1971	0	1971	15
	1972	1	1972	14	1972	2	1972	0	1972	17
1	1973	8	1973	8	1973	0	1973	0	1973	16
	1974	2	1974	4	1974	2	1974	0	1974	8
	1975	4	1975	6	1975	2	1975	0	1975	12
	1976	8	1976	6	1976	3	1976	0	1976	17
	1977	5	1977	7	1977	0	1977	0	1977	12
	1978	10	1978	3	1978	2	1978	0	1978	15
	1979	15	1979	5	1979	0	1979	0	1979	20
	1980	9	1980	7	1980	1	1980	0	1980	17
	1981	12	1981	14	1981	4	1981	0	**1981**	**30**
	1982	9	1982	7	1982	1	1982	0	1982	17
	1983	12	1983	4	1983	1	1983	0	1983	17
2	1984	7	1984	7	1984	1	1984	0	1984	15
	1985	11	1985	9	1985	2	1985	0	1985	22
	1986	11	1986	5	**1986**	**6**	1986	0	1986	22
	1987	7	1987	3	1987	2	1987	0	1987	12
	1988	2	1988	3	1988	1	1988	0	1988	6
	1989	10	1989	6	1989	2	1989	1	1989	19
	1990	9	1990	3	1990	0	1990	0	1990	12
	1991	8	1991	6	1991	2	1991	1	1991	17
	1992	**20**	1992	1	1992	0	1992	0	1992	21
	1993	7	1993	3	1993	0	1993	0	1993	10
	1994	10	1994	4	1994	2	1994	0	1994	16
3	1995	6	1995	5	1995	0	1995	2	1995	13
	1996	6	1996	3	1996	0	1996	0	1996	9
	1997	3	1997	0	1997	0	1997	0	1997	3
	1998	8	1998	7	1998	0	1998	1	1998	16
	1999	7	1999	8	1999	0	1999	0	1999	15
	2000	10	2000	7	2000	0	2000	0	2000	17
	2001	8	2001	1	2001	0	**2001**	**6**	2001	15
	2002	12	2002	1	2002	1	2002	0	2002	14
	2003	5	2003	1	2003	0	2003	1	2003	7
	2004	2	2004	0	2004	0	2004	2	2004	4
	2005	4	2005	0	2005	0	2005	0	2005	4
4	2006	3	2006	0	2006	0	2006	1	2006	4
	2007	3	2007	1	2007	0	2007	0	2007	4
	2008	6	2008	0	2008	0	2008	0	2008	6
	2009	5	2009	1	2009	0	2009	1	2009	7
	2010	5	2010	0	2010	2	2010	0	2010	7
	2011	2	2011	0	2011	0	2011	1	2011	3
Total		**296**		**210**		**49**		**17**		**572**

TABLE 5.2   Aviation Terrorist Fatalities between 1968 and 2011

Quartiles	Ground Attacks		Hijackings		Sabotage		Suicide Missions		Total	
	1968	1	1968	0	1968	0	1968	0	1968	1
	1969	1	1969	3	1969	1	1969	0	1969	5
	1970	1	1970	1	1970	47	1970	0	1970	49
	1971	0	1971	4	1971	0	1971	0	1971	4
	1972	28	1972	10	1972	27	1972	0	1972	65
1	1973	38	1973	2	1973	0	1973	0	1973	40
	1974	0	1974	1	1974	88	1974	0	1974	89
	1975	13	1975	5	1975	0	1975	0	1975	18
	1976	16	1976	35	1976	73	1976	0	1976	124
	1977	5	1977	3	1977	0	1977	0	1977	8
	1978	56	1978	16	1978	0	1978	0	1978	72
	1979	61	1979	0	1979	0	1979	0	1979	61
	1980	0	1980	1	1980	0	1980	0	1980	1
	1981	6	1981	1	1981	3	1981	0	1981	10
	1982	15	1982	1	1982	1	1982	0	1982	17
	1983	141	1983	0	1983	112	1983	0	1983	253
2	1984	32	1984	5	1984	0	1984	0	1984	37
	1985	78	1985	60	1985	331	1985	0	1985	469
	1986	100	1986	90	1986	20	1986	0	1986	210
	1987	66	1987	1	1987	116	1987	0	1987	183
	1988	5	1988	2	1988	270	1988	0	1988	277
	1989	36	1989	0	1989	281	1989	0	1989	317
	1990	4	1990	1	1990	0	1990	0	1990	5
	1991	11	1991	5	1991	7	1991	0	1991	23
	1992	13	1992	0	1992	0	1992	0	1992	13
	1993	136	1993	1	1993	0	1993	0	1993	137
	1994	14	1994	4	1994	22	1994	0	1994	40
3	1995	101	1995	2	1995	0	1995	0	1995	103
	1996	1	1996	0	1996	0	1996	0	1996	1
	1997	0	1997	0	1997	0	1997	0	1997	0
	1998	140	1998	1	1998	0	1998	0	1998	141
	1999	10	1999	2	1999	0	1999	0	1999	12
	2000	22	2000	0	2000	0	2000	0	2000	22
	2001	30	2001	2	2001	0	2001	2996	2001	3028
	2002	31	2002	0	2002	0	2002	0	2002	31
	2003	1	2003	0	2003	0	2003	21	2003	22
	2004	0	2004	0	2004	0	2004	89	2004	89
	2005	1	2005	0	2005	0	2005	0	2005	1
4	2006	2	2006	0	2006	0	2006	0	2006	2
	2007	5	2007	0	2007	0	2007	0	2007	5
	2008	0	2008	0	2008	0	2008	0	2008	0
	2009	11	2009	2	2009	0	2009	0	2009	13
	2010	6	2010	0	2010	0	2010	0	2010	6
	2011	2	2011	0	2011	0	2011	37	2011	39
Total	**1,240**		**261**		**1,399**		**3,143**		**6,043**	

Table 5.3 (below) is a selection grid using the most significant statistical variations observed in tables 5.1 and 5.2, in order to sort means to distinguish the essential from the incidental. This unbiased statistical delineation is based on raw data and helps in determining which values are deemed necessary to answering the research question. In other words, quantitative and qualitative data can only be correlated once they are properly identified.

The first line of the grid in table 5.3 refers to MO and totals. A number (*n*) representing either attacks or fatalities recorded in their categories for the 1968-2011 period follows each of them. The entries in the three succeeding lines respect the same identification pattern—a letter representing a specific type of variation (T for trends, S for surge, B for burst, and P for peak), with a figure indicating the number of attacks or fatalities, and a percentage calculated with respect to the total number of attacks or fatalities listed on the first line. For example, the T 103 entry found in the far left column of table 5.3 means there was a ground attack *Trend* with 103 attacks representing 35 percent of the total of 296 ground attacks perpetrated between 1968 and 2011.

The statistical highlights of attacks and fatalities were incrementally added in a sequence until their total reached a 50 percent threshold in each of the four MO categories (GA for ground attacks, HI for hijackings, SA for sabotage, and SM for suicide missions) and the two total columns. The sequence was as follows: (1) the nine increasing trends (yellow cells) were the first data to be incorporated in table 5.3 since they grouped the largest numbers of attacks or fatalities; (2) four "orphan" peaks (red cells) that were not part of trends or surges were inserted in the grid as they also represent significant data; (3) since the 50 percent threshold was not always met after the inclusion of trends and peaks data, six surges (blue cells) were necessary in six different categories—hijacking, sabotage, suicide mission, and total attack categories, as well as in hijacking and sabotage fatality categories); (4) finally, two bursts (green cells) completed the ground attack fatalities category. The last line of the table represents the grand totals (*N*) of attacks and fatalities for the 1931-2011 period.

TABLE 5.3   Selection Grid Using the Most Significant Statistical Variations

Attacks (1968-2011)					Fatalities (1968-2011)				
GA	HI	SA	SM	Total	GA	HI	SA	SM	Total
n=296	*n*=210	*n*= 49	*n*=17	*n*=572	*n*=1240	n=261	*n*=1399	*n*=3143	*n*=6043
T 103 35%	T58 38%	T 21 43%	**P6 35%**	T 175 31%	T 417 34%	S 150 57%	S 667 48%	**P 2996 95%**	T 1456 24%
T 64 22%	S33 16%	S12 24%	S 3 18%	T 77 13%	B 140 11%		**P 331 24%**		**P 3028 50%**
T 45 15%				S 71 12%	B 136 11%				
72%	54%	67%	53%	56%	56%	57%	72%	95%	74%
N=299	*N*=218	*N*=52	*N*=17	*N*=586	*N*=1265	*N*=279	*N*=1418	*N*=3143	*N*=6105

In order to grasp the relative importance of each aviation terrorism MO, table 5.4 gives their means and medians for the 1968-2011 period. The same is done for the total values. For the sake of this analysis, only ATSD yearly statistics that are equal to or above the *mean* level will be used to populate the indicator list (*mean* levels are in bold in table 5.4).

TABLE 5.4   MO and Fatalities Means and Medians 1968-2011

	Ground Attacks	Hijackings	Sabotage	Suicide Mission	Totals
Attacks					
Mean	**7**	**5**	**1**	**0,4**	**13**
Median	7	4	0,5	0	15
Fatalities					
Mean	**28**	**6**	**32**	**71**	**137**
Median	11	1	0	0	27

As seen above, an analysis of ATSD statistics allowed the author to distinguish a total of 78 statistical indicators, which are identified by their distinctive color codes in tables 5.1 and 5.2; these are 9 increasing trends, 16 surges, 33 bursts, 10 peaks, and 10 decreasing trends. However, only 41 of them were added to the indicator list because they are the most noticeable deviations observed in the eight MO's sets of data and the two columns of totals in both attacks and fatalities categories. Some of them were also merged to avoid redundancy. For example, 3 statistical indicators were blended either because attacks and fatalities stemmed from the same incidents or were involving the same MO: (1) 1990-2011—decreasing trend of sabotage attacks and fatalities, (2) 2001—peak of suicide missions and total fatalities, (3) 2003-2011—decreasing trend of ground attacks and fatalities. Other statistical indicators were rejected because of their short and insignificant effect on the grand scheme of things—brief duration is the main reason why 31 of the 33 bursts were not selected, while small aggregate numbers were responsible for rejecting 8 of the 14 surges.

Table 5.5 presents the breakdown of the 41 selected statistical indicators divided into six groups: increasing trends (9), significant statistical variations—surges, peaks, and bursts (17), decreasing trends (7), and first and last use of each of the four MO (8). The table also presents two types of non-statistical indicators respectively identified in chapters 3 and 4: i.e., 9 catalytic attacks, and 10 actions taken by ICAO to prevent or thwart aviation terrorism. All in all, 60 indicators are to be taken into account.

TABLE 5.5   Breakdown of the 60 Indicators

Indicators	GA	HI	SA	SM	Total	Grand Total
Increasing Trends	4	1	1	0	3	9
Significant Variations	-	-	-	-	-	-
Surges	0	2	2	1	1	6
Peaks	2	2	2	1*	2	9
Bursts	2	-	-	-	-	2
Decreasing Trends	1*	2	1*	1	2	7
Firsts and Lasts	2	2	2	2	0	8
Catalytic Attacks	2	3	2	2	0	9
ICAO Actions	-	-	-	-	10	10
	13	12	10	8	18	60

Note: *Means merged statistical indicators.

Table 5.6 shows the composite list of 60 indicators divided in six clusters. As such, they represent significant statistical values yielded by a comprehensive analysis of the empirical data collected and organized in this dissertation so far. This data is essential to the development of arguments assessing the effect that changes to the international LRF have had on preventing or thwarting attacks against civil aviation. It also forms the raw quantitative material for the qualitative analysis performed later in the dissertation.

Out of the 60 indicators, 41 are quantitative and are revealed in the first four clusters. They include: (1) 8 indicators representing the first and last attacks involving each of the four MO, (2) 9 increasing trends with regards to the number of attacks or fatalities, (3) 7 decreasing trends in attacks and fatalities, (4) 17 significant variations and peaks in attacks and fatalities. The remaining 19 indicators are qualitative and are listed in the last two clusters. They refer to: (1) 9 catalytic terrorist attacks already identified and discussed in chapter 3, and (2) 10 ICAO actions taken to thwart aviation terrorism identified in chapter 4.

TABLE 5.6   List of 60 Indicators used to answer the research question

1- Firsts and Lasts use of an MO (8)	2- Increasing Trends (9)
1931-02-21: First hijacking	1969-1973: Hijackings (58)
1948-12-21: First ground attack	1978-1986: Total (175)
1955-04-11: First sabotage	1978-1987: Ground attacks (103)
1989-11-23: First suicide mission	1980-1989: Sabotage (21)
2009-06-12: Last hijacking	1983-1987: Ground attack fatalities (417)
2010-10-29: Last sabotage	1985-1989: Total fatalities (1456)
2011-01-24: Last suicide mission	1989-1994: Ground attacks (64)
2011-06-09: Last ground attack	1998-2002: Ground attacks (45)
	1998-2002: Total attacks (77)
3- Decreasing Trends (7)	**4- Significant Variances and Peaks (17)**
1987-2011: Hijackings fatalities	1969-1972: Surge of Sabotage attacks (12)
1990-2011: Sabotage attacks & fatalities	1970: Peak of hijackings
2001-2011: Hijackings attacks	1970-1973: Surge of total attacks (71)
2002-2011: Total fatalities	1979-1982: Surge of hijacking attacks (33)
2003-2011: Ground attacks & fatalities	1981: Peak of total attacks
2003-2011: Total attacks	1983: Peak of ground attack fatalities
2005-2011: Suicide mission fatalities	1985-1986: Surge of hijacking fatalities (150)
	1985: Peak of sabotage fatalities
	1986: Peak of sabotage attacks
	1986: Peak of hijacking fatalities
	1987-1989: Surge of sabotage fatalities (667)
	1992: Peak of ground attacks
	1993: Burst of ground attack fatalities (136)
	1998: Burst of ground attack fatalities (140)
	2001: Peak of suicide missions & fatalities
	2001: Peak of total fatalities
	2003-2004: Surge of suicide mission (3)
5- Catalytic Terrorist Attacks (9)	**6- ICAO Actions (10)**
1968-07-23: Hijacking of El Al 426	1963-09-14: Tokyo Convention 1963
1970-09-06: *Skyjack Sunday* hijackings	1970-06-15: Extraordinary Assembly: hijackings
1972-05-31: Airport attack at Lod airport, Israel	1970-12-16: The Hague Convention 1970
1985-06-14: Hijacking TWA 847	1971-09-23: Montréal Convention 1971
1985-06-23: Sabotage of Air India 182	1974-03-22: Annex 17 and amendments
1985-12-27: Rome & Vienna airport attacks	1988-02-24: Montréal Protocol 1988
1988-12-21: Sabotage of Pan Am 103	1991-03-01: Montréal Convention 1991
2001-09-11: 9/11 suicide missions	2001-10-05: Declaration Misuse Civil Aircraft
2006-08-10: UK Liquids and Gels suicide mission (plot)	2002-06-20: ICAO's Security Plan of Action
	2010-09-10: Beijing Convention and Protocol 2010

5.2 Interpreting Quantitative Findings

As discussed in section 3.3.2, the information collected and analyzed by the author clearly shows that the history of terrorist attacks against civil aviation can be divided into three main periods: 1931-1967, 1968-2002, and 2003-2011. The long terrorist campaign that began in 1968 started declining in 2003—the beginning of the third period in the history of aviation terrorism. From then on, the number of attacks remained below the mean level of 13 attacks per year. In fact, only 46 attacks were committed between 2003 and 2011 (an average of 5 attacks per year), the majority of them being ground attacks. With regards to the lethality of terrorist attacks, 96 percent or 5,866 victims of all victims were killed between 1968 and 2002. This high death-toll is explained by two indicators: (1) a series of ground attacks, hijackings, and sabotage between 1985 and 1989 that took the lives of 1,456 people; (2) 9/11 and three other attacks (one hijacking and two ground attacks) were responsible for the death of 3,028 people in 2001, unquestionably the most lethal year ever in the history of civil aviation.[631] These statistics need to be put in perspective, as only about one out of every four (27 percent) terrorist attacks result in fatalities.

The next subsection will present the author's global timeline of analytical indicators. The following sections will offer an interpretation of statistical variations concerning each MO used by terrorist as well as totals of attacks and fatalities for the period between 1968 and 2011. The analysis of terrorist attacks by MO is an important part of the interpretive process, because it permits the author to provide a more detailed interpretation of both the history of terrorist attacks against civil aviation, and the relationship between tendencies in those attacks and the ICAO response to them. The analyses presented below constitute a first step towards understanding, from an academic and historical perspective, the data collected and organized for the first time in GACID and ATSD.

5.2.1 Global Timeline

All 60 aforementioned quantitative and qualitative indicators are chronologically aligned in a single timeline illustrated in table 5.7. This timeline assisted the author in further analyzing the impact of the international LRF on aviation terrorism because it (1) highlights the most salient statistical indicators related to each MO, (2) shows their relationship to ICAO legal instruments, (3) is a written description of the evolution of aviation terrorism presenting the terrorist attacks that have had a catalytic character on international civil aviation, and (4) lists the actions taken by ICAO to address aviation terrorism. Furthermore, at a glance, the timeline helps

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631. According to the Aviation Safety Network (ASN), before the 9/11 attacks, the year 1972 was the worst year on record for the aviation industry when 2,373 people lost their lives in 72 aircraft *accidents.* However*,* only 65 of those fatalities are due to terrorist attacks. http://www.statista.com/chart/3335/people-killed-in-commercial-plane-crashes-since-1942/.

one to distinguish patterns and allows for a thorough analysis of the phenomenon of aviation terrorism. It also assists in drawing conclusions about the sequence of events, significant statistical variances, and actions taken by ICAO.

TABLE 5.7   Composite Aviation Terrorism Analysis Indicators Timeline

1961 - 1990			1991-2011		
1961	1971	1981	1991	2001	2011

First terrorist hijacking: 1931-02-21
First Ground attack: 1948-12-21
First terrorist sabotage: 1955-04-11
Tokyo Convention 1963: 1963-09-14 (a.k.a. Aircraft Convention)
Hijacking of El Al 426: 1968-07-23
Surge of sabotage attacks (12): 1969-1972
Increasing Trend of hijacking attacks (58): 1969-1973
ICAO Extraordinary Assembly to address the hijacking problem: 1970-06-15
Skyjack Sunday: 1970-09-06
The Hague Convention 1970: 1970-12-16 (a.k.a. Unlawful Seizure Convention)
Peak of hijacking attacks (19): 1970
Surge in the total of terrorist attacks (71): 1970-1973
Montréal Convention 1971: 1971-09-23 (a.k.a. Civil Aviation Convention)
Lod Airport Massacre, Israel: 1972-05-31
Annex 17 to the Chicago Convention: 1974-03-22 (a.k.a. Aviation Security Manual)
Increasing Trend in the total of terrorist attacks (175): 1978-1986
Increasing Trend of ground attacks (103): 1978-1987
Surge of hijacking attacks (33): 1979-1982
Increasing Trend of sabotage attacks (21): 1980-1989
Peak in the total of terrorist attacks (30): 1981
Peak of ground attack fatalities (141): 1983
Increasing Trend of ground attack fatalities (417): 1983-1987
Peak of sabotage fatalities (331): 1985
Surge of hijacking fatalities (150): 1985-1986
Increasing Trend in the total of fatalities (1456): 1985-1989
Hijacking of TWA 847: 1985-06-14
Sabotage of Air India 182: 1985-06-23
Rome and Vienna airport attacks: 1985-12-27
Peak of sabotage attacks (6): 1986
Peak of hijacking fatalities (90): 1986
Decreasing Trend of hijacking attack fatalities: 1987-2011
Surge of sabotage fatalities (667): 1987-1989
Montréal Protocol: 1988-02-24 (a.k.a. Airport Protocol)
Pan Am 103 sabotage 1988-12-21
First terrorist suicide mission: 1989-11-23
Increasing Trend of ground attacks (64): 1989-1994
Decreasing Trend of sabotage attacks and fatalities: 1990-2011
Montréal Convention 1991: 1991-03-01 (a.k.a. Plastic Explosives Convention)
Peak of ground attacks (20): 1992
Burst of ground attack fatalities (136): 1993
Burst of ground attack fatalities (140): 1998
Increasing Trend of ground attacks (45): 1998-2002

1961 - 1990			1991-2011		
1961	1971	1981	1991	2001	2011
			Increasing Trend in the total of terrorist attacks (77): 1998-2002		
			Peak of suicide missions (6) and fatalities (2996): 2001		
			Decreasing Trend of hijacking attacks: 2001-2011		
			9/11 terrorist attacks: 2001-09-01		
			Peak in the total of fatalities (3028): 2001		
			Declaration on the misuse of civil aircraft: 2001-10-05		
			Decreasing Trend in the total of fatalities: 2002-2011		
			ICAO's Plan of Action and USAP: 2002-06-20		
			Decreasing Trend of ground attacks and fatalities: 2003-2011		
			Decreasing Trend in the total of terrorist attacks: 2003-2011		
			Surge of suicide missions (3): 2003-2004		
			Decreasing Trend of suicide mission fatalities: 2005-2011		
			UK Liquids & Gels plot: 2006-08-10		
			Last terrorist hijacking: 2009-06-12		
			Beijing Convention and Protocol (New Civil Aviation Conv.)		
			Last sabotage: 2010-10-29		
			Last suicide mission: 2011-01-24		
			Last ground attack: 2011-06-09*		

Legend:
Catalytic Events (9)
Statistical Indicators (40)
ICAO Actions (11)
Firsts and Lasts (8)
All statistics run until 2011-12-31

5.2.2 Ground attacks

Ground attacks have many advantages for terrorists. First, in contrast with hijackings, they may be conducted anonymously. Perpetrators can discretely drop a bomb in a garbage bin at an airport and remotely trigger it later, or simply hide in the woods a few kilometres from an airport and fire at an aircraft taking off. From a perpetrator's perspective, another advantage of airport attacks is that it is possible for terrorists to tailor their attack to reach a specific death toll. A small bomb planted in a car left in the parking lot may cause injuries and kill some bystanders, but it is unlikely to kill dozens of people. In fact, according to ATSD, several groups—including the Irish Republican Army (IRA) and the Euskadi Ta Askatasuna (ETA)—have repeatedly informed law enforcement agencies that bombs had been planted in airport facilities, hence embarrassing authorities by exposing their failure to prevent attacks and forcing them to mobilize resources to neutralize explosives. Thirdly, unlike the other MO, ground attacks allow terrorists to operate outside the aviation security perimeter, thus, never having to encounter the security measures set forth by LRF/security regime.

ATSD reveals that the first ground attack was committed on 21 December 1948, when Greek insurgents near Athens shot down Ceskoslovenske Aerolinie (CSA) Flight 584, killing 28 people. This mode of operation was used 299 times

between 1931 and 2011, making it the terrorists' MO of choice over time. Before 1973, it was employed very sporadically. However, ground attacks became their method of predilection for 30 years surpassing the three other MO in terms of longevity, the number of attacks, and number of victims, except for suicide missions. Ground attacks were employed consistently between 1973 and 2002. This is the longest use of any MO. The other three MO have all had a shorter life span. A total of 256 ground attacks were launched during the 1973-2002 period, which is 86 percent of all ground attacks. Over time, terrorists killed 1,265 people in this type of attack. On average, seven ground attacks were committed, killing 28 people, every year between 1968 and 2002. Table 5.8 temporally situates the two catalytic ground attacks and the Montréal Protocol 1988. The other ten statistical indicators included in table 5.8 are as follows:

1. Increasing Trends
   a. 1978-1987: a 10-year long trend of 103 ground attacks
   b. 1983-1987: a 5-year long trend that resulted in 417 fatalities
   c. 1989-1994: a 6-year long trend of 64 ground attacks
   d. 1998-2002: a 5-year long trend of 45 ground attacks
2. Peaks
   a. 1983: a peak of 141 fatalities
   b. 1992: a peak of 20 ground attacks
3. Decreasing Trends
   a. 2003: attacks steadily dropped below the mean level of 7 per year
   b. 2003: fatalities steadily dropped below the mean level of 28
4. The first and last ground attacks
   a. 1948-12-21: the first attack near Athens, Greece
   b. 2011-06-09: the last attack at Hajlij airport, South Kordofan, Sudan

TABLE 5.8   Ground Attacks Timeline

1961 - 1990			1991-2011		
1961	1971	1981	1991	2001	2011
First ground attack: 1948-12-21					
Lod Airport Massacre, Israel: 1972-05-31					
Increasing Trend of ground attacks (103): 1978-1987					
Peak of ground attack fatalities (141): 1983					
Increasing Trend of ground attack fatalities (417): 1983-1987					
Rome and Vienna airport attacks: 1985-12-27					
Montréal Protocol: 1988-02-24 (a.k.a. Airport Protocol)					
Increasing Trend of ground attacks (64): 1989-1994					
Peak of ground attacks (20): 1992					
Burst of ground attack fatalities (136): 1993					
Burst of ground attack fatalities (140): 1998					
Increasing Trend of ground attack (45): 1998-2002					
Decreasing Trend of ground attacks and fatalities: 2003-2011					
Last ground attack: 2011-06-09					

Table 5.9 displays an abridged version of annual data already presented in tables 5.1 and 5.2. It shows particular statistical highlights for the ground attack MO between 1976 and 2002.

TABLE 5.9   Ground Attacks Highlights

Years	Attacks	Fatalities
1976	8	16
1977	5	5
1978	10	56
1979	15	61
1980	9	0
1981	12	6
1982	9	15
1983	12	**141**
1984	7	32
1985	11	78
1986	11	100
1987	7	66
1988	2	5
1989	10	36
1990	9	4
1991	8	11
1992	**20**	13
1993	7	136
1994	10	14
1995	6	101
1996	6	1
1997	3	0
1998	8	140
1999	7	10
2000	10	22
2001	8	30
2002	12	31
2003	5	1
2005	4	1

5.2.3 Hijackings

The first recorded terrorist aircraft hijacking was an isolated attack committed in Lima, Peru on 21 February 1931. That aircraft never left the ground and it only involved the pilot being captured and refusing to cooperate. Subsequently, the 1950s and 1960s saw a series of civil aircraft hijackings. At first, most of them were committed for criminal reasons. However, as discussed in chapter 3, the hijacking of El Al Flight 426 on 23 June 1968 signalled the beginning of modern international terrorism.

ATSD reveals that the hijacking MO was most frequently used before the mid-1980s. Indeed, 149 attacks or 68 percent of all hijackings were perpetrated between 1931 and 1985. Its usage dwindled down thereafter, with only 69 attacks perpetrated between 1986 and 2011, yielding an average of 2.7 attacks per year. This MO has been the least lethal one—only 279 people were killed in the 218 attacks. This represents only 4.6 percent of all fatalities caused by terrorist attacks. The 1980s were witness to 58 percent of those deaths, with 162 people killed in total; there was a peak of 90 deaths in 1986. However, fatalities related to hijackings nearly vanished starting in 1987. Since 1931, each terrorist hijacking has led to an average of 1.3 deaths per year. In summary, the terrorist hijacking MO has been almost unused since 2001 and the number of victims has taken a downward spin since 1987, lowering statistics to a level quite similar to the pre-1968 one.

Table 5.10 displays the hijacking timeline revealing that six ICAO actions were initiated with regards to hijackings over a 40-year period. It also shows the following statistical information:

1. Increasing Trend
   a. 1969-1973: a 5-year long trend during which 58 hijackings were perpetrated
2. Peaks
   a. 1970: a peak of 19 hijackings
   b. 1986: a peak of 90 fatalities
3. Decreasing Trends
   a. the number of hijackings steadily dropped below the mean level of 5 attacks per year and nearly disappears as of 2001
   b. the level of fatalities due to hijackings steadily dropped below the mean level of 28 starting in 1987, and fatalities nearly disappear afterward—only 23 fatalities are registered in 25 years
4. The first and last ground attacks
   a. 1931-02-21: the first hijacking occurred in Lima, Peru
   b. 2009-06-12: the last hijacking was committed in China

TABLE 5.10   Hijackings Timeline

1961 - 1990			1991-2011		
1961	1971	1981	1991	2001	2011
First terrorist hijacking: 1931-02-21					
Tokyo Convention 1963: 1963-09-14 (a.k.a. Aircraft Convention)					
Hijacking of El Al 426: 1968-07-23					
Increasing Trend of hijackings (58): 1969-1973					
ICAO Extraordinary Assembly to address the hijacking problem: 1970-06-15					
Skyjack Sunday – 1970-09-06					
The Hague Convention 1970: 1970-12-16 (a.k.a. Unlawful Seizure Convention)					
Peak of hijackings attacks (19): 1970					
Montréal Convention 1971: 1971-09-23 (a.k.a. Civil Aviation Convention)					
Annex 17 to the Chicago Convention: 1974-03-22 (a.k.a. Aviation Security Manual)					
Surge of hijackings attacks (33): 1979-1982					
Surge of hijacking fatalities (150): 1985-1986					
Hijacking of TWA 847: 1985-06-14					
Peak of hijacking fatalities (90): 1986					
Decreasing trend of hijacking fatalities: 1987-2011					
Decreasing Trend of hijackings attacks: 2001-2011					
Last terrorist hijacking: 2009					

Table 5.11 displays an abridged version of yearly data already presented in tables 5.1 and 5.2. It shows hijackings' particular statistical highlights for the period between 1968 and 2001.

TABLE 5.11   Hijackings Highlights

Years	Attacks	Fatalities
1968	4	0
1969	6	3
1970	**19**	1
1971	11	4
1972	14	10
1973	8	2
1974	4	1
1975	6	5
1976	6	35
1977	7	3
1978	3	16
1979	5	0
1980	7	1
1981	14	1
1982	7	1
1983	4	0
1984	7	5
1985	9	60
1986	5	90
1987	3	1
1988	3	2
1989	6	0

Years	Attacks	Fatalities
1990	3	1
1991	6	5
1992	1	0
1993	3	1
1994	4	4
1995	5	2
1996	3	0
1997	0	0
1998	7	1
1999	8	2
2000	7	0
2001	1	2

5.2.4 Sabotage

Ross posits that sabotage is the deliberate destruction or damage of property and is typically carried out for military or political objectives.[632] In this research, the sabotage MO category includes both in-flight sabotage and sabotage occurring while the aircraft are still on the ground. Although terrorist acts of sabotage against aviation only represents nine percent of all terrorist attacks, they are the second deadliest MO with an average of 27.3 fatalities per attack. As with other MO, mid-air sabotage attacks have pros and cons for terrorists. On the one hand, they have proved particularly effective at blurring ties between attacks and perpetrators. Until new policies were enforced in the 1990s, it was rather easy for an astute terrorist to bring an explosive device on board an aircraft.[633] Terrorists have often placed explosives in their own luggage, checking it in at the airport and then failing to board their flights or subsequent connections in order to avoid being a victim of their own attack.[634] Several sabotage attacks were planned to occur while aircrafts were flying over water, intentionally making it more difficult for authorities to

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632. Jeffrey Ian Ross, *An Introduction to Political Crime* (Portland, OR: Policy Press, 2012), 55.

633. For example, Ramzi Yousef was arrested in February 1995 and was sentenced to two life sentences for the 1993 bomb attack of the World Trade Center in New York. On 11 December 1994, he planted a bomb under a passenger's seat during the first leg of Philippine Airline flight 434 from Manila to Tokyo, before disembarking from the plane during a stopover in Cebu. During the second leg of the flight, the bomb exploded killing one passenger. According to court documents, this attack was a test-drive for Operation Bojinka, a plan Yousef had devised to bring down 12 US airliners in mid-air over the Pacific Ocean in early 1995. *See* United States v. Yousef, 327 F.3d 56 (2nd Cir. 2003).

634. "On 22 June 1985, those who plotted the Air India bombing successfully used this means of placing the "unaccompanied, infiltrated" bag on Air India Flight 182. Passenger-baggage reconciliation— something that had been successfully implemented in Canada on an ad hoc basis prior to the bombing—would have prevented the bomb from being placed on the flight." Canada, *Air India Flight 182: A Canadian Tragedy,* vol. 1, The Overview, 2010, 25.

recover evidence.[635] Such schemes have made it very difficult for investigators to formally establish the identity of the perpetrators of some of the deadliest sabotage against civil aviation.

In terms of disadvantages, sabotage heavily relies on capacities and material that are not easily accessible to the vast majority of the population. Terrorists must acquire both technical knowledge and actual explosives to orchestrate sabotage. However, trying to obtain these two essential components is risky since security and intelligence agencies monitor their circulation. Furthermore, putting an explosive device on a plane does not guarantee that it will detonate at the desired moment, or that it will explode at all. Explosive devices may malfunction, just like any other machines, or flights may be delayed for a variety of reasons. ATSD revealed that several sabotage attacks fell short of fully succeeding in part because explosions occurred while aircrafts were still on the ground. However, terrorists have learned to develop better devices, detonators, and concealment methods to provide greater control over explosions. Over time, they have also developed smaller and much less detectable plastic or liquid explosives triggered by miniaturized and benign-looking timers, which are still capable of causing substantial destruction.[636]

As ATSD reveals, the first terrorist sabotage attack occurred on 11 April 1955, when an Air India aircraft thought to be transporting Chinese Premier Zhou Enlai was the target of an attack and crashed in the South China Sea off the coast of Indonesia killing 19 people. The main stream of terrorist sabotage activities occurred between 1969 and 1994, with 46 of all 52 (88.5 percent) acts of sabotage occurring in this period.[637] Historically, terrorist acts of sabotage against airborne civil aviation have been extremely lethal, but their devastation was cut short in the 1990s. (*See* chapter 4 for more information on the introduction of ICAO treaties and SARPs that led to this dramatic decline.) Between 1995 and 2011, sabotage was the least frequently used MO, with only three recorded attacks—all of which were either thwarted or failed.

Returning to significant statistical factors, the second half of the 1980s saw the deadliest sabotage attacks. The 1985 peak, and the surge between 1987 and 1989, took the lives of 998 people. This represents 71 percent of all fatalities attributable to sabotage attacks. Two catalytic attacks became game-changers in civil aviation with the airborne sabotage of: (1) Air India 182 on 23 June 1985; and (2) Pan Am Flight 103 on 22 December 1988.

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635. As was the case with the two deadliest sabotage attacks of Air India Flights 182 on 23 June 1985, as well as Pan Am Flight 103 on 21 December 1988.

636. R. Jeffrey Smith, "New Devices May Foil Airline Security," *Washington Post*, July 21, 1996, http://www.washingtonpost.com.

637. Three acts of sabotage were perpetrated in the 1931-1968 period and another three in the 1995-2011 period.

The author's analysis of the 52 acts of sabotage obviously concludes that airborne sabotage aim to kill large amounts of people. Conversely, the purpose of aircraft ground sabotage is to destroy for the sake of causing damage or sending a message to authorities.

Table 5.12 displays the sabotage attack timeline revealing two catalytic acts of sabotage, one ICAO action, and the following statistical indicators:

1. Increasing Trend
    a. 1980-1989: an increasing trend during which 21 acts of sabotage were carried out, which is 43 percent of all sabotage committed between 1968 and 2011
2. Peaks
    a. 1986: a peak of 6 sabotage attacks
    b. 1985: a peak of 331 fatalities
3. Decreasing Trends (merged into one in table 5.6)
    a. with the exception of 4 bursts in 1991, 1994, 2002, and 2010 (totalling 7 attacks), the period between 1990 and 2011 saw the number of sabotage steadily drop below the mean level of 1 attack per year
    b. fatalities due to sabotage dropped below the mean level of 28 since 1990; ATSD registered only 29 fatalities since then
4. The first and last ground attacks
    a. 1955-04-11: first terrorist sabotage executed off the coast of Indonesia
    b. 2010-10-29: the last terrorist sabotage attacks were committed against UPS and FedEx cargo planes

TABLE 5.12   Sabotage Timeline

1961 - 1990			1991-2011		
1961	1971	1981	1991	2001	2011
First terrorist sabotage: 1955-04-11					
Surge of sabotage attacks (12): 1969-1972					
Increasing Trend of sabotage attacks (21): 1980-1989					
Sabotage of Air India 182: 1985-06-23					
Peak of sabotage fatalities (331): 1985					
Peak of sabotage attacks (6): 1986					
Surge of sabotage fatalities (667): 1987-1989					
Pan Am 103 sabotage 1988-12-21					
Decreasing Trend of sabotage attacks and fatalities: 1990-2011					
Montréal Convention 1991: 1991-03-01 (a.k.a. Plastic Explosives Convention)					
Last sabotage: 2010-10-29					

Table 5.13 is a shortened version of data already presented in tables 5.1 and 5.2. It shows sabotage attacks and fatalities have been nearly non-existent since 1990.

TABLE 5.13   Sabotage Highlights

Years	Attacks	Fatalities
1968	0	0
1969	3	1
1970	3	47
1971	4	0
1972	2	27
1973	0	0
1974	2	88
1975	2	0
1976	3	73
1977	0	0
1978	2	0
1979	0	0
1980	1	0
1981	4	3
1982	1	1
1983	1	112
1984	1	0
1985	2	331
1986	6	20
1987	2	116
1988	1	270
1989	2	281
1990	0	0
1991	2	7
1992	0	0
1993	0	0
1994	2	22
1995	0	0
1996	0	0
1997	0	0
1998	0	0
1999	0	0
2000	0	0
2001	0	0
2002	1	0
2003	0	0
2004	0	0
2005	0	0
2006	0	0
2007	0	0
2008	0	0
2009	0	0
2010	2	0
2011	0	0

5.2.5 Suicide Missions

An attack is considered to be a suicide mission when an individual or a group of individuals intentionally commit suicide to destroy an aircraft or an aviation installation, with the objective of killing people. On 23 November 1989, an airborne suicide mission perpetrated by 10 passengers and taking place on board Saudi Arabian Airlines Flight 367 failed when their bomb, placed in the luggage compartment, malfunctioned. This was the first terrorist suicide mission committed against civil aviation. However, two catalytic events are engraved in history because of the impact they had on aviation security measures and public opinion: (1) the four 9/11 attacks, (2) the 2006 conspiracy to detonate bombs simultaneously during flights from London to various North American cities. A closer examination of all 17 suicide missions[638] discloses interesting facts:

1. suicide missions can be divided in two sub-categories: (a) decisive attacks[639] in the course of which attackers were able to go through aviation security systems undetected (11), and (b) foiled conspiracies (6);
2. the eleven decisive attacks are divided as follows:
   a) eight attacks were completed and they were all deadly:
      - 2001-09-11: airborne attacks (4) - US;
      - 2003-03-04: airport attack – Davao, Philippines;
      - 2004-08-24: airborne attacks (2) – Black Widows;
      - 2011-01-24: airport attack – Moscow Airport.
   b) three failed:[640]
      - 1989-11-23: airborne attack – bomb malfunction;
      - 2001-12-22: airborne attack – Shoe Bomber;
      - 2009-12-25: airborne attack – Underwear Bomber.
3. the six foiled[641] conspiracies are the followings:
      - 1991-10-30: plot targeting the Spanish Royal Palace, Madrid;
      - 1994-12-24: Operation Bojinka, over Pacific Ocean;
      - 1995-04-10: plot to crash a plane into the CIA headquarters;
      - 1998-10-26: plot to crash a plane into the Ataturk mausoleum, Ankara;
      - 2001-07-11: plot to crash a helicopter into the Paris US embassy;
      - 2006-08-10: Liquids and Gels plot, over Atlantic Ocean.

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638. *See* Appendix B for more details on these attacks.
639. A decisive attack is defined in the author's Glossary as "The last fraction of a suicide mission during which attackers intentionally and successfully get around airport security with concealed weapons or threat objects without being detected. At this stage, the intent and determination of the attackers place them in a position to strike a decisive blow."
640. An attack fails when a terrorist is able to enter any security system undetected, but is unable to fulfill the ultimate goal of the operation.
641. An attack is foiled when one or more terrorists have initiated actions towards the end goal of the operation but are stopped by law enforcement.

The fact that about half of sabotage attacks were either foiled, thwarted, or failed seems to point out that the security apparatus is somehow effective at deterring, preventing, or thwarting such missions. Table 5.14 displays the suicide mission timeline and reveals two catalytic suicide mission attacks and three ICAO actions. It also includes three statistical indicators:

1. Peaks
   a. the peaks for the number of attacks and fatalities were merged because they are closely related and both stem from the 9/11 attacks in 2001
2. The first and last suicide missions were failed attacks
   a. 1989-11-23: the first suicide mission over the Arabian sea
   b. 2009-12-25: the last suicide mission by the Underwear Bomber.

