Aviation Safety in America - A Previously Neglected Factor [1]

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- NARCAP -

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Executive Summary

This paper addresses the question of whether there is reliable data demonstrating a significant relationship between aviation safety in America today and unidentified aerial phenomena [UAP] (also called unidentified flying objects [UFO] or flying saucers). Three kinds of reported UAP dynamic behavior and reported consequences are addressed, each of which can affect air safety: (1) near-miss and other high speed maneuvers conducted by the UAP near the aircraft, (2) transient and permanent electromagnetic effects onboard the aircraft that affect navigation, guidance, and flight control systems, and (3) close encounter flight performance by the UAP that produces cockpit distractions which inhibit the flight crew from flying the airplane in a safe manner. More than one hundred documented close encounters between UAP and commercial, private, and military airplanes are reviewed relative to these three topics. These reports are drawn from several sources including the author's personal files, aviation reports prepared by the Federal Aviation Administration (FAA), National Transportation Safety Board (NTSB), and the National Aeronautics and Space Administration administered "Aviation Safety Reporting System (ASRS)." Interestingly, all of the U.S. government sources illustrate the fact either that pilots don't report their UAP sightings at all or, if they do, they almost never use the term UAP, UFO, or flying saucer when reporting their near-miss and/or in flight pacing encounters. I conclude that: (1) In order to avoid collisions with UAP some pilots have made control inputs that have resulted in passsenger and flight crew injury. (2) Based upon a thorough review of pilot reports of UAP over the conterminous United States between 1950 and 2000 it is concluded that an immediate physical threat to aviation safety due to collision does not exist because of the reported high degree of maneuverability shown by the UAP. However, (a) should pilots make the wrong control input at the wrong time during an extremely close encounter the possibility of a mid-air collision with a UAP still exists, and (b) if pilots rely upon their instruments when anomalous electromagnetic effects are causing them to malfunction the possibility of an incident or accident exists. (3) Documented UAP phenomena have been seen and reported for at least fifty years by pilots but many of these reporters have been either ridiculed or instructed not to report their sighting publically. (4) Responsible world aviation officials should take UAP phenomena seriously and issue clear procedures for reporting them without fearing ridicule, reprimand or other career impairment and in a manner that will support scientific research, (5) Airlines should implement instructional courses that teach pilots about optimal control procedures to carry out when flying near UAP and also what data to try to collect about them, if possible, and (5) A central clearing house should be identified to receive UAP reports (e.g., ASRS; Global Aviation Information Network (GAIN). This unclassified clearing house should collect, analyze, and report UAP sightings for the continuing benefit of aviation safety as well as scientific curiosity. Whatever UAP are they can pose a hazard to aviation safety and should be dealt with appropriately and without bias.

Introduction

As most pilots realize, they will experience a wide range of visual phenomena over the course of their flying career. Most of these unusual visual sightings are soon explained to their satisfaction. However, some remain unexplained even after all known laws of science and natural phenomena have been considered. The witness of this residuum of cases is left with a lingering uncertainty, a doubt about the core identity of what was seen. If a pilot has experienced an unidentified visual phenomenon while flying and has suffered overt or covert ridicule or even persecution for submitting a report it is likely that he or she will never make another report should one be called for. I call this the "law of diminishing reports," a type of psychological negative feedback system that inhibits more and more people from simply telling the whole truth. The bng-term and progressive effect of this "law" is that less and less reliable data is brought forth for serious study. The scientist, who rightly claims that he or she cannot study a phenomenon without data, is seemingly justified for not becoming interested in the phenomenon! The result is that an already rare "anomalous" phenomenon becomes even rarer, from the viewpoint of traditional science. Yet, since the objective phenomenon does not stop occurring it continues to yield a small residue of highly interesting cases that beg to be investigated. The present paper focuses on some of these cases of Unidentified Aerial Phenomena (UAP), more commonly called unidentified flying objects (UFO), and their relationship to aviation safety in America today.

The primary objective of this paper is to determine if reliable data exists to show a significant relationship between aviation safety in the United States of America today and so-called Unidentified Aerial Phenomena reportedly flying near aircraft. What is considered to be a significant relationship? A significant relationship exists if the presence of one or more UAP near an aircraft leads to some deviation in normal cockpit procedures, flight path, and/or onboard or ground equipment function that could have contributed to an incident or accident had the flight crew and/or ground personnel not taken appropriate action(s) or the UAP had not taken appropriate action.

The term UAP is defined as follows:

> *An unidentified aerial phenomenon (UAP) is the visual stimulus that provokes a sighting report of an object or light seen in the sky, the appearance and/or flight dynamics of which do not suggest a logical, conventional flying object and which remains unidentified after close scrutiny of all available evidence by persons who are technically capable of making both a full technical identification as well as a common-sense identification, if one is possible*. (Haines, Pp. 13-22, 1980)

This definition clearly excludes most of the prosaic explanations one hears about to explain UAP including rare atmospheric phenomena (e.g., sprites; sheet and ball lightning; mirages, sub-suns, etc.). The residual of cases that remain after all known physical phenomena are considered and rejected truly

confront the scientific mind with mysteries and challenges in spite of the fact that up to now science has shown no genuine or lasting interest in them. (McDonald, 1968)

I do not presume here that UAP are extraterrestrial nor do I presume that they are not. The data must be permitted to "speak" for themselves. I have, however, collected and analyzed hundreds of UAP reports over the years which appear to suggest that they are associated with a very high degree of intelligence, deliberate flight control, and advanced energy management (cf. Haines, 1979, 1983, 1993, 1994, 1999). Others have done the same (Good, 1988; Hall, 1964; Hall, 2001; Ruppelt, 1956; Hynek, 1972).

Aviation Safety. Air safety is the second subject of concern in this paper and is of central concern to more and more people around the world. For as prosperity in general increases so does the number of people who can afford to fly. Indeed, the term "safety" embodies a large and very complex concept composed of hundreds of independent and interacting parameters; it is this complexity that makes it so difficult a subject to study. An ongoing NASA-sponsored analysis of U.S. aviation accidents has subdivided government aviation statistics into scores of categories (Turnbull and Ford, 1999). This Langley Research Center activity is known as the "Aviation Safety Analysis and Functional Evaluation" (ASAFE). These researchers found that between 1990 and 1996 private pilots (a category called "general aviation") accounted for 12,407 fatal aviation accidents (almost 85% of the total) and 4,374 fatalities (77% of all fatalities). Commercial aviation (a category called "Large Air Carriers") account for 143 accidents which is under one percent of the total and 300 fatalities (0.3% of all known U.S. fatalities). U.S. military aviation operations were not considered in ASAFE.

UAP as Possible Causal Agents in Accidents. Since there are no specific categories in which UAP may be considered as a causal factor in aircraft accidents or incidents on the FAA, NTSB, or ASRS data recording forms no such events are found in Turnbull and Ford's otherwise excellent and comprehensive work. Of course, such reports may perhaps be found under a different rubric. I suggest four possible conclusions for this lack of a reporting category for UAP: (1) the incidence of such (UAP) events is so low that they don't warrant inclusion or serious statistical consideration, (2) pilots cannot or will not use the term UAP or UFO officially when relating an aerial encounter that results in an accident, (3) pilots do not report such aerial encounters at all, and/or (4) this class of causal agents are deliberately deleted from official databases. In my experience I believe possibilities 2 and 3 are most likely to account for this effect.

Let us take a further look at current U.S. aviation accident statistics presented in Turnbull and Ford (Ibid.) to see if other insights may be gained concerning UAP/UFO sightings. I will concentrate on two types of aviation operations, general aviation (private) and large air carriers (commercial) since together, they account for the largest number of accidents. Statistical analyses of aviation accidents show that skill-based errors by the flight crew "...are responsible for an overwhelming number of civil aviation accidents... (and is)... the top causal factor (in every category of air operation) ... accounting for 20-25% of the total number of causal factors." (pg. 7) In other words, a breakdown in pilot judgment and/or flying skills are thought to play a central role in contributing to aviation accidents. If a UAP is maneuvering erratically at high speed nearby an airliner and the pilot is trying to avoid it great skill and

judgement are called for. Unless that pilot actually reports seeing the unidentifiable UAP the encounter will not be logged at all and therefore will not be reflected in official aviation statistics.

In investigating aviation safety its definition must be broad enough to encompass every possible causal event, otherwise investigators are liable to overlook subtle and low probability of occurrence events that can have disasterous consequences. As will become clear in this paper, one sub-set of events that has been largely left out of official reporting forms and protocols to date is the presence of UAP operating near aircraft. This is true, by the way, for almost every nation on earth. When pilots, airport operators, and Air Traffic Control (ATC) personnel encounter UAP in the course of their routine operations the consequences can be not only unexpectedly stressful but can lead to unanticipated and potentially dangerous situations. They do not need or deserve other aviation officials acting toward them in an adversarial, demeaning, or threatening manner.

The definition of increased aviation safety that results from the above discussion and which is used in this paper is qualitative rather than quantitative:

> *Increased aviation safety results from the continual conduct of ground and air operations in a manner such that no personnel are killed or injured, no aircraft or ground support vehicles or equipment are damaged, and the potential and/or actual impact of all conceivable causal events upon the successful operation of all aircraft are taken into account.*

Of course, decreased aviation safety might be defined as the opposite of the above conditions where people are injured or killed and aircraft (and ground equipment) are damaged and the impact of all conceivable causal events are not taken into account, including UAP. In the words from a recent Aviation Week & Space Technology magazine article (Pg. 54, August 14, 2000), "Insurers prefer to leave CAT (clear air turbulence) in the "act-of-God" category, which tends to keep liability to a minimum." The same thing might be said of UAP!

UAP and an Accident Taxonomy. A comprehensive consideration of U.S. aviation safety must incorporate recognition and use of a taxonomy (an organizational scheme) that includes all conceivable factors related to aviation safety, including UAP. The modified ASAFE taxonomy proposed in Turnbull and Ford (Pp. 184-188, 1999) represents an important step in this direction for it includes the Human Factor Analysis and Classification System (HFACS) (Anon., 2000). The earlier ASAFE taxonomy failed to include the kinds of errors that were being made, why they occurred, and what were the preconditions that contributed to making these errors. The HFACS was added to ASAFE's taxonomy primarily because *approximately 70% of all causal factors of aviation accidents are human error-related in some way*. Indeed, the "human element" is found in virtually every phase of aviation operations and can be viewed as both an interconnected series of strong and weak links in the causal chain of an accident or incident. It is well known that humans possess perceptual limitations under certain circumstances (e.g., faulty hearing, visual illusions, vertigo), physical limitations (e.g., anoxic effects, stress-coping, g-load tolerance), and mental/cognitive limitations (e.g., sustained alertness, memory encoding and retrieval). But humans also possess extraordinary capabilities (e.g., systematic,

logical decision making, excellent vision under most conditions, good eye-hand coordination, and many others) (cf., Haines and Flatau, Chapters 2 - 6, 1992).

The modified ASAFE accident taxonomy contains eight basic coding categories and a total of 229 possible causal factors for aviation accidents. Thirty one causal factors found in their list were identified as possibly related in some way to a UAP close encounter. They are listed in Appendix 1. Of course at the present time there is no way to know how many incident and accident reports involving one or more of the above 31 causal factors actually involved UAP. It is true that scientists cannot investigate a new phenomenon unless it has reliable data to study.

Potential UAP Eye Witnesses. There are a great many potential eye witnesses to UAP in America and indeed, around the world. In America today there are about 68,500 commercially rated pilots [58,000 *Airline Pilots Association* (ALPA) members; 10,500 *Allied Pilot Association* (APA) members]. There are about 12,295 active U.S. Air Force (USAF) pilots. The number of pilots flying for the U. S. Army, Navy, Marines, Coast Guard, Forestry Service, [National Aeronautics and Space Administration (NASA), and National Oceanographic and Atmospheric Administration (NOAA)] is not known but must number in the tens of thousands combined. In addition there are about 600,000 FAA certified pilots holding a current medical rating, some of whom may be represented in the ALPA and APA figures above. These numbers represent an extremely large number of eye witnesses to atmospheric visual phenomena of all kinds as seen from the air. It is reasonable to suggest that the longer one flies aircraft the greater is the likelihood that one will see something that cannot be identified.

When the large (mean) number of hours of flight time per pilot per year is considered along with the relatively large visual field available from the cockpit, the long slant range visibility (particularly in Visual Meteorological Conditions), and the large surface area beneath their aircraft are taken into account there exists a truly significant chance that if there is something unusual and interesting to be seen from the air it will be seen, particularly after dark when self-luminous phenomena become more conspicuous.

Flight Time and Distance Statistics. Current Bureau of Transportation Statistics (BTS) activity data for U.S. domestic and international operations air carriers provides the number of aircraft departures, hours flown, and miles flown for each of 117 airlines. <http://nasdac.faa.gov/bts> Considering only the 16 airlines listed that operated more than 100,000 departures in 1998 they (collectively) made 7.486 million departures, flew 12.357 million hours and 4,815.81 million miles (TDc). If statistics for the nation's two largest air cargo airlines (Federal Express Corp.; United Parcel Service) are added these numbers swell to 7.957 million departures, 13.139 million hours, and 5,147.46 million miles (Tdt) flown. Assuming two and a half flight crewmembers in each cockpit and an average of four departures per aircraft (per day) yields 4,678,656 potential air crew witnesses for all these passenger aircraft and 4,973,032 potential cockpit eye witnesses for passenger and cargo aircraft. To these statistics must be added all of the flight crews, departures, and miles flown by the other 101 U.S. air carriers, the thousands of private pilots who fly fewer miles and hours per year, and even the passengers who fly on these commercial flights. Of course aircraft flight tract also must be considered

since high altitude operations across continental USA typically follows pre-established routes. These statistics can be used as normalizing factors in subsequent statistical analyses.

Commercial Airline Flight Routes. The preceeding statistics imply that these flight miles cover the U.S.A. homogeneously but, of course, they do not. Commercial aircraft, for instance, don't fly everywhere above the continental USA for reasons of safety and air traffic control effectiveness. (Hopkin, 1995) Indeed, airlines follow highways in the sky called "airways" or "jetways" that are carefully marked by radio navigation beacons. Aircraft flying on different magnetic headings also fly at different altitudes to help separate them. Because of these facts the above statistics for number of hours and miles flown do not represent an accurate picture of the geographic coverage of the continental USA by commercial aircraft. If the conterminus U.S.A. (excluding Alaska and Hawaii) consists of 3,022,387 square miles and a pilot above 25,000 feet altitude can see (in clear weather during daylight hours) a high contrast reflecting object (larger than his or her distance acuity limit) at a slant range of at least thirty miles to each side of the flight path, then each air mile represents a sixty mile wide swath of potential object visibility (V). When V is multiplied by TD this gives some idea of the total ground area covered by these 16 commercial airlines for 1998:

16 Major Commercial Airlines . . . . . 288,948.6 million square miles . . . 9.6% of land area
Plus two largest Air Cargo Airlines . . 308,847.6 million square miles . . . 10.2% of land area

The above values must also be reduced by some factor that represents the geographic lateral spacing of the airways and jetways. This complex calculation has not been attempted here. Suffice it to say that pilots have a unique vantage from which to sight anomalous aerial phenomena both during the day and nighttime.

Review of Pilot Reports from the Author's AIRCAT Files

This section presents the results of a thorough fifty year review of the author's AirCatalog (AIRCAT) UAP database from 1950 to 2000. AIRCAT currently contains well over 3,300 sighting reports from foreign and domestic pilots of most of the nations of the world. Cases were selected because they appeared to impact aviation safety in at least one of three primary safety areas: A. Near-miss and nearby pacing incidents with UAP reported by U.S. (and some foreign) aircraft while flying over the United States of America and its continental waters. Mid-air Collisions and Missing Aircraft cases are also discussed. B. Electromagnetic (E-M) effects which occur onboard an aircraft flying over the United States of America when the UAP is seen to be (relatively) nearby. If the E-M system(s) either returns to normal function after the UAP departs or is permanently damaged is considered, and C. Situations, apparently produced by the presence of UAP, which cause confusion, panic, attentional capture, or other dangerous conditions aboard U.S. or foreign aircraft flying over the United States of America or its continental waters. Case report abstracts are presented in Appendices 2 through 5.

Passenger-carrying commercial and military flights make up the majority of the following cases with a small number of private pilot sightings. These reports strongly suggest that air safety could have been compromised in some way. It is acknowledged that near-miss incidents are a common occurrence

in America even today due to many factors. (Turnbull and Ford, 1999) Do such incidents include UAP encounters? When a pilot cannot honestly identify the other vehicle and resorts to using the term unidentified flying object or other related term I do not believe that they necessarily mean anything other than just that. The term UFO is likely used as a convenience and does not necessarily mean the witness believes the other object was extraterrestrial as is often imputed by the press or aviation officials.

A. Near-Miss and Nearby Pacing Incidents with UAP Reported by U.S. (and some foreign) Aircraft

Table 1 summarizes 56 cases identified in this AIRCAT review in which the pilot(s) reported a near-miss and 38 more involving aircraft pacing by a UAP with particular emphasis upon the kind of UAP approach flight maneuver(s) that was made relative to the aircraft. There were twenty four different maneuvers found from the perspective of a plan view (i.e., looking down from above). Each is represented here by a simple diagram.