TABLE 5.14   Suicide Missions Timeline

1961 - 1990			1991-2011		
1961	1971	1981	1991	2001	2011
First terrorist suicide mission: 1989-11-23					
Peak of suicide missions (6) and fatalities (2996): 2001					
9/11 terrorist attacks: 2001-09-01					
Declaration on the misuse of civil aircraft: 2001-10-05					
ICAO's Plan of Action and USAP: 2002-06-20					
Surge of suicide missions (3): 2003-2004					
Decreasing Trend of suicide mission fatalities: 2005-2011					
UK Liquids & Gels plot: 2006-08-10					
Beijing Convention and Protocol 2010 (New Civil Aviation)					
Last suicide mission: 2011-01-24					

Table 5.15 shows how the 17 suicide missions are unevenly spread between 1989 and 2011.

TABLE 5.15   Suicide Missions Highlights

Years	Attacks	Fatalities
1989	1	0
1990	0	0
1991	1	0
1992	0	0
1993	0	0
1994	0	0
1995	2	0
1996	0	0
1997	0	0
1998	1	0
1999	0	0
2000	0	0
2001	6	2996
2002	0	0

Year	Attacks	Fatalities
2003	1	21
2004	2	89
2005	0	0
2006	1	0
2007	0	0
2008	0	0
2009	1	0
2010	0	0
2011	1	37

5.2.6 Grand Totals of Attacks and Fatalities

Table 5.16 displays the grand totals of attacks and fatalities (including all MO) in a timeline revealing there have been relatively few attacks against civil aviation. In fact, the probability of an attack occurring at any given moment is extremely low. However, when attacks happen—they are rarely isolated events—they are generally committed in series over extended periods. The following statistical indicators show the main episodes of aviation terrorist activities over time:

1. Increasing Trends
   a. 1978-1986: a 9-year long trend during which 175 attacks were committed (30 percent of all terrorist attacks between 1931 and 2011)
   b. 1985-1989: a 5-year long trend that brought 1,456 fatalities (or 24 percent of all fatalities due to terrorist attacks between 1931 and 2011)
   c. 1989-1994: a 6-year long trend of 64 attacks
   d. 1998-2002: a 5-year long trend of 77 attacks
2. Peaks
   a. 1992: a peak of 20 attacks
   b. 1983: a peak of 141 fatalities
3. Decreasing Trends
   a. 2003: attacks steadily dropped below the mean level of 7 per year
   b. 2003: fatalities steadily dropped below the mean level of 28

TABLE 5.16   Grand Totals of Attacks and Fatalities Timeline

1961 – 1990			1991-2011		
1961	1971	1981	1991	2001	2011
Surge in the total of terrorist attacks (71): 1970-1973					
Increasing Trend in the total of terrorist attacks (175): 1978-1986					
Peak in the total of terrorist attacks (30): 1981					
Increasing Trend in the total of fatalities (1456): 1985-1989					
Increasing Trend in the total of terrorist attacks (77): 1998-2002					
Peak in the total of fatalities (3028): 2001					
Decreasing Trend in the total fatalities: 2002					
Decreasing Trend in the total terrorist attacks: 2003-2011					

Table 5.17 shows there have been relatively few attacks against civil aviation, and the probability of an attack occurring at any given moment is extremely low.

TABLE 5.17   Grand Totals of Attacks and Fatalities Highlights

Years	Attacks	Fatalities
1968	5	1
1969	11	5
1970	23	49
1971	15	4
1972	17	65
1973	16	40
1974	8	89
1975	12	18
1976	17	124
1977	12	8
1978	15	72
1979	20	61
1980	17	1
1981	30	10
1982	17	17
1983	17	253
1984	15	37
1985	22	469
1986	22	210
1987	12	183
1988	6	277
1989	19	317
1990	12	5
1991	17	23
1992	21	13
1993	10	137
1994	16	40
1995	13	103
1996	9	1
1997	3	0
1998	16	141
1999	15	12
2000	17	22
2001	15	3028
2002	14	31
2003	7	22
2004	4	89
2005	4	1
2006	4	2
2007	4	5
2008	6	0
2009	7	13

| 2010 | 7 | 6 |
| 2011 | 3 | 39 |

Overall, these six timelines reveal that each aviation terrorism MO (as well as the grand totals of attacks and fatalities for each of those MO) have followed an action-reaction pattern, although they have done so at different points in time. The grand totals of attacks and fatalities also offer an interesting perspective on the magnitude of the aviation terrorism phenomenon at different periods. The literature review shows that although modern aviation terrorism admittedly originated in 1968, it is the series of 71 terrorist attacks committed between 1970 and 1973 that left a strong impression of calamity. However, thirty years later, the series of 77 attacks committed between 1998 and 2002 marked the start of the decline of the aviation terrorist wave. These two series of attacks represent the two outer edges of a very dramatic era in aviation terrorism. Between these two poles, the pressure on authorities to respond to such acts of aggression became even more intense when 1,456 people were killed in a short span of five years (1985-1989) during which catalytic attacks whose devastating images were quickly transmitted in news reports around the world occurred.

5.2.7 Aviation Terrorism

ATSD reveals an important reduction in the number of terrorist attacks against civil aviation between 2003 and 2011. During this period, an average of five attacks per year was recorded, which represents only 38 percent of the overall mean level of 13 attacks per year. ATSD also corroborates the same declining trend in the number of fatalities between 2002 and 2011; with an average of 21 fatalities per year compared to the previous mean level of 137 fatalities per year. It also confirmed that the 9/11 terrorist attacks were not an entirely new phenomenon, but rather a new moment in the natural evolution of an international terrorist campaign that has had a long history. Indeed, from the beginning of the jet age, terrorists have tried, tested and refined the various MO, which then became popular for a given period. The MO evolved from hijacking airplanes, attacking airports, and sabotaging aircraft, to launching suicide missions. More recently, although outside the scope of this dissertation, a new movement has emerged wherein terrorists launch inexpensive and isolated attacks employing innovative small-scale weapons forcing governments to react with large-scale solutions. AQAP has dubbed this method Death by a Thousand Cuts (*see* section 3.3.5.2).

5.2.8 Non-terrorist Incidents

Table 5.18 presents the 10 changes to the international LRF aimed at dealing with aviation terrorism. Of course, these changes did not negate the possibility of impacting incidents perpetrated for criminal and personal reasons.

TABLE 5.18   Aviation Terrorism: Changes to the LRF

1963-09-14	Tokyo Convention (Aircraft Convention – Hijackings)
1970-12-16	The Hague Convention (Unlawful Seizure Convention - Hijackings)
1971-09-23	Montréal Convention (Civil Aviation Convention - Sabotage)
1974-03-22	Annex 17 to the Chicago Convention (Safeguarding Civil Aviation - Hijackings)
1988-02-24	Montréal Protocol (Airport Convention – Ground Attacks)
1991-03-01	Montréal Convention (Plastic Explosives Convention - Sabotage)
2001-10-05	Declaration Misuse of Civil Aircraft as Weapons of Destruction (Suicide missions)
2002-06-20	Council Aviation Security Plan of Action
2010-09-10	Beijing Convention (New Civil Aviation Convention – Suicide Missions)
2010-09-10	Beijing Protocol (Unlawful Seizure Convention - Hijackings)

Overall, cross-examining the 60 indicators presented in table 5.6 with the relevant portions of figures 5.1 and 5.2 (respectively illustrating the evolution of non-terrorist incidents and non-terrorist fatalities) does not reveal that the changes to the LRF have had a greater effect on non-terrorist incidents than they have had on terrorist attacks. That is, changes to the LRF have had a comparable effect on both terrorist attacks and criminal incidents against civil aviation. In other words, as with terrorist attacks, changes to the LRF did not have an *immediate* effect on the number of non-terrorist incidents and fatalities. Time, occasionally a significant amount of time, needed to pass before any decrease in terrorist or criminal activity became statistically noticeable. That is, the effect of these conventions or other legal instruments is incremental and cumulative; progress happens slowly, over time, and is greatly facilitated by the adoption of multiple pieces of legislation, and the time necessary to implement them.

But there exist two exceptions to this rule as showed in figures 5.1 and 5.2. Firstly, the significant decline in the number of non-terrorist hijackings between 1970 and 1973 coincides with (1) the adoption of The Hague Convention 1970 and the Montréal Convention 1971, (2) the bi-lateral agreement between Cuba and the US on hijackings, and (3) the 1973 implementation of Walk-Through-Metal-Detectors (WTMD) in a great number of airports. Secondly, the spirit of the Montréal Convention 1991 preceded its official adoption by ICAO since the fatalities from both terrorist and non-terrorist acts of sabotage have almost completely vanished as of 1990. The reaction of the international community to the Pan Am 103 attack and the implementation of new security measures had almost certainly had an impact on either would-be criminals or terrorist attackers.

FIGURE 5.1   Non-Terrorist Incidents

FIGURE 5.2   Non-Terrorist Fatalities

Legend: Ground Attacks   Hijackings   Sabotage   Suicide Mission

5.3 Making Sense of ICAO Legal Instruments

In the attempt to provide a sound answer to the research question, the author also analyzed the independent variable (the Legal and Regulatory Framework) through a qualitative methodology. The analysis showed that, in the first two decades following the creation of ICAO, the security of international civil aviation was only regulated by non-binding recommended practices made to Member States Despite ICAO Council's broad law-making powers, a thorough review of ICAO resolutions between 1946 and 1968 shows that aviation security and aviation terrorism were not on the organization's radar screen—even though civil aviation had been hit 126 times prior to 1968.[642]

From the perspective of effectively countering aviation terrorism, ICAO has also demonstrated other weaknesses. For example, when Conventions and Protocols were eventually adopted after 1968, ICAO set the objective in general terms but made the implementation the responsibility of national civil aviation security authorities and members of the industry. Moreover, in the last half-century, their efforts focused on international conventions that required states to prosecute with severe penalties or extradite offenders as criminals, not as terrorists. Indeed, Member States persistently concentrated on the result of the acts, thereby pushing aside any notion of political intent. The rationale behind this way of thinking is that only unlawful acts can be prosecuted, not opinions.

The word terrorism was nonetheless mentioned for the first time in ICAO Resolution A26-7 of October 1986—but left undefined. ICAO expressed its concerns that hijackings and other unlawful acts against civil aviation, "particularly the threat of terrorist acts," have serious adverse effect on the safety of passengers and crews, and on the efficiency and regularity of international civil aviation.[643] Five years later, the Montréal Convention 1991 also used the term "terrorist" in its preamble without giving any definition and without making terrorism a crime under the articles of the Convention. The word was used again in the aftermath of the 9/11 attacks. Although Resolutions A33-1 and A33-2 of 2001 still did not offer any definition of the term terrorism, they declared that: (1) the use of civil aircraft as weapons of destruction, (2) acts aimed at destruction of aircraft, and (3) any other terrorist act involving civil aviation all constitute grave offences in violation of international law.[644] They also urged Member States to cooperate in the apprehension and prosecution of those who participated in these terrorist acts, whatever the nature of their participation, so that offenders could not find safe

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642. *See* Appendix N.
643. Resolution A26-7 (1986): Consolidated statement of continuing ICAO policies related to the safeguarding of international civil aviation against acts of unlawful interference.
644. Resolution A33-1 (2001) includes a declaration on misuse of civil aircraft as weapons of destruction and other terrorist acts involving civil aviation; Resolution A33-2 includes a consolidated statement of continuing ICAO policies related to the safeguarding of international civil aviation against acts of unlawful interference.

haven anywhere. The Resolutions also emphasized the fact that these offences were contrary to the letter and spirit of the Chicago Convention 1944.

In the above, we can see that the international community, although unable to agree on a precise definition of terrorism, was able to identify the phenomenon confronting them as terrorist in nature and to act accordingly. Attacks, and particularly catalytic attacks, united Member States in a way that theoretical discussions of terrorism could not. They were able to cooperate and to act together in the greatest interest of the traveling public and the civil aviation industry.

5.3.1   Interpretation of Legal Documents

As seen in chapter 4, ICAO has adopted a series of treaties on aviation security since 1963. These legal instruments require the criminalization of acts perpetrated against civil aviation, and promote the cooperation between Member States. Both measures essentially aim at ensuring that no offender will go unpunished if any form of unlawful interference against civil aviation was committed.

5.3.1.1   Tokyo Convention 1963

The Tokyo Convention 1963 was the first step towards the suppression of unlawful acts; it accomplished this by (1) identifying the conditions under which the Convention shall apply when an act is committed on board an aircraft in-flight (art. 1) that jeopardizes the safety of the aircraft or people in the aircraft, and (2) by creating the ability for Member States to exercise jurisdiction to prosecute an offender (art. 3). However, these provisions did not provide a sound legal framework for resolving those problems.[645]

Furthermore, the Convention had six more important shortcomings: (1) it did not specifically codify which unlawful acts jeopardizing the safety of the aircraft constituted an offense under the Convention (Art. 1), (2) it failed to proclaim hijacking an international crime, (3) it lacked a clear framework identifying the boundaries of jurisdiction necessary to initiate the prosecution or the extradition of offenders (Art. 3), (4) it precluded any Member State that is not the state of registration of the aircraft from intervening with an aircraft in-flight (Art. 4), (5) it did not clearly determine and cover all forms of unlawful seizure of aircraft (Art. 11), and (6) it did not compel a Member State to prosecute an alleged offender upon disembarkation (Art. 13). These shortcomings were regarded as serious loopholes in the Convention, particularly in the case of hijackings. Terrorists often took advantage of these gaps. For example, after hijacking an aircraft, they would land in countries where governments were known to be sympathetic to the terrorists' cause. There, they would hold hostages without fear of being stormed by local law enforcement. When their demands to the targeted government were

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645. Nicholas M. Matte, *Treatise on Air-Aeronautical Law* (Toronto: Carswell, 1981*)*, 353, cited in Bassiouni, *International Criminal Law*, 833.

fulfilled, they would then seek asylum from the country where the hijacked aircraft landed. This misleading smokescreen scenario led by abetting governments was repeated many times before this lacuna was corrected by other conventions.[646]

Because of these flaws, and also in the aftermath of El Al Flight 426 terrorist hijacking on 23 July 1968, ICAO proposed a response in the form of Resolution A16-37. This Resolution called on Member States to take all possible measures to prevent acts of unlawful seizure of aircrafts and to cooperate with any state whose aircraft had been the subject of such seizure.[647] Although well intended, this Resolution introduced to solve jurisdiction and prosecution issues against terrorists was difficult to implement since many countries had not ratified the Tokyo Convention. Consequently, ICAO Council directed its Legal Committee to refine either the Convention or to create a wholly new one.[648]

Unfortunately, it took over six years for Member States to ratify the Tokyo Convention 1963, which only entered into force on 4 December 1969—and that with a low number of Member States being parties to the Convention. Abramovsky suggests two reasons for the delays: (1) the Convention was drafted prior to the peak of the hijacking problem and hence was not seen as a priority by most states, and (2) the complicated legal and political issues facing many countries at the time of the adoption of the Convention furthered delayed ratification.[649] Indeed, there was an important surge in the number of acts of unlawful interference between the day the Convention was adopted by ICAO's Assembly (14 September 1963) and the day it entered into force (4 December 1969). During that period, GACID catalogues a total of 160 incidents (18 were terrorist attacks), of which 139 happened in the last three years, in 1967 (10), 1968 (33), and 1969 (96). The 160 incidents represent a major shift compared to the 95 incidents reported in the 33 years between the first attack in 1931 and the adoption of the Convention. The lack of a clear statement saying that unlawful acts would be tackled by Tokyo Convention 1963 showed that the international community was not yet ready to deal with the entire hijacking problem.[650] Rapidly, it became obvious that the Convention was not living up to the expectations of all those eager to see practical solutions to the problem. Stancu emphasizes the fact that the Convention did not make references to specific offences, but rather complemented existing national

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646 For example, El Al Flight 426 was hijacked on 23 July 1968 and diverted to Algeria. This terrorist attack propelled a new wave of aviation terrorism. Soon, the Algerian government, openly an enemy of the state of Israel, was suspected of cooperating with the terrorists. The same scenario was repeated by three more countries: (1) Cuba, hijacking of National Airlines Flight 186 on 4 November 1968; (2) Syria, hijacking of TWA Flight 840 on 29 August 1969; (3) Egypt, hijacking of Olympic Airways Flight 255 on 22 July 1970.
647. Resolution A16-37, Unlawful Seizure of Civil Aircraft (3 September 1968).
648. Abeyratne, *Aviation Security Law,* 230.
649. Abramovsky, "The Hague Convention," 389.
650. Boyle, "Aircraft Hijacking," 462-463.

criminal law offences of the country (or countries) targeted.[651] Moreover, the Convention did not compel the prosecution of the offender once the hijacked aircraft landed, leaving this decision to the host country.

The context is important here. The 1960s were a decade of great political instability due, inter alia, to the decolonisation of many countries; the birth of terrorist groups in Western Europe, Japan, and North America; the Cold-War tensions, etc. To name but just a few, there were demands for greater individual freedoms, a wave of civil disobedience associated with the Vietnam War in the US, and social protest in France in May 1968. Although an imperfect legal instrument, the Tokyo Convention 1963 represents to this day an important milestone in the history of civil aviation. It certainly brought ICAO to play a more direct role in solving a dreadful series of attacks against civil aviation.

5.3.1.2 The Hague Convention 1970

The Hague Convention 1970 was developed in response to a scourge of hijackings in the late 1960s. The Convention covers both domestic and international flights. It specifically defines both the hijacking of an aircraft and the threat to undertake such an act as an offence (although this is limited to a threat made on board the aircraft in-flight). It also requires Member States to make the offence punishable by severe penalties. However, Abeyratne contends the Convention still had numerous weaknesses, including that: (1) because the act must be committed by a person on board an aircraft "in-flight", it did not address situations of unlawful interferences with civil air navigation facilities (e.g., airports, air services); (2) it did not consider acts of sabotage committed from and on the ground, in which the attackers could leave the aircraft after planting a dangerous device inside an aircraft; and (3) there are no guidelines for the prosecution and punishment of offenders, other than an ambiguous instruction to give offenders "severe penalties".[652] The long-awaited ratification of The Hague Convention 1970 created resentment amongst the most likely potential victims of acts of unlawful interference: the pilots and crew. This perceived procrastination concerning the application of the *aut dedere, aut judicare* principle was a major irritant for all persons affected by hijacking.

The uproar caused by this perceived delay was so great that it even gave rise to a global 25-hour shutdown of airline services—held on 19 June 1972 by the International Federation of Airline Pilot's Associations (IFALPA)—which was perhaps the largest international strike ever in terms of the number of countries involved.[653] The strike was aimed at pressuring governments across the world to

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651. Diana Stancu, "AVSEC Conventions: Beyond Chicago until Beijing," *Aviation Security International,* 16:5 (2010): 12.
652. Abeyratne, *Aviation Security Law*, 231.
653. Edmund Jan Osmanczyk, *Encyclopedia of the United Nations and International Agreements,* vol. 3, 3rd ed., Anthony Mango, ed. (New York: Taylor and Francis, 2003), 2249.

fulfil three basic demands: (1) increasing international airport security, (2) adopting The Hague Convention 1970, and (3) speeding up the pace of ratification of other anti-hijacking conventions.[654] On the day of the shutdown, in an effort to avoid worsening a major chaos within the industry, the ICAO Council passed a resolution mandating its Legal Committee to work on the preparation of a new international convention to solve the issue of sanctions requested by the US and a few other countries "calling for the suspension of air services to any state that held onto hostages and aircraft or failed to extradite terrorists after a hijacking."[655] The efforts led to having Member States find ways to solve this issue using their own national laws, or by implementing the provisions of Article 10(1) of the Convention by taking all practical measures to prevent offences against civil aviation.[656]

The responsibility of countries to either extradite offenders to relevant countries or to charge them under their domestic law also derives from two ICAO Conventions.[657] Abeyratne illuminates the role of the international community in this equation. Commenting on UNGA Resolution 2645 (1970), he is quite critical of the UN's silence concerning the political element involved in acts of unlawful interference against civil aviation. He suggests that at the dawn of modern aviation terrorism, the UN should have excluded political motivation as a factor blocking the extradition of hijackers.[658] In hindsight, it is evident that this decision would have prevented terrorists from claiming political asylum after being implicated in a hijacking.[659] However, that is not to say that acts of aviation terrorism need to be treated as ordinary crimes. Quite the contrary, as was argued in chapter 2, it is useful to define aviation terrorism as a political act in which the motivation for perpetrating an attack against civil aviation needs to be factored into both the prosecution and the sentencing of the offenders. In spite of this, it is also important to mention that none of ICAO's legal instruments specifically require determination of the intent of the aggressor. That is to say that the motivation of the attacker is irrelevant with regards to the provisions of conventions and protocols enacted by ICAO. It is for countries to make this judgment call.

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654. BBC News, "1972: Pilots Threaten Worldwide Strike," (14 June 1972), http://www.newsbbc.co.uk.
655. MacKenzie, 267, 269.
656. This meant establishing passenger and carry-on baggage screening procedures, and making sure that a national security agency was active in all major airports after the convention came into force on 26 January 1973.
657. The Hague Convention 1970, Art. 7; Montréal Convention 1971, Art. 7.
658. Abeyratne, *Aviation Security Law,* 206. For reference, *see* UNGA Resolution 2645, http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/2645(XXV), (25 November 1970).
659. This was the case after the 30 January 1971 hijacking of Indian Airlines Flight, when the two hijackers were given political asylum by the Pakistani government. *See* N. Jayapalan, *India and her Neighbours* (New Delhi: Atlantic, 2000), 67-68.

5.3.1.3 Montréal Convention 1971

Due to the growing threat of violence against civil aviation that was ubiquitous in the early 1970s, and despite the entry into force of the Tokyo Convention 1963 and The Hague Convention 1970, ICAO had to find a quick way to correct deficiencies exposed by the two first aviation security legal instruments. ICAO's response came in 1971 in the form of the Montréal *Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation*. This new treaty was a direct response to the simultaneous hijackings of *Skyjack Sunday*, attacks that ended with the blowing up of four airliners after passengers and crew had been evacuated.

Although repetitious of the two previous conventions in many respects, the Montréal Convention 1971 introduced new provisions regarding specific offenses, including on-the-ground sabotage of an aircraft, and destroying or damaging civil air navigation facilities. To help establish the parameters of the offenses, the new Convention delineated the status of an aircraft in-flight vis-à-vis an aircraft in-service. It also required for the first time that Member States take all practicable measures to prevent attacks against civil aviation and to participate with other Member States in the exchange of information.

Unfortunately, the Montréal Convention 1971 also had its own deficiencies. Notably, it limited its reach to offenses affecting the safety of the aircraft, and it did not address the threat to commit a crime against civil aviation in the list of offenses. It stayed reactive and did not address new and emerging threats against civil aviation (ground-to-air attacks, air-to-ground attacks, cyber-attacks, spreading of diseases, or suicide missions).

5.3.1.4 Summarizing the Trilogy of Hijacking Conventions

The three hijacking conventions created an obligation for Member States to refrain from taking part in, sponsoring, or consenting to acts of unlawful interference against civil aviation. Furthermore, under the trilogy of hijacking conventions, states are required to (1) criminalize acts of unlawful interference with or seizure of an aircraft under domestic law, (2) cooperate with other Member States to prevent acts of unlawful interference, and (3) take action to either prosecute or extradite offenders.

Specifically, the Tokyo Convention 1963 provisions sought to protect the safety of aircraft in-flight and to establish the authority of the aircraft commander to keep good order and discipline on board. The Hague Convention 1970 supplements the Tokyo Convention 1963. It defines unlawful acts against aircraft (the act or the attempt), and deals with the prosecution or extradition of the offender. The Montréal Convention 1971 better defines acts of unlawful interference, includes all conspirators of an attack, and covers both aircraft-in-flight and aircraft-in-service (before and after the flight). The three Conventions brought very significant changes and provided the basis for international law when it came

to acts of unlawful interference with civil aviation.[660]   In spite of inconsistencies and disparities, they went as far as they could in their historical contexts. Sochor goes even further, saying that these Conventions represented the best that could be achieved in practice during that period of time.[661] It would be fair to say that, even though aviation terrorism was not entirely eradicated (if this could ever be an attainable objective), aviation security made great strides with the first three Conventions. Four main reasons justify this observation:

1. the everlasting legal issue concerning jurisdiction[662] over the offence was solved by granting Member States the authority to intervene as may be necessary in the prosecution of the attacker;
2. the *aut dedere, aut judicare* doctrine was clarified by The Hague Convention 1970 and the Montréal Convention 1971, which allowed for the arrest, prosecution or extradition of the offender wherever he or she may be;[663]
3. the legal and regulatory framework being a permanent work-in-progress, every new legal instrument aims at improving the preceding ones and builds upon the foundation laid by them;
4. attacks against civil aviation became extraditable offences and were given an international crime status.

Despite the new conventions, civil aviation continued to be targeted by terrorist attacks. With newly implemented security measures put in place to prevent hijackings, terrorists found innovative ways of attacking civil aviation. Sabotage became an MO of predilection for terrorists and security experts scrambled to design new technology and security procedures to prevent and thwart deadlier attacks. As chapters 3 and 4 revealed, the high fatality toll linked with both the Air India and Pam Am sabotage in the 1980s allowed for the development of new security measures. Lethal ground attacks were also used regularly. Table 5.19 summarizes the major characteristics of the first three Conventions developed by ICAO to tackle the aviation terrorism problem. It presents their main objectives and specific provisions, as well as the flaws and limitations of each Convention.

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660. Wallis, "International Aviation," 87.

661. Eugene Sochor, "ICAO and Armed Attacks Against Civil Aviation," *International Journal / Canadian International Council* 44:1 (Winter 1988-1989), 144.

662. For example, country where the offence is committed, country of aircraft registration of the aircraft, country where the hijacked aircraft landed, country of nationality of attacker, etc. *See* Montréal Convention 1971, Art. 5(1).

663. Montréal Convention 1971, Art. 7, and 8.

TABLE 5.19   Summary of the Trilogy of Conventions

Tokyo Convention 1963	The Hague Convention 1970	Montréal Convention 1971
Objectives: - Devise a legal instrument to solve the problem of crimes committed on board aircraft - Provide for the safety of the aircraft, passengers, crew - Regulate authority of aircraft commander on board - Ensure states' jurisdiction	*Objectives*: - Fill the gaps of the Tokyo Convention - Define the act of hijacking - Acknowledge it as an international offense - Provide the legal instruments to fight and punish acts of unlawful seizure of aircraft	*Objectives*: - Fill the gaps of The Hague Convention 1970 - Define offense of unlawful acts against aircraft safety - Criminalize offenses committed against aircraft in-flight and also on the ground
Specifics: - Applies only to crimes jeopardizing the safety of the aircraft, people or property, and committed on board an aircraft in-flight (art. 1) - Endows jurisdiction to state of registration (art. 3) - Establishes the powers of the aircraft commander (art. 5 to 10) - Stipulates that Member States in which the hijacked aircraft lands: (1) shall take all appropriate measure to restore control of the aircraft; (2) shall permit passengers and crew to continue their journey; and (3) shall return aircraft and cargo to the lawful owner (art. 11)	*Specifics*: - Offender has to be on board an aircraft in-flight (art.1) - Introduces the notion of accomplices (art. 1(b)) - Defines unlawful acts and threats to commit it (art. 1(a)) - Suggests *severe penalties* (art. 2) - Applies to international and domestic flights (art. 3(3)) - Defines criteria to establish states' jurisdiction (art. 4) - Integrates the *aut dedere, aut judicare* principle (art. 7) - Creates an extraditable offense (art. 8(1)) - Offers legal basis for extradition (art. 8(2)) - Promotes better cooperation in criminal proceedings (art. 10)	*Specifics*: - Widens the scope beyond acts of hijacking to include sabotage, armed attacks and other forms of violence (art. 1) - Covers relevant acts perpetrated against aircraft not only in-flight, but also in service (art. 2) - Gives jurisdiction to a state: (1) where the offence is committed (art. 5(1)(a)); (2) the state of registration (art. 5(1)(b)); (3) the state of landing (art. 5(1)(c)); (4) the lessee's state of business or residence (art. 5(1)(d)) - Provides for the prosecution, extradition, and punishment of the offender (art. 7 and 8)
Flaws and *Limitations*: - Does not make reference to specific offenses (art. 1) - Does not compel Member States to prosecute offenders; - Leaves to the law of the state assuming jurisdiction to decide how acts become unlawful or wrongful (art. 1) - Does not deal with the whole problem of unlawful acts committed against civil aviation (criminal or terrorist) - Leaves a major gap in the LRF in its attempts to cope with the hijacking epidemic	*Flaws* and *Limitations*: - Limited to specific offence of unlawful seizure of aircraft and acts of violence connected with the offence - Does not address ground attacks against aviation facilities, and ground or mid-air sabotage - Does not have guidelines for the prosecution and punishment of offenders - Does not define the term *Severe penalties* (art. 2) - Does not give authority to state of registration if an offense is committed within territory of that state (art. 3)	*Flaws* and *Limitations*: - Limited to acts likely to endanger the safety of the aircraft (art. 1(a)) - Limited to offences which affect the safety of the aircraft in-flight and in service (art. 2) - Does not make the threat to commit a crime against civil aviation an offense - Does not have provisions for new and emerging threats against civil aviation (i.e., suicide missions, ground-to-air attacks, air-to-ground attacks, cyber-attacks, spreading diseases, etc.)

5.3.1.5 Annex 17

The 31 May 1972 ground attack at Lod airport in Israel, which took the lives of 28 people and the deadly criminal sabotage of a Cathay Pacific flight from Bangkok to Hong Kong on 16 June 1972, which killed 81 people prompted ICAO to take further action to stop unlawful acts of interference or seizure of an aircraft.[664] It came in the form of Annex 17 adopted on 22 March 1974 that came into force on 27 February 1975. It was amended 12 times between 1974 and 2011. It addresses: (1) administrative and organizational measures; (2) preventive security measures concerning airport operations, screening of people and baggage, aircraft operations; (3) responsive measures to acts of unlawful interference, (4) standards and qualifications for security personnel, and (5) and international cooperation.

Annex 17 offers many advantages compared to other conventions and protocols. Firstly, it is a good tool for adjusting to new and emerging threats because security measures can be implemented and changed quickly. Secondly, all signatories of the Chicago Convention 1944 (this means all ICAO Member States) have no choice but to abide by Annex 17 because this annex is an integral part of the Convention. Therefore, Member States have the obligation to implement all security standards included in the annex.

5.3.1.6 The Montréal Protocol 1988 and Montréal Convention 1991

Supplementary to The Hague Convention 1970, the Montréal Protocol 1988 was developed to confront violent and unlawful acts at airports serving international civil aviation, thus broadening the notion of airport security. The Montréal Convention 1991 on the marking of explosives aimed at facilitating the detection of explosives and preventing the circulation of unmarked explosives. Although Member States unanimously adopted this last Gonvention, it took them more than seven years to ratify it. Yet, as ATSD shows, fatalities due to sabotage had fallen to the near zero level in the year preceding the adoption of the Montréal Convention 1991. Indeed, except for the 7 fatalities in 1991 and 22 more in 1994, there have not been any fatalities due to sabotage since 1990.

5.3.1.7 Adopting a Proactive Approach

It was in the aftermath of the 9/11 attacks that the 33rd Session of ICAO's Assembly was held in Montréal between the 25 September and 5 October 2001.[665] Many forward-thinking decisions to enhance aviation security were made at this assembly. Four important resolutions were adopted during this Session. Resolution A33-1 strongly condemned the "misuse of civil aircraft as weapons of destruction and other terrorist acts involving civil aviation." It called for the implementation

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664. Dempsey, *Air Law*, 248.

665. *See* Appendix N.

and enforcement of the multilateral conventions on aviation security, as well as SARPs related to aviation security. It also directed the Council and the Secretary General to:

1. act urgently to address the new and emerging threats to civil aviation, in particular to review the adequacy of the existing aviation security conventions;
2. review the ICAO aviation security programme, including a review of Annex 17 and other related Annexes to the Chicago Convention 1944;
3. consider the establishment of an ICAO Universal Security Oversight Audit Programme relating to, inter alia, airport security arrangements and civil aviation security programmes;
4. consider any other action, which it may consider useful or necessary, including technical cooperation.

This Resolution, and the ones that followed, were a major shift in how ICAO would see aviation security in the future. Henceforth, identifying gaps and inadequacies in the five existing legal instruments and assessing security measures became ICAO's creed. The appraisal of existing Conventions, Protocol, and Annex 17 were set to face new and emerging threats (known and unknown) to civil aviation.[666] This represents a revolution in the way that ICAO (and its Member States) regarded aviation terrorism: no longer were they to be content with the status quo of their legislation, passively awaiting the next catalytic attack. Rather, this moment represents a turning point for ICAO and its Member States: from this point forward, they were proactively oriented towards fixing existing problems with the legislation and looking for new problems and emerging threats to anticipate and correct before further attacks could take place.

5.3.2 Responses to Legal Instruments

Unquestionably, an attack against civil aviation is first and foremost a crime already covered by each state's domestic law. Indeed, not all incidents against civil aviation are terrorism-related, but they are crimes in every instance. However, the greatest benefit of considering terrorist attacks in international legal instruments is that it brings legal harmonization amongst Member States. The fact that ICAO was able to garner consensus amongst its Member State as to what legally constituted a criminal offence against civil aviation is a major achievement in and of itself. They did so as part of their multilayered approach to criminal and terrorist attacks against civil aviation. This multilayered approach to terrorist attacks is fundamentally based on the individual response by Member States with regards to

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666. In 2001-2002, an ICAO special legal sub-committee conducted a preliminary study of the existing legal instruments in aviation security and drew the conclusion that many known threats were not adequately covered (e.g., the use of aircraft as weapons, suicide attacks, computer-based attacks, and CBRN attacks), Doc. LC/SC-NET/WP/2, (6 July 2007), A3-3.

both the prevention of attacks and the prosecution of offenders; again, given that ICAO is an international organization operating in an international context in which there is no overarching authority, and in which the organization does not have the power to unilaterally force any State to comply with its recommendations, this is unavoidable. The responsibility of individual Member States in criminal situations is deeply rooted in the prosecute or extradite doctrine, which every ICAO Member State must respect.

5.3.2.1   The ICAO Response and Member State Failures

The initial hypothesis of this dissertation was that ICAO has had a tendency to react to terrorist attacks, and to fail to act proactively, to take the initiative when confronting the terrorist threat. However, the evidence produced by the research process has in fact demonstrated that ICAO *did* act quickly and effectively after terrorist attacks occurred, and that, eventually, ICAO transformed itself into a forward-thinking, proactive organization. That is, historically, ICAO was indeed reactive, but it was also effective and efficient. By contrast, it was the Member States, and not the ICAO administration, that were responsible for the, at times, lengthy delays in the implementation (or total disregard of) ICAO security recommendations, and that it was the Member States that collectively hesitated to act and who failed to improve the global aviation security network at a pace commensurate with ICAO initiatives.

ICAO's aviation security conventions and protocols have used two approaches. The first approach is reactive, while the second is more anticipatory. The conventions and protocols also generally include two types of provisions: prosecutorial and preventative. The prosecutorial measures are reactive by nature and ensure that attacks on civil aviation will not go unpunished, while at the same time encouraging better cooperation between states. Preventive measures aim at building an efficient multi-layered security system with which to screen passengers and baggage before they board an aircraft.

Although changes to the Legal and Regulatory Framework were very slowly implemented, progress has been made; some measures were successful in that they have had a deterring effect. Moreover, from both the legal and technical perspectives, ICAO has done much to increase and standardize civil aviation security measures. Table 5.6 lists the 60 indicators used to assess ICAO's response to aviation terrorism and it shows that the organization reacted rather quickly to catalytic events.

Again, it was not ICAO that failed to react in a prompt manner following catalytic events. It was, rather, the Member States that trailed behind ICAO's will to tackle the problem. For example, deadly sabotage attacks in the 1980s prompted authorities to toughen their procedures for screening passengers and luggage, as well as to require that all baggage be accompanied. Unfortunately, although Air India was the first airline to implement the passenger bag-matching procedure,

other airlines did not use the procedure to prevent further attacks.[667] Even when ICAO made compulsory for Member States to ensure that airline companies proceed with the baggage-reconciliation standard, many found ways to avoid the initiative.[668] With the pretext that such a requirement would cost the airline money and delay aviation operations, national authorities made exceptions in a clear example of business trumping security. Since ICAO has no authority to sanction, it is almost powerless to ensure that its own rules are implemented. This has had extremely negative effects on ICAO's efforts to prevent and counter terrorist attacks against civil aviation. For instance, the 21 December 1988 Pan Am 103 sabotage is a bleak reminder that the civil aviation security system is at great risk when Member States and airline operators do not globally respect security standards. In this case, the US Federal Aviation Administration (FAA) had allowed Pan Am to delay the baggage reconciliation procedure implemented by ICAO in June 1987 on the basis that the measure was too costly and delayed operations.[669] However, deadly terrorist attacks accelerated the quick installation of a new generation of inspection devices capable of detecting new explosives.

In hindsight, it is fair to say that the objectives of the trilogy of hijacking conventions developed by ICAO are as valid now as they were when first adopted. This supports the author's argument that there was no failure to act by ICAO, but rather a shocking failure by Member States to ratify treaties quickly. Clausewitz contends that defense is composed of two distinct parts: waiting and acting. ICAO did both. He further posits that once the defender has gained an important advantage, defence has done its work.[670] Although ICAO did its defensive work and gained advantage, Member States did not. In the words of Wallis, the weakness in ICAO's approach to improving the safety of civil aviation has been the inability to become involved in the implementation of the agreed-upon procedures.[671] Because countries are sovereign, that is the problem.

5.3.2.2 The National Response

As stated above, it was primarily the Member States, and not the ICAO administration, that were collectively responsible for delays in the implementation of ICAO recommendations. ICAO attempted to make the implementation process

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667. Courtney Hougham, "Aviation Security in the Face of Tragedy," chap. 8 in *A New Understanding of Terrorism: Case Studies, Trajectories and Lessons Learned*, Maria R. Haberfeld and Agostino von Hassell (New York: Springer, 2009), 144.

668. Wallis, *Combating Terrorism*, 131. *See also* ICAO, Annex 17, 3rd ed. Amendment 6 (adopted on 19 December 1985), 5.1.4. This standard was to be implemented by all Member States on 19 December 1987.

669. US, Report of the President's Commission on Aviation Security and Terrorism, (Washington, DC: Diane Publishing, 1993), ii-iii.

670. Clausewitz, 370 and 379.

671. Wallis, *Combating Terrorism*, 100.

easier for its Member States, for example when it, on 13 April 1948, adopted Resolution A1-13. It invited Member States to use the precise language of those ICAO standards that are of a regulatory character in their own national regulations, in order to obtain international uniformity in legal instruments.[672] The objective was to exempt Member States from rephrasing or developing new regulations concerning aviation security—they could, rather, directly import ICAO standards into their own domestic legislation.

The efficiency of aviation security lies in the way authorities respond to a criminal incident or a terrorist attack. As a positive example of a security response to aggression, the first time an Israeli aircraft was attacked on 23 July 1968, the authorities quickly responded by deploying three crucial security measures: (1) checkpoint-screening operations, (2) sky marshals, and (3) passenger profiling programmes. And yet, strangely, sustained terrorist attacks against civil aviation have not always induced significant improvements in airport security around the world. Although new passenger screening procedures were developed to prevent hijackings in the early 1970s, authorities did not provide adequate protection against ground attacks and sabotage. Certainly some people warned that as aviation security improved its pre-boarding procedures, terrorists would find other ways to attack civil aviation. And they did. Terrorists began attacking civil aviation on the ground; for example, the 1985 simultaneous Rome and Vienna airport attacks. Authorities tightened airport security in the direct aftermath of these attacks by posting armed law enforcement officers to patrol the public areas of aerodromes.

However, one unfortunate fact observed in the aftermath of 9/11 was that many countries had not yet implemented the critical and basic aviation security measures sought by ICAO. This is one reason why ICAO developed the Universal Security Audit Programme (USAP). This again supports the author's argument that it was not ICAO that failed to act, but rather that it was ICAO's Member States that failed to implement ICAO's measures. These countries had not been determined and creative in their efforts to follow through with the recommendations made by ICAO and security authorities since the implementation in 1975 of the first security standards. The consequence of the unwillingness of some Member States to abide adequately by ICAO's rules has had dreadful consequences. Therefore, unless Member States agree to respect their duties and obligations under ICAO's legal instruments, terrorists will always look for the weakest link of the security chain protecting civil aviation.