Table 1
Reported UAP Flight Maneuvers Performed
Near the Aircraft  **From a Plan View Perspective**

Flight Maneuver Diagram	Case Number and Aircraft Classification
Approach from Front of Aircraft	
1. *uap* → ← *aircraft*	80-UP; 93-UC
2. → ←	26-UM; 34-UC; 53-UM; 65-UC
3. ← →	9-UM; 13-UC
4. ↗ ←	14-UM; 56-UM; 59-UP
5. ↘ ←	15-UM; 21-UC; 40-UM; 42-UC; 46-UM; 85-UP
6. → ←	23-UM; UC-57
7. not specified ←	27-UM

Table 1 (continued)

Flight Maneuver Diagram	Case Number and Aircraft Classification
8. *uap* → *aircraft*	7-UM; 33-UC
9.	47-UC; 61-UP; 74-UC; 81-UP
10.	44-UC; 60-UP
11. not specified	62-UP
12.	63(b)-UP; 67-UC
13.	86-UC
Approach from Rear of Aircraft	
14.	64-UC; 69-UC
15.	66-UP; 84-UP
16.	71-UM (helicopter rotor)
Off-wing Pacing of Aircraft	
17.	58-UP; 68-UP; 87-UP; 88-UP
18.	25-UM; 37-UM; 75-UC
19. side of aircraft not specified	19-UM; 72-UP,UC; 73-UC
Paces Aircraft Dead Ahead	
20.	77-UC; 82-UP
Orbits Aircraft	

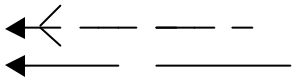
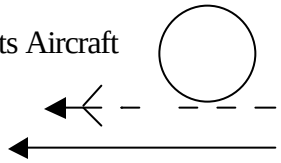
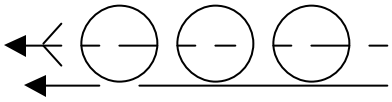
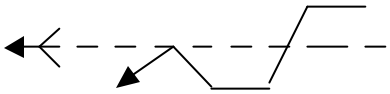
21.  10-UC; 92-FC

Table 1 (continued)

Flight Maneuver Diagram	Case Number and Aircraft Classification
Flies Near or Orbits Aircraft	
22. 	11-UM
23. 	52-UM; 63(a)-UP
Paces Aircraft on Both Sides	
24. 	55-UP; 70-UP

When the pilot report emphasized the vertical motions of the UAP it was possible to classify some UAP approach maneuvers from a side view (elevation) point of view. Those cases, associated with sixteen different maneuvers, are presented in Table 2. Of course some pilot reports described three dimensional motions, particularly when the UAP flew in highly 'exotic,' i.e., non-inertial, non-aerodynamic fashion. These cases are included in both Table 1 and 2 in the single dimension that most clearly describes them.

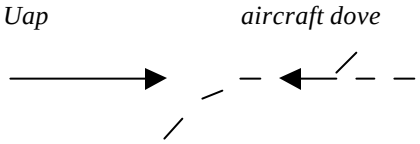
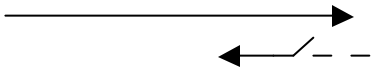
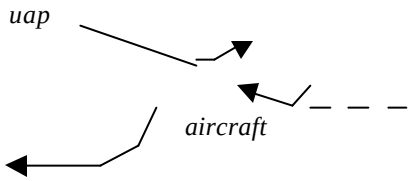
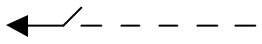
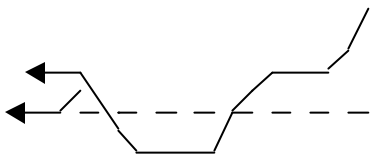
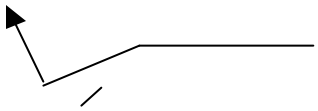
Number of Eye Witnesses. A total of 229 pilot and passenger witnesses were involved in the cases presented in Tables 1 and 2. This represents an average of 2.4 witnesses per aircraft. It simply is not true that people see UAP only when they are alone. The presence of a second, third, or fourth witness onboard an aircraft is an important factor in motivating the air crew to follow company or U.S. Government agency reporting procedures rather than merely forgetting about the encounter. Nevertheless, in 11 of these cases representing 32 eye witnesses (Mean = 3.4 witnesses per aircraft) no one reported their sighting officially.

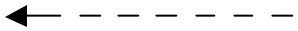
Passenger Injury Cases. Passengers were injured in the following cases (aircraft classification follows each hyphen) when the pilot executed an abrupt avoidance maneuver, fearing a collision with the UAP: 28-UC; 31-UC; 45-UC; 49-UC; and 50-UC. Aviation safety is clearly implicated when passengers are injured during flight.

Hourly Distribution of Cases. Table 3 presents a summary of the local times for each of the 94 cases reviewed here for which time of occurrence was reported. Note that the majority occurred after dark, a finding that corresponds to findings of numerous other UAP studies (e.g., Hall, 1964; Hatch, 1999; Vallee, 1965). Note that there is also a skew in this time-of-day curve well into the full daylight hours which is reasonable considering that most commercial aircraft fly during the daytime. Of the twelve E-M cases (Nos. 71, 83, 92, 98 – 105) four (33%) took place during daylight hours.

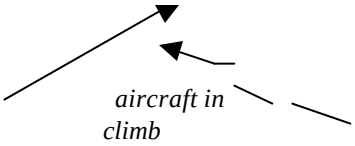
Table 2
Reported Approximate UAP Flight Maneuvers Near the Aircraft From a Side Elevation Perspective (Aircraft flight path dashed)

(U = US aircraft; F = foreign; C = Commercial; M = military; P = private)

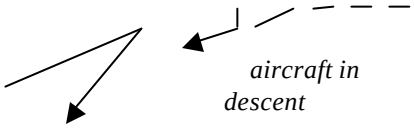
Flight Maneuver Diagram	Case Number and Aircraft Classification
Direct-Horizontal (at Same or Almost Same Altitude) Approach Toward Aircraft	
1. 	28-UC; 31-UC; 36-UM; 50-UC; 76-UP; 78-UP; 91-UP; 50-UC
2. 	8-UP; 90-UC
Approach from Above and Forward of Aircraft	
3. 	94-FC
4. 	3-UM; 22-UP; 45-UC; 51-UC
5. 	30-UM
6. 	18-UP
7. 	54-UP



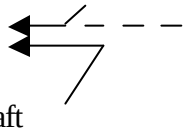
Approach from Below and Forward of Aircraft

8. 

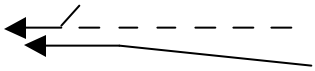
48-UP

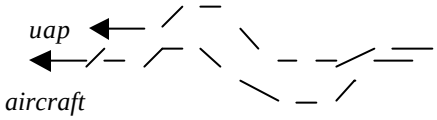
9. 

24-UM

10. 
16-UC; 17-UC

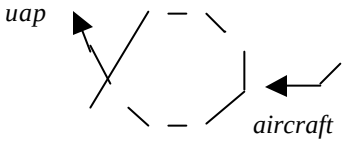
Approach from Behind Aircraft

11. 
1-UC; 29-UM

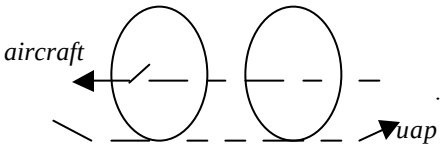
12. 

32-UM

UAP Flew in Orbits in the Sky

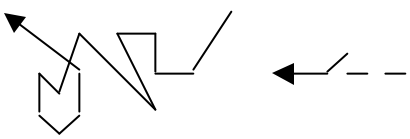
13. 

39-UM; 89-UC

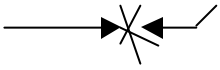
14. 