5.4 Discussion: Making Sense of this Study

Aviation security is inherently broad in scope. To comprehend it requires that one note and examine its many aspects. It is multi-faceted and implies the protection of both people and infrastructure. For air travelers, security must be provided from the

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672. This principle was re-affirmed in Annex 17, 3rd ed. (1986), vi.

time of registration at the departing airport and continue until the safe arrival at the final destination. For airport operations, security must be provided for the entire airport infrastructure, including perimeter, personnel, assets and facilities. For the civil air navigation and air traffic management (ATM) infrastructure, security should be provided for the communication, navigation, surveillance and ATM facilities and systems that support the safe and efficient air traffic operation. For airborne activities, security should be ensured for the operation of the aircraft, from take-off to landing.

This dissertation has demonstrated that ICAO has had a positive effect on aviation security worldwide, by preventing and deterring terrorist attacks against civil aviation. However, if Member States and industrial organizations do not implement ICAO's programmes, recommendations, and requirements, ICAO's efforts cannot continue to succeed. Airlines, civil air navigation services, airport authorities, and any other companies involved in air services must understand that their compliance is an essential part of global aviation security, that their work is an essential part of securing human life and economic power worldwide. That said, a comprehensive study of all actors involved in this web is unfeasible in the length of a dissertation. Thus, although this study must be read in this global, multi-actor context of civil aviation security (and, in fact, makes little sense when read in isolation from this context), its primary focus remains on the contributions of ICAO to aviation security, specifically, to the preventing and deterring of terrorist attacks against civil aviation.

5.4.1 Relationship to Previous Research Beyond Terrorism Studies

In addition to consulting the existing literature on terrorism studies and on civil aviation terrorism particularly, the author also drew on academic sources outside of terrorism studies in his attempt to interpret this phenomenon. Two existing criminological theories were of particular interest and were considered throughout the statistical analysis of ATSD data; these were: crime displacement and situational crime prevention. That these criminological studies were focussed on crime, and not on terrorism, did not prevent them from contributing to an analysis of terrorist attacks against civil aviation.

Moreover, previous criminological studies have attempted to identify some kind of commonality between criminal and terrorist activities in order to create a general theory of criminal behaviour in the context of transnational crime and justice that will characterize the twenty-first century in the same way that traditional street crimes dominated the twentieth century.[673] For instance, Fahey *et al.* argue that there is strong support for the argument that situational factors

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673. Philip Reichel and Jay Albanese, eds, *Handbook of Transnational Crime and Justice* (Thousand Oaks, CA: Sage, 2013), 30.

measuring organizational resources distinguish terrorist from non-terrorist aerial hijackings.[674] This kind of argument gives weight to the present research dedicated to the study of aviation terrorism. Furthermore, since criminologists have long examined ways to prevent and deter all sorts of crimes, it would seem appropriate in summarizing this study to link concepts that could help grasp a better understanding of terrorist attacks against civil aviation.

5.4.1.1   Crime displacement

Criminologists believe that studying patterns and using technological barriers to deter criminals from taking action could address specific crime problems. While those barriers could deter criminals from committing specific types of crimes, they might also stimulate them to refocus their actions on other areas. This is what Barnes and other authors have called displacement: "When offenders, prevented from committing one crime, shift their manner of offending in some way so that they may replace the blocked opportunity with another unlawful act, crime is commonly said to be displaced."[675] Overall, while there is general agreement amongst academics as to the actual existence of crime displacement, empirical studies have showed it to be less prevalent than expected.[676]

Hsu and Apel suggest that inquiry into terrorist responses to situational counterterrorism measures should be significantly expanded particularly in examining what is needed to overcome the costs of displacement.[677] Terrorists and criminals are intrinsically different, especially in the field of aviation terrorism. In fact, the difference between aviation criminals and aviation terrorists appeared so pertinent to Dugan *et al*. that they published a scholarly article in which they test various hypotheses to assess the difference between the two.[678] Their results provide strong support for distinguishing terrorist from non-terrorist hijackings.

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674. Susan Fahey, Gary LaFree, Laura Dugan and Alex R. Piquero, "A Situational Model for Distinguishing Terrorist and Non-Terrorist Aerial Hijackings, 1948-2007," *Justice Quarterly* (2011): 2. DOI: 10.1080/07418825.2011.583265.

675. Geoffrey C. Barnes, "Defining and Optimizing Displacement," chap. 5 in *Crime and Place*, eds John E. Eck and David Weisburd, (Monsey, NY: Criminal Justice Press, 1995), 96.

676. The application and implications of displacement have been widely discussed in the literature since the 1970s. Two main schools of thoughts have gradually emerged in the field. The first, called deterministic, strongly supports displacement based on the fact that crimes are committed for reasons beyond the control of their perpetrators, such as unemployment, poverty, and poor values. For its part, the rational choice theory school of thought mitigates the role of displacement, arguing that criminals are rational actors weighing the pros and cons of their action.

677. Henda Y. Hsu and Robert Apel, "A Situational Model of Displacement and Diffusion Following the Introduction of Airport Metal Detectors," *Terrorism and Political Violence*, 27:1 (2015): 46.

678. Fahey et al., 2-23.

Ultimately, this research presents no evidence that terrorists displaced their energy and resources from one MO to another because they were compelled to do so. All that can be said is that ATSD statistics show that authorities were most often pushed into action by catalytic attacks. Terrorists always seemed to innovate and to have the upper hand in deciding how, when, and where they would attack civil aviation.

5.4.1.2 Situational Crime Prevention (SCP)

Another criminological concept whose application to the field of terrorism has gained significant momentum in the literature is the SCP approach. According to Clarke, SCP is the science of reducing crime opportunities through "measures directed at highly specific forms of crime that involve the management, design, or manipulation of the immediate environment in as systematic and permanent way."[679] Discussions in the literature have contributed to a further refinement of the concept and culminated with the publication by Clarke and Newman in 2006 in which they list 25 techniques of situational crime prevention applicable to terrorism. These techniques fit in five different categories: increase the effort, increase the risks, reduce the rewards, reduce provocation, and remove the excuse.[680]

In a further study Newman applied his SCP approach to the field of terrorism; in this study he contends that the opportunities to conduct specific types of attacks can be reduced "by understanding the specificity of terrorist attacks at the local level."[681] Whereas Clarke and Newman's detractors, such as Weenink, refute their theory based on the diversity of possible terrorist offenses that can be perpetrated,[682] the present study exploited their concept to evaluate ICAO's contribution in the fight against aviation terrorism. Based on information gathered in the three previous chapters and using Clarke and Newman's model as a template, a list of examples of ICAO's aviation security measures was created. By no means are the examples provided for each technique exhaustive; the idea is rather to show how some aviation security mechanisms put in place by ICAO indeed fit the situational crime prevention approach. In itself, the harmonization of Clarke and Newman's concept with the series of legal instruments and Annex 17

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679. Ronald V. Clarke, "Situational Crime Prevention: Its Theoretical Basis and Practical Scope," *Crime and Justice: An Annual Review of Research*, 4 (1993): 225.
680. Clarke and Newman, 188-193.
681. Graeme R. Newman, "Reducing Terrorist Opportunities: A Framework for Foreign Policy," chap. 3 in *Reducing Terrorism through Situational Crime Prevention*, vol. 25, eds Joshua D. Freilich and Graeme R. Newman (Boulder, CO: Lynne Rienner, 2009), 33-60.
682. *See* Anton Weenink, "Investigating Terrorism and Situational Crime Prevention," (paper presented at the annual meeting of the ASC Annual Meeting, Washington Hilton, Washington, DC, November 15, 2011).

showed evidence of ICAO's prolonged efforts to thwart terrorist attacks against civil aviation over the last half-century:

1. Increase the effort: This technique aims at raising the level of difficulties for terrorists. For example, creating secured screening areas in airports, enhancing identification systems, and keeping constant control over the movement of persons and goods leverage the advantages of the aviation security system. Such a system hinders terrorist's access to their targets and weapons, disturbs their plans, and keeps them unstable. The fact that terrorists must increase their efforts to succeed may help deter, delay or postpone an attack.

TABLE 5.20   Increase the Effort Techniques

1.	**Target harden**
	a. Establish adequate supervision over the movement of persons to and from aircraft (1986)
	b. Architectural/infrastructure-related security measures integrated in airport design (1993)
	c. Fence to deter premeditated access onto non-public areas of aerodrome (2011)
2.	**Control access to facilities**
	a. Ensure no possibility of mixing or contact between passengers and public (1986)
	b. Establish procedures to prevent unauthorized access of persons/vehicles to airside (1986)
	c. Ensure vehicles are screened before being granted access to restricted areas (2011)
3.	**Screen exits**
	a. Ensure disembarking passengers do not leave items on board the aircraft at transit (1993)
	b. Ensure that a minimum of non-passenger screening (NPS) is done in restricted areas (2006)
	c. Ensure aircraft protected from unauthorized interference between search-departure (2006)
4.	**Deflect offenders**
	a. Protect cargo, baggage, mail, stores and operators' supplies within an airport (1986)
	b. Ensure all hold baggage is screened (HBS) prior to being loaded into an aircraft (2006)
	c. Consideration should be given during design of aircraft for least-risk bomb location (2006)
5.	**Control tools/weapons**
	a. Establish measures to prevent weapons or any dangerous devices on board aircraft (1986)
	b. Control transfer & transit passengers/baggage to prevent unlawful articles on board (1986)
	c. Ensure all hold baggage gets security controls prior to being loaded in aircraft (2002)

2. Increase the risks: Good ways to increase terrorists' risks of detection, arrest, prosecution, and failure are (1) to ensure the support of well-qualified employees who can detect upcoming attacks, (2) to improve screening operations to stop dangerous and threatening objects from reaching secured areas, and (3) to verify employee identification cards or travel documents for anybody given access to restricted ideas of an airport or an aircraft.

TABLE 5.21   Increase the Risks Techniques

6.	**Extend guardianship**
	a. Ensure duly authorized/suitably trained officers are readily available at int'l airports (1986)
	b. Establish procedures for inspecting aircraft when well-founded suspicion exists (1986)
	c. Ensure hold baggage is protected from unlawful interference after checked-in (2002)
7.	**Assist natural surveillance**

	a. Physical examination of cargo and unaccompanied baggage to be exported by air (1981)
	b. Ensure restricted areas identification systems are established for persons/vehicles (2006)
	c. Ensure security authority is capable of responding rapidly to security threat (2006)
8.	**Reduce anonymity**
	a. Establish identification to prevent unauthorized access of persons/vehicles to airside (1986)
	b. Establish measures for baggage-reconciliation (1987)
	c. Cargo, courier, express parcels and mails subject to appropriate security controls (1993)
9.	**Utilize place managers**
	a. Member States shall establish a civil aviation security authority (1975)
	b. Authority at each int'l airport responsible for implementation of security measures (1989)
	c. Require air traffic service providers to implement appropriate security provisions (2011)
10.	**Strengthen formal surveillance**
	a. Establish a civil aviation security programme (CASP) (1976)
	b. Air Traffic Services to collect, compile and transmit information on hijacked aircraft (1981)
	c. Ensure security restricted areas are established at each international airport (2002)

3. Reduce the rewards: According to Richardson, when terrorists act, they are seeking three immediate objectives: (1) to exact revenge, (2) to acquire renown, and (3) to force their adversary into a reaction.[683] Stopping an attack denies terrorists their rewards and separates them from the goal.

TABLE 5.22   Reduce the Rewards Techniques

11.	**Conceal targets**
	a. Aerodrome to provide supporting facilities for security services (1981)
	b. Establish measures to prevent unauthorized access to aircraft (1986)
	c. HBS operations are done in behind-the-scene secured areas (security practice 2006)
12.	**Remove targets**
	a. Segregation and special guarding of aircraft liable to attack during stopovers (1979)
	b. Provisions for quick clearance of people, cargo, mail, goods for int'l flights (1981)
	c. Establish measures to safeguard a threatened aircraft while on the ground (1986)
13.	**Identify property**
	a. Consignments checked-in as baggage on passenger flights to be controlled (1989)
	b. Ensure that a minimum of non-passenger screening (NPS) is done in restricted areas (2006)
	c. Ensure enhanced security measures to high-risk cargo/mail (2011)
14.	**Disrupt markets**
	a. Ensure pre-flight checks include measures to discover suspicious objects (1993)
	b. Architectural/infrastructure-related security measures integrated in airport design (1993)
	c. Consideration should be given during design of aircraft for least-risk bomb location (2006)
15.	**Deny benefits**
	a. Emergency plans shall coordinate all agencies capable of responding to emergencies (1981)
	b. Ensure unauthorized persons are prevented from entering flight crew compartment (2002)
	c. Prosecute or extradite doctrine (The Hague Convention 1970)

4. Reduce provocations: The art of civil aviation security is that of reassuring the traveling public that flying is safe without at the same time challenging terrorists to prove that the system can be defeated.

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683. Richardson, xxii.

TABLE 5.23   Reduce Provocations Techniques

16.	**Reduce frustrations and stress**
	a. Ensure contingency plans are developed and resources available at int'l airports (1986)
17.	**Avoid disputes**
	a. Establish airport security committees to advise on security measures and procedures (1986)
	b. Cooperate with other MS in the development on training programme (1986)
	c. Ensure quality control is undertaken independently from security authorities (2006)
18.	**Reduce emotional arousal**
	Not applicable
19.	**Neutralize peer pressure**
	Not applicable
20.	**Discourage imitation**
	a. Make the offence punishable by severe penalties (The Hague Convention 1970)
	b. Prosecute or Extradite doctrine (The Hague Convention 1970)
	c. Cooperate in development/exchange of information on national security programmes (2011)

5.   Remove excuses: As mentioned by Richardson above, terrorists want governments to react to their attacks in order to justify their actions. In contrast to government reactions, civil aviation anti-terrorism measures are passive. They represent a balanced way for ICAO and governments to react to terrorist attacks while respecting civil liberties and privacy.

TABLE 5.24   Remove Excuses Techniques

21.	**Set rules**
	a. Protect safety, regularity and efficiency of int'l civil aviation through regulations (1975)
	b. Organization to provide a standardized level of security for int'l flights (1986)
	c. Require security authority to define and allocate tasks between agencies (1986)
22.	**Post instructions**
	a. Make available to airports/operators written version of national AvSec programme (2002)
23.	**Alert conscience**
	a. Keep level of threat under constant review and adjust security programme (1986)
	b. Cooperate in development/exchange of information national security programmes (2011)
24.	**Assist compliance**
	a. Arrange for surveys and inspections of security measures (1986)
	b. Require its appropriate authority to re-evaluate security measures after attack (1989)
	c. Authority ensure development, implementation and maintenance of quality control (2002)
	d. Ensure security measures are regularly subjected to verification of compliance (2006)
25.	**Control drugs and alcohol**
	Not applicable

The list above shows that techniques within the "increase the effort," "increase the risks," and "reduce the rewards" categories consist of the core of airport and aviation security mechanisms and have been used for decades. For instance, Dugan *et al.* demonstrate that hijackings became less likely to occur "when the certainty of apprehension was increased through metal detectors and law

enforcement at passenger checkpoints."[684] However, significant progress could be made regarding the techniques included in the "reduce provocations" and "remove excuses" categories. In order to obtain tangible effects in a civil aviation environment, the techniques within the "reduce provocations" and "remove excuses" categories would necessitate interventions that are much more far-reaching than the ICAO authority and security mechanisms. For instance a preventative intervention, such as aligning the foreign policy of Member States, would be more effective in addressing the root causes of terrorism.

5.4.2 Recommendations for Future Research

The present study was able to establish statistical patterns in aviation terrorism. However, further research is needed to be able to identify (1) the precise cause of the reduction of terrorist attacks that is shown by these patterns, and (2) the effect of the legal instruments adopted by ICAO on this reduction. However, throughout the study it became palpable that a complete answer to this question would need to be found outside ICAO's sphere of influence. For example, additional exploration seems needed in three compelling areas: (1) ICAO's decision making-process, (2) impacts of catalytic attacks, and (3) liability costs.

5.4.2.1 ICAO's decision-making process

It would be very valuable to do a qualitative study of ICAO decision-making process in which major decision-makers were interviewed to explain how decisions were made in times of crisis and on what basis those decisions were made. This kind of research could explore, inter alia, internal problems, causes for delays in the ratification process, and suggested solutions to problems.

5.4.2.2 Impacts of Catalytic Events/

Chung explains the character of catalytic events and posits that they are grounded in specific events but their meanings are socially constructed. Therefore, he suggests it is the perception and claims of disruption and the creation of a new order that trigger them as opposed to the events themselves.[685] Applied to civil aviation, this is a crucial aspect of the analysis since catalytic events are industry game-changers. Indeed, changing recommended practices and making them

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684. Laura Dugan, Gary Lafree and Gary R. Piquero, "Testing a Rational Choice Model of Airline Hijackings," *Criminology*, 43:4 (2005): 1032.
685. Ken Yin Chung, "Catalytic Events: Environmental events that transform institutions," (PhD diss. Rutgers, The State of University of New Jersey, May 2012), 193.

standards imposes new obligations on Member States to adopt a remedy quickly.[686] Then, a research question might be: how do states cope with such obligations?

5.4.2.3 Liability Costs

Airlines face the likelihood of large liability costs in the aftermath of catalytic attacks if it is proven that the company did not implement security measures commensurate to known, new or emerging threats. As was the case in the Pan Am 103 sabotage, a jury decided that the company "was liable for damages because its security procedures failed to protect passengers."[687] Indeed, Pan Am had refrained from implementing the provisions of the ICAO baggage-reconciliation standard[688] because management argued it was a complex and expensive activity.[689] What is more is that after the long trial over Pan Am's wilful misconduct, the company filed for bankruptcy.[690] This series of events involving Pan Am is a stark reminder of the cost in human lives and the impact of aviation terrorism on airlines and the whole civil aviation industry. Such catastrophe should be an important incentive to encourage further research on the matter.

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686. A good example is the adoption of a new standard requiring the presence of two crew members in the cockpit at all times in the aftermath of Germanwings 9525 crash on 23 March 2015.

687. Arnold H. Lubasch, "Pan Am is Held Liable by Jury in '88 Explosion," *New York Times* (11 July 1992), http://www.nytimes.com/1992/07/11/world/pan-am-is-held-liable-by-jury-in-88-explosion.html.

688. ICAO, Annex 17, Amend. 6, 3rd ed., Art. 5.1.4, (into force 19 December 1987).

689. US, Report of the President's Commission on Aviation Security and Terrorism, (Washington, DC: Diane Publishing, 1993), ii-iii.

690. Wallis, *Combating Terrorism*, x.

Summarizing Remarks

As discussed throughout this research, terrorists need to grasp the attention of the world in the hope that they will be listened to and to achieve their objectives. Although progress has been made in disrupting aviation terrorism, terrorists are unlikely to give up targeting civil aviation in the long run. The basic features of civil aviation, such as the physical concentration of passengers within aircraft, will always make it a predilection for terrorists. They have proven their ability to learn rapidly from changes in policies and to adjust to evolving circumstances. As policy-makers move to put in place new security measures to defend against one attack methodology, terrorists have already moved on, searching out other vulnerabilities in the system to exploit. They understand fully that when security experts concentrate heavily in one area, other areas are left vulnerable to attack. This high stakes game of "cat and mouse" continues to be at the forefront of national security policy agendas as experts try to navigate the shifting risk environment in an era of fiscal constraints. The systematic tightening of aviation security measures after each terrorist attack, whether successful or not, is done in hopes that the changes will yield an adequate level of aviation security commensurate with the evolving threat. But for terrorists, this is an arbitrary measure. They see no boundaries, only opportunities. For them, new security measures are merely new roadblocks to be circumvented.

Several conclusions deserving consideration can be drawn from the present research with respect to the roles and responsibility of ICAO and its Member States, the importance of a proactive approach to aviation security, and the context into which aviation terrorism should be interpreted. However, on the basis of this research alone, it is difficult to be certain that specific changes to the international legal and regulatory framework have directly and independently impacted aviation terrorism. The author posits it is rather the cumulative effect of practical security steps taken as a consequence of Conventions, Protocols, Resolutions, and Annex 17 that has been the real impetus for a safer civil aviation environment.

One can then wonder if the outcome would have been different had major gaps in the LRF been filled more rapidly. Hypothetically, a more rapidly developed and implemented legal and regulatory framework could have (1) prevented or stopped terrorist attacks against civil aviation; (2) motivated terrorists and criminals to abandon their strategy, and (3) focused less on hijacking and more on the other MO employed by terrorists—ground attacks, sabotage, and suicide missions.

But the goal of this chapter and this dissertation has not been to posit hypotheticals. Rather, the aim of this chapter has been to analyze and make sense of the data presented in previous chapters, and to attempt to verify empirically whether or not changes to the LRF affected terrorist attacks against civil aviation. To this end, the author has explained his statistical methodology for interpreting the data presented in his original databases (GACID and ATSD), and then

presented and analyzed key statistical trends in that data, breaking trends down by a variety of factors (such as MO), as well as in the Global Timeline. The author also discussed the relationship between the information presented in GACID and in ATSD. In addition to these quantitative analyses, the author has also analyzed ICAO's most important legal documents, noting each document's content, strengths, and weaknesses, and the context in which it was developed, and in effect presented an analysis of the development of the LRF and the relationship of its documents to empirical data on terrorist attacks against civil aviation. Finally, this chapter include a brief discussion of the relationship of this study to previous research, and the author's recommendations for future studies. All aspects of this analytical work were essential to answering the initial research question of this dissertation.

6

Conclusion

Introduction

The objective of this research project was ambitious because aviation terrorism and the international civil aviation legal and regulatory framework are two broad concepts still insufficiently explored. Accordingly, answering the research question by taking into consideration both concepts required the author to identify, describe, qualify, and quantify thoroughly a set of variables. Nonetheless, writing about the civil aviation law-making process with the benefit of hindsight is comparatively easy. Taleb calls this approach "retrospective predictability" leading to "retrospective distortion," which implies examining past events without adjusting for the forward passage of time, yielding the illusion of posterior predictability.[691] Forty-five years before Taleb, Roberta Wohlstetter made a similar observation when commenting on Pearl Harbor: "it is much easier *after* the event to sort out the relevant from the irrelevant signals. After the event, of course, a signal is always clear; we can then see what disaster it was signaling, since the disaster has occurred. But before the event it is obscure and pregnant with conflicting meanings."[692] More recently, Aradau and van Munster echoed Wohlstetter's concern about the predictability of catastrophes: "what modes of knowledge and practices are deployed to act on an event that cannot be known, has not yet taken place but may radically disrupt existing social structures?"[693]

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691. Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable* (New York: Random House, 2007), xviii, 310.
692. Roberta Wohlstetter, *Pearl Harbor: Warning and Decision* (Stanford, CA: Stanford University Press, 1962), 387.
693. Claudia Aradau and Rens van Munster, *Politics of catastrophe: genealogies of the unknown* (New York: Routledge, 2011), Kindle, locator 167.

This is the type of question that will confront anybody trying to retrospectively understand aviation terrorism. Throughout this dissertation, the author has tried to avoid the problem of "retrospective predictability," and to focus instead on gathering, analysing, and interpreting data about both terrorist attacks against civil aviation, and the international response (especially ICAO's response) to these attacks. Again, the patterns and conclusions drawn here are not intended to be predictive. The author's intention has been to investigate the historical matter of aviation terrorism and the international response to it; the author leaves it to others to predict and prepare for future catastrophes.

6.1 Answering the Research Question

Answering the research question required the author to compile and study statistics from two databases (GACID and ATSD) and to analyze the major documents of ICAO's legal and regulatory framework. This exercise was productive and led the author to identify patterns in the history of aviation terrorism previously unnoticed in academic literature, even in the explosion of texts produced by terrorism specialists in the post-9/11 period. Perhaps the most interesting finding of this dissertation—that criticisms of ICAO, and by extension of the entire international aviation security web, have been unfair and overstated—required the author to modify his hypothesis.

In the period following 9/11, critics were quick to bemoan a failure of imagination in the intelligence community, the sloppy execution of airport security, and the inadequate legal and regulatory framework of ICAO and its Member States. As horrific as the 9/11 attacks were, they bear a close resemblance to other attacks in the long history of aviation terrorism. ATSD shows that, between 1968 and 2011, non-state actors from various terrorist groups systematically attacked civil aviation for many different political reasons. They intentionally targeted civilians in order to instil terror in the population through the images of spectacular attacks relayed all over the world by mass and social media. Violence was spread when aircrafts were hijacked, bombed, and fired at by ground-to-air-missiles. Airports were the scenes of murderous rampages. Terrorists were ready to take control of airplanes and turn them into weapons of mass destruction. They killed masses through in-flight sabotage attacks. In 2006, simultaneous would-be deadly attacks targeting civil aviation were thwarted by intelligence and law enforcement agencies. What these attacks have in common is that they were all genuine attempts to intimidate governments and coerce them into accepting their demands. Consequently, these terrorist attacks against civil aviation caused harm in almost every imaginable area of human life, including personal lives, the economy, and the aviation industry.[694]

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694. Atef Ghobrial and Wes A. Irvin, "Combating Air Terrorism: Some Implications to the Aviation Industry," *Journal of Air Transportation*, 9:3 (2004): 67.

This dissertation set out to examine the relationship between terrorist attacks against civil aviation and the international legal and regulatory response to them. The objective was to determine whether or not changes to the LRF had any impact on civil aviation terrorism. The short answer to the research question is yes, there has been an impact. Clearly, the findings of this research confirm the proposition that the civil aviation legal and regulatory framework has had an impact on aviation terrorism. However, a caveat must be attached to this answer for three reasons: (1) the changes in aviation terrorism cannot entirely be ascribed to ICAO's legal and regulatory framework, (2) the influence of many other factors also needs to be factored in the equation, and (3) the study demonstrates that the impact has been subtle, incremental, and extended over a forty-year period.

As presented in chapter 1, the hypothetical answer to the research question suggested that ICAO had a tendency to react to catastrophic terrorist attacks by gradually changing the international legal and regulatory framework, thereafter setting new security measures in motion to protect civil aviation. The hypothesis also suggested there might have been negative side effects to this constant changing of both the framework and the security measures, including: (1) encouraging terrorists to innovate, (2) displacing their level of hostility into other means of attacking civil aviation or other targets, and (3) undermining the confidence of the traveling public in the safety of civil aviation.

The revised, conclusive answer to this hypothesis is that, as documented and discussed throughout this dissertation, ICAO does indeed have a long history of reacting to terrorist attacks. This opinion has been confirmed and extensively documented in ICAO's legal instruments and resolutions.[695] However, this thesis has also documented that this after-the-fact security culture changed drastically in the aftermath of the 9/11 attacks. Since then, ICAO has adopted many proactive measures (e.g., Plan of Action 2002, Beijing Convention 2010 and Beijing Protocol 2010). Moreover, the fact that more than 3 billion passengers were transported by air in 2014 is a clear testimony given by the traveling public that the confidence in civil aviation has not been ruptured by the terrorist threat.

6.1.1 The Legal and Regulatory Framework: Efficient, but Not Sufficient

As terrorist attacks against civil aviation have continued, the international community has had to make decisions to end this predicament. As demonstrated in this dissertation, within the international community ICAO has been the crucial actor and its LRF has been a crucial component in the effort to create a safer and more secure international civil aviation security network. ICAO, in a multilateral consensus forum, made its decisions in search of solid and lasting solutions capable of putting an end to the ongoing calamity. As seen throughout this research,

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695. *See* Appendix N.

particularly in chapter 4, ICAO concentrated its security efforts over the last half-century on a sequence of legal instruments and the adoption of practical measures to thwart terrorist attacks. In spite of all these efforts, a Declaration issued at the closing of a meeting of the High-Level Ministerial Conference on Aviation Security held in Montréal in February 2002 openly recognized that enduring "gaps and inadequacies appear to exist in international aviation security instruments with regard to new and emerging threats to civil aviation."[696] In a way, with such a statement, ICAO candidly admitted that its legal instruments were insufficient to stop attacks and that the threat to civil aviation still endured. And yet, a close examination of ICAO's resolutions since the 1960's demonstrate that, within its limited power, the organization acted promptly and efficiently to devise legal instruments in the aftermath of catastrophic terrorist attacks.[697] If experts most often praised the quality of the conventions and protocols, ICAO was nevertheless often criticized for failing to rally its Member States on the importance of their implementation and their enforcement. This has undoubtedly been ICAO's Achilles' heel.

6.1.2 The Other Influential Factors: Operational and Political

Several other factors other than the LRF may also have hypothetically contributed to the reduction of terrorist attacks against civil aviation observed since 2003. These factors can be gathered in two clusters: operational and political.

The operational factors include the following: (1) the 9/11 attacks unequivocally made carrying out terrorist attacks against aviation terrorism more difficult than ever before, because they made aviation security a top national security priority in numerous countries; (2) the unprecedented devastation generated by the 9/11 attacks coupled with the radical ideology behind the operation may have encouraged more "traditional" terrorist groups to keep their distance from aviation terrorism; (3) law enforcement and intelligence agencies have thwarted many terrorist attacks since 9/11 (e.g., the August 2006 US-UK Liquids and Gels plot); (4) passengers showing active resistance have overpowered terrorists about to commit their attacks (e.g., Richard Reid, the "Shoe Bomber" on 22 December 2001 and Abdul Farouk Abdulmutallab, the "Underwear Bomber" on 25 December 2009); (5) military operations against al-Qaeda cells might have displaced the terrorists' centers of gravity (terrorist training camps located in lawless territories, financing of terrorist groups, killings of terrorist leaders, etc.); (6) the loss of terrorist groups' popular support amongst the communities they claim to represent (an important notion studied by many authors);[698] and (7) finally,

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696. Piera and Gill, 153.
697. *See* Appendix N, for further details on ICAO's Resolutions.
698. E.g. Cronin, "al-Qaida Ends," 13-14.

it cannot be excluded that the main factor impacting aviation terrorism has been the terrorists' willingness to stop targeting civil aviation.

Additionally, there is the political side of the equation. Indeed, governments and international organizations have also influenced the fight against aviation terrorism in many different ways, including through: (1) the creation of national security authorities, (2) the inclusion of terrorist acts in domestic laws, (3) the strenuous political declarations condemning all types of terrorism, (4) the development of technology and the enhancement security screening equipment, and (5) the allocation of resources to security forces. In short, just as with most phenomena, authorities have deployed a complex web of political and operational tools. All these factors most likely had a marked impact on aviation terrorism.

6.1.3 ICAO's Effect: Subtle, Incremental, and Long Awaited

Since 1963, ICAO has been the main architect of the civil aviation security legal and regulatory framework. Based on the author's analysis of statistics generated from GACID and ATSD, and on a comparison of these statistics with the chronological development of ICAO's LRF, this dissertation has argued that ICAO's efforts have indeed had a positive impact on deterring and preventing terrorist attacks against civil aviation. However, this impact was not achieved instantly. Chapter 4, as well as appendices I, K, and N, include evidence that ICAO's efforts to thwart aviation terrorism have been persistent and unrelenting. The appendixes also reveal that the international civil aviation industry (IATA for the airlines, IFALPA for the pilots, ACI for the airports) was under immense pressure to find rapid solutions to the wave of terrorist attacks it was confronting.

Figure 6.1 is a timeline correlating both terrorist attacks against civil aviation and the legal response offered by ICAO. It offers a visual perspective to help determining the significance of the main statistical variations concerning the level of terrorist attacks with respect to changes introduced to the LRF.

FIGURE 6.1 Impacts of ICAO's Legal Instruments on Aviation Terrorism

6.1.4 The High-Impact Low-Probability Attacks

In order to obtain the most reliable understanding possible of the level of threat posed by aviation terrorism, a comprehensive statistical analysis was done that covered the periods following the ratification of Conventions, Protocols, and Annex 17 and its amendments. This analysis established that terrorist attacks against civil aviation create high impacts on the population, the industry and governments, but that the probability of being a victim is extremely low.[699] These arguments are found in three chapters: (1) chapter 3 analyzed the 35-year long wave (1968-2002) of terrorist attacks against civil aviation and found that catalytic attacks have high impacts; (2) chapter 4 exposed ICAO's legal responses to various terrorist threats; and (3) chapter 5 determined that civil aviation is safer today than it ever was before, considering the industry actually carries over three billion passengers a year.[700] In short, ICAO and the international aviation security web have been somewhere between effective and extremely effective, particularly in the post-9/11, at preventing and deterring terrorist attacks against civil aviation. The threat of these high-impact low-probability events remain, and their potential consequences keep aviation security high on the priority lists of governments and organizations internationally, but based on the analysis conducted in this dissertation it appears that ICAO and its Members States are better poised than ever before to anticipate and counter these threats.

6.2 Other Findings

In addition to finding the answer to the research question and commenting on the hypothesised answer, this thesis has shed light on aviation terrorism and the way governments have addressed it. Many conclusions of this research relate to the relationships and correlations that can be drawn between some facets of aviation terrorism and the international legal and regulatory framework. First, aviation terrorism has had a tremendously disproportionate effect on public opinion and, to a certain extent, many governments. Chapter 3 demonstrated that the prevalence of aviation terrorism has been very low when put into perspective with both civil aviation and terrorism in general. The incidence of aviation terrorism was higher during some periods, but the 586 attacks that occurred between 1931 and 2011 average out to a marginal seven attacks a year for the 1931-2011 period or 15 per year between 1968 and 2002. Yet, despite the low probability of aviation terrorism, it continues to seize the attention of the media, and many countries have mobilized a tremendous amount of resources to address it. The mere development of the civil aviation international legal and regulatory framework over the years, a labour-intensive process that involved the participation of thousands of decision-makers, shows the urgency with which governments have dealt with aviation terrorism.

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699. For the odds of dying in a terrorist attack, *see* table 3.12.
700. IATA, "Economic and Social Benefits of Air Transport," 2014.

Second, aviation terrorism MO have been unequally used over time. GACID and ATSD revealed that terrorists employed only four different MO (ground attacks, hijackings, sabotage and suicide missions) to target civil aviation between 1931 and 2011. The use of these MO has by no means been equal or consistent. Furthermore, terrorists have often tweaked their MO to adapt them to new security contexts or realities.[701]

Third, governments have reacted to aviation terrorism rather than prevented it. The analysis presented shows that authorities and security officials have failed, at least until 2002, to adopt a proactive attitude to dealing with aviation terrorism. Their reactions to aviation terrorism have often been emotional. This resulted in disproportionate responses that have, to some extent, helped terrorists to propagate fear and achieve their long-term objectives.

Additionally, two interesting findings from ATSD could also lead to more in-depth academic studies. One of those findings relates to the inaccuracy demonstrated by many authors regarding the lethality of terrorist attacks against aviation terrorism. As noted in chapter 3, the two most frequently used aviation terrorists MO (ground attacks and hijackings) have been the least lethal ones, and the least frequently used aviation terrorist tactics (sabotage and suicide missions) have been the most lethal ones. This observation is often ignored in the literature. However, this information is fundamental as it speaks to the fact that terrorist attacks on civil aviation have not always been deadly. In fact, chapter 3 showed that 424 of the 586 ATSD terrorist attacks, or 72 percent, did not result in any deaths, which means that the 6,105 fatalities in aviation terrorist attacks died in only 162 attacks.[702] Given these statistics, it could be interesting from an academic point of view to establish and study the real motives and the range of objectives that aviation terrorists have had: to kill, to make their claims known, to make political gains, to obtain the liberation of prisoners, etc.

Another interesting finding that deserves to be explored more thoroughly pertains to the concentration of aviation terrorism in the hands of a few individuals and groups. Chapter 3 demonstrated that Palestinian groups, particularly the PFLP and its leaders Habash and Haddad, have been responsible for 13 percent of all terrorist attacks against civil aviation; by far the most important concentration of attacks in the hands of a single political "cause". On the other hand, 49 percent of the 6,105 fatalities from aviation terrorism are directly attributable to al-Qaeda operations. Virtually all deaths caused by al-Qaeda occurred on 9/11. It could then be interesting to study what aviation terrorism would have been without Palestinian groups and al-Qaeda.

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701. For example, airport attacks are still conducted nowadays but could never be carried out in the same manner as the 1972 Lod Airport Massacre was, since it is now virtually impossible to travel with weapons.
702. *See* table 3.5.

6.3   The Contribution to Academic Knowledge

This thesis has attempted to contribute to academic knowledge regarding aviation terrorism. The creation of two original and comprehensive databases constitutes a major leap in the consolidation and organization of empirical data on aviation terrorism. GACID includes specific information on every terrorist attack and criminal incident against civil aviation since the first attack in 1931. A total of 1,965 incidents were gathered in GACID. Using the author's original and rigorous definition of aviation terrorism, 586 attacks were singled out as being genuinely terrorist acts. The specifics of every terrorist attack were then used to create a second, equally original database—ATSD. Previous to this dissertation, except for Fahey *et al.* who thoroughly examined both criminal and terrorist hijackings and became the reference in similar studies,—no comparably comprehensive databases gathering extensive unclassified data on the four types of criminal or terrorist attacks against aviation existed.

The rigorous delineation of criminal incidents from terrorist attacks also enabled the author to create far more reliable statistics on topics ranging from the total number of incidents and fatalities to the number of attacks per MO and the historical evolution of various MO—and none of these statistics were previously available. Many books and scholarly articles consulted during the present research made valuable contributions, but they often lacked accurate and empirical data on terrorist attacks against civil aviation. Schulze also asserts this point of view, and argues that it is irresponsible for academics to continue in a manner that hinders the evolution of the discipline.[703] Again, the present study has attempted to rectify this deficit. At this point, unlike any other database, ATSD could certainly become the foundation on which further research in the field of aviation terrorism could be based.

6.4   Policy Implications

As discussed throughout this thesis, aviation terrorism is a multifaceted problem. In the course of this research, many different concepts were examined since they are directly or indirectly related to aviation terrorism. Although unhelpful in answering the research question, they nevertheless shed light on the problem and offered interesting perspective on this broad phenomenon. Three of these concepts would deserve to be further examined with a focus on their relationship to aviation terrorism: economics, resilience, and deterrence. A better understanding of the relationship between these factors and both terrorist attacks against civil aviation and the international legal and regulatory response to it could meaningfully and

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703. Frederick Schulze, "Breaking the Cycle: Empirical Research and Postgraduate Studies on Terrorism," chap. 9 in *Research on Terrorism: Trends, Achievements & Failures,"* Andrew Silke, ed. (New York: Frank Cass, 2004), 163.

positively impact the formation of national and international policy for handling civil aviation terrorism and anti-terrorism measures.

6.4.1 Economics

Aviation terrorism must not only be analyzed from a security viewpoint but also from an economic perspective. As revealed by ATSD, since 2004 terrorists have not struck civil aviation with the same intensity as seen in the previous 35 years. Although hasty and unempirical conclusions must not be drawn, this diminution and the post-9/11 interest in aviation security are in all probability related. Aviation security is more stringent but also more expensive than ever before. From a strategic stance, this means terrorists, in particular al-Qaeda, have forced governments to implement costly security measures, especially in the field of civil aviation. For example, during the decade following 9/11, the US spent over one trillion dollars on homeland security.[704] For the same period, the Government of Canada allocated an extra 92 billion dollars for national security than if expenditures had remained at the same level as pre-9/11 years.[705] Many authors voice concerns over making such security expenditures without proper risk assessment and cost-benefit analyses. While the trillions spent have indeed prevented some attacks and have made the traveling public safer, Mueller and Stewart argue that security gains have been marginal. These gains have cost tremendous amounts of taxpayer money and have aimed at protecting the public from what are, in fact, very low-probability terrorist attacks.[706] To illustrate their point, the authors refer to the deployment of full-body scanners in American airports since 2010, for a cost of 1.2 billion dollars per year, without any risk assessment or cost benefit studies supporting the action.[707] However, to the best of the author's knowledge at the time of the writing of this thesis, there is no documented case where an offender has been caught because of those equipement.

Thus, from an economic point of view, it can be argued that terrorism has had a disproportionate effect on security spending. However, a case can also be made that terrorists were successful in intensifying a disproportionate fear of terrorism in civil aviation. A more extensive analysis of the facts and emotions involved in this issue could reasonably be expected to lead to the formation of better, and possibly less expensive, national aviation security policy.

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704. John Mueller and Mark G. Stewart, "Terror, Security, and Money: Balancing The Risks, Benefits, and Costs of Homeland Security" (paper presented at the Annual Convention of the Midwest Political Science Association Chicago, IL, April 1, 2011), 1.
705. David Macdonald, *The Cost of 9/11: Tracking the Creation of a National Security Establishment in Canada* (Ottawa: Rideau Institute, September 2011), 3.
706. Mueller and Stewart, "Homeland Security,"1-2.
707. Ibid., 4.

6.4.2 Resilience

Guihou and Lagadec contend that the pursuit of "zero risk" that started during the final stages of the Cold War and abruptly ended on 11 September 2001, is an illusion because risks can never be entirely eradicated.[708] The author agrees with such contention because the elimination of all potential risks has in fact never existed and will never exist, especially with regard to the terrorist threat. Moreover, the efforts to reach such a goal would not be practical from an aviation security perspective and might come with costly and detrimental trade-offs for the population. However, as demonstrated in this study, facing new threats is always a great opportunity to examine existing procedures. Terrorists will always have a strategic advantage. Because they are the aggressors and build their capacity on the uncertainty they create, terrorists will inevitably always be able to surprise in some circumstances. Even the most stringent security measures can be penetrated with a great deal of patience and cleverness. In countries frequently exposed to terrorism (like Israel), certain resilience should be built within populations as to the extent to which terrorist attacks are allowed to terrorize.[709] While actively working at disrupting current and future threats to civil aviation, a sense of vulnerability to terrorism should be developed. Instead of wishing that aviation terrorism would completely vanish, people and governments should accept that attacks would continue to occur despite strong security mechanisms.

One of the key elements in adopting such an attitude, which precisely allows coping with the economic consequences and the fear emerging from terrorism, is to properly balance the way government deals with information. As put by Gregory Treverton: "People want information, but the challenge for government is to warn without terrifying."[710] Resilience is also built from educating people about the real risks on the terrorist threat. The success of aviation security depends not only on laws and regulations, advanced technology and effective operations, but also on the establishment of a culture of security that is ingrained in the general public and authorities. This consideration must be factored into future aviation security policy.

6.4.3 Deterrence

Even though citizens must learn to deal with terrorism and accept it as inevitable, ICAO and Member States must continue to set forth security mechanisms that strongly dissuade terrorists from attacking civil aviation. As a whole, the general level of high alert on which security forces have operated since 9/11 has certainly had a deterring effect on terrorism and aviation terrorism. Although, there is no

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708. Xavier Guihou and Patrick Lagadec, *La fin du risque zéro* (Paris: Éditions d'Organisation, 2002).
709. Scott Stewart, "Keeping Terrorism in Perspective," *Stratfor Global Intelligence*, 22 March 2012, http://www.stratfor.com.
710. Gregory Treverton quoted in Mueller-Stewart, 14.

way to measure how many potential aviation terrorists the international legal and regulatory framework and other security measures have deterred since 9/11, ATSD tends to point to a global dissuasion effect since 2003.

Although deterrence is still not enshrined into the civil aviation security thinking, it is a "force multiplier" in that it uses resources in a calculated way to increase their effectiveness. After adopting deterrence as a goal, a number of basic practices can then be reassessed and tweaked to maximize the dissuasive effect they may have. For example, the verification of travel documents by security personnel should always occur in plain view of the general public as opposed to a subtler manner to clearly demonstrate that travel documents are duly checked. Civil aviation must force anyone considering attacking it to realize quickly that it is too risky, too expensive, and not even worth trying. At the same time, such deterrence should be exercised carefully in order not to offset the balance that must be maintained between the marginal costs of deterrence and crime.[711] It is not likely that these issues will be specifically addressed at the national level, but the civil aviation industry would benefit greatly from incorporating examples such as these into their policy, and by enforcing them strictly around the world.

6.5 *The Way Forward: Being Agile*

Terrorist attacks are rare events, but when they happen they have major impacts on the population and governments. Generally speaking, governments react very quickly after being hit by major terrorist attacks. For example, the US Congress passed its far-reaching security reform bill named the "Patriot Act" within one and a half months of 9/11. Or again, in India, a long-pending proposal for the creation of a Federal Police force to investigate inter-State or transnational crimes was re-assessed and codified as law a mere 19 days after Mumbai was hit by a series of commando terror attacks that killed an estimated 170 people in 2008.[712] So the question is: why do so many attacks and fatalities have to occur before long-overdue changes are made? The 9/11 Commission report gave some explanations and highlighted four kinds of failures of US aviation security that made the 9/11 attacks easier to conduct: (1) failure in imagination, (2) failure in policy, (3) failure in capabilities, and (4) failure in management.[713] In short, the report says that authorities simply failed to perceive the seriousness of threats involving the use of aircraft as weapons of mass destruction. Unable to manage the unexpected, they had to react frenetically and were caught in an endlessly reactive mode.

Although reasonable steps can be taken to lessen the risk of attacks and manage their impact, one must acknowledge that even the most stringent security

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711. Price and Forrest, 49.
712. The National Investigation Agency Act - No: 34 of 2008, 17 December 2008, http://www.nia.gov.in.
713. 9/11 Commission Report, 339.

measures will never be able to protect against all possible attacks. Nonetheless, this reality must not prevent governments and international organizations from trying to achieve such an objective. Effective security can deter or thwart terrorist attacks and minimize vulnerabilities, and good intelligence can help anticipate the unexpected while security authorities plan for the expected. This is as true for airports and airlines as it is for governments.

The safety of human life, economic wealth, commercial goods, and information requires that we have an excellent civil aviation security system. While the present system is better than what came before it, further improvements remain necessary. The way for authorities to create a great civil aviation security system is to: (1) understand how and why terrorists see civil aviation as an attractive and valuable target, (2) recognize their own vulnerabilities and weaknesses, (3) continuously look for gaps and discrepancies in the legal and regulatory framework, and (4) rapidly work at sealing off those gaps and discrepancies. This echoes what Sun Tzu had to say on this topic 2,500 years ago: "Know the enemy and know yourself; in a hundred battles you will never be in peril."[714] With regards to the importance of protection given to civil aviation, St. John reminds us of the grim certainty that only really good aviation security stands between terrorists and the death of hundreds of innocent passengers.[715]

Therefore, the international community must adopt long-term strategies, be as patient as their foes, and continue to add layers to the existing security system in order to prevent attacks. It must be proactive rather than reactive in tackling the unknown threats lying ahead. This is the most promising way forward. Although some progress has recently been made towards adopting a proactive approach, it is still easy for terrorists to plot against a system that is so predictable. Terrorists can easily mitigate their risks by studying and testing how the system will react to various scenarios. This is why unpredictability is a vital tool in thwarting terrorist attacks.[716] If terrorists do not operate in a rigid and predictable fashion, neither should governments. Therefore, civil aviation security authorities need to develop agile organizations that are prepared to stay several steps ahead of new and emerging threats, to respond effectively to a terrorist attack should one occur, and to recover subsequently and continue to evolve into a credible and accountable security authority.

6.6   Thwarting Aviation Terrorism: A Team Effort

As Piera and Gill write, "ICAO is often, and incorrectly, blamed for its inability to quickly react and adopt changes required" for thwarting aviation terrorism.

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714. Samuel B. Griffith, *Sun Tzu: The Art of War,* (Vancouver: Blue Heron, 2006), 115, 125.
715. St. John, *Air Piracy,* 66.
716. Kip Hawley, (keynote address to the US – Europe Aviation Security Policy Conference, Aviation Security in the Future: Is there a better way? Brussels, BE, 2- 4 July 2007).

Unfortunately, such criticism ignores the *sine qua none* component for success in the fight against terrorism: the "will" of ICAO's Member States. In the absence of that will, there is not much that ICAO can do.[717] As discussed in chapter 4, ICAO's only power is to suggest and present options to Member States that, in return, are collectively the ultimate decision-makers in the process. Furthermore, ICAO is also very limited in its ability to enforce standards and operational guidelines if Member States do not first become party to their legal instruments.[718]

The author's examination of ICAO's resolutions since 1970 shows that the Assembly has consistently urged Member States to ratify Conventions and Protocols regarding aviation security in order to give effect to the principles of the legal instruments.[719] Unfortunately, for various reasons, Member States, civil aviation authorities or airline companies have often refrained from implementing or rigorously executing security measures in the past. Reasons for these failures include: (1) political considerations (e.g., the perpetual conflict between Israel and its Arab neighbours or between the Western and Third World), (2) fiscal restrictions (countries cannot absorb the cost of new security measures or equipment), (3) disputes over responsibilities (air carriers and IATA have long argued that security was a responsibility of the state), (4) delays in air service operations (passenger and baggage screening take time and delay the movement of people, goods, and aircraft),[720] (5) poor equipment reliability (this was especially true in the early period of modern terrorism threats, when technology was not living up to expectations), (6) malevolent intent (e.g., Libya and Syria were known to be state-sponsors of terrorist groups targeting civil aviation), or (7) simply lack of faith in the proposed security measures.

Whatever the reason for delay, the author's analyses have consistently shown that one of the major obstacles to obtaining a better international aviation security web has been the unwillingness or the inability of Member States to ratify ICAO Conventions and Protocols. This is in fact what required the author to modify his original hypothesis. This dissertation is not intended to be predictive, but the author

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717. Piera and Gill, 236.

718. Price and Forrest, 65, 116. As a case in point, the 1988 Pan Am Flight 103 tragedy could have been prevented had this air carrier enforced the baggage reconciliation procedure adopted internationally in 1987 as a remedy to the 1985 Air India Flight 182 sabotage off the coast of Ireland. As ATSD shows, there were warning signs flashing since 40 terrorist sabotage (77 percent of all sabotage) and 519 fatalities (37 percent) were recorded in the 20 years preceding the 21 December 1988 Pan Am 103 attack.

719. *See* Appendix N, for examples of such resolutions, e.g., ICAO Resolutions A17-2, A17-3, A23-21 et al. For access to all ICAO Assembly Session documents go to: http://www.icao.int/publications/Pages/assembly-archive.aspx.

720. Price and Forrest, 112. Annex 9 to the Chicago Convention 1944 (Facilitation) contains SARPs aimed at enhancing the process to expedite clearance of aircraft, passengers, crew, baggage, and cargo in order to prevent unnecessary air services delays. Originally, the emphasis was on facilitation rather than security.

sees no reasons why this will not remain an obstacle in the future unless the overall security culture can be changed. Annex 17 constitutes a large step in the right direction, but there is still a lot to be done in this area. The attainment of a sound aviation security web will never pivot around new or better conventions or protocols, but on the leadership of those whose responsibility it is to implement security measures drawn from those legal instruments. Aviation unites the world. Governments need to work together if they do not want to be isolated.

6.7 Final Thoughts: Daring, Risking, Acting

In short, the conclusion of this research is that the implementation of a series of new legal instruments developed by ICAO enacted the measures necessary to protect civil aviation and make it one of the safest modes of transportation. The steady growth of passenger traffic is clear evidence of the resilience of the civil aviation industry.[721] Of course, there is still more to be done, and ICAO has acknowledged this reality by adopting a new and proactive approach. In hindsight, it would only be fair to say that, since the Tokyo Convention 1963, the international civil aviation community has made significant headway in thwarting aviation terrorism. A series of lessons were learned during this period. One of them echoes John D. Steinbruner's wisdom and fits with the objective of this research in seeking to encourage highly creative reasoning for addressing aviation terrorism:

> life is understood backward but lived forward. Thinking forward under uncharted circumstances is risky, confusing, and contentious but must nonetheless be attempted.[722]

In a way, this comment answers Aradau and van Munster's fundamental question set out in the introduction of this chapter. It also offers the proper perspective with which to evaluate the significance of aviation terrorism. Indeed, looking backwards shows that terrorist attacks against civil aviation are low-probability events that have a high impact if and when they become reality. This research also highlighted that a low degree of anticipation and a high propensity for reaction have generally corroded the reputations of governments and international organizations. Conversely, thinking forward is about learning to dare, to risk, and to act. For ICAO to become an innovative, resilient, and efficient international security authority means instilling a culture shift to its Member States as regards to their roles and responsibilities that they need to know and ultimately assert.

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721. *See* Appendix A.
722. John D. Steinbruner, *Principles of Global Security* (Washington: Brookings Institute Press, 2000), 22. The original sentence from Danish philosopher Søren Kierkegaard was "life can only be understood backwards; but it must be lived forwards."

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8

APPENDICES

TABLE A.1   World passenger traffic 1929-2012[723]

RPKs				Passengers			
Year	RPKs[724] (billions)	YoY[725] %	AAGR [726] to 2011 %	Year	Passengers (millions)	YoY %	AAGR to 2011 %
1929	0.2		13.1				
1930	0.3	58.8	12.6				
1931	0.4	22.2	12.5				
1932	0.5	22.7	12.4				
1933	0.7	34.6	12.1				
1934	0.8	19.3	12.0				
1935	1.1	41.5	11.7				
1936	1.5	33.2	11.4				
1937	1.7	15.1	11.4				
1938	2.1	19.5	11.3				
1939	2.5	20.5	11.2				
1940	3.1	24.6	11.0				
1941	4.0	29.6	10.7				
1942	4.4	9.1	10.8				
1943	5.3	19.1	10.6				
1944	6.8	28.7	10.4				
1945	10	45.7	9.9				
1946	20	100.0	8.9				
1947	23	18.8	8.8				
1948	26	10.5	8.7				
1949	30	14.3	8.6				
1950	34	16.7	8.5	1950	38		7.2
1951	43	25.0	8.3	1951	52	35.5	6.8
1952	49	14.3	8.2	1952	57	9.5	6.8
1953	58	17.5	8.0	1953	66	15.2	6.6
1954	64	10.6	8.0	1954	73	11.3	6.6
1955	75	17.3	7.8	1955	84	15.3	6.4
1956	87	16.4	7.7	1956	95	13.2	6.3
1957	101	15.5	7.5	1957	106	11.7	6.2
1958	105	3.7	7.6	1958	109	2.3	6.3
1959	121	15.3	7.4	1959	121	11.4	6.2
1960	134	11.2	7.4	1960	131	8.2	6.1
1961	144	7.3	7.4	1961	137	4.7	6.2
1962	160	11.1	7.3	1962	150	9.0	6.1

723. ICAO, "Economic Analysis and Policy Section," Air Transport Bureau.
724. Revenue passenger – kilometer(s).
725. Year over Year.
726. Average Annual Growth Rate.

RPKs				Passengers			
Year	**RPKs[724] (billions)**	**YoY[725] %**	**AAGR [726] to 2011 %**	**Year**	**Passengers (millions)**	**YoY %**	**AAGR to 2011 %**
1963	181	13.1	7.2	1963	167	11.6	6.0
1964	211	16.3	7.0	1964	192	14.8	5.8
1965	244	15.8	6.8	1965	219	14.2	5.6
1966	282	15.7	6.6	1966	248	13.0	5.5
1967	336	19.2	6.4	1967	288	16.5	5.2
1968	382	13.6	6.2	1968	322	11.7	5.1
1969	432	13.2	6.0	1969	363	12.7	4.9
1970	470	8.8	6.0	1970	386	6.3	4.9
1971	504	7.2	5.9	1971	414	7.3	4.8
1972	572	13.4	5.8	1972	453	9.5	4.7
1973	631	10.4	5.6	1973	492	8.5	4.6
1974	670	6.1	5.6	1974	518	5.3	4.6
1975	711	6.3	5.6	1975	538	3.8	4.6
1976	780	9.6	5.5	1976	580	7.9	4.5
1977	835	7.1	5.4	1977	615	5.9	4.5
1978	955	14.4	5.2	1978	683	11.2	4.3
1979	1,073	12.3	5.0	1979	759	11.1	4.1
1980	1,093	1.9	5.1	1980	754	-0.8	4.2
1981	1,135	3.8	5.1	1981	758	0.5	4.4
1982	1,166	2.7	5.2	1982	771	1.8	4.5
1983	1,214	4.2	5.2	1983	803	4.2	4.5
1984	1,304	7.4	5.2	1984	854	6.3	4.4
1985	1,395	7.0	5.1	1985	906	6.0	4.3
1986	1,482	6.2	5.0	1986	967	6.8	4.3
1987	1,622	9.4	4.9	1987	1,035	7.1	4.1
1988	1,740	7.3	4.8	1988	1,090	5.3	4.1
1989	1,811	4.0	4.8	1989	1,117	2.5	4.2
1990	1,933	6.8	4.7	1990	1,173	5.0	4.1
1991	1,882	-2.6	5.1	1991	1,143	-2.6	4.5
1992	1,968	4.6	5.1	1992	1,154	0.9	4.7
1993	1,989	1.1	5.3	1993	1,150	-0.3	4.9
1994	2,141	7.6	5.2	1994	1,242	8.0	4.8
1995	2,276	6.3	5.1	1995	1,313	5.7	4.7
1996	2,482	9.0	4.9	1996	1,401	6.7	4.6
1997	2,626	5.8	4.8	1997	1,467	4.7	4.6
1998	2,682	2.1	5.0	1998	1,482	1.0	4.8
1999	2,855	6.5	4.9	1999	1,573	6.2	4.7
2000	3,100	8.6	4.6	2000	1,686	7.2	4.5
2001	3,010	-2.9	5.3	2001	1,667	-1.1	5.1
2002	3,026	0.5	5.9	2002	1,665	-0.1	5.7
2003	3,080	1.8	6.4	2003	1,719	3.2	6.0
2004	3,514	14.1	5.4	2004	1,918	11.6	5.2
2005	3,795	8.0	4.9	2005	2,054	7.1	4.9
2006	4,032	6.2	4.7	2006	2,169	5.6	4.8
2007	4,363	8.2	3.8	2007	2,360	8.8	3.8
2008	4,451	2.0	4.4	2008	2,395	1.5	4.6

RPKs				Passengers			
Year	**RPKs[724] (billions)**	**YoY[725] %**	**AAGR [726] to 2011 %**	**Year**	**Passengers (millions)**	**YoY %**	**AAGR to 2011 %**
2009	4,404	-1.1	7.2	2009	2,385	-0.4	7.1
2010	4,754	8.0	6.5	2010	2,593	8.7	5.6
2011	**5,062**	**6.6**	**0.0**	**2011**	**2,738**	**5.6**	**0.0**

Sources: Annual Reports of the Council + ICAO estimates.

This list sheds light on the long series of terrorist attacks perpetrated against civil aviation between 1931 and 2011. In a way, it supports all references made to specific attacks throughout this dissertation. For the sake of simplification and in line with most research on aviation terrorism, all attacks were first merged into four MO in chapter 2. However, with the help of the information already gathered in ATSD, it was sometimes possible to delineate each of the four MO furthermore. Hence, as far as possible, figure B.1 will present eight sub-categories that allow for a better understanding of the evolution of terrorist MO over the years. These sub-categories are a good reference tool permitting going through the list quickly to identify a specific attack or a trend developed over a long period of time. The eight sub-categories are defined as such:

1. Ground attacks include (1) ***aircraft attack***. A *ground-to-ground* or *ground-to-air* attack targeting an aircraft whether it is gated, taxiing, taking off, landing, or flying at any altitude, (2) ***airport attack***. An attack targeting airport or terminal installations, gates, waiting areas, parking lots, civil air navigation systems, air communication facilities, etc.;
2. Hijackings are divided in two categories: (1) ***commandeering***. A hijacking that occurs when an aircraft is attacked on the ground while its doors are still open, (2) ***skyjacking.*** A hijacking committed when the aircraft is an in-flight status;
3. A sabotage attack occurs when an explosive device is triggered from within an aircraft, be it on the ground or flying. Therefore, sabotage presents two different forms of attacks: (1) ***airborne sabotage.*** An act of sabotage committed when the aircraft is airborne, (2) ***ground sabotage***. An act of sabotage committed while the aircraft is still on the ground;
4. Suicide missions are delineated in two categories: ***conspiracy.*** An unlawful act that goes beyond mere words and involves four phases: (1) recruitment of co-conspirators, (2) planning of the attack, (3) target selection, and (4) reconnaissance of targets, (2) ***decisive attack.*** The last fraction of a suicide mission during which attackers intentionally and successfully get around airport security with concealed weapons or threat objects without being detected. At this stage, the intent and determination of the attackers place them in a position to strike a decisive blow.

Ground Attacks (299)	→	Airport attacks
Hijackings (218)	→	Commandeering
Sabotage (52)	→	Ground Sabotage
Suicide Missions (17)	→	Conspiracies

FIGURE B.1 Sub-Categories of the Four MO

Table B.1 lists the 586 terrorist attacks perpetrated against civil aviation since the first attack on 21 February 1931. Each entry details the sequential number, followed by the date of the attack, the MO used by terrorists, and a short description presenting the main characteristics of each individual attack. The entries highlighted in green represent the nine catalytic attacks. Some of them include multiple entries (e.g. in the case of simultaneous attacks). As discussed in chapter 2, these catalytic events were selected because they have triggered: (1) the adoption of new ICAO Conventions, Protocols, Resolutions, or modifications to Annex 17 of the Chicago Convention 1944, (2) various changes to the LRF, (3) the introduction of new aviation security measures, or (4) a sustained mention in the literature review. The entries highlighted in yellow either relate to terrorist attacks that have had major impacts on international affairs or were often referenced in books, journal articles and scholarly material. For example, the 7 April 1994 attack on the Rwandan Presidential aircraft triggered the Rwandan genocide in which an estimated 800,000 people were systematically slaughtered over the course of 100 days from 6 April and 16 July 1994.[727] Table B.1 shows 162 purple cells. They emphasize lethal attacks.

Legend	Catalytic Attacks
	Major impacts of International Affairs
	Lethal Attacks

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727. UN, "Report of the Independent Inquiry into the actions of the United Nations during the 1994 genocide in Rwanda," (15 December 1999), 3, http://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/POC S19991257.pdf

Appendix B   List of 586 Terrorist Attacks Against Civil Aviation:
            1931-2011

TABLE B.1   List of 586 Terrorist Attacks Against Civil Aviation: 1931-2011

No	Date	MO	Description
1	1931-02-21	HI	Commandeering of a Pan Am Aircraft by Peruvian revolutionaries
2	1948-12-21	GA	Attack CSA #584 aircraft (ground-to-air) by Greek insurgents
3	1952-11-29	GA	STA aircraft attack (ground-to-ground) by Indochina rebels
4	1955-04-11	SA	Airborne sabotage of an Air-India aircraft; Hong-Kong to Jakarta
5	1956-03-04	SA	Ground sabotage of an aircraft in Nicosia
6	1958-11-01	HI	Skyjacking of Cubana #495 Miami-Varadero by Cuban rebels
7	1958-11-06	HI	Skyjacking of a Cubana aircraft, from Manzanillo, by Cuban rebels
8	1959-04-10	HI	Skyjacking of Haitian COHATA aircraft diverted to Cuba
9	1959-12-02	HI	Skyjacking of a Panair do Brasil aircraft by Brazilian rebel officers
10	1961-11-10	HI	Skyjacking of an Air Portugal aircraft diverted to Tangier
11	1961-11-27	HI	Skyjacking of Avensa plane, to Curacao by Venezuelan students
12	1962-04-26	GA	Aircraft ground attack in Algiers by OAS terrorists
13	1963-11-28	HI	Skyjacking of Avensa aircraft diverted to Trinidad by Venezuelans
14	1967-06-30	SA	Ground sabotage of an aircraft at Aden Int. Airport in Yemen
15	1968-03-05	HI	Skyjacking of an Avianca aircraft, diverted to Cuba by the ELN
16	1968-07-23	HI	Skyjacking by PFLP members of El Al #426 diverted to Algeria
17	1968-11-04	HI	Skyjacking of National Airlines #186 to Cuba by Black Panthers
18	1968-11-08	HI	Skyjacking of Greek Olympic Airways flight Paris-Athens
19	1968-12-26	GA	Attack on El Al # LY253 at Athens Airport by 2 PFLP members
20	1969-02-18	GA	Attack on El Al flight # LY432, at Zurich Airport by the PFLP
21	1969-03-01	SA	Ground sabotage of Ethiopian Airlines aircraft transporting troops
22	1969-05-24	GA	Attack on a Pan African aircraft in Biafra
23	1969-06-17	HI	Skyjacking of TWA #154, diverted to Havana by Black Panther
24	1969-06-18	HI	Skyjacking of an Ethiopian airliner in Karachi by ELF members
25	1969-08-29	HI	Skyjacking of TWA #840 by the PFLP
26	1969-09-13	HI	Skyjacking of an Ethiopian airliner by ELF members
27	1969-10-10	SA	Failed sabotage of an aircraft by an ELF member
28	1969-12-12	HI	Failed skyjacking of an Ethiopian airliner by ELF members
29	1969-12-17	SA	Conspiracy to blow up El Al plane, Heathrow Airport by 2 Britons
30	1969-12-21	HI	Thwarted skyjacking of an Olympic aircraft by PFLP members
31	1970-01-01	HI	Skyjacking of Brazilian Cruzeiro plane to Cuba by VAR-Palmares
32	1970-01-08	HI	Skyjacking of a TWA flight Paris-Rome, diverted to Beirut
33	1970-02-10	GA	Attack on a Munich airport bus carrying El Al passengers by PFLP
34	1970-02-21	SA	Airborne sabotage of Austrian Airlines plane by PFLP-GC (1)
35	1970-02-21	SA	Airborne sabotage of Swissair #330 by PFLP-GC (2)
36	1970-03-01	SA	Attempted bombing of an Ethiopian plane, in Rome by the ELF
37	1970-03-31	HI	Skyjacking of a Japan Airlines plane to North Korea by the JRA
38	1970-04-26	HI	Skyjacking of a Brazilian VASP plane, flown to Cuba
39	1970-05-24	HI	Skyjacking of a Mexicana aircraft, diverted to Cuba
40	1970-05-30	HI	Skyjacking of Alitalia flight, diverted to Cairo by a young Italian
41	1970-06-22	HI	Skyjacking of a Pan Am #119, diverted to Egypt by 1 hijacker
42	1970-07-01	HI	Attempted Skyjacking of Cruzeiro do Sul plane by ALN members
43	1970-07-12	HI	Attempted Skyjacking of an aircraft by a Brazilian VPR member

No	Date	MO	Description
44	1970-07-22	HI	Skyjacking of Olympic Airways plane, diverted to Cairo by PFLP
45	1970-08-02	HI	Skyjacking of a Pan Am plane to Cuba by Puerto Rican Nationalist
46	1970-09-06	HI	"Skyjack Sunday" El Al aircraft: terrorists were overpowered
47	1970-09-06	HI	"Skyjack Sunday" Pan Am aircraft hijacked and blown up in Cairo
48	1970-09-06	HI	"Skyjack Sunday" TWA aircraft hijacked and blown up in Jordan
49	1970-09-06	HI	"Skyjack Sunday" Swissair plane hijacked and blown up in Jordan
50	1970-09-08	HI	Attempted Skyjacking of an Ethiopian airliner by ELF members
51	1970-09-09	HI	"Skyjack Sunday" BOAC aircraft hijacked and blown up in Jordan
52	1970-10-09	HI	Skyjacking of Iranian plane, diverted to Baghdad by Iranian rebels
53	1970-10-22	HI	Skyjacking of a Costa Rican airliner by FSLN guerrillas
54	1971-01-20	HI	Skyjacking of an Indian Airlines plane by 2 Kashmiri Nationalists
55	1971-01-22	HI	Skyjacking of an Ethiopian plane, flown to Libya by the ELF
56	1971-01-30	HI	Skyjacking of an Indian plane to Lahore by 2 Pakistani terrorists
57	1971-03-30	HI	Skyjacking of a Philippine Air plane to Beijing
58	1971-07-28	SA	Airborne sabotage (thwarted) of an El Al plane by unwitting girl
59	1971-08-23	SA	Airborne sabotage Royal Jordanian aircraft after landing in Madrid
60	1971-08-28	HI	Skyjacking of an El Al Aircraft by PFLP members
61	1971-09-01	SA	Airborne sabotage (thwarted) by unwitting girl bringing a cake
62	1971-09-08	HI	Skyjacking of a Royal Jordanian airliner to Libya by Al Fatah
63	1971-09-16	HI	Failed hijacking of a Royal Jordanian aircraft stopped by police
64	1971-09-20	SA	Airborne sabotage (thwarted) of El Al plane by unwitting woman
65	1971-09-24	HI	Skyjacking of an American Airlines flight Detroit-NY to Algeria
66	1971-10-04	HI	Failed hijacking of a Royal Jordanian aircraft stopped by police
67	1971-11-27	HI	Skyjacking of a TWA aircraft finally diverted it to Cuba
68	1971-12-26	HI	Skyjacking of an Air Canada aircraft to Cuba by an RNA member
69	1972-01-26	SA	Airborne sabotage of a JAT aircraft by Croatian separatists
70	1972-01-29	HI	Skyjacking of a TWA flight Los Angeles-New York
71	1972-02-19	HI	Failed hijacking of a Royal Jordanian aircraft stopped by police
72	1972-02-22	HI	Skyjacking of a Lufthansa flight New Delhi-Athens by 5 terrorists
73	1972-05-03	HI	Skyjacking of a Turkish THY flight Ankara-Istanbul by 4 terrorists
74	1972-05-08	HI	Skyjacking of a Sabena flight Vienna-Tel Aviv by 4 BSO members
75	1972-05-31	GA	Airport attack, Lod (Israel) by 3 JRA/PFLP terrorists
76	1972-06-02	HI	Skyjacking of a Western Airlines flight Los Angeles-Seattle
77	1972-07-31	HI	Skyjacking of a Delta Air Lines flight later diverted to Algeria
78	1972-08-16	SA	Thwarted airborne sabotage of El Al flight PFLP-GC unwitting pax
79	1972-08-22	HI	Skyjacking of an Alyemda (Yemen) flight Beirut-Cairo
80	1972-09-15	HI	Skyjacking of a SAS airliner later flown to Madrid
81	1972-10-22	HI	Skyjacking of a Turkish THY flight Istanbul-Ankara by 4 terrorists
82	1972-10-29	HI	Skyjacking of a Lufthansa flight Beirut-Ankara by 3 BSO terrorists
83	1972-11-08	HI	Skyjacking of a Mexicana flight Monterey-Mexico by 4 terrorists
84	1972-11-24	HI	Failed hijacking of an Air Canada flight Frankfurt-Montréal
85	1972-12-08	HI	Failed hijacking of an Ethiopian Airlines departing Addis Ababa
86	1973-03-06	GA	Foiled car bomb attacks at JFK airport outside El Al airport office
87	1973-04-04	GA	Thwarted aircraft attack of an El Al plane in Rome by PFLP
88	1973-04-09	GA	Thwarted aircraft attack of an Arkia plane in Nicosia by BSO

No	Date	MO	Description
89	1973-04-28	GA	Beirut airport attack (foiled) as bomb planted by BSO was found
90	1973-05-18	HI	Skyjacking of an Avensa (Venezuela) aircraft
91	1973-05-30	HI	Skyjacking of a SAM (Colombia) aircraft
92	1973-07-04	HI	Skyjacking of an Aerolíneas Argentinas aircraft
93	1973-07-20	HI	Skyjacking of a Japan Air Lines aircraft departing Amsterdam
94	1973-08-05	GA	Airport attack of a TWA lounge at Athens airport by BSO
95	1973-08-20	GA	Airport attack in La Plata (Buenos Aires) by ERP
96	1973-08-25	HI	Skyjacking of a Yemen Airlines flight
97	1973-09-05	GA	Foiled aircraft attack of an El Al aircraft (1st use of Manpads)
98	1973-10-20	HI	Skyjacking of an Argentina Airlines flight Buenos Aires-Salta
99	1973-11-25	HI	Skyjacking by ANYO of a KLM jumbo jet departing Beirut
100	1973-12-17	GA	Aircraft attack of Pan Am and Lufthansa aircraft at Rome airport 1
101	1973-12-17	HI	Aircraft attack of Pan Am and Lufthansa aircraft at Rome airport 2
102	1974-03-03	HI	Skyjacking of a BOAC flight Bombay-London by ANYO
103	1974-03-15	HI	Failed hijacking of a KLM aircraft
104	1974-05-19	GA	Airport garage attack at Heathrow airport by IRA
105	1974-07-15	HI	Skyjacking of a Japan Airlines departing Osaka
106	1974-07-23	SA	Failed airborne Sabotage by IRA of a flight Belfast-London)
107	1974-08-05	GA	Aircraft attack of an Air Inter plane at Pluguffan airport, France
108	1974-09-08	SA	Airborne sabotage of TWA #841 over Ionian Sea by PFLP-GC
109	1974-11-22	HI	Skyjacking of a BOAC aircraft departing Dubai
110	1975-01-13	GA	Aircraft attack (ground-to-ground) of El Al #221 at Orly airport
111	1975-01-19	GA	Aircraft attack (ground-to-ground) of El Al aircraft at Orly airport
112	1975-01-22	HI	Skyjacking of a VASP aircraft en route to Brasilia Int. Airport
113	1975-03-01	HI	Skyjacking of Iraqi Airlines flight diverted to Tehran; by 3 Kurdish
114	1975-03-03	HI	Skyjacking of a German airliner by 5 German leftist to Yemen
115	1975-09-26	HI	Hijacking by MNLF in Manila
116	1975-10-04	HI	Attempted Skyjacking of plane at Beirut Airport by Arab terrorists
117	1975-10-05	HI	Skyjacking of an Aerolineas Argentinas flight by leftist guerrillas
118	1975-10-20	SA	Bombing of a Dominicana Airlines aircraft by Youths of the Star
119	1975-11-13	GA	Attack on Pan Am Hangar at Beirut Int. Airport by Sa'iqa members
120	1975-11-27	SA	Bombing of a Bahamas Airline aircraft by the NFLC
121	1975-12-29	GA	Bomb explosion in locker at NY's La Guardia Airport by Croatians
122	1976-01-25	GA	Failed Aircraft attack on El Al flight by Baader Meinhof/ PFLP
123	1976-04-07	HI	Skyjacking of a domestic Philippines Airlines flight by the MNLF
124	1976-05-14	GA	Bomb at Lisbon Int. Airport; Portuguese Anti-Communist League
125	1976-05-21	HI	Skyjacking of Philippines Airlines # 116 at Davao by the MNLF
126	1976-05-25	GA	Attack on Tel Aviv's airport; PFLP was behind the attack
127	1976-06-23	GA	Attack Pan Am vehicles at JFK Airport by JDL Members
128	1976-06-27	HI	Skyjacking of an Air France plane, diverted to Entebbe by PFLP
129	1976-07-02	GA	Bombing of an Eastern Airlines plane at Logan Int. Airport
130	1976-07-09	GA	Bombing of a Cubana Airlines plane in Jamaica by the NFLC
131	1976-08-11	GA	Bombing of El Al # 582 at Istanbul Airport by the PFLP-EO
132	1976-08-23	HI	Skyjacking of an Egypt Air plane by 3 Libyan hijackers
133	1976-09	SA	Bombing of an El Al aircraft at Nairobi airport by PFLP-EO

No	Date	MO	Description
134	1976-09-05	HI	Skyjacking of KLM flight # 366 diverted to Tunisia by PFLP-EO
135	1976-09-07	SA	Bombing of Air France aircraft at Campo dell'Oro airport
136	1976-09-10	HI	Skyjacking of TWA # 355 by Croatian Freedom Fighters
137	1976-10-06	SA	Airborne sabotage of Cubana de Aviación # 45 by URO
138	1976-12-15	GA	Explosion at a Baghdad airport terminal by Free Iraq
139	1977-04-26	HI	Skyjacking attempt of an Ethiopian Airlines plane by the ELF
140	1977-05-01	GA	Attack 5 helicopters at Salinas airport by Environmental Life Force
141	1977-05-29	GA	Explosion at Yesilkoy Airport, Istanbul by 28 May Armenian Org.
142	1977-06-24	GA	Airport attack at Bangkok Don Muang Airport by PULO -Thailand
143	1977-06-29	HI	Skyjacking of a Gulf Air flight, diverted to Doha
144	1977-07-05	HI	Skyjacking of a LADECO flight in Chile and diverted to Peru
145	1977-07-08	HI	Skyjacking of a Kuwait Airways plane by 7 Palestinians
146	1977-08-14	GA	Bombing Venezuelan aircraft at Miami airport by Cuban terrorists
147	1977-09-28	HI	Skyjacking of Japan Airlines aircraft by JRA/PFLP-EO
148	1977-09-30	HI	Skyjacking of Air International, Paris-Lyon, by a lone hijacker
149	1977-10-13	HI	Skyjacking of Lufthansa #181 by PFLP-EO. Germany retaliates
150	1977-12-14	GA	Attack Ground-control at Santa Cruz de Tenerife Airport by CIIM
151	1978-01-08	GA	Bombing at Santa Cruz de Tenerife Airport by the CIIM
152	1978-01-29	GA	Attack on a DC3 plane in Chad by the FROLINAT
153	1978-02-18	HI	Hijacking of Cyprus Airways 007 by two ANO terrorists
154	1978-05-16	HI	Skyjacking of an Aero Mexico flight by 2 hijackers
155	1978-05-20	GA	Attack on boarding area of El Al #324 at Paris airport by the PFLP
156	1978-05-22	GA	Bomb attack on a tobacco shop at JFK airport by the FALN
157	1978-05-22	GA	Bomb attack at NY La Guardia airport by the FALN "
158	1978-05-22	GA	Bomb attack at Newark airport, NJ, by the FALN "
159	1978-08-03	GA	Attack on Tokyo City Airport by Anti-imperialist Students Council
160	1978-09-03	GA	Attack on Air Rhodesia # 825 by ZIPRA
161	1978-09-07	SA	Ground sabotage of an Air Ceylon aircraft by the LTTE
162	1978-09-13	GA	Attack on the Managua Airport by the FSLN (Nicaragua)
163	1978-09-15	SA	Bombing of an Aircraft at Rhodesia by the ZIPRA
164	1978-11-17	GA	Attack on a Zambia Airways aircraft while landing
165	1978-12-20	HI	Skyjacking of Indian Airlines flight # 410 by 2 Hindus
166	1979-01-12	HI	Skyjacking of a Tunis-Air Boeing 707 by 4 hijackers (Tunisia)
167	1979-01-16	HI	Skyjacking of a Middle East Airlines craft by members of AMAL
168	1979-02-11	GA	Bombing at Melilla airport Spain by Abd al-Krim Commandos
169	1979-02-12	GA	Attack on an Air Rhodesia aircraft with SA-7 missiles by ZIPRA
170	1979-02-20	GA	Bombing on Salisbury Airport South Africa by Black Nationalists
171	1979-03-18	GA	Attack at Nagoya Airport (Japan) by JRCL (Chūkaku-ha)
172	1979-03-25	GA	Bombing of a TWA aircraft at JKF airport by Omega-7 (Cubans)
173	1979-04-12	GA	Armed assault at Keren Airport in Ethiopia by the ELF
174	1979-04-16	GA	Attack on El Al aircraft at Brussels Airport by Black March
175	1979-05-06	GA	Bombing at Istanbul International Airport by ASALA
176	1979-06-20	HI	Skyjacking of an AA flight NY-Chicago by Serbian nationalist
177	1979-06-27	GA	Armed assault at Tokyo Airport by radical Japanese
178	1979-07-29	GA	Bombing at Madrid Barajas Airport by the ETA