6-UP(2 ea.); 38-UC(1 ea.); 79-UP(many); 83-UP(very many)

UAP Performed Multiple, Complex Maneuvers in the Sky

15. 
43-UC

Mid-air Collision (With or Without Wreckage Found)

16. *uap*  *aircraft* 96-UM; 97-UM

Unspecified Maneuvers or Incomplete Information

17. - - - - - - - - - - - - - - - - - - - 20-UP; 35-UM; 49-UC; 95-UC

Table 3
Hourly Distribution of Near-Miss and Pacing Incidents in 30 minute increments

Local Time	Case Number(s)
Midnight	87-UP
0030	28-UC; 63(a)-UP; 88-UP
0100	
0130	41-UC
0200	13-UC
0230	69-UC
0300	16-UC; 61-UP
0330	17-UC; 45-UC
0400	73-UC
0430	
0500	56-UM
0530	35-UM
0600	
0630	37-UM
0700	
0730	
0800	
0830	
0900	
0930	77-UC
1000	52-UM
1030	
1100	
1130	48-UP; 97-UM
Noon	8-UP
1230	
1300	79-UP; 82-UP
1330	5-UM; 78-UP; 80-UP
1400	
1430	10-UC
1500	30-UM; 59-UP; 83-UP
1530	9-UM; 19-UM; 81-UP

1600	65-UC; 91-UP
1630	86-UC
1700	26-UM
1730	90-UC
1800	92-FC
1830	12-UM
1900	1-UM; 3-UM; 24-UM; 68-UP; 76-UP
1930	22-UP
2000	6-UP; 14-UM; 51-UC; 64-UC; 75-UC; 89-UC

Table 3 (continued)

Local Time	Case Number(s)
2030	4-UC; 23-UM; 25-UM; 46-UM; 58-UP; 72-UP,UC
2100	32-UM; 33-UC; 34-UC; 36-UM; 39-UC,UM; 53-UM
2130	44-UC; 47-UC; 66-UP; 84-UP
2200	2-UP; 18-UP; 21-UC; 43-UC; 50-UC; 54-UP; 62-UP; 94-FC
2230	70-UP; 85-UP
2300	38-UC; 40-UM; 42-UC; 71-UM
2330	55-UP; 74-UC
Others:	"Day" 93-UC; "Afternoon" 29-UM; "Dusk" 57-UC; "Late Evening" 31-UC; "Twilight" 7-UM; "Night" 15-UM; 20-UP; 60-UP; 67-UC; 95-UC; 96-UM; "Not specified" 27-UM; 49-UC

Distribution of Cases by Year and Aircraft Classification. Table 4 presents the distribution of all cases by year, aircraft classification, and local time. Note that the great majority of the mili-tary pilot reports occured between 1950 and 1958 while commercial and private pilots reported their sightings relatively consistently over the entire fifty year period.

Table 4
Case Distribution by Year, Aircraft Classi fication, and Local Time (in 2400 hr format)

	Aircraft Classification		
Year	*Private*	*Commercial*	*Military*
	case no./hour		
1950	2-2200	1-2025	3-1915
1951	6-2000; 8-1250	4-2030	5-1340; 7-twilight; 9-1553
1952	18-2200; 20-night; 22-1940	10-1430; 13-0227; 16-0300; 17-0330	12-1834; 14-2026; 15-night; 19-1540; 23-2046; 24-1915
1953		28-0010	25-2030; 26-1700; 27-n/a; 96-night
1954		31-late evening;	29-afternoon; 30-1520;

		33-2104; 34-2104	32-2100
1955		38-2300; 39-2100	35-0544; 36-2107; 37:0655
1956		41-0145; 42-2300; 43-2210	40-2305; 97-1140
1957	48-1132	44-2145; 45-0345; 47-2135; 50-2215; 51-2015	46-2035

Table 4 (continued)

	Aircraft Classification		
Year	*Private*	*Commercial*	*Military*
1958			52-1017; 53-2103
1959			
1960			
1961	54-2215		
1962			
1963	55-2345		
1964			56-0529
1965		57-dusk	
1966	58-2052; 59-1515		
1967	60-night; 61-0300		
1968	62-2220; 63(a)-0031; 63(b)-0040	64-2000	
1969		65-1600	
1970	66-2130	67-night	
1971	68-1910		
1972			
1973	70-2230; 72-2035	69-0230	71-2305
1974		73-0415	
1975			
1976			
1977		74-2340	
1978	76-1910; 78-1330; 79-1315; 80-1340	75-2000; 77-0934	
1979	81-1530		
1980	82-1315; 83-1500; 84-2130		
1981	85-2240; 87-0010;	86-1646	

	88-0030			
1982				
1983				
1984				
1985		89-2000; 90-1731		
1986	91-1600	92-1800		
1987		93-day		
1995		94-2220		
1997		95-night		
Totals	32	36	27	Grand Total = 95

There does not appear to be any trend in local time of a UAP sighting over this span of years.

B. Mid-air Collisions and Missing Aircraft

There is no doubt that a single mid-air collision has a significant impact on the public's consciousness of aviation safety. The primary question here is what did the aircraft collide with? Or in the case of a missing aircraft, what caused the event? In both cases there seldom are eye witnesses. Only secondary, circumstantial evidence may be available (cf. Berlitz, 1977; Haines, 1987).

In their comprehensive review of "Aviation Accident Analysis," Turnbull and Ford (1999) discuss mid-air collisions for six operational classes within current U.S. aviation, viz., general aviation, rotary wing (helicopter), cargo flights, air taxis, commuter air carriers, and large air carriers. They analyzed the assumed series of causal sequence events leading up to mid-air collisions using six causal factors (AF: aircraft failure; ATE: air traffic environment; USO: unsafe supervision/organizational influences; HF-G: human failure-ground personnel; HF-F: human failure-flight personnel; and W: weather). Their Figure 229 presents the array of causal sequences of mid-air collisions involving the "See-and-be-seen" principle of flight for all six operational classes as a function of these six causal factors. Only the general aviation (GA) data is reviewed here because only it has sufficient data for statistical analysis (except rotary wing). Interestingly, HF-F is the overwhelming causal factor in GA mid-air collisions during see-and-be-seen flight. It accounts for almost 90% of the causal factors in each of the five defined sequence events. Since the pilots are killed in the majority of mid-air collision accidents definite causative data must be obtained from other sources including eye witness testimony; the fact remains that these pilots cannot defend themselves or otherwise clear their record. USO and ATE also contribute a minor amount to most of the five sequences. If a UAP actually had been involved in any of these mid-air collisions only ground radar and the pilot's recorded voice transmissions would be available to implicate it. Two such possible cases (No. 96, 97) are presented in Appendix 3 from Air Force and other records. According to researcher Leonard Stringfield who used to work for the Air Defense Command, General Benjamin Chidlaw, former Chief of the nation's Continental Air Defense

Command in the 1950s allegedly admitted, "We have lost many men and planes trying to intercept them" (UFO).

I have become convinced over thirty years of personal study that since UAP encounters may potentially influence one or more of the above causal factors it is incumbent upon aviation safety planners and decision-makers to not prohibit the inclusion of these often unusual, bizarre data in the data collection and analysis process and thereby help us better understand how to reduce unsafe air crew and ATC behavior in their presence as well as help us understand better the true nature of UAP.

There are several reports of actual impacts with unidentified aerial objects during aircraft flight. Of course the primary issue is what actually collided with the airplane? (cf. Crain, 1987) In many cases the impact is with birds that fly at very low as well as relatively high altitudes [e.g., FAA Incident Report No. 19890213009059G; Local Time: 02/13/1989 In this instance the pilot reported a "noise and bump inflight... Unidentified object had damaged various parts of aircraft."]. Bird strikes involve all classes of aircraft, however, the higher the altitude at which a unexplainable mid-air collision occurs the less likely it was caused by a bird strike. In case 2 below a strange looking aerial phenomenon approached and struck the propeller of a light aircraft, exploding like a bomb. Fortunately, no damage to the propeller or any other part of the fuselage or wings could be found upon landing.

C. Transient and Permanent Electromagnetic (E-M) Effects Associated with UAP

This section reviews 24 pilot reports where one or more instruments and/or displays were affected when the UAP was seen nearby the airplane. Case abstracts are found in Appendix 4. It seems reasonable to suggest that aviation safety can be compromised if the flight displays, controls, navigation system, and/or other electromagnetically controlled equipment fail to operate normally during flight. This is precisely what has been reported on numerous occasions involving UAP as the following review makes clear.

Fortunately, in most of these instances the electromagnetically sensitive equipment returned to normal function after the phenomenon or object departed! This finding in itself raises important and puzzling questions about the nature of UAP. In some cases the flight crew lost confidence in the reliability of the system(s) and ignored readings altogether. In most instances tests conducted after landing showed that the instruments were operating normally again. Clearly, such events pose potential hazards to air navigation, radio communications, flight path control, flight crew distraction, and cockpit discipline in general, to name but a few. Of course, one important implication of the occurrence of such transient EM effects is that the UAP are radiating energy of one or more kinds.

Interested readers should consult (Anon., 1978) for a particularly interesting and detailed transcript of conversations between several commercial aircraft and various ground controllers on the night of June 24, 1978 involving simultaneous radar-visual contact with a fascinatingly beautiful UAP seen in Wisconsin airspace. Soon after this prolonged charter aircraft encounter had ended ground controllers vectored a second (North Central flight 577) commercial aircraft with a passenger on board to deviate off his original course "in order to get a closer look at it."

The literature contains a number of scholarly articles on various electromagnetic effects, allegedly originating from UAP, on a variety of man-made objects such as automobile engines and lights, aircraft cockpit instruments, radar and radio equipment, and other devices. (Falla, 1979; Haines, 1992; Johnson, 1983; Johnson, 1988; Rodeghier, 1981)

A total of 24 cases with 36 different EM events were found in this review of AIRCAT files in which one or more onboard cockpit displays or controls were adversely affected on U.S. aircraft when the UAP was flying near the aircraft and/or the UAP was registered on ground and/or airborne radar. Of course many other similar foreign cases also exist. If the phenomenon was registered on cockpit instruments or influenced the functioning of cockpit instruments only during the encounter it is marked as *transient*. If the aircraft systems were damaged permanently, allegedly as a result of the encounter, it is marked as *permanent*. Table 5 summarizes these findings.

The data presented in Table 5 raise genuine concerns about aviation safety when one is flying near some UAP. The 24 cases listed here represent 23% of the total 105 UAP reports. Since four of these cases involved airborne radar and 11 cases involved ground radar contact with the UAP these cases may be considered, in general, as contributing to aviation safety because of the detection capability provided by radar contact. It is the remaining 12 cases (11.4% of 105 cases) involving 21 different detrimental E-M events that should be of interest to scientists and of concern to aviation officials. About one in ten close UAP encounter reports include a reference to one or more failures of onboard displays and/or controls, or radio communications. It is fair to say that these EM cases offer the scientist a rich field for further study.

Table 5
Electromagnetic Effects Reported When UAP Was Nearby the Aircraft

Case No.	Date	Aircraft System or Sub-System Affected (and Radar contact)	Transient (T)	Permanent (P) Not known (N)
3	November 7, 1950	Radio transmission failure (142.74 MHz)		N
15	July 11, 1952	Airborne radar contact	T	
21	Autumn 1952	Ground radar contact		T
24	December 10, 1952	Airborne radar contact (ARC-33)		T
39	December 11, 1955	Ground radar contact		T
44	March 8, 1957	Ground radar contact		T
47	June 3, 1957	Ground radar contact		T
54	July 4, 1961	Ground radar contact		T
60	January 1967	Ground radar contact		T
69	February 14, 1973	Airborne radar contact	N	
71	October 18, 1973	Radio transmit/receive inoperative		T

72	October 19, 1973	Ground radar contact		T
80	August 27, 1978	Ground radar contact		T
83	September 28, 1980	Radio became inoperative		T
92	November 17, 1986	VHF radio interference	T	
		Airborne (X band) weather radar contact		T
		Ground (USAF) radar contact	T	
96	November 23, 1953	Ground radar contact		N
98	August 13, 1959	Magnesyn compass (slow rotation)		T
		Magnetic compass (spun "crazily")		T
99	June 29, 1967	Compass began to spin	T	
		Electrical system failed	P	
		Circuit breaker panel shorted out		P
100	November 28, 1974	Magnetic compass rotated slowly (4 rpm; CCW)		T

Table 5 (continued)

Case No.	Date	Aircraft System or Sub-System Affected (and Radar contact)	Transient (T) Permanent (P) Not known (N)	
101	March 12, 1977	Gyrocompasses pointing in wrong directions		T
		Auto-pilot (heading mode) commanding direction change (left)		N
		Magnetic compass pointing in wrong direction	T	
102	November 18, 1977	Transponder failed (DME was OK)		T
103	May 26, 1979	Magnetic compass spun		N
		Automatic Direction Finder spun		N
		Radio receiver experienced heavy static		N
		Engine ran rough		N
		Ground radar contact		T
104	April 8, 1981	Radios (2) transmit/receive inoperative	T	
		Distance Measuring Equipment failed		T
105	March 1, 1986	Radio became inoperative with heavy static		T
Total = 24 cases		Total = 36 events	Total: T = 26	72.2%
			P = 2	5.6%
			N = 8	22.2%

D. Attention Distraction in the Cockpit

This section briefly considers the important matter of the attentional focus of the flight crew during an encounter with one or more UAP. One of the tenets of current Cockpit Resource Management (CRM) air crew training is that everyone must work with one another as an integrated team. Each member should back up the other during periods of high workload, high stress, complex decision-making, and difficult flight control. But when the crew is faced with an extremely bizarre, unexpected, and prolonged luminous and/or solid 'phenomenon' cavorting near their aircraft that could affect their safety it is possible for cockpit discipline to break down. To panic in the cockpit is to lose the capability to maintain full and safe control of one's aircraft. If passengers should panic then it is equally difficult to maintain a completely safe flight. Fortunately most pilots are able to exercise exceptional self-control during these stressful encounters. And, it is also most fortunate that the Air Force no longer requests commercial pilots to chase UAP for them as they used to do. (e.g., Buffalo Evening News, Buffalo, NY, April 10, 1956; Hall, R.H., The UFO Evidence, Pg. 41, 1964;

These kinds of pilot reports are very hard to locate because they are seldom reported; they can be used against a pilot by aviation authorities. The air crews who reported here are to be congratulated on coming forward with these disclosures. Appendix 5 presents several such examples in addition to Case 28, 34, 45, 49, 50, 60, and 61 specifically and all of the others cited here generally.

It is interesting to note the wide range of pilot responses to these UAP encounters. Some pilots are curious about what they are seeing and try to fly nearer to the phenomenon. Some pilots fear for their lives and carry out immediate evasive maneuvers. And some pilots don't do anything but watch the light show in awe and fear. In any case it can be argued that their attention has been captured by the other object(s) or light(s) so that they cannot concentrate as fully as before on normal cockpit duties.

II. Abbreviated Review of Official U.S. Government Incident Reports

This section presents a small collection of official U.S. government aviation incident reports which contain interesting and potentially valuable data on the present subject. These incident reports are sadly but understandably lacking in any clearly identified references to UAP. Reasons for this are many and are discussed elsewhere in this paper.

IIA. Review of Federal Aviation Administration's *Near Midair Collisions System Search Database*

The first set of intriguing reports is from the Federal Aviation Administration's "Aviation Safety Data" Near Midair Collisions System Search" <http://nasdac.faa.gov/lib/vtopic.exe> This database contains reports only from 1992 to the present. A near midair collision (NMAC) is defined as "an incident associated with the operation of an aircraft in which a possibility of a collision occurs as a result of proximity of less than 500 feet to another *aircraft*..." (Ibid., pg. 9) (italics mine) Of course, according to this restricted definition a NMAC with a UAP or a bird, etc. cannot be counted. Nevertheless, a relatively large number of such reports (5,053) are included in this database. Clearly, the door is open

for the inclusion of UAP sightings in the future when government policy is established that encourages pilots to report such encounters and when pilots become courageous enough to do so.

One problem that continues to stand in the way of achieving this important objective is the subtle, almost unconscious prejudice many have against the very idea of UAP. This attitude seems to be reinforced at most levels within the aviation community, particularly at the highest levels. The current law requires that "all NMAC reports are thoroughly investigated by FAA inspectors in coordination with air traffic controllers." (Ibid., pg. 9) However, if there is any amount of covertly held prejudice about the subject of UAP, all UAP-related NMAC reports are likely either to be redefined in terms of conventional aircraft or dismissed completely in some other acceptable means. Unfortunately, there is no way to know for sure whether any past NMAC reports involved UAP. Nevertheless, as the following selected entries suggest, pilots may have used other more acceptable words for UAP such as "(conflicting) traffic," "unidentified aircraft," "balloon," etc. The more likely event is that pilots simply don't report NMAC events at all when the other vehicle is not clearly identified as being an airplane or other conventional object. This view is supported by data that is presented below.

It is interesting to note in the FAA's Near Midair Collisions System Search database that: (1) Pilots never used the term "flying saucer," "UFO," "disk," or other such description of the "other" aerial vehicle. Several possible reasons why this is the case are given in the discussion section. (2) Other possible synonyms for UAP were found in this database. They included:

> "Unidentified aircraft which passed closely off FLT 452's left wing. Traffic had not been observed..." (e.g., Rept. No. NCERICT98003, GMT Date: 12-15-98).

> "Other aircraft" (e.g., Rept. No. NSWROKC97001, GMT Date: 9-12-97).

> "Unknown aircraft made a 180 degree turn and came back towards (the reporting aircraft), at which time (reporting aircraft) took evasive action." (e.g., Rept. No. NWPRSCT97015, GMT Date: 9-5-97)

None of these reports gave any information about the identity of the "other aircraft." No explanation is given for the lack of this very important information. Appendix 6 presents several representative NMAC reports found in this database. In a non-trivial number of the reports I reviewed none of the pilots of aircraft involved in near-miss incidents ever returned telephone calls from official investigators trying to obtain further details, perhaps for obvious reasons (one example is Rept. No. NSWROKC97001, GMT Date: 9-12-97).

In summary, how many near-miss events were actually due to UAP but which were labeled "traffic," "unidentified aircraft," "unknown object" or even "balloon" (e.g., Rept. No. NCECZKC96001, Date: 4-25-96) to avoid embarrassment, paperwork, or possible career impairment? There is no way to answer this vital question at this time. Future reporting requirements for all such near-miss incidents should permit the pilots and air crew to use whatever words they deem necessary without fear of reprimand or ridicule.