No	Date	MO	Description
179	1979-09-07	HI	Skyjacking of an Alitalia aircraft by AMAL
180	1979-09-09	HI	Skyjacking of an Alitalia flight Tehran–Beirut–Rome by AMAL
181	1979-09-29	GA	Bombing at Ankara Airport by AMAL
182	1979-11-16	GA	8 men arrested at Baltimore Airport before boarding TWA flight
183	1979-11-25	GA	Simultaneous bombings of 3 planes (TWA, Alitalia, BA) in Madrid
184	1979-12-19	GA	Aeroflot aircraft attack at Munich Airport by Commando 15th Oct.
185	1979-12-30	GA	Bombing at Istanbul Airport by ASALA
186	1980-01-14	HI	Skyjacking of Alitalia flight Rome–Tunis by an unarmed Tunisian
187	1980-01-18	HI	Skyjacking of a MEA aircraft by a teenage gunman (AMAL)
188	1980-01-28	HI	Skyjacking of a MEA aircraft by a Lebanese hijacker (AMAL)
189	1980-01-31	HI	Commandeering of Air France aircraft at Beirut Airport
190	1980-03-10	HI	Skyjacking of a MEA flight Amman–Beirut by AMAL
191	1980-04-21	SA	Thwarted sabotage of El Al flight # 364 by PLO (unwitting pax)
192	1980-06-05	GA	Bombing of a Dutch Charter Co-Transa in Amsterdam by ETA
193	1980-06-12	GA	Bombing at Paris Orly Airport by Action Directe
194	1980-07-14	GA	Bombing at Dorado Airport, Puerto Rico by the OVPRR
195	1980-07-27	GA	Foiled attack on El Al flight passengers in Brussels by ANO
196	1980-07-28	GA	Bombing at the passengers' hall of Banianh Airport by AMAL
197	1980-09-17	GA	Bombing of an Air France aircraft in Pointe-à-Pitre by the AGLG
198	1980-10-13	HI	Skyjacking of a Turkish Airlines flight to Ankara by AMAL
199	1980-11-25	GA	Bombing at the Zurich Kloten Airport by ASALA
200	1980-12-15	HI	Skyjacking of an Avianca flight from Bogota by M-19 members
201	1980-12-25	GA	Explosion of a radar monitor at Kloten Airport, Zurich by ASALA
202	1980-12-28	GA	Bombing at airport passenger hall in Point-a-Pitre, Guadeloupe
203	1981-02-06	HI	Skyjacking of a Colombian jetliner by 2 young gunmen
204	1981-02-24	GA	Airport attack at Rome Fiumicino Airport by Libyans
205	1981-03-02	HI	Skyjacking of a Pakistan Airlines flight to Peshawar by Pakistanis
206	1981-03-27	HI	Skyjacking of Servicio Aéreo Honduras flight #414 by CMPL
207	1981-03-28	HI	Skyjacking Garauda Indonesian Airways #206 by Komando Jihad
208	1981-04-15	GA	Bombing at the Ajaccio Airport in Corsica by the FLNC
209	1981-04-16	GA	Bombing air facilities at airport in Ayacucho, Peru by Shining Path
210	1981-05-16	GA	Bombing at JFK Airport Pan Am terminal by the PRAR
211	1981-05-24	HI	Skyjacking of a Turkish Airlines flight to Ankara by Dev Sol
212	1981-07-01	SA	An EGP bomb exploded when loaded on Eastern Airlines flight
213	1981-07-05	GA	Trans Mediterranean Airways aircraft attack at Beirut Int. Airport
214	1981-07-20	GA	Bombing at the Kloten International Airport, Zurich by ASALA
215	1981-08-09	GA	Bombing of the El Al office in Fiumicino Airport, Rome
216	1981-08-14	SA	AMAL explosives aboard a Middle East Airlines aircraft
217	1981-09-02	GA	Bombing at the Leabua Jonathan Airport, Lesotho by the LLA
218	1981-09-15	GA	Armed assault on Cairo Airport Terminal by Japanese Red Army
219	1981-09-29	HI	Skyjacking of Indian Airlines # 425 by 5 Sikh militants
220	1981-09-30	HI	Skyjacking of an Aeropesca cargo plane, Medellin, Col. by M-19
221	1981-10-13	SA	Explosion of an Air Malta aircraft while on ground in Cairo, Egypt
222	1981-10-23	HI	Skyjacking of a crop-dusting plane near Managua, Nicaragua
223	1981-10-23	GA	Bombing at the Barrancabermeja Airport, Colombia by ELN

No	Date	MO	Description
224	1981-10-27	GA	Bombing at Paris Charles de Gaulle Airport by ASALA
225	1981-10-29	HI	Skyjacking of a small plane in Costa Rica by Nicaraguan rightists
226	1981-11-17	GA	Fire set on a private plane (B. Jagger) by Honduran rightists
227	1981-11-25	HI	Skyjacking of Air India #224 en route to Bombay
228	1981-12-07	HI	Skyjacking (1/3) Aeropostal aircraft diverted to Cuba by Red Flag
229	1981-12-07	HI	Skyjacking (2/3) Aeropostal aircraft diverted to Cuba by Red Flag
230	1981-12-07	HI	Skyjacking (3/3) Aeropostal aircraft diverted to Cuba by Red Flag
231	1981-12-07	HI	Skyjacking of a Libyan Airlines aircraft by Shiite Moslems
232	1981-12-12	SA	Explosion in an Aeronica aircraft while on ground in Mexico City;
233	1982-01-07	HI	Skyjacking of an Aerotal flight from Santa Marta to Barranquilla
234	1982-01-21	GA	Bombing at Orly Airport (Paris) by ASALA
235	1982-01-22	GA	Armed assault at the Santa Maria Leija Airport by the EGP
236	1982-01-27	HI	Skyjacking of an Aerotal flight Bogota – Pereira by the M-19
237	1982-02-22	GA	Bomb from a Honduran aircraft exploded at Managua Airport.
238	1982-02-25	HI	Hijacking of a Kuwait flight by AMAL after landing in Beirut
239	1982-02-26	HI	Skyjacking of Air Tanzania # 206 by 5 Tanzanians
240	1982-04-19	GA	Bombing of the Mar de Cena Airport gasoline depot, Col., by M-19
241	1982-04-28	HI	Skyjacking of Aerovías Nacionales de Honduras aircraft by FPRLZ
242	1982-05-30	GA	Explosion at the Air Canada Freight Terminal at LAX by ASALA
243	1982-07-31	GA	Bombing of an El Al counter at Riem Airport in Munich, Germany
244	1982-08-02	GA	Bombing at Lahore Airport, Pakistan by Al Zulfikar
245	1982-08-04	HI	Skyjacking of Indian Airlines # IC 423 by Sikh hijackers
246	1982-08-07	GA	Bombing at Ankara International Airport by ASALA
247	1982-08-11	SA	Bomb exploded on board Pan Am #830, flight Japan – Hawaii
248	1982-08-20	HI	Skyjacking of an Indian Airlines flight Bombay – New Delhi
249	1982-09-05	GA	Attack on control tower of Peruvian Airport Corp by Shining Path
250	1983-01-22	GA	Bombing of a Turkish Airlines counter at Orly Airport by ASALA
251	1983-02-25	GA	Bombing at Beirut International Airport by Palestinians
252	1983-06-08	GA	Attack at Narita International Airport by JRCL (Chūkaku-ha)
253	1983-06-08	GA	Attack at Narita International Airport by Sheki (Japan)
254	1983-06-22	HI	Skyjacking of a Arab Airlines flight Athens – Tripoli by AMAL
255	1983-07-06	HI	Skyjacking of an Iran Air flight to Tehran
256	1983-07-14	HI	Skyjacking of Nicaraguan aircraft, diverted to Costa Rica by NDF
257	1983-07-15	GA	Bombing of a Turkish Airlines counter at Orly Airport by ASALA
258	1983-07-25	GA	Bombing of the Trujillo Airport tower, Peru by Shining Path
259	1983-07-26	GA	Bombing of the Ayacucho Airport runway, Peru by Shining Path
260	1983-08-29	HI	Skyjacking of Air France flight diverted to Tehran by ANO
261	1983-09-07	GA	Bombing at Morales Airport in La Lima, Honduras by CMPL
262	1983-09-23	SA	Explosion on board Gulf Air flight #771 by ANO
263	1983-11-08	GA	Manpads attack on Linhas Aéreas de Angola plane by UNITA
264	1983-11-14	GA	Bombing at Bailiff Airport by The Guadeloupe Liberation Army
265	1983-12-12	GA	Bombing at Kuwait Airport by Hezbollah
266	1983-12-15	GA	Bombing by MRL of Valparaiso Airport power house in Chile
267	1984-01-20	GA	Explosion of an Atlántida Línea Sudamericana plane in El Salvador
268	1984-02-09	GA	Manpads attack on a Linhas Aéreas de Angola plane

No	Date	MO	Description
269	1984-03-10	SA	Explosion in a Union des Transports plane parked in Chad
270	1984-07-05	HI	Skyjacking of Indian Airlines # IC 405 by 8 Sikhs terrorists
271	1984-07-31	HI	Skyjacking of AF #747 to Tehran by the Guardsmen of Islam
272	1984-08-02	GA	Bombing at the Madras Airport, India by the LTTE
273	1984-08-24	HI	Skyjacking of Indian Airlines # 421 by 7 Sikh terrorists
274	1984-08-30	GA	Bombing at Varna Airport, Bulgaria by Turkish terrorists
275	1984-09-15	HI	Skyjacking of an Iraqi Airways Cyprus–Baghdad by 3 hijackers
276	1984-09-21	GA	Surface to air missile attack on an Ariana-Afghan Airlines plane
277	1984-10-01	GA	Armed assault against a small aircraft by the FMLN (El Salvador)
278	1984-10-11	GA	Bombing by Iparretarrak (French Basques) at Biarritz Airport
279	1984-11-05	HI	Skyjacking of a Saudi Arabian Airlines flight London–Riyadh
280	1984-11-17	HI	Skyjacking of a flight to Saudi Arabia by 5 Somali hijackers
281	1984-12-04	HI	Skyjacking of Kuwait Airlines #221 by Hezbollah
282	1985-02-07	HI	Skyjacking of Cyprus Airways plane by Black Brigade (Lebanon)
283	1985-02-24	GA	Attack on the Dornier 228 "Polar 3" by Frente Polisario guerrillas
284	1985-03-02	HI	Skyjacking of French disaster-aircraft aircraft by the TPLF
285	1985-04-01	HI	Skyjacking of a Middle East Airlines plane by a Lebanese
286	1985-04-04	GA	Rockets fired at an Alia Royal Jordanian Airline plane by ANO
287	1985-04-13	GA	Attack at Narita and Handea airports by JRCL (Chūkaku-ha)
288	1985-06-03	GA	Explosives found: Geneva's Cointrin Airport; 2 Palestinians linked
289	1985-06-11	HI	Skyjacking of Alia Royal Jordanian flight # 402 by AMAL
290	1985-06-12	HI	Skyjacking of a Lebanese MEA plane by a Palestinian
291	1985-06-14	HI	Skyjacking of TWA flight #847 by 2 members of Hezbollah
292	1985-06-15	HI	Skyjack attempt on a US airliner in West Berlin
293	1985-06-19	GA	Explosion at International Departure Lounge, Frankfurt's Airport
294	1985-06-23	SA	Explosion of Air India #182 by Sikh militants
295	1985-06-23	SA	Explosion of Air India #301 by Sikh militants
296	1985-07-01	GA	Explosion at Rome Airport meant for Alitalia flight; Sikh militants
297	1985-07-01	GA	Bombing at Narita Airport by Japanese Radicals
298	1985-09-04	GA	Attack on an Baktar Afghan Airlines plane by Afghan militants
299	1985-11-10	HI	Skyjacking of an Uganda Airlines domestic flight by 2 individuals
300	1985-11-23	HI	Skyjacking of Egypt-Air #648 Athens–Cairo by ANO
301	1985-12-24	GA	Bombing on parking lot at Lima Airport, Peru by the MRTA
302	1985-12-27	GA	Attack on El Al check-in counters at Vienna's airport by ANO
303	1985-12-27	GA	Attack on El Al check-in counters at Rome's airport by ANO
304	1986-02-10	GA	Ground-to-Air missile attack on an US transport plane by UNITA
305	1986-02-28	GA	Bombing at Lod Airport, Tel Aviv by Union of Galilee Christians
306	1986-03-07	GA	Armed assault against a private aircraft in El Naranjo, Guatemala
307	1986-03-11	GA	Attack on a Compañía Aero expresó of Bogota helicopter by ELN
308	1986-03-30	HI	Skyjacking of TWA flight # 840 by a Palestinian terrorist
309	1986-04-02	SA	Bomb exploded on board a TWA flight Rome–Athens by ANO
310	1986-04-17	SA	Thwarted airborne sabotage of El Al plane, unwitting A-M Murphy
311	1986-04-28	GA	Attack on Pan Am's loading dock at a NY airport by the JDL
312	1986-05-03	SA	Bomb exploded on Air-Lanka #512 while boarding by LTTE
313	1986-05-30	SA	Plot by Sikh fundamentalists to blow up Air India aircraft at JFK

No	Date	MO	Description
314	1986-06-26	SA	Foiled sabotage of an El Al flight at Barajas Airport, Madrid
315	1986-08-16	GA	Missile attack on a Sudan Airways plane by the SPLA
316	1986-09-05	HI	Skyjacking of Pan Am # 73 by members of ANO
317	1986-09-14	GA	Explosion in Seoul's Kimpo International Airport by North Korea
318	1986-09-20	SA	Attempted attack on a Turk Air flight by 3 Iranians
319	1986-09-25	HI	Skyjacking of a Gonini Airways plane in Surinam by rebels
320	1986-10-03	GA	Destruction of a Compañía Aeroexpresó helicopter by ELN (1)
321	1986-10-03	GA	Destruction of a Compañía Aeroexpresó helicopter by ELN (2)
322	1986-10-18	HI	Skyjacking in Suriname by the Brunswijk Jungle Commando
323	1986-10-18	GA	Attack on a cargo plane by the Sudan People's Liberation Army
324	1986-10-30	GA	Attack on Cabinda Airport, Angola by Angolan rebels
325	1986-12-25	HI	Skyjacking of Iraqi Airways # 163 by Hezbollah
326	1987-03-22	GA	Attack at Lanao Airport, Manila, by the New People's Army
327	1987-05-05	GA	Missile attack by the SPLA on an aircraft after departing Malakal
328	1987-05-19	HI	Skyjacking by a Fiji Indian of an Air New Zealand aircraft
329	1987-06-11	GA	Missile attack on an Afghan Airlines aircraft
330	1987-07-01	SA	Sabotage of an Eastern Airlines flight Guatemala–Miami by EGP
331	1987-07-22	GA	Attack at Cape Town Airport by the African National Congress
332	1987-07-24	HI	Skyjacking by Hezbollah of Air Afrique # 56
333	1987-11-02	GA	Bombing in the baggage room at Lima Airport by Shining Path
334	1987-11-29	SA	Bomb exploded on Korean Airlines #858, by North Korean agents
335	1987-12-08	GA	Bombing at Manila Int'l Airport by the New People's Army
336	1987-12-23	GA	Armed assault by the MRTA at Tarapoto Airport in Peru
337	1987-12-28	HI	Foiled hijacking of an Iran Air domestic flight by the MEK
338	1988-02-13	HI	Skyjacking of an Air Tanzania flight by 4 youths
339	1988-04-05	HI	Skyjacking by Ad Dawaa 18 Group of Kuwait Airlines #422
340	1988-09-23	GA	Attack by the SPLA of a Nile Safaries aircraft
341	1988-12-08	GA	Attack on 2 US Aid aircraft by Polisario guerrillas
342	1988-12-21	SA	Airborne sabotage of Pan Am #103 (Lockerbie) by Libyan agents
343	1988-12-22	HI	Hijacking of a GUM Air aircraft by Brunswijk Jungle Commando
344	1989-01-05	GA	Grenades found on runway at Athens Int. Airport by Libyan rebels
345	1989-03-06	GA	Armed assault against 2 crop dusting aircrafts by the ELN
346	1989-05-18	HI	Foiled skyjacking of an Aeroflot flight Angola–Tanzania
347	1989-06-28	GA	Bombing of a Somali Airlines aircraft by the SNM
348	1989-07-03	GA	Bombing at Belfast Harbor Airport by the IRA
349	1989-07-03	GA	Bombing at Belfast Airport by the IRA
350	1989-07-09	GA	Short Brothers aircraft destroyed by a terrorist bomb in Belfast
351	1989-08-23	HI	Skyjacking of an Air France flight by an Algerian rebel
352	1989-09-01	HI	Skyjacking of a GUM Air Cessna by Suriname Amerindians
353	1989-09-03	HI	Skyjacking of a DEA flight by The Extraditables (Colombia)
354	1989-09-04	HI	Skyjacking of an Avianca Airlines flight by The Extraditables
355	1989-09-04	GA	Attack against Medellin Airport by The Extraditables
356	1989-09-19	SA	Bomb exploded on board UTA Airlines #772; Libya is involved
357	1989-10-06	HI	Skyjacking of a Myanmar Airways aircraft by 2 students (Burma)
358	1989-11-13	GA	Bombing at Huanuco Airport, Peru, by Shining Path

No	Date	MO	Description
359	1989-11-23	SM	Failed suicide mission on Saudi Arabian Airlines #367; 10 arrests
360	1989-11-27	SA	Airborne sabotage of Avianca #203 by The Extraditables
361	1989-11-27	GA	Bombing of a Short Brothers aircraft at Belfast Airport by the IRA
362	1989-12-21	GA	Aircraft attack of a Médecins sans frontières aid- aircraft
363	1990-01-23	GA	Armed assault on an aircraft in El Peten, Guatemala by the GNRU
364	1990-01-24	GA	Attack of North Salomon Air Services plane in Papa, New Guinea
365	1990-03-22	GA	Attack against a presidential candidate at El Dorado Airport, Col.
366	1990-03-27	GA	Bombing at Jorge Chavez Internat. Airport, Peru by the MRTA
367	1990-04-15	GA	Unarmed assault at Narita Internat. Airport by Aum Shinrikyo
368	1990-04-26	HI	Killing of Colombian Presidential candidate on board Avianca
369	1990-04-30	GA	Bombing at Belfast Airport by the IRA
370	1990-07-05	HI	Skyjacking of Aeroperlas flight Colon–Panama City by the FARC
371	1990-11-07	GA	Rockets fired on Kabul International Airport by Mujahedin rebels
372	1990-11-09	HI	Skyjacking of a Thai Airways plane by 2 Burmese
373	1990-12-15	GA	Attack on an Aires Airlines plane at Villagarzon Airport by FARC
374	1990-12-28	GA	Bombing at Luanda International Airport by UNITA
375	1991-01-07	HI	Skyjacking of a Faucett Airlines plane, in Trujillo, Peru by MRTA
376	1991-01-18	GA	Bombing at Belfast Airport by the IRA
377	1991-01-25	GA	Bombing at Jose Chavez Internat. Airport, Peru by Shining Path
378	1991-02-01	HI	Skyjacking of an ACES aircraft, in Turbo, Colombia by the ELN
379	1991-02-05	GA	Armed assault at the San Jose del Guaviare airport by the FARC
380	1991-02-13	GA	Armed assault on a Trans Afrique Airlines plane by UNITA
381	1991-02-18	GA	Attack on a landed Aces plane, in Antioquia by Colombian rebels
382	1991-03-16	GA	Manpads attack against a Trans Afrique Airlines plane by UNITA
383	1991-03-27	HI	Skyjacking of Singapore Airlines #117 by 4 Pakistani terrorists
384	1991-03-31	HI	Skyjacking of an Air Algeria plane by an Algerian
385	1991-04-03	GA	Bombing at El Alto Airport, in La Paz, Bolivia by the ELN
386	1991-04-19	SA	Bomb exploded of Air Coursier plane, in Greece; by the 17 N
387	1991-10-27	HI	Skyjacking of Aero Commander 6-90 plane in Ecuador by FARC
388	1991-10-30	SM	Foiled attack of 2 planes (Spain) by Islamic fundamentalist group
389	1991-11-09	HI	Skyjacking of an Aeroflot aircraft by 4 armed Chechen-nationalists
390	1991-11-11	GA	Armed assault at Beira International Airport by the MNRM
391	1991-12-01	SA	Bomb discovered on an Air India plane; Sikhs involved
392	1992-01-12	GA	Attack on helicopter carrying Americans, in Peru by Shining Path
393	1992-02-13	GA	Bombing at the Lima Airport main terminal by Shining Path
394	1992-02-14	GA	Bombing at the Lima Airport main terminal by Shining Path
395	1992-03-03	GA	Bombing of radar facilities at Barranquilla Airport by the CGSB
396	1992-03-13	GA	Explosion at Air France counter, at Heathrow Airport by Kurds
397	1992-03-27	GA	Armed assault on a civilian jet in Azerbaijan by local guerrillas
398	1992-03-29	GA	Bombing of Jamshedpur Airport control tower by the JTF (India)
399	1992-05-29	GA	Rocket attack on an Ariana Afghan Airlines plane by Afghans
400	1992-06-05	GA	Bombing of Medellin Airport telecommunication system by CGSB
401	1992-07-24	GA	Bombing of hanger at Jorge Chavez Int. Airport by Shining Path
402	1992-07-25	GA	Bombing of a fuel tank at Cucuta Airport, Colombia by the ELN
403	1992-08-01	GA	Bombing at Kabul Airport, Afghanistan, by Hizb-I-Islami

*Appendix B   List of 586 Terrorist Attacks Against Civil Aviation:
1931-2011*

No	Date	MO	Description
404	1992-08-26	GA	Bombing at Air France counter, at Algiers Int. Airport by the ISF
405	1992-08-27	GA	Armed assault on a Turkish Airlines flight to Jeddah by Dev Sol
406	1992-09-04	HI	Skyjacking of a Vietnamese Airlines plane by a South Vietnamese
407	1992-10-30	GA	Attack at Luanda International Airport, Angola by UNITA
408	1992-11-06	GA	Bombing by Farighan at Kotaka International Airport, Ghana
409	1992-12-04	GA	Bombing at Barrancabermeja Airport, Colombia by the CGSB
410	1992-12-04	GA	Bombing at Pereira Airport, Colombia by the CGSB
411	1992-12-04	GA	Bombing at Saravena Airport, Colombia by the CGSB
412	1992-12-04	GA	Bombing at Cucuta Airport, Colombia by the CGSB
413	1993-01-22	GA	Attack of American Airlines plane at Lima Airport by Shining Path
414	1993-03-28	HI	Skyjacking of India Airlines # 439 by a Hindu man
415	1993-04-24	HI	Skyjacking of India Airlines # 427 by a group of armed Pakistanis
416	1993-04-26	GA	Missile attack on a Kormiavia cargo aircraft by UNITA
417	1993-06-25	GA	Missile attack on a Georgian Airways plane by Abkhazian rebels
418	1993-08-16	HI	Skyjacking of a KLM flight Tunis – Amsterdam by an Egyptian
419	1993-09-20	GA	Missile attack on a Georgian Airways aircraft by Abkhazian rebels
420	1993-09-21	GA	Missile attack on a Transair Georgia plane (1) by Abkhazian rebels
421	1993-09-22	GA	Missile attack on a Transair Georgia plane (2) by Abkhazian rebels
422	1993-09-23	GA	Attack on a Transair Georgia aircraft (3) by Abkhazian rebels
423	1994-03-08	GA	Bombing at Alfonso Bonilla Airport, Cali, Colombia by the FARC
424	1994-03-09	GA	Bombing at Heathrow Airport (1) by the IRA
425	1994-03-11	GA	Bombing at Heathrow Airport (2) by the IRA
426	1994-03-13	GA	Bombing at Heathrow Airport (3) by the IRA
427	1994-04-07	GA	Missile attack killing Rwanda and Burundi Presidents (genocide)
428	1994-04-27	GA	Bombing at Jan Smuts Airport in Johannesburg, South Africa
429	1994-05-13	GA	Attack at Tocache airport, Peru, by Shining Path
430	1994-07-17	GA	Bombing of Puerto Asis runway, Colombia by Left-wing Guerrillas
431	1994-07-17	GA	Bombing Villa Garzon's control tower by Left-wing Guerrillas
432	1994-07-19	SA	Bomb exploded on an Alas Chiricanas Airlines plane (Panama)
433	1994-09-09	GA	Assault on a Cessna aircraft, in Cambodia by the Khmer Rouge
434	1994-10-25	HI	Skyjacking of a Russian Yak-40 by Chechen rebels
435	1994-11-03	HI	Skyjacking of SAS # 347 to Oslo,by a Bosnian refugee
436	1994-11-14	HI	Skyjacking of an Algerian plane, diverted to Majorca, Spain
437	1994-12-11	SA	Bomb exploded on board Philippine Airlines # 434, by al Qaeda
438	1994-12-24	HI	Skyjacking of Air France # 8969,by the Armed Islamic Group
439	1995 Jan.	SM	Foiled AQ "Operation Bojinka" to attack multiple US planes
440	1995-02-21	GA	Attack on an Airlink Turboprop plane, Papa New Guinea by rebels
441	1995-04-10	SM	Foiled attack to crash an aircraft into CIA HQ (Ramzi Yousef)
442	1995-04-28	GA	Missile attack on a Helitours aircraft (1) by the LTTE
443	1995-04-29	GA	Missile attack on a Helitours aircraft (2) by the LTTE
444	1995-06-05	GA	Bombing at the Katanayake Int. Airport, Sri Lanka by the LTTE
445	1995-06-21	HI	Skyjacking of an All Nippon Airways plane by a Japanese assailant
446	1995-08-03	HI	Skyjacking of a Trans Avia Russian cargo aircraft by Talibans
447	1995-08-24	HI	Skyjacking of Pakistan International Airlines plane by 3 assailants
448	1995-09-03	HI	Skyjacking of an Air Inter flight by an Anti-Nuclear group

No	Date	MO	Description
449	1995-09-06	GA	Bombing at the Faca Int. Airport, Polynesia, by an Anti-Nuclear Gr
450	1995-09-21	HI	Skyjacking of an Ariana Airline plane, in Kandahar by Talibans
451	1995-10-28	GA	Attack on Calamar Airport, Colombia by Left-wing Guerrillas
452	1996-03-08	HI	Skyjacking of Cyprus-Turkish Airlines #7 by a Turkish-Chechen
453	1996-03-24	HI	Skyjacking on Sudan Airways plane by 2 Sudanese oppositionists
454	1996-06-04	GA	Attack on Arimco Mining Corp. helicopter, in Philippines by NPA
455	1996-06-06	GA	Explosion at Lusaka Airport in Zambia, by The Black Mambas
456	1996-07-20	GA	Bombing at terminal, at Reus Airport in Tarragona by the ETA
457	1996-08-27	GA	Bomb explosions by FLNC at car rental offices, Figari Airport
458	1996-09-24	HI	Skyjacking of a plane in Afghanistan; likely by Taliban supporters
459	1996-10-30	GA	Attack on Houari Internat. Airport in Algiers by Islamic militants
460	1996-11-20	GA	Failed bombing on arrivals area in Manila Airport, Philippines
461	1997-01-06	GA	Attack on Barajas Airport, Madrid, by the ETA
462	1997-02-12	GA	Bombing aimed at Colombian President's plane, Barranquilla Airp.
463	1997-10-01	GA	Failed bomb attack at Havana's Int. Airport by Anti-Castro group
464	1998-02-02	GA	Attack on a cargo airplane hold at Tokyo's Narita Airport
465	1998-02-24	HI	Skyjacking of a Turkish Airlines plane by a Turkish lone hijacker
466	1998-03-12	HI	Skyjacking of a Cessna aircraft in Palmerito, Colombia by FARC
467	1998-05-24	HI	Skyjacking of Pakistan Airlines # 554 to Karachi by 3 Pakistanis
468	1998-08-02	HI	Skyjacking of a Blue Airlines plane by Congolese Rebels
469	1998-08-04	HI	Skyjacking of an Air Atlantic cargo plane by Congolese rebels
470	1998-09-02	GA	Attack by UNITA on Permtransavia aircraft departing from Luanda
471	1998-09-14	HI	Skyjacking of Turkish Airlines #145 by a single gunman
472	1998-09-29	GA	Attack by the LTTE on Lion Air # 602 in Sri Lanka
473	1998-09-29	GA	Attack on Amalfi Airport, Colombia, by ELN
474	1998-10-10	GA	Attack on a Lina Congo plane, in Kindu, Congo, by Tutsi terrorists
475	1998-10-26	SM	Foiled attack set to crash plane into Ataturk mausoleum, Ankara
476	1998-10-27	GA	Attack on a helicopter in Orito, Colombia, by the FARC
477	1998-10-29	HI	Skyjacking of Turkish Airlines # 487 by a PKK member.
478	1998-12-14	GA	Attack on a Khors Air Company plane in Angola by UNITA,
479	1998-12-26	GA	Attack on a UN C-130 aircraft near Vila Nova, Angola by UNITA
480	1999-01-02	GA	Attack on a UN C-130 aircraft in Huambo, Angola by UNITA
481	1999-03-05	HI	Skyjacking of a Askhab Airlines aircraft to kidnap Russian general
482	1999-04-09	HI	Political assassination of Niger president at Niamey Airport
483	1999-04-12	HI	Skyjacking by ELN of an Avianca aircraft, near Simitri, Colombia
484	1999-05-03	GA	Attack at Huambo Airport, Angola, by UNITA
485	1999-05-12	GA	Attack on a Avita Servicos Aéros aircraft in Angola, by UNITA
486	1999-06-15	GA	Attempted attack at Jalalabad Airport, Pakistan, by Pakistanis
487	1999-06-30	GA	Attack on a aircraft in Capenda-Camulemba, Angola, by UNITA
488	1999-07-01	GA	Attack on a Russian aircraft by UNITA
489	1999-07-30	HI	Skyjacking of Venezuelan Aviones de Oriente aircraft by FARC
490	1999-10-26	HI	Skyjacking attempt of a Iran Air plane by a member of MEK
491	1999-10-31	GA	Attack at Camilo Daza Airport, Colombia, by ELN
492	1999-11-02	HI	Skyjacking by FARC of a Bell helicopter at Panama Airport (1)
493	1999-11-02	HI	Skyjacking by FARC of a Bell helicopter at Panama Airport (2)

No	Date	MO	Description
494	1999-12-24	HI	Skyjacking of Indian Airlines # 814 from Nepal by Pakistanis
495	2000-02-07	HI	Skyjacking of Ariana flight 805 by Afghan nationals. Flown to UK
496	2000-02-16	GA	Attack at Urrao Airport, Colombia by the FARC
497	2000-03-14	GA	Attempted attack at Salle Airport, Nepal by Nepalese Maoist
498	2000-03-30	GA	Attack at Kassala airport, Sudan by Sudanese rebels
499	2000-05-03	GA	Attack at Cotabato Airport, Philippines by Muslim guerrillas
500	2000-07-18	GA	Bombing at Cape Town Airport, South Africa
501	2000-08-01	GA	Wamena Airport takeover in Indonesia by the Papua Task Force
502	2000-08-18	HI	Skyjacking of an Azerbaijani Airlines plane by a former politician
503	2000-09-14	HI	Skyjacking of a Qatar Airways flight
504	2000-09-16	HI	Skyjacking by IFM of Solomon Airlines aircraft, Solomon Islands
505	2000-10-14	HI	Skyjacking of Saudi Arabian Airlines # 115 leaving Jeddah,
506	2000-11-11	HI	Skyjacking of Vnukovo Airlines # TU-154 in Dagestan
507	2000-11-17	HI	Skyjacking of a Vietnamese-American chartered aircraft
508	2000-12-04	GA	Attack by Hutu Rebels Sabena # 877, Bujumbura Airport, Burundi
509	2000-12-18	GA	Attack by GAM on a aircraft at Lhokseumawe Airport, Indonesia
510	2000-12-28	GA	Attack by UNITA rebels at Benguela Airport, Angola
511	2000-12-30	GA	Bombing at Manila Int. Airport, Philippines by Jemaah Islamiyah
512	2001-01-16	GA	Attack at Srinagar Airport, India by Lashkar-e-Taiba
513	2001-03-15	HI	Skyjacking of a Vnukovo Airlines aircraft by Chechen rebels
514	2001-07	GA	Foiled attack aimed at Los Angeles Airport in 1999 (A. Ressam)
515	2001-07-01	SM	AQ foiled attack to crash an helicopter on the US Embassy in Paris
516	2001-07-24	GA	Suicide attack at Colombo-Bandaranayke Airport by the LTTE
517	2001-07-27	GA	An ETA car bomb was defused at Malaga Airport
518	2001-08-02	GA	An IRA car bomb was defused at Belfast Int. Airport
519	2001-08-27	GA	An ETA car bomb exploded at Madrid-Barajas Int. Airport
520	2001-09-11	SM	9-11 attacks: American Airlines Flight 11, WTC north tower
521	2001-09-11	SM	9-11 attacks: United Airlines Flight 175, WTC south tower
522	2001-09-11	SM	9-11 attacks: American Airlines Flight 77, Pentagon
523	2001-09-11	SM	9-11 attacks: United Airlines Flight 93, Shanksville, PA
524	2001-11-23	GA	Airport attack & ground sabotage of a helicopter in Surkhet, Nepal
525	2001-11-25	GA	Airport attack in Phaplu, Nepal by 600 communist party members
526	2001-12-22	SM	Failed attack "Shoe Bomber" on American Airlines #63
527	2002-01-07	GA	Thwarted ground attack at Rangoon airport when RPGs are found
528	2002-02-03	GA	Airport tower attack in Lukla, Nepal where rebels threw grenades
529	2002-02-17	GA	Airport attack in Sanphebaga, Nepal that killed 27 policemen
530	2002-02-18	GA	Thwarted airport attack in Karachi, Pakistan when RPGs are found
531	2002-02-20	HI	FARC guerrillas hijacked a plane, kidnapped senator in Columbia
532	2002-04-29	GA	Airport attack in Khotang, Nepal where rebels bombed the tower
533	2002-07-04	GA	Airport attack of El Al ticket counter at Los Angeles Airport
534	2002-07-29	GA	Airport attack thwarted when explosives found on runway - FARC
535	2002-08-15	GA	Ground attack downed Ukrainian cargo plane in ambush in DRC
536	2002-09-26	SA	Thwarted attack in France when explosives found in RAM plane
537	2002-09-29	GA	Airport tower attack in Phaplu, Nepal where rebels lighted it in fire
538	2002-10-17	GA	Thwarted airport attack of Royal Nepal Airliner in Rukum, Nepal

No	Date	MO	Description
539	2002-11-28	GA	Failed AQ Arkia aircraft attack in Mobassa, Kenya using RPG's
540	2002-12-14	GA	Thwarted attack at Malpensa airport in Milan when bomb defused
541	2003-02-13	HI	Thwarted attack when a live grenade is found at Heathrow, London
542	2003-02-20	GA	Airport attack in Cotabato, Philippines where a VBIED exploded
543	2003-03-04	SM	Airport lounge attack by suicide bomber in Davao, Philippines
544	2003-04-27	GA	Airport bomb attack in Cengkareng, Indonesia
545	2003-05-02	GA	Thwarted airport attack when explosives found in Jerusalem, Israel
546	2003-05-08	GA	Ground fire attack of Congolese government aircraft
547	2003-07-27	GA	Airport bomb attack by ETA in Santander, Spain
548	2004-03-21	GA	Airport attack in Chitwan, Nepal where rebels blew up the tower
549	2004-04-06	GA	Ground fire attack on airliner prior to take off from Chainpur Nepal
550	2004-08-24	SM	"Black Widow" mid-air attack of a Volgograd airliner in Russia (1)
551	2004-08-24	SM	"Black Widow" mid-air attack of a Sibir airliner in Russia (2)
552	2005-03-09	GA	Ground bomb attack near airport in Guwahati, India
553	2005-04-03	GA	Airport bomb attack in Hat Yai, Thailand killing one person
554	2005-06-10	GA	Airport bomb attack by ETA in Zaragoza, Northern Spain
555	2005-12-10	GA	Airport attack thwarted when 2 RPGs found near Santander, Spain
556	2006-04-14	GA	Airport attack thwarted when IED found in Biarritz Airport, France
557	2006-07-08	GA	Airport attack using RPG in Rafah, Israel
558	2006-08-10	SM	"Liquids and Gels" plot thwarted when UK arrest eight men
559	2006-12-30	GA	Airport bomb attack by ETA in Madrid airport garage, Spain
560	2007-06-29	GA	Airport attack using RPGs against Ivory Coast government aircraft
561	2007-06-30	GA	Airport attack by 2 al-Qaeda operatives in Glasgow, Scotland
562	2007-08-18	HI	Failed attack when passengers & crew escaped in Antalya, Turkey
563	2007-12-27	GA	Ground attack was able to down a Sudanese government plane
564	2008-03-10	GA	Airport attack aimed at tower and using RPGs in Panjgur, Pakistan
565	2008-08-11	GA	Ground small arms attack of a UN helicopter
566	2008-11-13	GA	Airport attack using RPGs at Saido Sharif airport (Swat), Pakistan
567	2008-11-15	GA	Airport IED failed attack on the runway of Jolo airport, Philippines
568	2008-12-02	GA	Airport attack using RPGs in Peshawar, Pakistan
569	2008-12-28	GA	Airport bomb attack in Katmandu International airport, Nepal
570	2009-03-15	GA	Ground Manpads attack downed plane leaving Entebbe, Uganda
571	2009-05-11	GA	Ground attack RPG fired at a helipad in Landi Kotal, Pakistan
572	2009-06-12	HI	Failed attack when 6 hijackers were subdued by passengers, China
573	2009-06-19	GA	Airport attack aimed at damaging airstrip in Bakka Khel, Pakistan,
574	2009-08-26	GA	Airport RPGs attack, in Sui, Balochistan, Pakistan
575	2009-10-15	GA	Ground fire attack at airplane in Colombia by FARC
576	2009-12-25	SM	"Underwear Bomber" overpowered by passengers, Northwest 253
577	2010-04-04	GA	Airport attack by 100 militants, in Mbandaka, Congo (Kinshasa)
578	2010-07-23	GA	Airport RPGs attack, in Peshawar, Pakistan
579	2010-07-24	GA	Ground attack by storming an aircraft on airstrip, North Kivu, DRC
580	2010-09-01	GA	Ground attack by storming an aircraft on airstrip, North Kivu, DRC
581	2010-10-24	GA	Airport thwarted attack using IED on runway in Tibu, Colombia,
582	2010-10-29	SA	Mid-air thwarted attack of UPS cargo Flight 232, Midlands, UK
583	2010-10-29	SA	Mid-air thwarted attack of FedEx cargo aircraft in Dubai, UAE

No	Date	MO	Description
584	2011-01-24	SM	Airport suicide mission at Domodedovo Airport in Moscow
585	2011-02-04	GA	Airport attack by militants in Lubumbashi, Katanga, DRC
586	2011-06-09	GA	Airport attack on Heglig (Hajlij) Airport, South Kordofan, Sudan

Table B.2 shows the dates on which Conventions, Protocols, and Annex 17 were adopted and came into force. This information will give the reader a better appreciation of the context in which terrorist attacks were perpetrated.

TABLE B.2   ICAO Security Measures – Significant Dates

Title of the Legal Instrument	Adoption	In force
Tokyo Convention 1963 (Aircraft Convention)	1963-09-14	1969-12-04
The Hague Convention 1970 (Unlawful Seizure Convention, also known as Hijacking Convention)	1970-12-16	1971-10-14
Montréal Convention 1971 (Civil Aviation Convention)	1971-09-23	1973-01-26
Montréal Protocol 1988 (Airport Protocol)	1988-02-24	1989-08-06
Montréal Convention 1991 (Plastic Explosives Convention)	1991-03-01	1998-06-21
Annex 17	Adoption	In force
Annex 17, 1st Edition (Security)	1974-03-22	1975-02-27
Amendment 1	1976-03-31	1976-12-30
Amendment 2	1977-12-15	1978-08-10
Amendment 3	1978-12-13	1979-11-29
Amendment 4, 2nd Edition	1981-06-15	1981-11-26
Amendment 5	1984-11-30	1985-11-21
Amendment 6, 3rd Edition	1985-12-19	1986-05-19
Amendment 7, 4th Edition	1989-06-22	1989-11-16
Amendment 8, 5th Edition	1992-09-11	1993-04-01
Amendment 9, 6th Edition	1996-11-12	1997-08-01
Amendment 10, 7th Edition	2001-12-07	2002-07-01
Amendment 11, 8th Edition	2005-11-30	2006-07-01
Amendment 12, 9th Edition	2010-11-17	2011-07-01

Prolegomenon: Understanding the Lingua Franca[728]

The phenomenon of terrorism is highly complex and its theoretical and conceptual aspects must be well understood in order to determine where aviation terrorism fits into the grand scheme of political violence. The literature on terrorism spans different fields of study, drawing from political science, sociology, criminology, international studies, and law. Since there are so many sources and ways of regarding the phenomenon, it would be careless to embark in the study of terrorism without first developing a systematic understanding of related key definitions. In 1978, Richard Shultz offered core descriptive words on the topic and claimed that the basic terms he proposed were sufficient for conceptualizing a classificatory structure that was not too unwieldy, regardless of the fact that additional information would eventually be introduced as the result of future research and revision.[729] Unfortunately, his optimistic prediction did not pass the early examination of the literature on terrorism, which showed significant disparities in the core terminology used by leading scholars. If not explained properly, the persistent and indiscriminate use of such key terms will only continue to obscure aviation terrorism as a field of study. For example, Richardson affirms that terrorism is a tactic, not a strategy,[730] and Merrari suggests that kidnappings and hijackings are tactics, not modi operandi (MO).[731] Similarly, Dolnik purports in a single sentence that sabotage constitutes a noteworthy terrorist tactic as well as a primary mode of attack.[732] On the other hand, although Avihai refers to skyjacking, sabotage, ground assault, and flying missile as "types of attack,"[733] many other authors used the terms means, methods, or modi operandi to describe the same thing. Consequently, based mainly on the work enunciated by Shultz while also including the contribution of Crenshaw, Schmid, and Smelser,[734] a simplified chart specifically aimed at positioning aviation terrorism within the broader concept of political violence and terrorism was built. It provides for a comprehensive perspective, showing that aviation terrorism is but one of numerous tactics used by

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728. In the context of this research, lingua franca is to be understood as a language systematically used to allow an exchange of information between scientists and other scholars from different fields of study.

729. Richard Shultz, "Conceptualizing Political Terrorism: A Typology" *Journal of International Affairs,* 32:1 (Spring/Summer 1978), 7, 12.