IIB. National Transportation Safety Board's *Aviation Accident/Incident Database*

The second source of possibly relevant data to this study came from the files of the National Transportation Safety Board (NTSB), an independent Federal agency that is charged by Congress to investigate and document "every civil aviation accident in the United States and significant accidents in the other modes of transportation...". <http://nasdac.faa.gov/safety_data> An aviation accident basically involves death or serious injury or substantial aircraft damage. A preliminary NTSB form (6120.19A) must be filed within 5 working days of the event and a factual report (form 6120.4) within a few months. The NTSB Aviation Accident/Incident database includes events that took place between 1983 and the present. A recent review showed that there were 44,580 such reports currently on file. Appendix 7 presents three interesting relatively current cases from this database which were selected to illustrate the fact that near misses with unidentified flying objects continue to occur in our skies.

IIC. Federal Aviation Administration's *Incident Data System*

The third source of aviation safety-related information is the FAA's "Incident Data System." This database contains aviation incident data records for all categories of civil aviation where the events are not serious enough to meet the (above) personal injury or aircraft damage thresholds. Data is only available between 1978 and the present. As before, no reports in which the terms "flying saucer," "UFO," "disk," etc. could be found in any of the reports that were reviewed.

However, many reporters used terms that might have masked an actual UAP encounter. These terms included:

> "unknown object" which struck the tail and damaged a Braniff Airways DC-8-51 aircraft flying at cruise altitude. (Rept. No. 19790627017539C, Local Date: 6-27-79).
>
> "Cessna CE-310-D was struck by an "unknown object" on VOR final approach to landing. (Rept. No. 19790327011749G Dated: 3-27-79)
>
> "Cessna CE-172-P received a dent in the leading edge of a wingtip on approach to landing from an "unidentified object." (Rept. No. 19841129074319G, Dated: 11-29-84).
>
> "Cessna CE-177-B incurred a bump (and simultaneous noise) inflight by an "unidentified object" that "damaged various parts of aircraft."
>
> [Note: The FAA analysts typically explained the cause of such incidents as bird strikes although no supporting data for this explanation was ever

reported. Of particular interest in this paper are alleged "bird strikes" at very high cruise altitudes.]

IID. NASA's *Aviation Safety Reporting System*

A fourth source of official and intriguing aviation incident reports is found in the FAA funded and NASA administered "Aviation Safety Reporting System" (ASRS). This system is a voluntary, confidential, anonymous incident reporting program established under FAA Advisory Circular 00-46D. Anyone working in the aviation industry is encouraged to use the ASRS procedures to "identify hazards and safety discrepancies in the National Airspace System (NAS)" and to help "formulate policy and to strengthen the foundation of aviation human factors safety research." <http:// nasdac.faa.gov/safety_data, pg. 8> The exact time, flight number, pilot name(s), and other identifying information are purposely deleted to help maintain the reporter's anonymity. I did not review all 332,290 currently available reports. I did, however, carry out many scores of selected database searches using the following key search words [number of total "hits" or "reports" found are given in parentheses for each word(s)]:

"near miss, unknown aircraft, unknown object"	(5,098 reports)
"near miss, unknown aircraft, unknown object and 'primary problem area' *"Flight crew human factors*"	(973 reports)
"in-fight encounter/other and 'primary problem area' "*Aircraft and Their Subsystems*"	(125 reports)
"unidentified object"	(9 reports)
"unidentified traffic"	(3 reports)
"UFO"	(1 report)
"flying saucer, flying disk"	(0 reports)
"unidentified aerial phenomena"	(0 reports)

The only report found in which the term UFO was used was Report No. 82260 (1988/02) but it did not appear to implicate UAP or impact air safety and therefore is not reviewed here. When the terms "unidentified object" and "unidentified traffic" were reviewed none of them were related specifically to "UAP" encounters. Seven provocative ASRS reports were found and are included in Appendix 8.

Discussion

This discussion will focus on two subjects, the safety-related issue of UAP and pilot reporting dynamics which are closely related both to safety and to scientific study of UAP.

Aviation Safety and UAP. It can be argued that, since almost all of the reports presented in this paper eventually were submitted to some person or agency, the reporters lived to tell about their unusual encounters and aviation safety was not seriously impacted. However it is important to realize that in many of the present UAP reports from project AIRCAT files it was the UAP and not the pilot who

avoided a collision at the last moment. Only in case 2 did something actually strike the aircraft (propeller) without doing any discernable damage. In only one case (No. 53) did the Air Force admit that, "*the UFO presented a hazard to aircraft operating in the area.*" (Blue Book file WDO-INT 11-WC23)

Considering the many kinds of UAP flight maneuvers which have been reported (cf. Table 1 and 2) it is clear that whatever the phenomenon is it appears to be able to outperform high performance aircraft in every respect. The diagrams of UAP flight paths presented in Table 1 and 2 do not adequately convey this fact.

In the majority of these pilot reports the aircraft appears to be the focus of 'attention' of the phenomenon, as if the UAP either was trying to communicate with humans in some way or was performing surveillance of the current state of aeronautical development. This observation has been supported by many hundreds of high quality foreign pilot reports as well (Weinstein, 2000).

Considering the time of day (and ambient illumination) during which the present UAP were reported it is clear that they tend to approach aircraft during hours of darkness. At the same time UAP radiate visible, readily discriminable colors either within relatively small, localized regions (similar to individual light sources) and/or more diffusely over the entire surface of their surfaces. The appearance of the UAP's lighting patterns take many different forms; they might be interpreted as some type of aircraft anti-collision or navigation lights, even though intense blue lights are reported in some cases (their use is against the law in America).

Considering the distribution of UAP sighting reports over the years it is clear that the present cases tend to occur in bunches with periods of several years in between them for some unknown reason. This finding tends to argue in favor of a pilot reporting bias effect where one pilot will read about the sighting of another pilot (or ground witness) and thereby be more predisposed to misinterpret an otherwise ambiguous visual stimulus as being a UAP. Arguing against this possibility is the fact that pilots tend not to report their sightings, as will be discussed in the following paragraphs. If this "law of mimicking," as I call it, is occurring one might expect a much greater degree of reported similarity of appearance and flight behavior of UAP within a group of reports on the same phenomenon. Such is clearly not the case.

The most reasonable conclusion to come to at this time with regard to whether UAP represent a threat to America's aviation safety is:

> *Based upon a thorough review of pilot reports of UAP over the conterminous United States between 1950 and 2000 it is concluded that an immediate physical threat to aviation safety does not exist. However, should pilots make the wrong control input at the wrong time the possibility of a mid-air collision with a UAP does exist.Likewise, if pilots depend upon erroneous instrument readouts safety may be compromised.*

Reluctance to Report UAP Sightings. There is little doubt that pilots and others involved in aviation continue to be reluctant to report their sightings of highly unusual visual phenomena. The present review found 11 cases out of 105 total (10.5%) in which the pilots clearly did not report their sighting to authorities and two more cases where they reported them well after the event. Table 6 lists these cases with aircraft classification and the reason given for not reporting.

Here are several other instances for not reporting UAP sightings. They were found in the author's AIRCAT files (in sighting reports not directly related to aviation safety). We can gain a further understanding of what has contributed to the climate of fear in the minds of many pilots to this day concerning UAP sightings. A UAP sighting on November 18, 1953 by two Air Force pilots over Ohio led to threats of their court martial if they talked to the press or public about what they had seen. (Hall, The UFO Evidence. NICAP, pg. 306, 1964) What was our Air Force trying to hide from the public by this threat?

In April 1954 Air Force Captain Dan Holland saw a UAP descend vertically and come to a sudden halt some 3,000 feet above his Marine jet aircraft. He quickly reported it to his superior officers. Later he was quoted as saying, "I'd never have reported it if I didn't believe there was something in the sky... because I knew I'd be in for a big ribbing... Two pilots have told me that on another occasion they saw what they thought was a saucer but didn't report it because of the razzing they knew would come."