730. Richardson, xxi.

731. Schmid, *Handbook*, 69.

732. Dolnik, 35. Mode of attack is to be interpreted as MO.

733. Avihai, 35.

734. Crenshaw, *Terrorism Context;* Schmid, *Handbook*, 2-7, 158-200; Shultz, 7-15; Smelser, 54-89.

terrorists. The classification presented in Figure C.1 is built around four concepts: Ideologies, Strategies, Tactics, and Modi Operandi.[735] The aim of this sorting is to set the stage for a better utilization of the different concepts throughout this research.

In order to efficiently build this categorization, a three-pronged authentication process was required

1. a verification and rhetorical validation of the significance of each word defining the categories was made with the help of the *Oxford English Dictionary* (hereafter *OED*)[736];
2. a review of the literature on terrorism was made to substantiate or challenge the *OED* definitions. This segment also served to gather examples of the four facets in a form that is both clear and easy to understand;
3. a wide-ranging and systematic categorisation of elements pertaining to the ideological, strategic, tactical and operational aspects were listed, and this allowed for the conception of the illustration found in figure C.1.

The results of this analysis became the groundwork for straightening out major theoretical concepts often inappropriately used by authors. Hence, this exercise also contributed to theory development.

Ideologies: The ideas behind action

The role of ideologies (or doctrines)[737] as a concept is extensively analyzed in the typological literature.[738] The word *ideology* means a systematic scheme of ideas usually relating to politics and society, or to the conduct of a class or group, and regarded as justifying actions.[739] Stepanova adds that these ideas, doctrines, and beliefs depict how an individual or group thinks and may transform these ideas into political and social plans, actions, or systems.[740] Perdue argues that the differences

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735. *OED*, definition 2, the name Modi operandi (in its singular form Modus operandi) is a Latin term meaning Methods, modes or manner of operation. In fact, it is the way in which a person goes to work. It describes the means and techniques used by terrorists during an attack. Henceforth, the acronym MO was used throughout this research. For a thorough examination of a typology of terrorism, *see* Shultz, "Conceptualizing," 7; Sarah V. Marsden and Alex P. Schmid, "Typologies of terrorism and Political Violence," in Schmid *Handbook*, 158-200.
736. *OED.*
737. *OED*, "doctrine", definition 2. b, is often used as a synonym of ideology. It signifies that which is taught or laid down as true concerning a particular subject or department of knowledge, as religion, politics, science; it is a belief, a dogma or a tenet.
738. Schmid, *Handbook*, 180.
739. *OED*, "ideology," definition 4.
740. Ekaterina Stepanova, *Terrorism in Asymmetrical Conflict: Ideological and Structural Aspects* (New York: Oxford University Press), 28.

between ideas and ideologies refer to the struggle over real influence and material power "to impose one's ways upon others against their will."[741] Applying this concept to terrorism, Bin Hassan identifies three types of terrorists based on the role that ideology plays in motivating and justifying their actions: Political Strategist (strives for power), Radical Theorist (interested by ideas), and Militant Activist (use violence as an end in itself). He argues that the "most dangerous terrorists are those who combine emotional, intellectual, and political drives."[742] On the other end, Cronin argues that it is difficult to allocate groups to concrete categories, as they may have a number of motivating ideologies.[743]

Strategies: Planning a whole campaign

A *strategy* is a "plan for successful action based on the rationality and interdependence of the moves of the opposing participants."[744] For Carl von Clausewitz, the Prussian military theorist, strategy deals with the planning of a whole campaign.[745] Schultz theorizes strategy as the overall plan for the achievement of one's goals, entailing the deployment of men, materials, ideas, symbols, and forces in pursuit of these goals.[746] Freedman describes it as being about maintaining a balance between ends (strategy), ways (tactics), and means (MO). Thus, a strategy is associated with the starting point whereas the MO is the end point. He also contends that the word strategy remains the best word there is for expressing attempts to think about actions in advance and that there is no obvious alternative words for it.[747] Neumann and Smith argue that terrorism is to be understood as a strategy, as it "relies on manipulating the psychological impact of (usually) relatively small-scale attacks."[748] Bassiouni defines terrorism as "a strategy of violence designed to inspire terror within a particular segment of a given society."[749] Schmid cautions those who are tempted to use terrorism and political violence as synonyms to avoid doing so, since terrorism is rather a sub-

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741. Purdue, 6.
742. Muhammad Haniff Bin Hassan, "Key considerations in counterideological work against terrorist ideology," chap. 22 in *Terrorism Studies: A Reader*, eds. John Horgan and Kurt Braddock (New York: Routledge, 2011), 359.
743. Audrey K. Cronin, "Behind the Curve: globalization and international terrorism," *International Security,* 27:3 (2003), 30-58.
744. *OED*, "strategy," definition 2. d.
745. Carl von Clausewitz, *On War*, ed. and trans. Michael Eliot Howard and Peter Paret (Princeton: Princeton University Press, 1984), 128.
746. Shultz, 11-12.
747. Freedman, x, xi.
748. Neumann and Smith, *Strategy of Terrorism,* 2.
749. M. Cherif Bassiouni, "Terrorism, Law Enforcement and the Mass Media: Perspectives, Problems, Proposals," *Journal of Criminal Law and Criminology*, 72:1 (1981), 1-51.

category of the latter.[750] Consequently, this research considers terrorism as a strategy.[751]

Tactics: Planning a single attack

The *OED* explains that the word "tactics" refers to the "art or science of deploying military forces in order to battle, and of performing warlike evolutions and manoeuvres."[752] From a terrorism perspective, tactics is about target selection and methods of attack. They are themselves based on two criteria: capability and motive. According to Libicki et al., capability is about the interaction between the terrorist group's resources, its assessment of the target's vulnerability, and costs associated with the attack, whereas motive covers the link between the group's strategy and its evaluation of the value of a given target as a way to meeting its objectives.[753] Alone, each criterion means nothing. It is the interaction of the two criteria that determines the likelihood of an attack. As a case in point, Flemming and Stohl give a good example of a tactic when they write that the rapidly changing technological environment affects "terrorist tactics, targets and weapons and have spawned growing discussion of a terrorist tactic called cyber terrorism."[754] Although Weinberg et al. refer to terrorism as a tactic; they also admit that their definition is so general and vague that it could be either a strategy or a tactic.[755] Therefore, taking into consideration the pros and cons of the above arguments, this research deems that the planning of attacks is a tactic when it achieves strategic objectives.

Modi operandi: Executing an attack

The method[756] or means used by terrorists to carry out an attack is called a *modus operandi* (MO).[757] Shultz categorizes the means or techniques as "any and all

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750. Schmid, *Handbook*, 5.
751. Martha Crenshaw, "The logic of terrorism: Terrorist behavior as a product of strategic choice," chap. 1 in *Origins of Terrorism: Psychologies, Ideologies, Theologies, States of Mind*, Walter Reich ed. (Baltimore, MA: John Hopkins University Press, 1998), 10; M. Cherif Bassiouni, "Terrorism Mass Media," 1-51; Richard Clutterbuck, *The Future of Political Violence* (London: Macmillan, 1986), 19-20; Francis M. Watson, *Political Terrorism: the threat and the response* (Washington: R. B. Luce Co., 1976), 1, 15.
752. *OED*, "tactics," definition 1, a. When employed as an art or science the word is often construed as singular; when carried out in practice, the plural is usually employed.
753. Libicki et al., 3.
754. Peter Flemming and Michael Stohl, "Myths and Realities of Cyberterrorism" (paper presented at the International Conference on Countering Terrorism Through Enhanced International Cooperation, Courmayeur, Italy, 22-24 September 2000), 2.
755. Weinberg et al., "Challenges Conceptualizing," 786.
756. *OED*, "method," definition 3. a, defines the way of doing anything, especially according to a defined and regular plan; a mode of procedure in any activity.

capabilities and techniques utilized within the broader strategic framework to achieve the goals projected."[758] Addressing aviation terrorism, Dempsey lists many *modi operandi,* including firing heat-seeking missiles at aircrafts, bombing aircraft or airport lounges, gunning down passengers at airports, or, as was the case on 9/11, turning aircraft into guided missiles.[759] Flemming and Stohl refer to the mode of attacks as a "process that involves acts or threats, emotional reactions and the social effects of the acts or threats and the resultant actions."[760] Douglas et al. explain that the expression "MO" is used in police work when discussing a crime and examining the methods of action used by the perpetrator to execute the crime. They also make clear that the MO is a great help when investigators try to link cases because, most often than not, the offenders leave their signature on the scene of the crime.[761] Martin introduces weaponry as another element of the terrorists' MO and an integral factor in the evaluation of ends and means.[762] Schmid concurs with this classification and gives many examples tracing the connections between strategies, tactics and MO.[763] What Clausewitz calls the *conduct of war* is similar to the term MO, which will henceforth be used to describe the terrorists' use of any given means during combat (for terrorism, the expression "*perpetration of an attack*" is appropriate).[764] Hillel Avihai,[765] who did similar research on aviation terrorism, made a compilation of eight MO historically used by terrorists to attack civil aviation. In view of the needs of the present study, these MO were gathered under four broad categories without hindering the significance of data: Ground Attacks, Hijackings, Sabotage and Suicide Missions. It is important to underline that figure C.1 is by no means exhaustive, nor does it pretend or aim to be. It only serves to put aviation terrorism in its proper context within the framework of political violence. The best way to remember the substance behind the above discussion of the four underpinnings of terrorism is to succinctly describe the action taken at each step of the process as the 4 Ps: Ponder (Ideologies); Plan (Strategies); Plot (Tactics); Proceed (MO). In military parlance, Freedman explains that, in accordance to their ideologies, governments set objectives they require their

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757. *OED*, "modus operandi," definition 5. b. The term Modus operandi is properly used by Bhavani Thuraisingham, "Selected Topics in International Terrorism and the Application of Information Technology: Volume 1: Terrorism Tactics, Trends, and Technologies," *Technical Report UTDCS-19-10* (July 2010), 31.

758. Shultz, 12.

759. Paul Stephen Dempsey, "Aviation Security: The Role of Law in the War Against Terrorism," *Columbia Journal of Transnational Law*, 41:3 (2003), 651.

760. Flemming and Stohl, "Myths Realities," 2.

761. John E, Douglas and Ann W. Burgess, Allen G. Burgess, Robert K. Ressler, *Crime Classification Manual* (Hoboken, NJ: John Wiley, 2013), 23-25.

762. Martin, *Understanding Terrorism*, 337.

763. Schmid, *Handbook*, 74.

764. Clausewitz, 127.

765. Avihai, 36.

generals to accomplish (strategies), then generals get their staffs (tactics) to devise campaign plans, and finally soldiers on the ground apply the orders (MO).[766] Using the 9/11 attacks as an example of the four underpinnings of aviation terrorism would result in the following: (1) Osama bin Laden and Ayman al-Zawahiri were al-Qaeda's ideologues; (2) the strategist and mastermind of the attacks was Khalid Shaikh Mohammed; (3) on a tactical level, the spearhead of the operation in the US and leader of the 9/11 suicide missions was Mohammed Atta helped by Ramzi bin al-Shibh, the coordinator; (4) and the 19 attackers were the soldiers executing the attacks.[767]

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FIGURE C.1   The Four Underpinnings of Terrorism [768]

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766. Freedman, *Strategy,* xii-xiii.
767. On the ideologues, *see* Wright; On the strategists, *see* Richard Miniter, *Mastermind: The many faces of the 9/11 architect Khalid Shaikh Mohammed* (New York: Sentinel, 2011); On the tacticians and soldiers, *see* Terry McDermott, *Perfect Soldiers: The Hijackers: Who They Were, Why They Did It* (New York: Harper Collins Publishers, 2005).
768. The author built fig. C.1 with information mainly gathered from the work of Crenshaw, *Terrorism Context*; Freedman, *Strategy*; Schmid, *Handbook*; Schultz "Conceptualizing;" and Clausewitz, *On War*.

A rigorous process was followed to determine which characteristics would define aviation terrorism the best. The first step was to search for an existing definition of aviation terrorism. When no acceptable definition was found, the second step was finding a proper definition of terrorism, one that could serve the needs of the present research. When none was ultimately found, the next step was identifying characteristics that would help describe aviation terrorism the best.

Terrorism Definition:
1. Literature review to find terrorism and aviation terrorism definitions;
2. A total of 351 definitions selected from two sources: Schmid, *Handbook*, 262; Thackrah, 89;
3. A total of 51 duplicates were found and withdrawn, leaving 300 definitions
4. An analysis of all 300 definitions identified the main variables;
5. 113 definitions (67 from Schmid, *Handbook;* 46 from Thackrah) were selected as well as 27 variables;
6. Next step allowed reducing to 26 definitions while 26 variables were kept;
7. Variables were streamlined, ideas were merged and axioms were developed;
8. Eight case studies were chosen to test 10 axioms and 30 variables;
9. Another analysis was done to see if terms were universal, neutral, and meaningful;
10. Selected a terrorism definition since no aviation terrorism definition was found.

Aviation Terrorism Definition:
1. Adapted variables to aviation terrorism (add specificity);
2. Evaluated consistency, coherence, and neutrality;
3. Developed new variables adapted to civil aviation;
4. Shaped a first draft of an aviation terrorism definition;
5. Compared it to Avihai's definition;
6. Refined the shaped definition;
7. Created ten independent axioms for aviation terrorism;
8. Created three variables for each axiom to better explain the variables;
9. Created figure to verify interactions between different axioms and variables;
10. Finalized the shaped definition to be used throughout this research.

Selected definitions by key words in ranking order

The names of the authors are highlighted in bold while the variables are in italicized characters. The number of variables contained in each definition is placed in bracket after the author's name.

1. ***Schmid and Jongman, 1988 (17).*** Terrorism is an *anxiety-inspiring* method of *repeated violent* action, employed by *(semi-) clandestine* individual, group, or state actors, for idiosyncratic, criminal, or *political* reasons, whereby – in contrast to assassination – the direct *targets of violence* are not the main targets. The immediate human victims of violence are generally chosen *randomly* (targets of opportunity) or selectively (representative or *symbolic targets*) from a target population, and *serve as message generators*. Threat- and violence-based communication processes between *terrorist (organization), (imperilled) victims*, and main targets are used to *manipulate the main target (audience(s),* turning it into a *target of terror*, a *target of demands*, or a *target of attention*, depending on whether *intimidation, coercion,* or *propaganda* is primarily sought. (Schmid *Handbook*, 129-130).

2. ***Tinnes, 2010 (11).*** Terrorism is a *communication strategy* (Communicating a Message) of *sub-state actors* (Non-State Actors) that, by its asymmetrical, *systematically* (Systematic) *planned* (Premeditated) *unpredictable* (Terror Campaign) *violence* (Violence) against *targets* (Distant Audience) selected *arbitrarily* (Indiscriminate Selection) or for their *symbolic* (Symbolic Victims) value (including *civilians*), (Civilians) is meant to create a mood of extreme *fear* (Fear) or insecurity in the civilian population. By means of *psychological manipulation*, (Psychological Effects) maximum pressure is meant to be created in order to *bring about a desired reaction* (coerce). (Seeking Reaction) (Schmid *Handbook*, 148).

3. ***Wilkinson, 1992 (10).*** The *systematic* and *premeditated* use of *violence* to create a climate of extreme *fear* for *political* purposes. It is violence directed at a *wider audience* – a wider target – than the immediate victim of the violence. As a consequence of the wider targeting, it inevitably involves *random* and *symbolic* targets that include *civilians*. It involves extra-normal means in a quite literal sense, which is to say, a *deliberate* violation of the norms of society regarding conflicts and disputes and political behaviour to create the impact of fear and exploitation of that fear for the terrorists' ends. (Schmid *Handbook*, 133).

4. ***Romansheim, 2006 (9).*** Terrorism is a *non-state actor's systematic* use – threat of use – of *violence* and destruction towards illegitimate targets such as *non-combatants* to create *fear* and/or *generate attention* and to make *someone other than the direct target* of the violent crime *respond* in a manner that would enhance the terrorists' *political goals*. (Schmid *Handbook*, 146).

5. ***Lewis, 2005 (9).*** Terrorism is a form of *violent* assault which targets *civilians* and *civilian infrastructure* in order to create *fear* and *insecurity* in enemy populations and governments. Terrorism is *politically* motivated and is designed to *communicate the cause* of the *perpetrators* to their enemies and potential affiliates. It is a form of political violence which may be exercised by governments, government agents, sub-national and transnational organizations. As a cultural conduit and bearer of information, the *global networked media* (wider audience) is profoundly implicated in modern terrorism. (Schmid *Handbook*, 145).

6. ***Moghadam, 2006 (8). Premeditated violence***, or threat of violence, in the pursuit of a *political* aim, perpetrated by *groups* against *non-combatant* targets, and aimed at *influencing* a *wider audience* through the creation of *fear*. (Schmid *Handbook*, 146).

7. ***Richardson, 2006 (8).*** Terrorism simply means *deliberately* and *violently* targeting *civilians* for *political* purposes: (1) The act is politically motivated; (2) If the act does not involve violence or the threat of violence, it is not terrorism; (3) The point of terrorism is not to defeat the enemy but to send a *message*; (4) The act and the victim usually have *symbolic* significance; (5) The act is done by *sub-states groups,* not states; (6) The victim of the violence and the *audience* the terrorists are trying to reach are not the same; (7) The act is the deliberate targeting of civilians. (Schmid *Handbook*, 147).

8. ***US State Department, 1999 (8).*** Terrorism means *premeditated, politically* motivated *violence* perpetrated against *non-combatant* targets by *subnational groups* or *clandestine* agents, usually intended to *influence* an *audience*. The term "international terrorism" means terrorism involving citizens or the territory of more than one country. The term "terrorist group" means any group practising, or that has significant subgroups that practice, international terrorism. (Schmid *Handbook*, 138).

9. ***Drake 1998 (8).*** the *recurrent* use or threatened use of *politically* motivated and *clandestinely* organised *violence*, by a *group* whose aim is to *influence* a *psychological* target in order to *make it believe* (target of terror) in a way which the group desires. (Thackrah, 2004, 67).

10. ***Crelinsten, 1992 (8)***. Terrorism is the combined threat and use of *violence*, *planned* in *secret* and executed without warning, that is directed against one set of *targets (the direct victims)* in order to *coerce* compliance or to compel allegiance from a second set of *targets (targets of demands)* and to *intimidate* or to impress a *wider audience (target of terror or target of attention).* (Schmid *Handbook*, 132).

11. ***Thackrah, 1987 (8).*** Terrorism is an *organised* system of extreme and *violent* intimidation to create *instability* within democracies. International terrorists seek to launch *indiscriminate* and *unpredictable* attacks on groups (police, army, multinationals or nations) to *change the politico*-economic *balance of the world.* (Thackrah, 2004, 70).

12. ***Jackson, 1991 (7).*** a) Terrorism is any *organised* set of acts of *violence* designed to create an atmosphere of despair or *fear* to shake the faith of ordinary citizens in their *government* and its representatives to destroy the structure of authority which normally stands for security or to reinforce and perpetuate a governmental regime whose popular support is shaky; b) Terrorism is a method of combat in which random or *symbolic* victims serve as an instrumental *target of violence*. These instrumental victims share group or class characteristics, which form the basis for their *selection for victimization*. (Schmid *Handbook*, 132).

13. ***Watson, 1976 (7). Political*** terrorism can be defined as a strategy, a method by which an *organised* group or party *tries to get attention for its aims* or *force concessions* toward its goals, through the *systematic* use of *deliberate violence*. (Thackrah, 2004, 71).

14. ***Addicott, 2009 (6)***. If a universal definition is not practicable, one can at least list four key characteristics of terrorism that better reflect the activity: 1) the illegal use of *violence* directed at *civilians* to produce *fear* in a *target group*; 2) The continuing threat of additional future acts of violence; 3) A predominantly *political* or ideological character of the act; 4) The desire to mobilize or immobilize (*influence*) a given target group. (Schmid *Handbook* , 148).

15. ***Neumann, 2009 (6)***. "Terrorism is the *deliberate* creation of *fear*, usually through the use (or threat of use) of symbolic acts of *violence* to *influence* the *political* behaviour of a *target audience*." (Schmid *Handbook*, 148).

16. ***McPherson, 2004 (6)*** D*eliberate* use of *force* against *non-combatants,* which can reasonably be expected or cause *wider* (distant audience –target of terror) and warranted *fear* among them, for *political* ends. (Schmid *Handbook*, 144).

17. ***Combs-Slann, 2003 (6)*** …a synthesis of war and *theater*, a dramatization of the most proscribed kind of *violence* – that which is perpetrated on innocent *victims* – played before an *audience* in the hope of creating a mood of *fear* for *political* purposes. (Schmid *Handbook*, 141).

18. ***Malik, 2000 (6)*** …the *deliberate* creation and exploitation of *fear* through *violence* or the threat of violence in the pursuit of *political* change. All terrorist acts involve violence or the threat of violence. Terrorism is specifically designed to have far-reaching *psychological effects beyond the immediate victim(s)* or object of the terrorist attack. (Schmid *Handbook*, 139).

19. ***Hess, 1981 (6).*** By terrorism, one means a *series of intentional* acts of direct, *psychological violence*, which at indeterminable (unpredictable) points but nevertheless *systematically*, with the aim of psychic effect, are conducted within the framework of a *political* strategy. (Thackrah, 2004, 68).

20. ***Heyman, 1980 (6).*** Terrorism is the use or threat of extraordinary *political violence* to induce *fear*, *anxiety* or alarm in a *target audience* wider than the immediate *symbolic* victims. Terrorism is violence for political effect as opposed to military impact. (Thackrah, 2004, 68).

21. ***Hamilton, 1978 (6).*** Terrorism consists of *planned* acts of *violence* employed for explicitly *political purposes* directed *against an established state or organizational* power; and involving a relatively small number of *conspirators*. (Thackrah, 2004, 68).
22. ***Netanyahu, 1986 (5).*** Terrorism is the *deliberate* and *systematic* assault on *civilians* to inspire *fear* for *political* ends. (Thackrah, 2004, 69).
23. ***Mickolus, 1980 (5).*** The use or threat of use, of *anxiety-inducing* extra-normal *violence* for *political purposes* (target of terror) by any *individual or group*. (Thackrah, 2004, 69).
24. ***Karanovic, 1978 (5).*** Terrorism may be defined as *systematic* and *organised violence* against non-resisting persons to create fear in them for the purpose of retaining or *gaining governmental authority*. (Thackrah, 2004, 68).
25. ***Paust, 1977 (5).*** Terrorism involves the *intentional* use of *violence* or the threat of violence by the *precipitator* against an *instrumental target* in order to *communicate* to a primary target a threat of future violence. (Thackrah, 2004, 69).

Added definitions by key words

Smelser (2007) (9). Terrorism: *intended*, irregular acts of *violence* or *disruption* (or the threat of them) carried out in *secret* with the effect of generating anxiety in a group and with the further aim, via that effect, of exciting *political response* or *political change*.

US Patriot Act (2001) (9). [An] act of terrorism means any activity that (A) involves a violent act or an act dangerous to *human life* that is a violation of the criminal laws of the United States or any State, or that would be a criminal violation if committed within the jurisdiction of the United States or of any State; and (B) appears to be intended (i) to *intimidate* or *coerce a civilian population* (ii) to *influence* the policy of a *government* by intimidation or coercion; or (iii) to affect the conduct of a government by assassination or kidnapping.

Avihai (2006) (8). Aviation Terrorism is a *deliberately violent* act, sometimes *indiscriminate*, aimed at a *commercial/civilian aircraft* and/or against passengers and/or crew on board, conducted by *individuals, clandestine* agents or *sub-national* groups in order to promote general *political* objectives but not to fulfill personal benefits exclusively.

Hoffman (1998) (8). Terrorism is ineluctably *political* in aims and motives; violent– or, equally important, threatens violence; designed to have *far-reaching psychological* repercussions beyond the *immediate victim* or target; conducted by an *organization* with an identifiable chain of command or conspiratorial cell structure (whose members wear a uniform or identifying insignia); and perpetrated by a subnational group or *non-state entity.*

Duchesneau (2014) (11). *Aviation* terrorism is a *political* act carried-out by *non-state actors* who *systematically target civilians* and *intentionally* use *violence* in order to create *terror* and, at times, make *demands* to *coerce authorities.*

The main objective of ATSD is to have the most coherent and comprehensive global picture of the phenomenon possible. While it is crucial to select cases on the basis of a strict interpretation of definitions, research should always lean on the side of inclusiveness rather than the opposite. Excluding terrorist attacks from the ATSD because of the thin-line between conspiring to commit an attack and proceeding with it should not preclude one from considering the malicious intent of terrorists. Leaving plots, foiled, thwarted, or failed attacks out of the aviation terrorism equation would be a major shortcoming in view of the fact that if terrorists had succeeded with their plans, the number of victims could have been enormous.

TABLE E.1   Examples of Plotted, Foiled, Thwarted, or Failed Attacks

Date	Description	Summary
1994-12-24	Operation Bojinka [769]	The plot was to proceed with a synchronized sabotage of twelve airliners over the Pacific Ocean
1995-10 04	Crashing aircraft on CIA HQ[770]	The Suicide mission was foiled by an FBI investigation
1986-04-17	The "Anne-Marie Murphy" case[771]	The attack was thwarted when El Al security suspected the passenger and located the explosive device. The bomb was carried by an unwitting passenger; pregnant Irish lady, Anne-Marie Murphy who had received the IED from her boyfriend
2009-12-25	The "Underwear Bomber"[772]	Umar Farouk Abdulmutallab failed to detonate a bomb aboard Northwest Flight 253 Amsterdam-Detroit when he was overpowered by passengers and crew members

769. In 1995, Operation Bojinka plot aimed at destroying several planes over the Pacific Ocean but never materialized. In preparation for this large operation a test was made with an attack on Philippine Airlines Flight 434 on 11 December 1994, killing one man and injuring six others. This attack is included in Avihai Skyjack Database, but the plot is not. *See also* FBI Documents: Congressional Testimony given by Eleanor Hill on 18 September 2002, http://fas.org/irp/congress/2002_hr/091802hill.html.
770. Lance, *1000 Years for Revenge: International terrorism and the FBI – the untold story* (New York: Harper Collins Publishers, 2004), 249. *See* Schiavo, "Chronology,*"* 238; FBI "Eleanor Hill."
771. ATSD.
772. ATSD.

Successful Attacks: Different Perspectives

A point of disagreement often exists between academics, governments, the general public, and perpetrators on what constitutes a *failed attack* versus a *successful attack* against civil aviation.[773] From a security perspective, an attack should be unequivocally considered successful when attackers succeed in going through airport security with any concealed weapon or threat object without being detected. Five reasons support the rationale of this position. These are that attackers:

1. target civil aviation and civilians (Target of Interest and Target of Choice)
2. achieve the intended purpose of causing fear to those who were on board the aircraft (Target of Violence)
3. plan to intentionally kill, injure or scare passengers in a very systematic way for political reasons (Intentionality, Violence, Systematicity and Politics)
4. have far-reaching impacts on the population around the globe as well as on the traveling public in particular (Target of Terror)
5. force governments and aviation stakeholders to react by often implementing new security measures, thereby investing substantial financial resources (Target of Demands)

Figure E.1 details the four-step process with which an attack is considered to be in one category or another. The rationale behind each step is the following:

Step 1: The conspiracy begins. (1*) Recruitment*: Qualified people are selected for the execution of the plan. (2) *Planning*: A small group of people determine the terrorist attack's DNA, or "5 W-H"—Where, When, Why, Who, What and How. (3) *Targets* are selected for their symbolic and functional value, and for the possibility of shocking the population and coercing authorities. (4) *Reconnaissance* is a preliminary survey steered by terrorists to gather vital information about their targets.

Step 2: The attack takes form. (1) *Surveillance*: this clandestine phase is done to monitor security measures and determine their possible weaknesses. It also helps decide on the modus operandi and resources needed for the attack. (2) *Logistics* is the aspect dealing with the procurement of material, facilities, weapons, safe houses and funding. (3) *Rehearsal*: these practice drills help terrorists teams test weapons and capacity. (4) *Groundwork*: although certain cell members may not know the existence of others, it is usually at this critical stage that planners and attackers are brought together to make dry runs and deepen their techniques.

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773. For example, following the failed 2010 Cargo Bomb attack the so-called masterminds published a post-incident analysis in [AQAP] "$4,200" *Inspire Magazine* (November 2010) and noted that although the authorities prevented the bombing, their attack was still considered successful due to the economic disruption it had caused.

Step 3: The attack begins. This is the *deployment* stage where planners secede with attackers who then move, on their own, to the target location. This is when the attack is considered to be in the execution phase.

Step 4: The decisive moment. The *attack* is deemed completed at this stage unless the attacker is confronted with unexpected events. The delineation of attack is important because: (1) the intent to carry an attack is based on facts and action; (2) terrorists' level of participation in an attack is a main factor in sentencing.

FIGURE E.1   Terrorist Attack Escalation Process Flowcharts[774]

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774. Inspired by "The Terrorist Attack Cycle," *Stratfor Global Intelligence* (9 Nov. 2011).

GACID and ATSD: Methodology

As explained in chapter 3, GACID reconciled 6,918 criminal aviation entries extracted from seven source lists of aviation terrorist attacks into a 1965-incident database covering the 1931-2011 period. ATSD was generated from GACID and includes 586 terrorist attacks against civil aviation. This annex is a user manual for GACID/ATSD providing explanations on how to use the databases and details how each data categories work. GACID and ATSD were compiled in a Microsoft Excel document. This software was chosen due to its features and universality. Although one does not need to be familiar with Excel to consult the database, a basic knowledge of the software simplifies its use. For instance, each column includes a "Data Filter" allowing the user to easily find a specific set of information.

Sheets

The Excel document includes five sheets respectively entitled:
1. *Databases*: GACID and ATSD
2. *GACID Statistics*: compilation of GACID statistics
3. *ATSD Statistics*: compilation of ATSD statistics
4. *Terrorist Groups Breakdown*: statistic breakdown on terrorist groups
5. *Regional Breakdown:* regional statistics breakdown

Automated Statistics

The Excel sheets are entirely automated. Any changes made to the Databases sheet is automatically reflected in the statistic included in the four other sheets.

Rapidity

The document contains several thousand Excel functions. This implies that these functions recalculate their results every time the Excel document is opened, the "Databases" sheet is modified, or a "Data Filter" is used. Depending on the user's computer and Excel version, such operations may take up to several minutes.

Blue Cells

Blue column headers in the Database sheet indicate that content is automatically obtained from other columns through an Excel function. As a result, data in these columns must not be manually modified.

ATSD

ASTD can be consulted by selecting "1" in the *MO - Consolidated* column.

Dates

The content of the GACID was compiled between February and April 2011. ATSD was created between October and December 2011, and subsequently perfected between April and June 2013. The final document was completed on 23 April 2015

Data

The Databases sheet includes 45 columns separated in four categories explained in depth in the next section. A bolded line demarcates each database category.

Categories Used to Answer Research Question

The following data categories were created with the explicit aim of helping to quantify specific aspects of aviation terrorism in order to answer the research question.

Start Date

This category indicates the date the incident took place or began.[775] The "Summary" column may be consulted for further details on incidents having lasted more than one day. Orange cells indicate a terrorist attack. (*See* section 3.2).

Year

This category was created as a way to facilitate the compilation of statistics by year.

Numerical Index

This category was created as a way to facilitate the compilation of number of incidents.

Modus Operandi

Below are the definitions of each MO included in the database as reported in Chapter 3.

Ground Attacks

An *airport attack* targets airport installations or terminals such as tarmacs, gates, waiting areas, restrooms, parking lots, and airline counters. A *ground attack* is an attack launched from the ground against an aircraft, be it gated, taxiing, taking off, landing, or flying at high altitudes. Ground attacks can be conducted using guns, grenades, rocket-propelled grenades (RPGs) or man-portable air-defence systems (Manpads), or any other weapon. For the purpose of the ATSD, these two MO were grouped into a single category.

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775. Discrepancies between sources were common regarding the date(s) of incidents. In such cases, common sense or further research were used to settle on a date.

Hijackings

A *hijacking* is an unlawful act of seizure or the wrongful exercise of control, by force or violence or threat of force or violence, or by any other form of intimidation, and with wrongful intent, of any aircraft. The aircraft must be in an in-flight status, which begins when the doors to the aircraft are closed, thus a hijacking can occur on the ground. A *commandeering* is a different type of hijacking that occurs when an aircraft is attacked on the ground while its doors are still open. For the purpose of the new database, these two MO were also grouped into a single category.

Sabotage

An act of *sabotage* occurs when an explosive device is triggered from within an aircraft, be it on the ground or flying, with the intention of causing malicious or wanton destruction of property, endangering or resulting in unlawful interference with civil aviation (explosives can either be packed in a checked baggage or abandoned by a passenger after leaving a flight). For the purpose of this database, incidents in which luggage or parcels containing explosive devices were intercepted were considered as "sabotage." Incidents including the use of small or fake explosives (e.g. grenades) for hijacking purposes were considered as hijacking rather than sabotage.

Suicide Missions

A *suicide mission* is an attack in which an individual or a group of individuals intentionally commits suicide to destroy an aircraft or an aviation installation, with the objective of killing people. When an aircraft is involved, a suicide mission must use another MO as a vehicle for the suicide (e.g. hijacking, commandeering, sabotage, etc.).

MO - Consolidated

Combinations of several MO were used in the classification process. For instance, an individual may have conducted a ground attack and subsequently committed a commandeering to escape. Such an incident would have then been classified as Ground Attack, Commandeering in the MO category. In the case of such combinations, the first MO mentioned was deemed to be the most prominent. But such combinations were problematic for statistic analysis because the four original MO resulted in twelve different MO combinations. For the purpose of obtaining relevant and meaningful statistics, the MO – Consolidated category was created to bring back MO combination to a single MO: the most prominent one.

Intent

As described in Chapter 3, this category is fundamental to GACID since it allowed the creation of ATSD. Four sub-categories were created in order to classify the intents of perpetrators. The following numbers were used to substitute the intents in the database:

1. ***Terrorism***
   An incident was classified in the "Terrorism" category if it was driven by political objectives. Such intents include but are not limited to making political or religious claims, broadcasting a political cause, or demanding the release of political prisoners.[776]

2. ***Criminal/Personal***
   Usual "Criminal/Personal" intents include the need for transportation and ransoms.

3. ***State***
   Used when sufficient details were available to demonstrate state involvement.

4. ***Unknown***
   Used when sufficient details were not available in the compiled "Summary of Incidents."

Motive – Consolidated

This category has the same purpose as MO – Consolidated. Combinations of intents were used for several incidents but were consolidated in the same way as MO in order to obtain relevant statistics.

Fatalities

This category provides the total number of people killed in an incident, including perpetrators, crew members, and people on the ground. There were several discrepancies between the various databases used regarding the number of fatalities in specific incidents. In such cases, precedence was always given to the lowest number.

Terrorist Group

Every *Terrorist Group* that has perpetrated more than one attack was included in the list. In order to facilitate the classification of data, a number was assigned to each terrorist group. Section 4 of this annex provides a table of the 75 listed terrorist groups along with their assigned number in the database, their acronym, and their main country/region of operations. Incident descriptions had to clearly mention the group suspected or claimant group in order for it to be attributed.

Summary

The information provided in the *Summary of Incident* was copied from the source lists. The acronym of the database used (*see* table 3.2) is always mentioned at the very beginning of the summary. In some cases, supplemental information was added at the end of the summary, when further research had to be conducted.

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776. Note that in some cases, demands that prisoners be released may also be made for personal motives.

Other Main Categories

Injuries

This category provides the total number of people injured in an incident and was compiled in exactly the same way as the *Killed* category.

Total – Fatalities + Injuries

This category gives the sum of the total numbers of *Fatalities* and *Injuries* during an incident.

Result

Success was assessed based on aviation security according to the following code numbers: (1) Successful, (2) Aborted/Failure. Incidents were deemed *successful* as soon as attackers were able to successfully launch their assault by breaching aviation or airport security measures. Below are details as to how the *Result* of the incidents was classified for each category.

Ground Attacks

Ground Attacks were simple to classify since the mere launch of a projectile against an aircraft was considered as *Successful*. The classification of airport attacks was more contentious given that airports have both public and secure areas. Contrary to explosives planted in secure airport areas, explosives left in airport parking lots do not challenge airport security. The following table explains how such classification was made:

TABLE F.1   Airport Attacks Classification

Airport Attack - Explosive Devices		
	Secure Areas	**Public Areas**
Found before explosion	Successful	Aborted/Failed[777]
Exploded	Successful	Successful

In cases in which there were no mentions of public or secure areas in incident descriptions, incidents were deemed to have occurred in public areas. It is also important to mention that incidents were considered successful if a terrorist group called authorities to inform them that a bomb they had planted was about to explode allowing time to defuse the device.

Hijackings

Hijackings were considered successful as soon as a perpetrator was able to claim that he/she was hijacking a plane using a weapon the/she had successfully smuggled aboard. Hijackings were also deemed *Successful* if perpetrators committed their crime using plastic spoons, fake explosives, or unarmed, and were

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777. Explosive devices found in restrooms are deemed public area restrooms.

immediately subdued. As for commandeering, attempts were considered *Successful* or *Aborted/Failure* depending on the circumstances (e.g. stolen aircraft, hostages).

Sabotage

The only cases in which *Sabotage* was considered *Aborted/Failure* was when explosive devices were actually intercepted, either by security mechanisms or passenger vigilance, before they reached an aircraft.

Suicide Missions

The result of Suicide Missions depended mostly on the MO used for the incident and thus on the aforementioned definition.

Coordinated Attack

Incidents were deemed as "Coordinated Attacks" if they: (1) targeted more than one physical target, (2) were carried out by the same individual or group, and (3) were carried out within a seven days of each others. It is important to note that the database only took into consideration aviation incidents coordinated with other aviation incidents. For instance, an aviation incident may have been carried out in coordination with a "non-aviation" terrorist attack. Attempted incidents having been foiled by authorities have been counted as a single incident in the database.

Suicide Missions with Deliberate Crashing into Target

This category refers to suicide missions that deliberately crashed or attempted to crash an aircraft into a target.

American or Israeli Target for Terrorist Attacks

Since the author noticed that a large amount of incidents had targeted American or Israeli interests during the data collection process, this category was created to better gauge their impact. Only terrorist attacks were assessed.

Hijacking for Transportation Purposes

Since 1931, hundreds of people have hijacked aircrafts in order to leave or enter a specific country. Generally speaking, the author noticed during the data compilation that trends in hijackings seemed to have been linked to specific regional historical periods. A category for *Hijacking Motives for Transportation Purposes* was thus created to gather data on the topic, according to the following code numbers referring to Transportation/Political Asylum:

1. to/from Cuba
2. to/from Eastern Bloc
3. to/from China
4. to/from North Korea
5. to/from Iran
6. to/from Vietnam
7. to/from Libya
8. to/from Afghanistan
9. to/from Haiti

Region

Geographical data were gathered by "Region" with the following code letters:

a. Africa
b. Near and Middle East
c. Asia
d. South Pacific
e. North America
f. South and Central America
g. Europe
h. Post-Soviet Region
i. Unknown

This regional classification was inspired by the one available in the 2005 edition of *État du Monde*. In addition to the map made available in the main document, a full list of countries and territories in alphabetical order with their assigned region is available in table F.4 of this appendix. Incidents were classified according to where they occurred or were prevented. In cases where incidents took place while an aircraft was en route, the city where it originated or in which it had its last layover was used as a location.

Source Lists

Categories were created to illustrate the contribution of each source lists to GACID/ATSD.

TABLE F.2   GACID/ATSD

Acronym	Name
ASD	Avihai Skyjack Database
MS	Mary Schiavo Chronology of Attacks
ASN	Aviation Safety Network
RAND	RAND Database Of Worldwide Terrorism Incidents
FT	David Gero's *Flights of Terror*
GTD	Global Terrorism Database
DP	David Phillip's *Skyjack: The Story Of Air Piracy*
FR / MEJ / WKI/PCI/OTHERS	Others

Additional Categories

The categories below were created and filled when information was available in incident summaries, with the aim of facilitating the finding of information.

- Name of the event
- Airline Flight #
- Aircraft
- Flight Origin
- Flight Destination
- Diverted to
- # Passengers
- # Crew
- # Perpetrators
- Perpetrators – Others
- Weapons Used
- Perpetrator's Demands
- Date Created
- Date Modified
- Date end
- Time End
- Model
- Tail Number

Statistics and Figures

GACID and ATSD offer almost infinite possibilities in terms of statistics. Statistics are included in two main sheets respectively titled *GACID Statistics* and *ATSD Statistics*. Below is the list of statistics included in each sheet:

GACID Statistics – All incidents

- Incidents per Year
- Incidents per MO
- Ground Attacks per Intent
- Hijacking per Intent
- Sabotage per Intent
- Suicide Missions per Intent
- Incidents per Intent
- Ground Attack Fatalities per Intent
- Hijacking Fatalities per Intent
- Sabotage Fatalities per Intent

- Suicide Mission Fatalities per Intent
- Fatalities per Intent
- Fatalities per MO
- Incidents Excluding Terrorist Intents
- Fatalities Excluding Terrorist Intents
- Injuries per MO
- Incidents per Region
- Fatalities per Region
- Hijacking destination for non-Terrorist Perpetrators
- Source Databases

ATSD Statistics - Aviation Terrorism

- Terrorist Attacks Per MO
- Terrorist Attack Fatalities Per MO
- Terrorist Attack Injuries Per MO
- Terrorist Attack Results

- Terrorist Attacks Per Region
- Coordinated Terrorist Attacks Per MO
- Terrorist Attacks Per Terrorist Groups
- Terrorist Fatalities Per Terrorist Groups

Seventy-one charts (50 for GACID and 21 for ATSD) were subsequently generated from these statistics and inserted under the statistic tables. The vast majority of these charts were used to generate figures included in chapter 3. Charts can be expanded for better viewing.

TABLE F.3   List of Terrorist Groups

Number	Name of the Organization	Acronym	Country/Regions
0	Not Applicable – Non-Terrorist	-	-
1	Popular Front for the Liberation of Palestine, (i.e.: PFLP-EO) & others	PFLP	Middle East, Worldwide
2	Popular Front for the Liberation of Palestine - General Command	PFLP-GC	Middle East, Worldwide
3	Various Palestinian groups/individuals	-	Middle East, Worldwide
4	Eritrean Liberation Front	ELF	Eritrea
5	Liberation Tigers of Tamil Eelam	LTTE	Sri Lanka
6	Sudan People's Liberation Army/Movement	SPLA	Sudan
7	Al-Qaeda and affiliated	-	Worldwide

Number	Name of the Organization	Acronym	Country/Regions
	groups/individuals		
8	União Nacional para a Independência Total de Angola	UNITA	Angola
9	Fuerzas Armadas Revolucionarias de Colombia	FARC	Colombia
10	Nepal's Maoists	-	Nepal
11	Various Filipino groups/individuals	-	The Philippines
13	Taliban and affiliated groups/individuals	-	Afghanistan
14	Various Libyan groups/individuals	-	Africa, Middle East
15	Hezbollah	-	Lebanon, Middle East
16	Abu Nidal Organization	ANO	Middle East
17	Euskadi Ta Askatasuna	ETA	France, Spain
18	Unclaimed/Unknown	-	-
19	Others, various individuals/groups	-	-
21	Ejército de Liberación Nacional	ELN	Colombia
22	Japanese Red Army	JRA	Japan, Middle East
23	Fatah/Black September	-	Middle East, Worldwide
24	Black Panthers	-	United States of America
25	Various Croatian groups/individuals	-	Europe
27	Arab National Youth Organization	ANYO	Middle East, Europe
28	Moro National Liberation Front	MNLF	Philippines
29	Amal Movement	AMAL	Lebanon, Middle East
30	Various Sikh groups/individuals	-	India, Worldwide
31	19th of April Movement	M-19	Columbia
32	Various Venezuelan groups/individuals	-	Venezuela
33	Various Chechen groups/individuals	-	Chechnya, Russia
34	Abkhazian Separatists	-	Abkhazia, Caucasus
35	Congolese Rebels/Nationalists	-	Congo Dem. Republic
37	Revolutionary People's Liberation Party-Front	Dev Sol	Turkey
38	Various Afghan groups/individuals	-	Afghanistan
39	Various Nicaraguan groups/individuals	-	Nicaragua, Central America
40	Various Puerto Rican Nationalists group/individuals	-	Americas
41	Various Brazilian groups/individuals	-	Brazil
42	Various Pakistani groups/individuals		Pakistan
43	Various African American groups/individuals		United States of America
44	Various Turkish groups/individuals		Turkey
45	Various Sudanese groups/individuals		Sudan
46	Various Argentinean groups/individuals		Argentina
47	Various Indian groups/individuals		India
48	Various Kurdish groups/individuals		Turkey, Iraq
49	Various Vietnamese groups/individuals		Vietnam
50	Zimbabwe Peoples Revolution Army	ZIPRA	Zimbabwe
51	Various Tunisian groups/individuals		Tunisia

Number	Name of the Organization	Acronym	Country/Regions
52	Various Lebanese groups/individuals		Lebanon
53	Various Italian groups/individuals		Italy, Europe
54	Various Iranian groups/individuals		Iran, Europe
56	Various Colombian groups/individuals		Colombia
59	Various Saudi Arabian groups/individuals		Saudi Arabia
60	Various Somali groups/individuals		Somalia
61	Various Burmese groups/individuals		Burma, Thailand
62	Various Algerian groups/individuals		Algeria, Europe
63	Various Cuban groups/individuals		Cuba, Caribbean, US, Central America
64	Various Japanese group/individuals		Japan
65	Armenian Secret Army for the Liberation of Armenia and affiliates	ASALA	Turkey, France, Switzerland, Europe
66	Various Guadeloupe groups/individuals		Guadeloupe
67	Red Flag		Venezuela
68	Guerrilla Army of the Poor	EGP	Guatemala
69	Shining Path		Peru
70	Irish Republican Army	IRA	Great Britain
71	Brunswijk Jungle Commando		Suriname
72	The Extraditables		Colombia
73	Tupac Amaru Revolutionary Movement	MRTA	Peru
74	Simon Bolivar Guerrilla Coordination Board	CGSB	Colombia
75	North Korea agents/government		South Korea, Asia

List of Countries and Territories with Regions

For the purposes of this research, the world is divided into 8 regions: (1) Africa, (2) Near and Middle East, (3) Asia, (4) South Pacific, (5) North America, (6) South and Central America, (7) Europe, and (8) the Post-Soviet Region.

TABLE F.4   List of Countries and Territories with Regions

Country/Area	#	Country/Area	#	Country/Area	#
Afghanistan	2	Albania	7	Algeria	1
Andorra	7	Angola	1	Antigua & Barbuda	6
Argentina	6	Armenia	8	Australia	4
Austria	7	Azerbaijan	8	Bahamas, The	6
Bahrain	2	Bangladesh	3	Barbados	6
Belarus	8	Belgium	7	Belize	6
Benin	1	Bhutan	3	Bolivia	6
Bosnia and Herzegovina	7	Botswana	1	Brazil	6
Brunei	3	Bulgaria	7	Burkina Faso	1
Burma	3	Burundi	1	Cambodia	3
Cameroon	1	Canada	5	Cape Verde	1
Central African Republic	1	Chad	1	Chile	6
China	3	Colombia	6	Comoros	1
Congo, Democratic Rep.	1	Costa Rica	6	Cote d'Ivoire	1

Country/Area	#	Country/Area	#	Country/Area	#
Croatia	7	Cuba	6	Cyprus	7
Czech Republic	7	Denmark	7	Djibouti	1
Dominica	6	Dominican Rep.	6	East Timor	3
Ecuador	6	Egypt	1	El Salvador	6
Equatorial Guinea	1	Eritrea	1	Estonia	7
Ethiopia	1	Fiji	4	Finland	7
France	7	Gabon	1	Gambia, The	1
Georgia	8	Germany	7	Ghana	1
Greece	7	Grenada	6	Guatemala	6
Guinea	1	Guinea-Bissau	1	Guyana	6
Haiti	6	Holy See	7	Honduras	6
Hong Kong	3	Hungary	7	Iceland	7
India	3	Indonesia	3	Iran	2
Iraq	2	Ireland	7	Israel	2
Italy	7	Jamaica	6	Japan	3
Jordan	2	Kazakhstan	8	Kenya	1
Kiribati	4	Kosovo	7	Kuwait	2
Kyrgyzstan	8	Laos	3	Latvia	8
Lebanon	2	Lesotho	1	Liberia	1
Libya	1	Liechtenstein	7	Lithuania	8
Luxembourg	7	Macau	3	Macedonia	7
Madagascar	1	Malawi	1	Malaysia	3
Maldives	3	Mali	1	Malta	7
Marshall Islands	4	Mauritania	1	Mauritius	1
Mexico	5	Micronesia	4	Moldova	8
Monaco	7	Mongolia	3	Montenegro	7
Morocco	1	Mozambique	1	Namibia	1
Nauru	4	Nepal	3	Netherlands	7
Nether. Antilles	6	New Zealand	4	Nicaragua	6
Niger	1	Nigeria	1	North Korea	3
Norway	7	Oman	2	Pakistan	2
Palau	4	Palestinian Terr.	2	Panama	6
Papua New Guinea	4	Paraguay	6	Peru	6
Philippines	3	Poland	7	Portugal	7
Qatar	2	Romania	7	Russia	3
Rwanda	1	Saint Kitts & Nevis	6	Saint Lucia	6
St Vincent Grenadines	6	Samoa	4	San Marino	7
Sao Tome & Principe	1	Saudi Arabia	2	Senegal	1
Serbia	7	Seychelles	1	Sierra Leone	1
Singapore	3	Slovakia	7	Slovenia	7
Solomon Islands	4	Somalia	1	South Africa	1
South Korea	3	South Sudan	1	Spain	7
Sri Lanka	3	Sudan	1	Suriname	1
Swaziland	1	Sweden	7	Switzerland	7
Syria	2	Taiwan	3	Tajikistan	8
Tanzania	1	Thailand	3	Timor-Leste	3
Togo	1	Tonga	4	Trinidad & Tobago	6
Tunisia	1	Turkey	7	Turkmenistan	8
Tuvalu	4	Uganda	1	Ukraine	8

Country/Area	#	Country/Area	#	Country/Area	#
United Arab Emirates	2	United Kingdom	7	United States America	5
Uruguay	6	Uzbekistan	8	Vanuatu	4
Venezuela	6	Vietnam	3	Yemen	2
Zambia	1	Zimbabwe	1		

TABLE G.1   9/11 Death Statistics

Deaths by Area of Attack	Deaths
World Trade Center	2,606
Airlines	246
Pentagon Building	125
Hijackers	19
Total number of people who died in the 9/11 attacks	2,996
Casualties in the World Trade Center and Surrounding Area	**Deaths**
Residents of New York	1,762
Persons in North Tower (Tower 1)	1,402
Persons in South Tower (Tower 2)	614
Residents of New Jersey	674
Employees of Marsh Inc.	355
Firefighters	343
Employees of Aon Corporation	175
Port Authority police officers	37
Police officers	23
Paramedics	2
Firefighter killed by a man who jumped off the top floors	1
Casualties on the Airplanes	**Deaths**
American Airlines Flight 11 (North Tower)	87
United Airlines Flight 175 (South Tower)	60
American Airlines Flight 77 (Pentagon)	59
United Flight 93 (Shanksville PA)	40
Casualties inside the Pentagon	**Deaths**
Military and civilian deaths	125

Research Date: 26 September 2013[778]   Source: 9/11 Commission

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778. Statistic Brain, http:/www.statisticbrain.com/911-death-statistics/.

Resolutions[779,] Declarations[780,] and Reports[781] on Counterterrorism

TABLE H.1   UNGA Legal Instruments

Resolutions, Declarations and Reports	Dates	Subjects
A/RES/67/99	2012-12-14	Measures to eliminate international terrorism
A/67/473	2012-11-19	Report of the Sixth Committee
A/RES/66/282	2012-06-29	UN Global Counter-Terrorism Strategy Review
A/RES/66/178	2011-12-19	Implementing the international legal instruments CT
A/RES/66/171	2011-12-19	Human rights and fundamental freedoms while CT[782]
A/RES/66/105	2011-12-09	Measures to eliminate international terrorism
A/RES/66/50	2011-12-02	Measures to prevent terrorists from acquiring WMD
A/RES/66/12	2011-11-18	Terrorist Attacks on Internationally Protected Persons
A/RES/66/10	2011-11-18	UN Counter-Terrorism Centre
A/66/478	2011-11-15	Report of the Sixth Committee
A/66/37	2011-04-11	Report of the Ad Hoc Committee – Fifteenth Session
A/RES/65/221	2010-12-21	Human rights and fundamental freedoms while CT
A/RES/65/74	2010-12-08	Preventing the acquisition of radioactive sources
A/RES/65/62	2010-12-08	Measures to prevent terrorists from acquiring WMD
A/RES/65/34	2010-12-06	Measures to eliminate international terrorism
A/RES/65/221	2010-12-21	Human rights and fundamental freedoms while CT
A/RES/65/74	2010-12-08	Preventing the acquisition of radioactive sources
A/RES/65/62	2010-12-08	Measures to prevent terrorists from acquiring WMD
A/RES/65/34	2010-12-06	Measures to eliminate international terrorism
A/65/475	2010-11-18	Report of the Sixth Committee
A/C.6/65/L.10	2010-11-03	Report of the Working Group of the Sixth Committee
A/RES/64/297	2010-09-08	UN Global Counter-Terrorism Strategy
A/65/37	2010-04-12 2010-04-16	Report of the Ad Hoc Committee – Fourteenth Session
A/RES/64/235	2010-01-14	Institutionalization CT Implementation Task Force
A/RES/64/177	2010-03-24	Implementing int'l legal instruments for terrorism
A/RES/64/168	2010-01-22	Human rights and fundamental freedoms while CT

779. "Resolutions," United Nations Action to Counter Terrorism,
http://wwww.un.org/en/terrorism/resolutions.shtml.
780. "Declarations," United Nations Action to Counter Terrorism,
http://wwww.un.org/en/terrorism/declarations.shtml.
781. "Reports of the Sixth Committee," United Nations Action to Counter Terrorism,
http://wwww.un.org/en/terrorism/sixthcom.shtml. "Reports of the Working Group of the
Sixth Committee," United Nations Action to Counter Terrorism,
http://wwww.un.org/en/terrorism/workgroupsix.shtml. "Reports of the Ad Hoc Committee,"
United Nations Action to Counter Terrorism,
http://wwww.un.org/en/terrorism/adhoccom.shtml.
782. CT stands for "counter-terrorism."

Resolutions, Declarations and Reports	Dates	Subjects
A/RES/64/118	2010-01-15	Measures to eliminate international terrorism
A/RES/64/38	2010-01-12	Measures to prevent terrorists from acquiring WMD
A/C.6/64/SR.14	2009-12-02	Report of the Working Group of the Sixth Committee
A/64/453	2009-11-12	Report of the Sixth Committee
A/64/37	2011-06-29 2011-07-02	Report of the Ad Hoc Committee – Thirteenth Session
A/RES/63/185	2009-03-03	Human rights and fundamental freedoms while CT
A/RES/63/129	2009-01-15	Measures to eliminate international terrorism
A/RES/63/60	2009-01-12	Measures to prevent terrorists from acquiring WMD
A/C.6/63/SR.14	2008-11-18	Report of the Working Group of the Sixth Committee
A/63/444	2008-11-17	Report of the Sixth Committee
A/RES/62/272	2008-09-15	UN Global Counter-Terrorism Strategy
A/RES/62/172	2008-03-20	Implementing int'l legal instruments for terrorism
A/RES/62/159	2008-03-11	Human rights and fundamental freedoms while CT
A/63/37	2008-02-25 2002-08-26 2008-03-06	Report of the Ad Hoc Committee – Thirteenth Session
A/RES/62/71	2008-01-08	Measures to eliminate international terrorism
A/RES/62/46	2008-01-10	Preventing the acquisition of radioactive materials
A/RES/62/33	2008-01-08	Measures to prevent terrorists from acquiring WMD
A/62/455	2007-11-21	Report of the Sixth Committee
A/C.6/62/SR.16	2007-11-19	Report of the Working Group of the Sixth Committee
A/RES/61/171	2007-03-01	Human rights and fundamental freedoms while CT
A/RES/61/172	2007-03-01	Hostage-taking
A/62/37	2007-02-05 2007-02-15	Report of the Ad Hoc Committee – Eleventh Session
A/RES/61/86	2006-12-18	Measures to prevent terrorists from acquiring WMD
A/RES/61/40	2006-12-18	Measures to eliminate international terrorism
A/61/457	2006-11-27	Report of the Sixth Committee
A/C.6/61/SR.21	2006-11-27	Report of the Working Group of the Sixth Committee
A/RES/60/288	2006-09-08	UN Global Counter-Terrorism Strategy
	2006-05-02	Report from the Secretary General (UNSG)
A/RES/60/158	2006-02-28	Human rights and fundamental freedoms while CT
A/61/37	2006-02-27 2006-03-03	Report of the Ad Hoc Committee – Tenth Session
A/RES/60/78	2006-01-11	Measures to prevent terrorists from acquiring WMD
A/RES/60/73	2006-01-11	Preventing the risk of radiological terrorism
A/RES/60/43	2006-01-06	Measures to eliminate international terrorism
A/60/519	2005-11-30	Report of the Sixth Committee
A/C.6/60/L.6	2005-10-14	Report of the Working Group of the Sixth Committee
A/RES/59/290	2005-04-15	International Convention for the Suppression of Acts of Nuclear Terrorism
A/59/766	2005-04-04	Report International Convention for the Suppression of Acts of Nuclear Terrorism
A/60/37	2005-03-28 2005-04-01	Report of the Ad Hoc Committee – Ninth Session
A/RES/59/195	2005-03-22	Human rights and terrorism

Resolutions, Declarations and Reports	Dates	Subjects
A/RES/59/191	2005-03-10	Human rights and fundamental freedoms while CT
A/RES/59/80	2004-12-16	Measures to prevent terrorists from acquiring WMD
A/RES/59/46	2004-12-16	Measures to eliminate international terrorism
A/59/514	2004-11-18	Report of the Sixth Committee
A/C.6/59/L.10	2004-10-08	Report of the Working Group of the Sixth Committee
A/59/37	2004-06-28 2004-07-02	Report of the Ad Hoc Committee – Eighth Session
A/RES/58/187	2004-03-22	Human rights and fundamental freedoms while CT
A/RES/58/174	2004-03-10	Human rights and terrorism
A/RES/58/81	2004-01-08	Measures to eliminate international terrorism
A/RES/58/48	2004-01-08	Measures to prevent terrorists from acquiring WMD
A/58/518	2003-11-07	Report of the Sixth Committee
A/C.6/58/L.10	2003-10-10	Report of the Working Group of the Sixth Committee
A/58/37	2003-03-31 2003-04-02	Report of the Ad Hoc Committee – Seventh Session
A/RES/57/220	2003-02-27	Hostage-taking
A/RES/57/219	2003-02-27	Human rights and fundamental freedoms while CT
A/RES/57/27	2003-01-15	Measures to eliminate international terrorism
A/RES/57/83	2003-01-09	Measures to prevent terrorists from acquiring WMD
A/57/567	2002-11-11	Report of the Sixth Committee
A/C.6/57/L.9	2002-10-16	Report of the Working Group of the Sixth Committee
A/RES/56/160	2002-02-13	Human rights and terrorism
A/57/37	2003-01-28 2003-02-01	Report of the Ad Hoc Committee – Sixth Session
A/RES/56/88	2002-01-24	Measures to eliminate international terrorism
A/56/593	2001-11-27	Report of the Sixth Committee
A/C.6/56/L.9	2001-10-29	Report of the Working Group of the Sixth Committee
A/RES/56/1	2001-09-18	Condemnation of terrorist attacks in the US
A/56/37	2001-02-12 2001-12-23	Report of the Ad Hoc Committee – Fifth Session
A/RES/55/158	2001-01-30	Measures to eliminate international terrorism
A/55/614	2000-11-29	Report of the Sixth Committee
A/C.6/55/L.2	2000-10-19	Report of the Working Group of the Sixth Committee
A/RES/54/164	2000-02-24	Human rights and terrorism
A/55/37	2000-02-14 2000-02-18	Report of the Ad Hoc Committee – Fourth Session
A/RES/54/110	2000-02-02	Measures to eliminate international terrorism
A/RES/54/109	2000-02-25	Int'l Convention Suppression Financing of Terrorism
A/54/615	1999-11-30	Report of the Sixth Committee
A/C.6/54/L.2	1999-10-26	Report of the Working Group of the Sixth Committee
A/54/37	1999-03-15 1999-03-26	Report of the Ad Hoc Committee – Third Session
A/RES/53/108	1999-01-26	Measures to eliminate international terrorism
A/53/636	1998-11-27	Report of the Sixth Committee
A/C.6/53/L.4	1998-10-22	Report of the Working Group of the Sixth Committee
A/53/37	1998-02-17 1998-02-27	Report of the Ad Hoc Committee – Second Session

Resolutions, Declarations and Reports	Dates	Subjects
A/RES/52/165	1998-01-19	Measures to eliminate international terrorism
A/RES/52/133	1998-02-27	Human rights and terrorism
A/52/653	1997-11-25	Report of the Sixth Committee
A/C.6/52/L.3	1997-10-10	Report of the Working Group of the Sixth Committee
A/52/37	1997-02-24 1997-03-07	Report of the Ad Hoc Committee – First Session
A/RES/51/210 (1997)	1997-01-16	Declaration to Supplement the 1994 Declaration on Measures to Eliminate International Terrorism
A/RES/51/210	1996-12-17	Measures to eliminate international terrorism
A/51/631	1996-12-04	Report of the Sixth Committee
A/RES/50/186	1996-03-06	Human rights and terrorism
A/RES/50/53	1996-01-29	Measures to eliminate international terrorism
A/50/643	1995-11-30	Report of the Sixth Committee
A/RES/49/185	1995-03-06	Human rights and terrorism
A/RES/49/60 (1995)	1995-02-17	Declaration on Measures to Eliminate International Terrorism
A/RES/49/60	1994-12-09	Measures to eliminate international terrorism
A/49/743	1994-12-02	Report of the Sixth Committee
A/RES/48/122	1994-02-14	Human rights and terrorism
A/DEC/48/411	1993-12-09	General Assembly decision
A/RES/46/51	1991-12-09	Measures to eliminate international terrorism
A/48/609	1993-12-06	Report of the Sixth Committee
A/46/654	1991-11-15	Report of the Sixth Committee
A/RES/44/29	1989-12-04	Measures to prevent international terrorism
A/44/762	1989-12-01	Report of the Sixth Committee
A/RES/42/159	1987-12-07	Measures to prevent international terrorism
A/42/832	1987-12-03	Report of the Sixth Committee
A/RES/40/61	1985-12-09	Measures to prevent international terrorism
A/RES/39/159	1984-12-17	Inadmissibility of the policy of State terrorism and any actions by States aimed at undermining the socio-political system in other sovereign States
A/RES/38/130	1983-12-19	Measures to prevent international terrorism
A/RES/36/109	1981-12-10	Measures to prevent international terrorism
A/RES/34/146	1979-12-17	International Convention against the Taking of Hostages
A/RES/34/145	1979-12-17	Measures to prevent international terrorism
A/RES/32/147	1977-12-16	Measures to prevent international terrorism
A/RES/31/103	1976-12-15	Draft int'l Convention against the taking of hostages
A/RES/31/102	1976-12-15	Measures to prevent international terrorism
A/RES/3034(XXVII)	1972-12-18	Measures to prevent international terrorism
A/RES/2645(XXV)	1970-11-25	Aerial hijacking or interference with civil air travel
A/RES/2625(XXV)	1970-10-24	Cooperation among States in accordance UN Charter
A/RES/2551(XXIV)	1969-12-12	Forcible diversion of civil aircraft in flight

United Nations Security Council Resolutions related to Aviation Terrorism [783]

It is with Article 39 of the UN Charter that the Security Council determines that a threat to the peace, a breach of the peace, or an act of aggression exists.[784] The range of situations that the Security Council decides as giving rise to threats to the peace, includes country-specific situations, such as inter- or intra-State conflicts or internal conflicts with a regional or sub-regional dimension. Furthermore, the UNSC identifies potential or generic threats as threats to international peace and security, including terrorist acts, the proliferation of weapons of mass destruction, and the proliferation of and illicit trafficking in small arms and light weapons. The context in which the Security Council determines a situation as giving rise to breaches of the peace is narrower. The Security Council has determined a breach of the peace only in situations involving the use of armed force. In very few cases in its history has the Security Council ever determined that an act of aggression by one State against another has taken place.

TABLE I.1   UNSC Resolutions

Resolution	Date	Concerns
S/RES/2129	2013-12-17	Threats to int'l peace and security caused by terrorist acts
S/RES/2083	2012-12-17	Threats to int'l peace and security caused by terrorist acts
S/RES/2082	2012-12-17	Threats to int'l peace and security caused by terrorist acts
S/RES/1963	2010-12-20	Executive Directorate should continue to operate as a special political mission under the policy guidance of the Counter-Terrorism Committee for the period ending 31 December 2013, and conducting an interim review by 30 June 2012.
S/RES/1918	2010-04-27	Threats to international peace and security caused by terrorist acts (Criminalizing piracy Somalia)
S/RES/1904	2009-12-17	Threats to int'l peace and security caused by terrorist acts
S/RES/1822	2008-06-30	Threats to int'l peace and security caused by terrorist acts
S/RES/1805	2008-03-20	Threats to int'l peace and security caused by terrorist acts
S/RES/1787	2007-12-10	Threats to int'l peace and security caused by terrorist acts
S/RES/1699	2006-08-08	General issues relating to sanctions
S/RES/1625	2005-09-14	Threats to int'l peace and security (UNSC, Summit 2005)
S/RES/1624	2005-09-14	Threats to int'l peace and security (UNSC, Summit 2005)
S/RES/1566	2004-10-08	Threats to int'l peace and security caused by terrorist acts
S/RES/1535	2004-03-26	Threats to int'l peace and security caused by terrorist acts
S/RES/1526	2004-01-30	Threats to int'l peace and security caused by terrorist acts
S/RES/1456	2003-01-20	Declaration on the Issue of Combating Terrorism
S/RES/1455	2003-01-17	Threats to int'l peace and security caused by terrorist acts

783. This table is mainly based on "United Nations Action to Counter Terrorism."
http://www.un.org/en/terrorism/instruments.shtml.
784. UNSC, https://www.un.org/en/sc/about/faq.shtml.

Resolution	Date	Concerns
S/RES/1452	2002-12-20	Threats to int'l peace and security caused by terrorist acts
S/RES/1450	2002-12-13	Threats to int'l peace and security caused by terrorist acts
S/RES/1390	2002-01-16	Afghanistan
S/RES/1383	2001-12-06	Afghanistan
S/RES/1377	2001-11-12	Declaration on the global effort to combat terrorism
S/RES/1373	2001-09-28	In what is described as the "most important instrument agreed upon" since 9/11, the resolution undoubtedly instituted a stand-alone, autonomous obligation to prevent transnational terrorism.[785]
S/RES/1368	2001-09-12	Threats to int'l peace and security caused by terrorist acts
S/RES/1363	2001-07-30	Afghanistan
S/RES/1333	2000-12-19	Afghanistan
S/RES/1269	1999-10-19	Responsibility UNSC maintenance int'l peace and security In reaction to the increase of international terrorism
S/RES/1267	1999-10-15	Afghanistan
S/RES/1192	1998-08-27	On Lockerbie case
S/RES/1189	1998-08-13	On the international terrorism In reaction to the attacks on US Embassies in Nairobi, Kenya and Dar-es-Salaam, Tanzania on 7 August 1998
S/RES/883	1993-11-11	Imposing further international sanctions against Libya for non-compliance with UNSC Resolutions 731 and 748
S/RES/748	1992-03-31	Urging States to support the imposition of aviation-related legal sanctions against Libya
S/RES/731	1992-01-21	Libyan Arab Jamahiriya
S/RES/635	1989-06-14	Marking of explosives
S/RES/339	1973-10-23	Cease-fire between Egypt and Israel
S/RES/338	1973-10-22	Cease-fire in Middle East
S/RES/337	1973-08-15	Seizure of a Lebanese Airliner
S/RES/286	1970-09-09	The situation created by increasing incidents involving the hijacking of commercial aircraft (Dawson's Field)
S/RES/242	1967-11-22	In the aftermath of the Six-Day War

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785. Proulx, 207.

TABLE J.1   G7 / G8 Official Documents Dealing with Terrorism

Date	Summit	Document	Key elements
1978-07-16 1978-07-17	Bonn, West Germany	Statement on Air Hijacking	Governments' extradition and prosecution of hijackers.
1979-06-28 1979-06-29	Tokyo, Japan	Press release on Air Hijacking	Bonn Declaration, hijacking, unlawful interference with international civil aviation.
1980-06-22 1980-06-23	Venice, Italy	Statements on Hijacking, Taking of Diplomatic Hostages	Bonn Declaration, hijacking. Hostage taking, and attacks on diplomatic and consular premises and personnel.
1981-07-20 1981-07-21	Ottawa, Canada	Summit Statement on Terrorism	State-sponsored terrorism, aircraft hijacking, hostage-taking, attacks against diplomatic missions, hijacking of PIA 326, The Hague Convention 1970, refuge to hijackers.
1984-06-07 1984-06-09	London, UK	Declaration on International Terrorism	State-sponsored terrorism, hijacking, kidnapping.
1986-05-04 1986-05-06	Tokyo, Japan	Statement on International Terrorism	State-sponsored terrorism, Libya, ICAO, Bonn Declaration, visa requirements, extradition procedures.
1987-06-08 1987-06-10	Venice, Italy	Statement on Terrorism	Aircraft hijackings, hostage-taking, state-sponsored terrorism, ICAO, Montréal Convention 1991.
1988-06-19 1988-06-21	Toronto, Canada	Political Declaration: Securing Democracy	State-sponsored terrorism, hostage-taking, threats to air security, destruction of a Korean airliner, hijacking of a Kuwaiti airliner, ICAO, The Hague Convention 1970, civil aviation security, hijackings.
1989-07-14 1989-07-16	Paris, France	Declaration on Terrorism	State-sponsored terrorism, air transport safety, Pan Am 103, hijacking, sabotage, ICAO, plastic explosives.
1990-07-09 1990-07-11	Houston, USA	Statement on Transnational Issues	State-sponsored terrorism, hostage-taking, sabotage of Pan Am 103, UTA 772, AV 203, civil aviation security standards, ICAO, plastic explosives.
1991-07-15 1991-07-17	London, UK	Declaration on Strengthening the Int'l Order	Hostage taking, ICAO, plastic explosives.
1992-07-08 1992-07-10	Munich, Germany	Chairman's Statement	State-sponsored terrorism, hostage-taking, Libya, sabotage of Pan Am 103 and UTA 772, ICAO, plastic explosives.
1994-07-08 1994-07-10	Naples, Italy	Chairman's Statement	State-sponsored-terrorism, Iran.

Date	Summit	Document	Key elements
1996-06-27 1996-06-29	Lyon, France	Declaration on Terrorism	Dhahran bombing, cooperation, CBRN.
1997-06-20 1997-06-22	Denver, USA	Communiqué	Hostage-taking, counter-terrorism, UN Convention, cooperation.
2000-07-21 2000-07-23	Okinawa, Japan	G8 Communiqué Okinawa 2000	Cooperation, terrorism financing, hijacking, hostage taking, Afghanistan.
2002-06-26 2002-06-27	Kananaskis, Canada	Summit Chair's Summary	9/11, nuclear terrorism.
2003-06-01 2003-06-03	Evian-les-Bains, France	Int'l Political Will & Capacity to CT	9/11, al-Qaeda, capacity building, UN CTC, CTAG, ICAO.
2004-06-08 2004-06-10	Sea Island, USA	Chair's Summary	SAFTI, security and efficiency of air, land, and sea travel, Manpads.
2005-07-06 2005-07-08	Gleneagles, UK	Statement on CT	Terrorist attacks in London, disruption terrorism, terrorism recruitment, human rights, international capacity, and SAFTI.
2006-07-15 2006-07-17	St-Petersburg, Russia	Strengthening the UN CT Programme, Declaration on CT	Cooperation, UN, energy infrastructure, CT, terrorism financing, suicide bombing, int'l law, transportation, aviation security.
2007-06-06 2007-06-08	Heiligendamm. Germany	Statement on CT: Security in the Era of Globalization	UN role, information technology, infrastructure, transport security, ICAO, radicalization, terrorism financing, nuclear terrorism, counter-terrorism.
2008-07-07 2008-07-09	Hokkaido, Japan	Statement on Counter-Terrorism	Information sharing, terrorism financing, security of land, sea, and air transport, Manpads, suicide bombing, hostage-taking, UN GCTF, CBRN.
2009-07-08 2009-07-10	L'Aquila, Italy	Declaration on CT	Roma/Lyon Group, CTAG, radicalization, terrorism financing, CBRN, technologies.
2010-06-25 2010-06-26	Muskoka, Canada	Statement on CT	Underwear Bomber, Moscow subway attack, suicide terrorism, links to drug trafficking and organized crime, nuclear terrorism, al-Qaeda.
2011-05-26 2011-05-27	Deauville, France	Declaration	Osama bin Laden, extremism, counter-terrorism, UN GCTF, Roma/Lyon Group.
2012-05-18 2012-05-19	Camp David, USA	Declaration	CT, al-Qaeda, Manpads, kidnappings, UN GCTF, Roma/Lyon Group.
2013-06-17 2013-06-18	Lough Erne, UK	Communiqué	Counter-terrorism, Mali, Somalia, border security, extremism, kidnapping for ransom by terrorists, UN GCTF.

TABLE K.1   Air transport, passengers carried 2011[786]--Country Ranking[787]

Rank	Country	Value	Year
1	United States	730 014 000	2011
2	China	292 160 200	2011
3	United Kingdom	111 386 400	2011
4	Germany	106 015 900	2011
5	Ireland	89 665 430	2011
6	Brazil	87 704 930	2011
7	Japan	80 055 900	2011
8	India	73 173 380	2011
9	Canada	70 254 460	2011
10	Indonesia	62 022 360	2011
11	France	57 184 120	2011
12	Spain	55 953 440	2011
13	Russia	50 555 800	2011
14	United Arab Emirates	49 481 070	2011
15	Turkey	46 851 220	2011
16	Australia	45 810 650	2011
17	Korea	38 056 750	2011
18	Italy	36 459 890	2011
19	Malaysia	34 267 520	2011
20	Hong Kong	30 065 260	2011
21	Norway	29 905 660	2011
22	Thailand	28 962 990	2011
23	Singapore	28 798 170	2011
24	Netherlands	25 066 590	2011
25	Switzerland	24 740 260	2011

786. Air passengers carried include both domestic and international aircraft passengers of air carriers registered in the country.
787. Index Mundi, information by International Civil Aviation Organization, Civil Aviation Statistics of the World and ICAO staff estimates,
http://www.indexmundi.com/facts/indicators/IS.AIR.PSGR/rankings.

TABLE L.1   Main US civil aviation security initiatives

Year	Name	Details
1958	The Federal Aviation Act	Implementation of Federal Aviation Regulations Government Accounting Office. *Aviation Security: FAA Preboard Screening Test Results.* (Washington: GAO/RCED-87-125FS, 1987), 1
1971	The Anti-Hijacking Act of 1971	The Anti-Hijacking Act of 1971 was one of the first American legislations to respond to an outbreak of unlawful acts against aviation. This act also brought the US up to ICAO standards, namely by allowing the punishment of hijackers up to life in prison or the death penalty. It also required passengers, excluding the carry-on luggage, to undergo screening.
1972	The Federal Aviation Administration, Part 107-1	Aviation Security - Airport
1973	Hijacking Accord between the United States and Cuba	
1974	The Anti-Hijacking Act of 1974 (Public Law 93-366)	To implement the Convention for the Suppression of Unlawful Seizure of Aircraft and to provide a more effective programme to prevent aircraft piracy.
1978	Act to Combat Terrorism	
1985	International Airport Security and Anti-Hijacking	
1990	The Aviation Security Improvement Act of 1990	The first major US legislation to change the aviation security system
1996	The Aviation Security and Antiterrorism Act of 1996	The downing of TWA Flight 800 forced President Clinton to create a White House Commission on Aviation Safety and Security. Led by Vice-President Al Gore, the Commission presented an initial report within 45 days of the crash. The response from the administration was immediate and Congress enacted the Aviation Security and Antiterrorism Act of 1996.
2000	Airport Security Improvement Act of 2000	Improved and clarified certain aspects of the 1972 regulation, notably the maximization of explosives detection equipment and the strengthening of background investigation for all individuals with unescorted access to secure airport areas.
2001	The Anti-Terrorism Bill of 26 October 2001	The PATRIOT Act; this was revisited in 2005
2001	The Aviation Security Bill of 19 November 2001	
2001	The Aviation and Transportation Security Act of 2001	The very first American legislative response to 11 September 2001. It created the Transportation Security Administration (TSA)
2002	The Homeland Security Act	Establishment of the Department of Homeland Security (DHS)

TABLE M.1   Major International Legal Instruments to Counterterrorism[788]

Year	Name	To prevent	Also known as the	Principle adopted	Entered into force
1937	Convention for the Prevention and Punishment Terrorism	Terrorism	(League of Nations)	November, 1937	Never did because of WW II
1958	Convention on the High Seas	Piracy	UN Geneva Convention	1958-04-29	1962-09-30
1963	Tokyo *Convention on Offences and Certain Other Acts Committed on Board Aircraft*	Hijackings	Aircraft Convention (ICAO)	1963-09-14	1969-12-04
1970	The Hague *Convention for the Suppression of Unlawful Seizure of Aircraft*	Hijackings	Unlawful Seizure Convention (ICAO)	1970-12-16	1971-10-14
1971	Montréal *Convention for the Suppression of Unlawful Acts Against the Safety of Civil Aviation*	Unlawful acts	Civil Aviation Convention (ICAO)	1971-09-23	1973-01-26
1973	*Convention Prevention and Punishment of Crimes Against Internationally Protected Persons, including Diplomatic Agents.*	Attacks on senior government officials and diplomats	UN Diplomatic Agents Convention	1973-12-14	1977-02-20
1974	*Annex 17 to the Chicago Convention – Security: Safeguarding International Civil Aviation against Acts of Unlawful Interference*	Security	Annex 17 (ICAO)	1974-03-22	Updated regularly with amendments
1979	*International Convention Against the Taking of Hostages*	Kidnappings	UN Hostages Convention	1979-12-17	1983-06-03
1980	*Convention on the Physical Protection of Nuclear Material* (Adopted in Vienna)	Unlawful taking or use of nuclear material	UN Nuclear Materials Convention	1980-03-03	1987-02-08

788. This table is mainly based on "United Nations Action to Counter Terrorism," United Nations, http://www.un.org/en/terrorism/instruments.shtml.