Following Captain Peter Kilian's (American Airlines) widely publicized 45 minute-long pacing on February 24, 1959 by three UAP over central Pennsylvania and the U.S. Air Force's poorly conducted investigation of the matter (Maney, The New UFO Policy of the U.S. Air Force. Flying Saucer Review, Vol. 6, No. 5, Pp. 7-8, Sept-Oct. 1960), Kilian issued a press statement to the Long Island Daily Press (March 24, 1959) stating (in part), "If the Air Force wants to believe that (viz., their explanation that what he and his FO saw was a KC-97 mid-air refueling operation with a B-47)... it can. But I know what (these aircraft look like) in operation at night. And that's not what I saw." Captain Kilian stopped discussing his sighting because American Airlines, "through Air Force insistence, was forced to silence Kilian, their attitude being that good relations with officialdom must be maintained at all costs. Consequently, he was requested not to publicize "so controversial a subject." Later he stated, "I feel very deeply concerned with this loss of my own personal freedom." (Flying Saucer Review, pg. 8, 1960)

Table 6
Listing of Unreported Cases with Claimed Reasons Why

Case No.	Classification	Claimed Reason for Not Reporting
21	UC	Fear of the existing climate of ridicule
42	UC	They'll think you're nuts
43	UC	I am seeking no publicity

57	UC	I didn't feel it was a near-miss - and because of ridicule
61	UP	afraid of losing our (pilot's) licenses
64	UC	we wanted to avoid the paperwork
65	UC	fear of skepticism by others and caution expressed by most aviation personnel following publication of Condon report
74	UC	Captain had reported previous UAP and received harassment from his company and others and swore never to report another
82	UP	since event didn't qualify as a near-miss pilot didn't report it
86	UC	wanted to avoid paperwork and ridicule
101	UC	wanted to avoid paperwork and ridicule
		Delayed Reporting
20	UP	feared ridicule
69	UC	reason not given, but changed their minds one month later

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Private pilot Jim Mulgannon of Del Rio, Texas had a prolonged close encounter on October 27, 1968 and said afterward, "Everyone thinks you're some sort of a nut when you say you see these things and I hesitated a while about reporting it."

Lt. Col. W. M. and his copilot encountered a UFO during a night combat mission in early February 1969 in S.E. Asia. After it departed he wrote in a report, "Then we looked at each other and made remarks to the effect that "I didn't see anything. Did you?" We both agreed that we didn't see a thing. Not that we really hadn't seen anything, just that we both knew about all the paperwork involved and the grilling we would have to undergo if we reported such a sighting. Discretion is the better part of valor, or so the saying goes. Thus we never reported this sighting of a UFO and merely retained the knowledge to ourselves." Apparently, this is a commonly held view among military, private, and commercial pilots even today.

More than fifty commercial airline pilots who have seen UAP and reported them to the U.S. Air Force (as was then required by law) issued a group statement to the press in December 1958 which blasted as "bordering on the absolute ridiculous" the Air Force's policy of tight censorship, brush-off and denial in regard to unidentified flying objects - flying saucers." An article by Lester (1958) stated, "All (pilots) have been interrogated by the Air Force and most expressed disgust and frustration at Air Force methods and conclusions... "We are ordered to report all UFO sightings," one said, "but when we do we are usually treated like incompetents and told to keep quiet." ... This is no fun, especially after many hours of questioning - sometimes all night long.... Another pilot said he was certain many pilots "forget" to report them, at Air Force insistence to say nothing for publication."

Many of the close encounter events reviewed here involved pilot radio communication with radar control centers during the sighting asking for radar confirmation of the other object. But if the UAP do not appear on ground radar then it is somewhat embarrassing for controllers to have to admit that they couldn't detect what the pilot was clearly seeing. In such instances some controllers may be

inclined to drop the subject altogether unless the pilot makes a point of it by filing a written report (e.g., FAA incident/accident report or Near Midair Collision report). And if a written report is submitted radar controllers know that an inquiry may well ensue and that they may be called to testify. The current climate of fear surrounding UAP reporting should be eliminated to help improve the chances that data collection related to aviation safety will be improved.

Considering the following official statements made by the U.S. Air Force during the "early" years of UAP study it is no wonder that pilots were so squeamish about reporting UAP.

June 27, 1947 "We have no idea what the objects are, if they actually exist."

July 5, 1947 "No investigation is needed. The saucers are only hallucinations."

December 27, 1949 "The Air Force has discontinued its special project investigating and evaluating reported 'flying saucers' . . . The reports are the result of misinterpretation of various conventional objects, a mild form of mass hysteria, or hoaxes, and continuance of the project is unwarranted."

March 18, 1950 "The saucers are misinterpretations of ordinary objects, aberrations, meteorological phenomena or hoaxes."

January 1951 "We have no evidence that such objects exist; in general, such reports are hallucinations, mistakes, hoaxes or natural phenomena."

June 24, 1952 "The only conclusion we have come to so far is that 'flying saucers' are not an immediate and direct threat to the United States.... If the saucers turn out to be natural phenomena, we'll drop out and turn it over to the scientists. But if they turn out to be hostile vehicles, we will keep after them."

1953 (CIA sponsored) Robertson Panel concluded that UFOs constitute a threat to the "orderly function of the protective units of the body politic because of an unwarranted mass of irrelevant information could clog vital channels of communication and continued false reports could hide indications of a genuine hostile attack."

November 5, 1957 "After ten years of investigation and analysis... the Air Force was unable to discover any evidence for the existence

of “Flying Saucers.”

Nonetheless, after his spectacular sighting of a disc-shaped object on the night of March 20, 1950 Captain Jack Adams of Chicago and Southern Airlines summed up the matter well when he said, “We’ve heard a read a lot about flying saucers and were as skeptical as anyone else. But when you see something with your own eyes, you have to believe it.”

Official Orders to Pilots not to Divulge Their Sightings. There are numerous examples of official and unofficial “requests” of pilots not to tell their sighting experiences to anyone, including family members. During the early years (i.e., up to about 1954) commercial pilots had far more freedom to report their sightings than afterward. This was due to the results of a meeting between various airline representatives and the Military Air Transport Service (MATS) held in Los Angeles on February 17, 1954. (Fowler, 1981) Suddenly airline pilots were subject to the same severe penalties that Air Force pilots were for publicly disclosing their UAP sightings! Prepared by the Joint Communications-Electronics Committee, an official reporting requirement called “Communication Instructions for Reporting Vital Intelligence Sightings” (CIRVIS), also referred to as Joint Army-Navy-Air Force Publication (JANAP) 146 was established. It was officially endorsed by the Joint Chiefs of Staff. Now any pilot could be fined up to $ 10,000 and liable to a jail term of up to ten years if convicted of telling the press or the public what they had seen. When one reads the fine print of JANAP 146 one finds a reference to “unidentified flying objects” which are listed separately from aircraft, missiles, etc. Fortunately, JANAP 146 was officially terminated in December 1969 when the Air Force ceased its involvement with UFO.

There also were examples of airlines which do not officially suppress reports of UAP sightings. One example was that of Continental Airlines (at least as of September 22, 1977) I have spoken with many commercial pilots who fly for many of the nation’s major air carriers about this matter and have found that none said they knew of current company requirements to keep one’s UAP sighting quiet. But the fact remains that U.S. airlines steadfastly avoid any association with the subject of UAP.

Aviation Officials Don’t Know What to do About UFO Reports. In an interesting report submitted anonymously to a computer bulletin board (CNI, approx. 1998), an air traffic controller at Los Angeles International Airport claimed that he had “personally been part of three bizarre encounters, non-military and non-civilian. “I’m just one of 15,000 controllers, too, so there have to be many more that go unreported,” he said.“We used to have a specific (telephone) number to report ‘UFO’ sightings, he wrote, but in the late 80s the directive was replaced by an official ‘advisory’ to tell pilots, if requested, that they should contact a university or research institution, and no further paperwork was required (unless it was a near mid-air [collision]).”

“On one occasion, this (alleged) controller saw another controller discuss a UFO incident with his supervisor. The controller told the supe (sic) about the encounter, and after both determined there was nothing on radar, they just kind of shook their heads and rubbed their chins, and that was that.... This I believe is what typically happens, he says. Nobody knows what to do, really.” Let us hope that we won’t have to wait for a mid-air collision to occur between an aircraft and a UAP before aviation authorities will act more rationally toward UAP encounters and their reporting.

As was briefly discussed in the Japan Airlines flight 1628 case of November 17, 1986, the FAA was clearly caught between a rock and a hard place in deciding what to say publicly about the large lighted object(s) that Capt. Kenju Terauchi and his crew had reported. The FAA didn't want to encourage public hysteria by releasing information "whose meaning it could not ascertain. It also did not want to cast aspersions on the crew - it had no reason to - or create the impression that it had anything to cover up, because it didn't. The FAA just didn't know. It was a lose-lose situation." (Del Giudice, Philadelphia Inquirer, May 24, 1987).

Another interesting quote was made by FAA's air traffic manager in Anchorage, a Mr. Elias, concerning the November 17, 1986 JAL flight 1628 close encounter and alleged ground radar traces. "We come to the conclusion... that, uh, you know... we can't confirm nor deny. *If the [crew] had never said anything, we would have said, "We see that every day*." " It (the UFO's radar return) would have been passed off as a split beacon or "uncorrelated target." (italics mine) This is an interesting admission indeed. It suggests that there may be more UAP related radar traces than the FAA is willing to admit.