Year	Name	To prevent	Also known as the	Principle adopted	Entered into force
1988	Montréal *Protocol for the Suppression of Unlawful Acts of Violence at Airports Serving International Civil Aviation*	Terrorist Airport Attacks	Airport Protocol (ICAO)	1988-02-24	1989-08-06
1988	*Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation*	Terrorist activities aboard ships	UN Maritime Convention (IMO)	1988-03-10	1992-03-01
1988	*Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms Located on the Continental Shelf*	Terrorist activities of fixed offshore platforms	UN Fixed Platform Protocol	1988-03-10	1992-03-01
1991	Montréal *Convention on the Marking of Plastic Explosives for the Purpose of Detection*	Aircraft Sabotage	Plastic Explosives Convention (ICAO)	1991-03-01	1998-06-21
1997	*International Convention for the suppression of terrorist bombings*	Use of explosives & lethal devices public places	UN Terrorist Bombing Convention	1997-12-15	2001-05-23
1999	*International Convention for the Suppression of the Financing of Terrorism*	Financing of terrorism	UN Terrorist Financing Convention	1999-12-09	2002-04-10
2001	Declaration on the Misuse of Civil Aircraft as Weapons of Destruction and Other Terrorist Acts Involving Civil Aviation		Resolution A 33-1 (ICAO)	2001-10-05	Immediately
2002	The Council Aviation Security Plan of Action and the Universal Security Audit Programme	C-DEC 166/3 and 166/14 Aviation A	ICAO's Council Decisions	2002-06-20	
2005	*International Convention for the Suppression of Acts of Nuclear Terrorism*	Threats and attempts on possible targets	UN Nuclear Terrorism Convention	2005-04-13	2007-07-07
2010	Beijing *Convention on the Suppression of Unlawful Acts Relating to International Civil*	Use of civil aircraft as a weapon to cause death,	New Civil Aviation Convention (ICAO)	2010-09-10	Not in force as of 2015-03-15

Year	Name	To prevent	Also known as the	Principle adopted	Entered into force
	Aviation	injury or damage			
2010	Beijjing *Protocol Supplementary to the Convention for the Suppression of Unlawful Seizure of Aircraft* (known as The Hague Convention 1970)	All forms of hijacking, including modern technological means	(ICAO)	2010-09-10	Not in force as of 2015-03-15
2013	Convention on Terrorism (Comprehensive Draft)	Flawlessness in fighting terrorism	(UN)	On-going	

2013   38th Session, Assembly, Montréal, 24 September – 4 October

Resolutions	Subject
A38-15	Statement on continuing ICAO policies related to aviation security
A38-16	Appendix B: Policies and practices related to facilitation
A38-19	Promotion Beijing Convention and Beijing Protocol of 2010.
Working Papers	**Title and date**
A38-WP/12 – 2013-05-22	Outcomes of the high-level conference on aviation security
A38-WP/13 – 2013-05-30	Aviation Security, ICAO Comprehensive Aviation Security Strategy
A38-WP/14 – 2013-05-31	Safeguarding int'l civil aviation against acts of unlawful interference
A38-WP/64 – 2013-07-22	Proposals for work priorities in aviation security
A38-WP/104 – 2013-08-13	Risk-Based Security
A38-WP/124 – 2013-08-19	Laser based Directional Infra-Red Counter-measures System, Israel
A38-WP/128 – 2013-08-20	Aviation security for the next triennium
A38-WP/129 – 2013-08-20	Principles governing international cooperation in aviation security
A38-WP/133 – 2013-08-20	Proposed roadmap to strengthen global air cargo security
A38-WP/136 – 2013-08-19	Implementation of liquids, aerosols and gels screening
A38-WP/138 – 2013-08-17	Guidance material implementing results based approach to AVSEC
A38-WP/158 – 2013-08-20	Air cargo and mail security
A38-WP/159 – 2013-08-20	Threat awareness programme implementation
A38-WP/172 – 2013-08-22	Illicit trafficking of narcotic drugs & psychotropic substances by air
A38-WP/178 – 2013-08-20	Cargo security
A38-WP/197 – 2013-08-20	ICAO aviation security point of contact in the Russian federation
A38-WP/235 – 2013-08-20	Proposal to develop aviation security virtual training initiatives
A38-WP/273 – 2013-09-09	Threat response system using state of the art IT technologies Korea
A38-WP/276 – 2013-09-10	Development next generation security and engagement with industry
A38-WP/345 – 2013-09-16	Aviation security developments in Vietman
A38-WP/385 – 2013-09-27	Draft text for the report on agenda item 13
A38-WP/417 – 2013-10-01	Report of the executive committee on agenda item 13

2012   High-Level Aviation Security Conference, Montréal, 12-14 September

2010   37th Session, Assembly, Montréal, 28 September – 8 October

Resolutions	Subject
A37-17	Safeguarding int'l civil aviation against acts of unlawful interference
A37-22	Statement Continuing ICAO Policies Legal Field (unruly passenger)
Working Papers	**Title and date**
A37-WP/18 – 2010-06-28	ICAO AVSEC Strategy: Strategic Plan of Action 2011 – 2016
A37-WP/19 – 2010-07-08	Safeguarding int'l civil aviation against acts of unlawful interference
A37-WP/75 – 2010-08-169	Declaration on Aviation Security
A37-WP/97 – 2010-08-25	Secretariat realignment security programmes and security policy
A37-WP/99 – 2010-08-25	Agreements and MOUs for Member States: security and facilitation
A37-WP/100 – 2010-08-26	Aviation security capacity building activities
A37-WP/101 – 2010-08-26	Aviation security policy
A37-WP/164 – 2010-07-09	Trial of advances imaging technology in Japan
A37-WP/183 – 2010-09-10	Recent efforts in the Asia and Pacific region after APAM-AVSEC
A37-WP/247 – 2010-09-20	Development and implementation of an African Security Road Map

A37-WP/252 – 2010-09-20	Strengthening global AVSEC with industry capabilities & expertises
A37-WP/255 – 2010-09-20	Long-term development plans Korea for AVSEC, Korea
A37-WP/256 – 2010-09-20	Establish guidelines on human factors in civil aviation security
A37-WP/257 – 2010-09-20	Secure Freight Programme (Information paper)
A37-WP/282 – 2010-09-23	Procedure to certify the competence of AVSEC personnel, Venezuela
A37-WP/283 – 2010-09-23	Asia-Pacific Aviation Security Action Plan (AP-ASAP)
A37-WP/284 – 2010-09-23	Aviation Security point of contact network
A37-WP/285 – 2010-09-23	Aviation security activities and responses to threats in Nepal
A37-WP/297 – 2010-09-30	Draft text for the Report on Agenda items 13, 14 and 15
A37-WP/298 – 2010-09-27	Respecting human rights and dignity in security policy
A37-WP/359 – 2010-10-04	Report of the Executive Committee on Agenda items 13, 14 and 15

2010   International Conference on Air Law, Beijing, 30 August - 10 September.

Year	Name	Instrument to prevent	Also known as the	Open for signature	Entered into force
2010	*Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation*	Use of civil aircraft as a weapon to cause death, injury, damage	Beijing Convention New Civil Aviation Convention	2010-09-10	Not in force on 2015-03-15
2010	*Protocol Supplementary to the Convention for the Suppression of Unlawful Seizure of Aircraft* (also known as The Hague Convention 1970)	All forms of hijacking and modern technological means	Beijing Protocol (ICAO)	2010-09-10	Not in force on 2015-03-15

2007   36th Session of the Assembly, Montréal, 18 – 28 September

Resolutions	Subject
A36-18	Financial contributions to the Aviation Security Plan of Action
A36-19	Threat to civil aviation posed by Manpads
A36-20	Safeguarding int'l civil aviation against acts of unlawful interference
A36-26	Appendix E, National legislation on unruly and disruptive passenger
Working Papers	**Title and date**
A36-WP/26 – 2007-07-03	Threat to civil aviation posed by Manpads
A36-WP/27 – 2007-07-25	Safeguarding int'l civil aviation against acts of unlawful interference
A36-WP/55 – 2007-08-22	Developments in AVSEC programme since the 35th Session
A36-WP/62 – 2007-08-16	Contributions for AVSEC Plan of Action
A36-WP/66 – 2007-08-28	Suggested priorities for the 2008-2010 work programme on AVSEC
A36-WP/81 – 2007-08-24	Human factors in civil aviation security
A36-WP/83 – 2007-08-27	The need for a risk-based approach in aviation security
A36-WP/84 – 2007-08-28	Security management systems (SeMS)
A36-WP/86 – 2007-08-28	Increasing int'l collaboration in response security threats, incidents
A36-WP/87 – 2007-08-28	Strengthening AVSEC in a resource-constrained environment
A36-WP/92 – 2007-08-27	Coordination of security assistance provided by States
A36-WP/93 – 2007-08-27	Strategic security management system
A36-WP/118 – 2007-08-31	Additional security on liquids, aerosols, gels (LAGs) hand baggage
A36-WP/121 – 2007-08-31	Major developments in Australian aviation security

A36-WP/127 – 2007-09-12	SAFE – WTO strategy on Security and Facilitation Enhancement
A36-WP/171 – 2007-09-12	Guidance material on restrictions on LAGs for carriage onboard
A36-WP/173 – 2007-09-12	Aviation security in Indonesia
A36-WP/174 – 2007-09-12	Strengthening the screening of liquids
A36-WP/180 – 2007-09-12	Discreet secure hands-free wireless communications for cabin crew
A36-WP/212 – 2007-09-17	Initiative for the adoption of technological information platforms
A36-WP/252 – 2007-09-19	Second Int'l Conference for Arab AVSEC, Jeddah, Saudi Arabia 2007
A36-WP/255 – 2007-09-18	Harmonization of int'l, regional and national legislation for AVSEC
A36-WP/272 – 2007-09-20	Aviation Experts Sans Frontières
A36-WP/287 – 2007-09-22	Draft text for the report on Agenda Item 15
A36-WP/335 – 2007-09-25	Report of the Executive Committee on Agenda Item

2004   35th Session, Assembly, Montréal, 28 September – 8 October

Resolutions	Subject
A35-1	Acts of terrorism and destruction of Russian civil aircraft
A35-2	Application Montréal Convention 1991 Plastic Explosives
A35-9	Condemns acts wherever and by whomever and for whatever reason
A35-10	Financial contributions to the Aviation Security Plan of Action.
A35-11	Threat to civil aviation posed by Manpads
Working Papers	**Title and date**
A35-WP/11 – 2004-05-19	Protecting security and integrity of passports and travel documents
A35-WP/38 – 2004-06-17	Aviation security in Nepal
A35-WP/48– 2004-07-04	Safeguarding int'l civil aviation against acts of unlawful interference
A35-WP/49– 2004-08-06	Developments since the 33rd Session of the Assembly
A35-WP/50– 2004-07-28	Threat to civil aviation posed by Manpads
A35-WP/55– 2004-07-26	Report on the ICAO Universal Security Audit Programme
A35-WP/62 – 2004-07-12	Interpretation of Montréal Convention 1991 Plastic Explosives
A35-WP/71– 2004-07-07	Aviation security issues
A35-WP/88– 2004-09-24	ICAO Aviation Security Plan Action – Project 12: Legal information
A35-WP/94– 2004-08-23	Legislative inspection programme on AVSEC European Community
A35-WP/107– 2004-08-24	SAFE – WTO Strategy on Security and Facilitation Enhancement
A35-WP/110– 2004-08-25	Equipment for the detection of explosive
A35-WP/111– 2004-08-25	Visualization of emergency situations on board aircraft
A35-WP/141– 2004-09-15	Security Human Factors
A35-WP/145– 2004-09-17	ATM related security initiatives in Europe
A35-WP/167– 2004-09-23	Aviation
A35-WP/175– 2004-09-20	Steps taken by India to deal with unlawful interference
A35-WP/181– 2004-09-21	Cost of implementation and the level of threat of civil aviation safety
A35-WP/184– 2004-09-21	Use of air marshals in international flights
A35-WP/186– 2004-09-22	Consideration on Amendment 11 to Annex 17
A35-WP/190– 2004-09-23	Safety, security and economic challenges facing civil aviation
A35-WP/233– 2004-09-27	Australia's commitment to the Aviation Security Plan of Action
A35-WP/234– 2004-09-27	Global threat to civil aviation the role of ICAO
A35-WP/241– 2004-09-24	Acts of terrorism affecting civil aviation
A35-WP/249 – 2004-09-27	Strengthen AVSEC – Promote healthy development of air transport
A35-WP/252 – 2004-09-29	Concept of aviation security procedures in international legislation
A35-WP/253 – 2004-09-29	Programme commun transport aérien des États Afrique de l'Ouest
A35-WP/266 – 2004-09-29	Adding new elements to definition acts of unlawful interference
A35-WP/293 – 2004-10-02	Draft text for the Report on Agenda Item 14

A35-WP/338 – 2004-10-07	Report of the Executive Committee on Agenda Item 14

2003   34th Session, Assembly - Extraordinary, Montréal, 31 March -1 April

Year	Name	Also known as the
2002	Council Aviation Security Plan of Action and the Universal Security Audit Programme	ICAO

2001   33th Session, Assembly, Montréal, 25 September – 5 October

Resolutions	Subject
A-33-1	Misuse of civil aircraft as WMD and other terrorist acts
A-33-2	Safeguarding int'l civil aviation against acts of unlawful interference
A-33-3	Increasing the effectiveness of ICAO to face new challenges
A-33-4	National legislation for unruly/disruptive passengers
Working Papers	**Title and date**
A33-WP/3 – 2001-02-22	Safeguarding int'l civil aviation against acts of unlawful interference
A33-WP/39 – 2001-07-12	Implementation of AVSEC Mechanism and Future Requirements
A33-WP/61 – 2001-07-01	Europe's view on AVSEC Airport Audit Programme
A33-WP/62 – 2001-07-24	ECAC AVSEC Airport Audit Programme
A33-WP/70 – 2001-08-02	Disruptive passengers
A33-WP/98 – 2001-08-17	Unruly passengers
A33-WP/99 – 2001-08-21	Aviation Security
A33-WP/102 – 2001-08-30	Unruly passengers
A33-WP/110 – 2001-08-28	Safeguarding int'l civil aviation against acts of unlawful interference
A33-WP/142 – 2001-09-20	Disruptive passengers
A33-WP/152 – 2001-09-21	Terrorist Acts Involving Civil Aviation
A33-WP/153 – 2001-09-21	Additional AVSEC Measures in the Light of Recent Events
A33-WP/156 – 2001-09-24	Unlawful interference with Computer Networks and others (US)
A33-WP/161 – 2001-09-21	Aviation Security
A33-WP/165 – 2001-09-24	Aviation Security
A33-WP/166 – 2001-09-24	FAA Information Systems Security Programme
A33-WP/168 – 2001-09-24	Need for New Legal Instrument Against the Use Aviation as WMD
A33-WP/169 – 2001-09-26	Aviation Security
A33-WP/175 – 2001-09-24	Airline Security
A33-WP/185 – 2001-09-26	AVSEC Screening Personnel Proposals for Standards and Licensing
A33-WP/190 – 2001-09-26	Condemnation of Terrorist Act on Sri Lanka's International Airport
A33-WP/195 – 2001-09-26	Security Human Factors
A33-WP/215 – 2001-09-28	Conducting Security Audits as the Safety Audits Being Conducted
A33-WP/252 – 2001-10-01	Draft Text for the Report on Agenda Item 13
A33-WP/295 – 2001-10-04	Report of the Executive Committee on Agenda Item 13

Year	Name	Also known as the
2001	Declaration on the Misuse of Civil Aircraft as Weapons of Destruction and Other Terrorist Acts Involving Civil Aviation	Resolution A 33-1 (ICAO)

1998   32nd Session, Assembly, Montréal, 22 September – 2 October

Resolutions	Subject
A32-18	Int'l cooperation protecting the security and integrity of passports
A32-22	Safeguarding int'l civil aviation against acts of unlawful interference
A32-23	Manpads export control
Working Papers	**Title and date**
A32-WP/4 – 1998-04-22	Safeguarding int'l civil aviation against acts of unlawful interference
A32-WP/5 – 1998-05-29	Mechanism for financial and material assistance for AVSEC
A32-WP/67 – 1998-07-10	Manpads, Export Controls
A32-WP/72 – 1998-07-21	Unruly passengers
A32-WP/85 – 1998-08-04	ECAC's work in the field of civil aviation security
A32-WP/89 – 1998-08-07	Int'l cooperation in protecting the security and integrity of passports
A32-WP/106 – 1998-09-01	Aviation security
A32-WP/131 – 1998-09-16	Aviation security
A32-WP/132 – 1998-09-16	Aviation security
A32-WP/164 – 1998-09-23	Aviation security
A32-WP/167 – 1998-09-23	Unruly passengers

1995   31th Session, Assembly, Montréal, 19 September – 4 October

Resolutions	Subject
A31-4	Consolidated statement policies on safeguarding int'l civil aviation
Working Papers	**Title and date**
A31-WP/45 – 1995-07-18	Mechanism for financial and material assistance for AVSEC
A31-WP/46 – 1995-07-13	Safeguarding int'l civil aviation against acts of unlawful interference
A31-WP/47 – 1995-07-13	Implementation of Resolution A29-5 on AVSEC
A31-WP/105 – 1995-09-14	Aviation Security
A31-WP/106 – 1995-09-14	Aviation Security
A31-WP/149 – 1995-09-22	Aviation Security

1993   30th Session, Assembly - Extraordinary, Montréal, 25-26 May *NTR*
Nothing to Report from an Aviation Terrorism perspective (hereafter cited as NTR)

1992   29thSession of the Assembly, Montréal, 22 September – 8 October

Resolutions	Subject
A29-5	Consolidated statement policies on safeguarding int'l civil aviation
A29-6	Implementation Montréal Convention 1991 Plastic Explosives
Working Papers	**Title and date**
A29-WP/10 – 1992-04-10	Implementation Montréal Convention 1991 Plastic Explosives
A29-WP/24 – 1992-06-27	Safeguarding int'l civil aviation against acts of unlawful interference
A29-WP/25 – 1992-06-27	Implementation of Resolutions A27-7, A27-8, and A27-9 on AVSEC
A29-WP/28 – 1992-07-20	Aviation Security
A29-WP/78 – 1992-09-10	Implementation of Resolutions A27-7, A27-8, A27-9 on AVSEC
A29-WP/80 – 1992-09-10	Role of ICAO in the UN International Drug Control Programme
A29-WP/130 – 1992-09-24	Aviation Security

Year	Name	Instrument to prevent	Also known as the	Open for signature	Entered into force
1991	Convention on the Marking of Plastic Explosives for the Purpose of Detection	Aircraft Sabotage	Montréal Convention on Plastic Explosives (ICAO)	1991-03-01	1998-06-21

1990   28th Session, Assembly-Extraordinary, Montréal, 22-26 October ***NTR**

1989   27th Session, Assembly, Montréal, 19 September – 6 October 1989

Resolutions	Subject
A27-1	Ratification Protocol for Article 3 bis Chicago Convention 1944
A27-7	Safeguarding int'l civil aviation against acts of unlawful interference
A27-8	Marking of plastic or sheet explosives for the purposes of detection.
A27-9	Acts of unlawful interference for destruction of civil aircraft in flight
A27-12	Role of ICAO concerning the carriage of illicit drugs by air
Working Papers	**Title and date**
A27-WP/32 – 1989-06-13	Carriage of illicit drugs
A27-WP/33 – 1989-06-13	Aviation security
A27-WP/39 – 1989-06-30	Safeguarding int'l civil aviation against acts of unlawful interference
A27-WP/41 – 1989-06-30	Safeguarding int'l civil aviation against acts of unlawful interference
A27-WP/64 – 1989-07-12	Mechanism for financial and material assistance for AVSEC
A27-WP/76 – 1989-09-14	Major challenges to civil aviation in the next decade
A27-WP/83 – 1989-08-17	Policy of the ECAC in the field of security
A27-WP/92 – 1989-08-30	Aviation security
A27-WP/107 – 1989-09-15	Enhanced AVSEC measures to address the threat posed by explosives
A27-WP/112 – 1989-09-20	Aviation security
A27-WP/114 – 1989-09-20	Safeguarding int'l civil aviation against acts of unlawful interference
A27-WP/115 – 1989-09-19	Marking of plastic or sheet explosives for the purpose of detection
A27-WP/119 – 1989-09-20	Two Iran Air and one Asseman aircraft unlawfully seized in Iraq
A27-WP/120 – 1989-09-20	Aviation security
A27-WP/134 – 1989-09-24	Aviation security
A27-WP/135 – 1989-09-25	Implementation of Assembly Resolution A26-7 on aviation security
A27-WP/142 – 1989-09-26	Illicit transport of narcotic drugs and psychotropic substances by air
A27-WP/181 – 1989-09-29	Forced premature release of aviation terrorists from detention
A27-WP/222 – 1989-10-03	Draft Resolution on aviation security

The Montréal Convention 1991 was a response to acts of sabotage: (1) Pan Am 103 of 21 December 1988, (2) the UTA 772 on 19 September 1989.[789] In the aftermath of these deadly attacks ICAO Council quickly established an Ad Hoc Group of Experts on the Detection of Explosives, on 30 January 1989. This

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789. Milde, "The International Fight," 151; and also *International Law and ICAO* (Utrecht, ND: Eleven International Publishing, 2008), 242; "Draft Convention on the marking of explosives," *Annals of Air and Space Law*, 15:1, 55-179.

decision was followed by an emergency two-day council session in Montréal starting on 15 February 1989.

Year	Name	Instrument to prevent	Also known as the	Open for signature	Entered into force
1988	*Protocol for the Suppression of Unlawful Acts of Violence at Airports Serving International Civil Aviation* (Montréal Protocol)	Terrorist Airport Attacks	Airport Protocol (ICAO)	1988-02-24	1989-08-06

1986 26th Session, Assembly Montréal, 23 September – 10 October

Resolutions	Subject
A26-4	Instrument for the suppression of violence at international airport
A26-7	Safeguarding int'l civil aviation against acts of unlawful interference
A26-12	Illicit transport of narcotic drugs and psychotropic substances by air
Working Papers	**Title and date**
A26-WP/7 – 1986-03-26	Safeguarding int'l civil aviation against acts of unlawful interference
A26-WP/28 – 1986-06-18	Illicit transport of narcotic drugs and psychotropic substances by air
A26-WP/41 – 1986-07-14	Attacks at Airports Serving International Air Transportation
A26-WP/53 – 1986-08-26	Aviation security
A26-WP/56 – 1986-09-12	Working paper on the question of misuse of civil aviation
A26-WP/61 – 1986-09-16	Illicit transport of narcotic drugs and psychotropic substances by air
A26-WP/62 – 1986-09-17	Iraq threatening safety of international flights within Iran airspace
A26-WP/63 – 1986-09-17	Two Iran Air and one Asseman aircraft unlawfully seized in Iraq
A26-WP/75 – 1986-09-22	Aviation security
A26-WP/77 – 1986-09-23	Bilateral agreements on suppressing acts of unlawful interference
A26-WP/78 – 1986-09-23	Lack of justification for continued membership of Iraq on Council
A26-WP/87 – 1986-09-25	Supplementing Tokyo, Hague, Montréal Convention*s*: extradition
A26-WP/94 – 1986-09-26	Aviation security
A26-WP/95 – 1986-09-26	Draft Resolution Attacks at Airports Serving In'l Air Transportation
A26-WP/101 – 1986-09-27	Aviation security
A26-WP/104 – 1986-09-29	Notification on a situation constituting a risk to international flights
A26-WP/116 – 1986-09-30	Draft Resolution on Ratification of ICAO international instruments
A26-WP/117 – 1986-09-30	Draft Resolution - priority for security

1984 25th Session, Assembly - Extraordinary, Montréal, 24 April – 10 May

Resolutions	Subject
A25-1	Amendment to the Chicago Convention 1944 (Article 3 bis)
A25-2	Ratification of Protocol Article 3 bis into the Chicago Convention
A25-3	Cooperation to ensure the safety of international civil aviation
Working Paper	**Title and date**
A25-WP/9 – 1984-04-25	Undertaking to refrain the use of force against civil aircraft

1983 24th Session, Assembly, Montréal, 20 September – 7 October

Resolutions	Subject
A24-18	Ratification of international air law conventions and reporting

A24-19	Strengthening int'l civil aviation against acts unlawful interference
Working Papers	**Title and date**
A24-WP/42 – 1983-09-09	Safeguarding int'l civil aviation against acts of unlawful interference
A24-WP/65 – 1983-09-23	Airspace regime of States and interception of aircraft
A24-WP/78 – 1983-09-27	Ratification of international air law conventions and reporting
A24-WP/85 – 1983-09-28	Interception of civil aircraft

1980   23th Session, Assembly, Montréal, 16 September – 7 October

Resolution	Subject
A23-21	Ratification of international air law conventions and reporting
A23-22	Refusal to allow unlawfully seized aeroplanes to land
Working Papers	**Title and date**
A23-WP/24 – 1980-06-17	Safeguarding int'l civil aviation against acts of unlawful interference
A23-WP/27 – 1980-06-30	Refusal to allow unlawfully seized aeroplanes to land
A23-WP/29 – 1980-06-30	Safeguarding int'l civil aviation against acts of unlawful interference
A23-WP/31 – 1980-07-10	Legal status of the aircraft commander
A23-WP/35 – 1980-07-15	Ratification of international air law conventions and reporting
A23-WP/78 – 1980-09-24	Refusal to allow unlawfully seized aircraft to land
A23-WP/89 – 1980-09-26	Strengthening int'l civil aviation against acts unlawful interference
A23-WP/128 – 1980-10-01	Strengthening int'l civil aviation against acts unlawful interference

1977   22th Session, Assembly, Montréal, 13 September – 4 October

Resolutions	Subject
A22-5	Sabotage and destruction of a Cuban civil aircraft
A22-6	Participation of PLO in ICAO as observer
A22-16	Strengthening int'l civil aviation against acts unlawful interference
A22-17	Safeguarding int'l civil aviation against acts of unlawful interference
Working Papers	**Title and date**
A22-WP/42 – 1977-08-03	Strengthening int'l civil aviation against acts unlawful interference
A22-WP/60 –1977-09-15	Sabotage and destruction of a Cuban civil aircraft
A22-WP/118 – 1977-09-27	Strengthening int'l civil aviation against acts unlawful interference

1974   21th Session, Assembly, Montréal, 24 September – 15 October

Resolutions	Subject
A21-9	Expeditious ratification of conventions on unlawful interference
A21-23	Safeguarding int'l civil aviation against acts unlawful interference
Working Papers	**Title and date**
A21-WP/43 – 1974-05-27	Protection of the security of international civil air transport
A21-WP/72 – 1974-09-24	Protection of the security of international civil air transport

Year	Name	Instrument to prevent	Also known as the	Open for signature	Entered into force
1974	*Annex 17 to the Chicago Convention – Security: Safeguarding International Civil Aviation against Acts of Unlawful Interference*	Security	Annex 17 (ICAO)	1974-03-22	

1973   20th Session, Assembly - Extraordinary, Rome, 28 August-21 September

Resolution	Subject
A20-1	Diversion and seizure of a Lebanese civil aircraft by Israeli military
A20-2	Acts of Unlawful Interference with Civil Aviation

1973   19th Session, Assembly - Extraordinary, New York, 27 February-2 March

Resolution	Subject
A19-1	Libyan civil aircraft shot down by Israeli fighters 21 February 1973
Working Paper	Title and date
A19-WP/6 – 1973-02-27	Libyan civil aircraft shot down by Israeli fighters 21 February 1973

1972   Nothing to report ***NTR**

Year	Name	Instrument to prevent	Also known as the	Open for signature	Entered into force
1971	*Convention for the Suppression of Unlawful Acts Against the Safety of Civil Aviation*	Unlawful acts	Montréal Civil Aviation Convention (ICAO)	1971-09-23	1973-01-26

1971   18th Session, Assembly, Vienna, 15 June – 7 July

Resolution	Subject
A18-9	Speedy adoption and ratification of Montréal Convention 1971
A18-10	Protection of the Security of International Civil Air Transport
Working Papers	Title and date
A18-WP/36 – 1971-03-19	Speedy adoption and ratification of Montréal Convention 1971
A18-WP/52 – 1971-05-14	Aviation Security Intelligence
A18-WP/81 – 1971-06-17	Unlawful interference with international civil aviation and facilities
A18-WP/126 – 1971-06-25	Protection of international civil aviation

1971   17th-A Session, Assembly - Extraordinary, New York, 11- 12 March ***NTR**

Year	Name	Instrument to prevent	Also known as the	Open for signature	Entered into force
1970	*Convention for the Suppression of Unlawful Seizure of Aircraft*	Hijackings	Unlawful Seizure Convention	1970-12-16	1971-10-14
1970	Int'l Conference of plenipotentiaries concerning Aviation Security	The Hague	Unlawful Seizure Convention (ICAO)	1970-12-01	1970-12-16

1970   17th Session, Assembly – Extraordinary, Montréal, 16-30 June

The Assembly was called to an Extraordinary Session to deal with the alarming increase in acts of unlawful seizure and of violence against

international civil air transport aircraft, civil airport installations, and related facilities.

Resolution	Subject
A17-1	Declaration by the Assembly condemning acts of violence
A17-2	Wider acceptance of the Tokyo Convention 1963
A17-3	Expeditious ratification of The Hague Convention 1970
A17-4	Reports to Council all information on unlawful seizure of aircraft
A17-5	Measures to alleviate the consequences of an unlawful seizure
A17-6	Criminal laws relating to the unlawful seizure of aircraft
A17-7	Strengthening of existing arrangements for extradition
A17-8	Return of unlawfully seized aircraft, crews, passengers and cargoes
A17-9	Good offices of ICAO to solve act of unlawful interference
A17-10	Implementation by States of SARPs
A17-11	Application of SARPs set forth in Appendix B to Resolution A17-l0
A17-12	Establishment of Airport Security Committees
A17-13	Protection of international civil aviation
A17-14	Int'l cooperation and exchange and dissemination of information
A17-15	Radiological Searching Techniques
A17-16	Reports on Incidents of Unlawful Interference
A17-17	General security measures aboard aircraft in flight
A17-18	Material on Security Aspects in Airport Design and Construction
A17-19	Letter from the President of the Council to Heads of Government
A17-20	Proposed convention acts of unlawful interference int'l civil aviation
A17-21	Revision of the Convention on International Civil Aviation
A17-22	Proposed simplification of convention-making procedures
A17-23	Bilateral air agreements to ICAO international conventions
A17-24	Time schedule combat unlawful interference with int'l civil aviation
Working Paper	**Title and date**
A17-WP/3 – 1970-03-25	Review of action already taken in regard to security measures
A17-WP/4 – 1970-04-01	Bringing criminals to justice
A17-WP/5 – 1970-04-02	Protection of aircraft on the ground and processing of passengers
A17-WP/6 – 1970-04-02	Security measures in the vicinity of airports (ICAO)
A17-WP/7 – 1970-04-02	Security elements in the design and construction of aircraft - airports
A17-WP/8 – 1970-04-17	Statement concerning unlawful attacks against civil aircraft
A17-WP/9 – 1970-04-27	Report on incidents of unlawful interference with int'l civil aviation
A17-WP/10 – 1970-04-17	Prevention of armed aggression against civil airline aircraft (IATA)
A17-WP/11 – 1970-04-22	Prevention of armed aggression against civil airline aircraft (IATA)
A17-WP/12 – 1970-04-28	Protection of int'l civil aviation . unlawful interference (Interpol)
A17-WP/13 – 1970-04-29	Action programme proposed (Israel)
A17-WP/14 – 1970-04-30	Rewards as a means of discouraging hijacking, sabotage (US)
A17-WP/15 – 1970-04-30	Bilateral arrangements for the extradition of attackers (US)
A17-WP/16 – 1970-04-30	Cooperation and exchange of information (US)
A17-WP/17 – 1970-04-30	Security elements in the design and construction of airports (US)
A17-WP/18 – 1970-04-30	Measures the assembly should adopt to assure adequate security US)
A17-WP/19 – 1970-04-30	Measures for prevention, prosecution and punishment (Brazil)
A17-WP/20 – 1970-04-30	National legislation punishing unlawful interference (US)
A17-WP/21 – 1970-04-30	Expeditious ratification of The Hague Convention 1970 (US)
A17-WP/22 – 1970-04-30	Ratification of or accession to the Tokyo Convention 1963 (US)

Resolution	Subject
A17-WP/23 – 1970-04-30	ICAO to take more effective action against attacks (US)
A17-WP/24 – 1970-05-01	The Role of ICAO on hijacking (Korea)
A17-WP/25 – 1970-05-05	Aircraft damaged or destroyed by detonation of explosives (UK)
A17-WP/26 – 1970-05-05	R & D for detecting explosive devices and weapons in aircraft (UK)
A17-WP/27 – 1970-05-06	Revision Chicago Convention 1944, new ones, SARPs (Switzerland)
A17-WP/28 – 1970-05-08	Carrier's right to search passengers, baggage, cargo, mail (UK)
A17-WP/29 – 1970-05-08	Proposal for an int'l convention on violence against aircraft (UK)
A17-WP/30 – 1970-05-15	Legal measures criminal actions against air transport (IFALPA)
A17-WP/31 – 1970-05-15	Security measures (IFALPA)
A17-WP/32 – 1970-05-22	Protection of aircraft on the ground, processing passengers (Austria)
A17-WP/33 – 1970-06-02	Expeditious ratification of The Hague Convention 1970 (IATA)
A17-WP/34 – 1970-06-02	Sabotage and similar acts against civil aircraft (Sweden)
A17-WP/35 – 1970-06-03	Amending the Netherlands Criminal Code, penalties for attacker
A17-WP/36 – 1970-06-03	Permanent local security committees for civil aviation (Germany)
A17-WP/40 – 1970-06-05	Legislative and co-operative action by States (Brazil)
A17-WP/41 – 1970-06-08	Measures to avoid unlawful interference int'l civil aviation (Brazil)
A17-WP/42 – 1970-06-08	Better protection aircraft on the ground and in flight (Switzerland)
A17-WP/43 – 1970-08-06	Time schedule combat unlawful interference (Switzerland)
A17-WP/44 – 1970-06-08	Draft Resolution calling for new convention (Switzerland)
A17-WP/45 – 1970-06-09	Repression of terrorism directed at int'l civil aviation (Belgium)
A17-WP/46 – 1970-06-12	Int'l convention covering all offences aircraft (New Zealand)
A17-WP/47 – 1970-06-12	Administrative and police measures for security at airports (France)
A17-WP/48 – 1970-06-12	Exchange information on the development SARPs (Canada)
A17-WP/49 – 1970-06-15	Bilateral air agreements to international conventions (Canada)
A17-WP/50 – 1970-06-15	The effect of publicity on criminal attacks against air transport (US)
A17-WP/57 – 1970-06-17	Criminal Code referring punishment for criminal acts (Yugoslavia)
A17-WP/58 – 1970-06-17	Draft Resolution on the extension of « good offices » (Columbia)
A17-WP/65 – 1970-06-17	Preventive measures against unlawful seizure of aircraft (Italy)
A17-WP/71 – 1970-06-18	Measures to be taken in the air in the case of attack (ICAO-SG)
A17-WP/72 – 1970-06-18	Selective passenger screening systems (US)
A17-WP/75 – 1970-06-19	Simplification convention-making procedures & ratification (IATA)
A17-WP/78 – 1970-06-19	Sanctions against States declining take appropriate measures (Korea)
A17-WP/79 – 1970-06-19	Letter from the President of ICAO Heads Governments (Yugoslavia)
A17-WP/81 – 1970-06-20	Exchange of information on groups attacking civil aviation
A17-WP/82 – 1970-06-20	Amendments to Draft Resolution in A17-WP/73 (hijacking) (Japan)
A17-WP/86 – 1970-06-22	Redraft simplification convention-making procedures & ratification
A17-WP/87 – 1970-06-15	Draft Resolution presented by Canada on A17-WP/49
A17-WP/88 – 1970-06-22	Draft *Convention on unlawful seizure of aircraft*
A17-WP/92 – 1970-06-22	Measures to be taken following detonation of an explosive (ITF)
A17-WP/93 – 1970-06-22	Revision of the *Convention on International Civil Aviation*
A17-WP/95 – 1970-06-23	Summary report on security measures in the vicinity of airports
A17-WP/97 – 1970-06-22	Federal Aviation Act of 1958 (Amended September 5 1961) (US)
A17-WP/98 – 1970-06-23	Summary Report of International Airport Security Practices (ACI)
A17-WP/99 – 1970-06-23	Draft *Convention on acts of violence against int'l civil aviation*
A17-WP/101 – 1970-06-23	Draft Resolution containing a solemn declaration in regard of attacks
A17-WP/102 – 1970-06-23	Protection of aircraft on the ground and processing of passengers
A17-WP/103 – 1970-06-23	Punishment of perpetrators of unlawful seizure civil aircraft (Japan)
A17-WP/105 – 1970-06-23	Simplification convention-making procedures & ratification
A17-WP/112 – 1970-06-23	Prohibition transport of arms and other war material (Lebanon)

Resolution	Subject
A17-WP/113 – 1970-06-23	Protection airports other ground installations and aircraft (Pakistan)
A17-WP/114 – 1970-06-24	Information on the Australian Crimes (Aircraft) Act 1963 (Australia)
A17-WP/115 – 1970-06-24	Return unlawfully seized aircraft, their crews, passengers, and cargo
A17-WP/118 – 1970-06-24	International Cooperation to Combat Unlawful Interference
A17-WP/119 – 1970-06-25	Measures Suggested for Adoption by the Council and Committees
A17-WP/120 – 1970-06-25	Amendment of the *Convention on International Civil Aviation*
A17-WP/121 – 1970-06-25	Draft Text for the Report on Question IV - Action By ICAO Bodies
A17-WP/122 – 1970-06-25	Protection of aircraft on the ground and processing of passengers
A17-WP/124 – 1970-06-26	Draft Text for the Report on Question IV - Action by ICAO Bodies
A17-WP/127 – 1970-06-25	Suggestions Concerning the Establishment of Security Committees
A17-WP/128 – 1970-06-25	Draft Resolution - Radiological Searching Techniques
A17-WP/129 – 1970-06-26	Bill to Punish Hijacking and Loading of Explosives in Aircraft
A17-WP/130 – 1970-06-26	Exchange of information on groups attacking civil aviation
A17-WP/134 – 1970-06-26	Text of Law No. 1226 on the Diversion of Air or Sea Craft
A17-WP/136 – 1970-06-26	Incidents of Forcible Diversion and Attacks against Aircraft
A17-WP/157 – 1970-06-27	Draft Text for the Report on Question IV - Action by ICAO Bodies
A17-WP/158 – 1970-06-27	Letter from the President of the ICAO to Heads of Government
A17-WP/159 – 1970-06-27	Return of Unlawfully Seized Aircraft, Crew, Passengers and Cargo
A17-WP/164 – 1970-06-29	Condemning acts of violence against international civil aviation
A17-WP/165 – 1970-06-29	Obtaining more reports on any incident of unlawful interference
A17-WP/166 – 1970-06-29	Letter from the President of the ICAO to Heads of Governments
A17-WP/167 – 1970-06-29	Return of Unlawfully Seized Aircraft, Crew, Passengers and Cargo

1968   16th Session, Assembly, Buenos Aires, 3 – 26 September

Resolution	Subject
A16-37	Unlawful Seizure of Civil Aircraft

1965   15th Session of the Assembly, Montréal, 22 June – 16 July ***NTR**

Year	Name	Instrument to prevent	Also known as the	Open for signature	Entered into force
1963	*Convention on Offences and Certain Other Acts Committed on Board Aircraft* (Tokyo Convention)	Hijackings	Aircraft Convention (ICAO)	1963-09-14	1969-12-04

1962   14th Session, Assembly, Rome, 21 August – 15 September ***NTR**

1961   13th Session, Assembly - Extraordinary, Montréal, 19-21 June ***NTR**

1959   12th Session, Assembly, San Diego, 16 June – 9 July ***NTR**

1958   11th Session, Assembly, Montréal, 20 May - 2 June ***NTR**

1956   10th Session, Assembly, Caracas, 19 June – 16 July ***NTR**

1955   9th Session, Assembly, Montréal, 31 May - 13 June ***NTR**

1954   8th Session, Assembly, Montréal, 1- 14 June ***NTR**

1953   7th Session, Assembly, Brighton, 16 June – 6 July ***NTR**

1952   6th Session, Assembly, Montréal, 27 May - 12 June ***NTR**

1951   5th Session, Assembly, Montréal, 5 - 18 June

Resolution	Subject
A5-5	Coordination UN-ICAO - International Peace and Security
Working Paper	**Title and date**
A5-WP/16 – 1951-06-05	Coordination UN-ICAO – "United for Peace"
A5-WP/24 – 1951-06-07	Coordination UN-ICAO - International Peace and Security (USA)
A5-WP/38 – 1951-06-13	Coordination UN-ICAO - International Peace and Security (UK)

1950   4th Session, Assembly, Montréal, 30 May – 20 June ****NTR**

1949   3rd Session, Assembly, Montréal, 7 - 20 June ***NTR**

1948   2nd Session, Assembly, Geneva, 1 - 21 June ***NTR**

1947   1st Session, Assembly, Montréal, 6 – 27 May

Resolution	Subject
A1-10	Relations with public international organizations (*see* Res. A37-21)

1946   PICAO First Interim, Montréal, 21 May – 7 June

TABLE N.1   Resolutions and Working Papers Related to Aviation Security

Year	Session	Resolutions		Working Papers	
		Total	Security	Total	Security
2013	38	30	3	424	22
2010	37	32	2	384	21
2007	36	39	4	349	25
2004	35	32	5	353	30
2003	34 *	0	0	7	1
2001	33	31	4	314	25
1998	32	31	3	251	11
1995	31	29	1	239	6
1993	30 *	0	0	3	0
1992	29	34	2	278	7
1990	28 *	0	0	25	0
1989	27	28	5	256	19
1986	26	26	3	199	18
1984	25 *	3	3	21	1
1983	24	30	2	166	4
1980	23	29	2	157	8
1977	22	36	4	162	3
1974	21	41	2	193	2
1973	20 *	2	2	33	0
1973	19 *	5	1	10	1
1971	18	31	2	192	4
1971	17-A *	2	0	9	0
1970	17 *	24	24	167	91
1968	16	56	1	209	0
1965	15	38	0	251	0
1962	14	55	0	173	0
1961	13 *	2	0	8	0
1959	12	41	0	159	0
1958	11	18	0	54	0
1956	10	53	0	150	0
1955	09	16	0	51	0
1954	08	18	0	50	0
1953	07	32	0	100	0
1952	06	15	0	51	0
1951	05	21	1	58	3
1950	04	37	0	298	0
1949	03	24	0	26	0
1948	02	52	0	0	0
1947	01	71	1	0	0
1946	PICAO	0	0	43	0
TOTAL		**1,066**	**77**	**5,873**	**302**

Note: * Extraordinary Assembly