The Global Aviation Information Network (GAIN). The FAA has only recently (May 2000) proposed the establishment of "a voluntary, privately owned and operated network of systems that collect and use aviation safety information about flight operations, air traffic control operations, and maintenance to improve aviation safety worldwide." <http://www.gainweb.org> Both Congress and the President have recently endorsed the concept of using information proactively to improve aviation safety. This new activity was fostered as a result of the statistical fact that "after declining significantly for about 30 years to a commendably low rate, the worldwide commercial aviation fatality rate has been stubbornly constant since 1980-85." <http://nasdac.faa.gov/gain/>

Following the GAIN approach, nations would share information about aviation problems before those problems result in accidents or incidents. As a recent FAA paper stated, "The challenge is to get the information that "we all knew about" - not only from pilots, but also from flight attendants, air traffic controllers, mechanics, dispatchers, manufacturers, designers, airport operators, the people on the ramp who close the cargo doors, and others - and *do* something about it *before* people are injured or metal is bent." (Ibid., pg. 2) In the present context, will aviation officials be open minded and brave enough to acknowledge the existence of UAP and actively include them in an appropriately designed program? Will officials at the highest levels of our government support such information gathering and sharing? Will pilots of all kinds of aircraft come forth with timely sighting reports of UAP? The answer to these questions remains to be seen.

Conclusions and Recommendations

This review of intriguing pilot reports has led to the following three conclusions:

Conclusion 1. In order to avoid collisions with UAP some pilots have made control inputs that have resulted in passenger and flight crew injury. However, because of the extremely good

maneuverability of most of these UAP as well as the relatively small number of actual mid-air collisions that have been reported with UAP over the years, there appears to be relatively little concern for mid-air collisions with UAP unless the pilot makes an incorrect control input at the last moment or loses control in air turbulence that is sometimes associated with the UAP.

Conclusion 2. Pilots have reported instances where their cockpit instruments (compass system, navigation and guidance systems, transponders, etc.) have been affected when a UAP flew relatively nearby their aircraft. In most instances their instruments returned to normal operation after the phenomenon departed. Such electromagnetic interference can seriously affect aviation safety if the pilot does not realize that these displays and controls are malfunctioning and particularly if the systems are permanently affected.

Conclusion 3. Official U.S. government databases contain few if any UAP reports for one or more reasons which have been discussed above. As the government data reporting, collecting, and analysis procedures and policies are now configured, our aviation incident reporting system is closed and self-governing against reporting UAP sightings. If this situation continues scientists who should be involved in the study of these anomalous phenomena will be increasingly discouraged from doing so due to a paucity of reliable data.

Several recommendations are offered:

(1) Responsible aviation officials should take UAP phenomena seriously and issue clear procedures that encourage all pilots to report them without fear of ridicule, reprimand or other career impairment and also in a manner that may support scientific research. The low probability of occurrence of a UAP encounter is not sufficient reason to ignore the subject.

(2) Airlines should implement carefully planned instructional courses that teach their pilots about optimal operational procedures when flying near UAP and, when it safe and feasible to do so, what kinds of data pilots should collect. The specific nature of the flight control procedures that should be taught depend upon such factors as: separation distance and closure rate of the UAP with the aircraft, likelihood of collision with the UAP if any flight path change is made, number of UAP present, occurrence of E-M effects, and others to be defined. This instruction also should provide a general historical background on prior close encounters and near misses by different types of aircraft and the kinds of maneuvers that worked effectively. Airlines don't want to upset their customers by admitting that the skies may not actually be so friendly.

It is to the airlines' benefit to take a quiet yet proactive stance toward UAP.

(3) A central clearing house to receive UAP reports should be identified. Perhaps an existing system such as NASA's 'Aviation Safety Reporting System' or the FAA's 'Global Aviation Information Network' would suffice. If this is not feasible then an independent reporting and data analysis center should be established. This unclassified, public access, clearing house should collect, analyze, and report all such sightings for the continuing benefit of aviation safety as well as scientific investigations. Airlines pay dearly for surprise encounters with UAP no matter how infrequently they

seem to occur. Passenger and flight crew injuries that already have resulted from past UAP encounters only emphasize the need for a clearer understanding of what UAP are and how to protect against their natural or deliberate effects.

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Appendix 1

Possible UAP-Related Accident Factors from the Modified ASAFE Taxonomy (After Turnbull and Ford, 1999)

Section 1.0 Aircraft Failure
- 1.2 Flight Control.
- 1.7 Instrumentation Communications Navigation,
- 1.10 Electrical System,
- 1.14 Aircraft Performance.

Section 2.0 Air Traffic Environment
- 2.3 Light Conditions
- 2.4 Object

Section 3.0 Unsafe Supervision/Organizational Influences
- 3.2 Air Traffic Control (ATC)
- 3.2.1 Unsafe Supervision - ATC
- 3.2.1.1 Inadequate Supervision - ATC
- 3.2.1.3 Failed to Correct Problem - ATC
- 3.2.2.2 Organizational Climate - ATC
- 3.3.2.2 Organizational Climate - FAA

Section 4.0 Human Failure - Ground Personnel
- 4.2 ATC Personnel
- 4.2.1.1 Errors - ATC Personnel
- 4.2.1.1.1 Decision Errors - ATC Personnel
- 4.2.2.1.1 Adverse Mental States - ATC Personnel
- 4.2.2.2 Substandard Practices of Operators - ATC Personnel
- 4.3 FAA Personnel
- 4.3.1.1.1 Decision Errors - FAA Personnel
- 4.3.2.1.1 Adverse Mental States - FAA Personnel
- 4.4.1.1.1 Decision Errors - Ground Personnel
- 4.4.2.1.1 Adverse Mental States - Ground Personnel
- 4.5.1.1 Errors - Airport Personnel
- 4.5.1.1.1 Decision Errors - Airport Personnel
- 4.5.1.1.3 Perception Errors - Airport Personnel

4.5.2.1.1 Adverse Mental States - Airport Personnel
4.5.2.2.2 Personal Readiness - Airport Personnel

Section 5.0 Human Failure - Flight Personnel
5.1 Flight Crew
5.1.1 Unsafe Acts - Flight Crew
5.1.1.1 Errors - Flight Crew
5.1.1.1.1 Decision Errors - Flight Crew
5.1.1.1.3 Perception Errors - Flight Crew

5.1.2.1.1 Adverse Mental States - Flight Crew
5.1.2.2.1 Crew Resource Management - Flight Crew
5.1.2.2.2 Personal Readiness - Flight Crew

Section 7.0 Unknown
7.1 Reason for Occurrence Undetermined

Appendix 2
Near-Miss and Close-Distance Pacing Reports

This section presents 56 near misses and 38 incidents of pacing by one or more UAP reported by U.S. commercial, military, and private air crew. A more complete yet abridged listing is included in Appendix B. In several of the following cases the pilot felt the proximity and/or dynamic flight behavior of the unknown phenomenon was so threatening that he executed an immediate and violent attitude, altitude, airspeed, and/or other flight path change. In some of these instances passengers were physically injured. This list of events is not exhaustive but only samples some of the more interesting cases. (*"Pilot report form"* indicates a signed, privately submitted report to the author) The following classification code is used: U = United States registration; F = foreign registration; C = commercial; P = private; M = military; T = test.

1. April 27, 1950 2025L UC Goshen, Indiana

This interesting sighting received a good deal of press coverage, probably because the passengers were alerted to the presence of the unidentified light flying near their commercial flight. Trans World Airways flight 117 (DC-3) was flying westerly toward Chicago at about 2,000 feet altitude over north central Indiana. FO Robert Manning was the first to sight a "strange red glow" below and behind them on their right side. It rose rapidly and grew in angular size looking like an "orange-red... round blob of not metal...". "It was similar in appearance to a rising blood red moon, and appeared to be closing with us at a relatively slow rate of convergence. I watched its approach for about two minutes, trying to determine what it might be." Manning then pointed the light out to Captain Robert Adickes who asked their hostess, Gloria Henshaw, to come up to the cockpit to see the object. At that point the UAP was at their 4 o'clock position and slightly lower in altitude keeping pace at their same speed. It was about 1/2 mile away. Captain Adickes sent the hostess back to alert the passengers to the light. He then banked his aircraft to the right to "...try to close on the unknown object." As Captain Manning's notes (April 27, 1950) indicate, "As we turned, the object seemed to veer away from us in a direction just west of north, toward the airport area of South Bend. It seemed to descend as it increased its velocity, and within a few minutes was lost to our sight...". (cf. McDonald, in Anon., Pp. 46-47, 1968)

2. July 29, 1950 2200L UP 10 mi. N. Springfield, Illinois

Mr. Jim Graham, Chief Pilot for Capital Aviation Company was flying from Chicago to Springfield when he spotted something strange looking slightly above his aircraft. He was above Williamsville at the time, 13 miles NE from his destination. He described the object as a "blue streak about ten feet long and shaped like a sausage... it was trailing yellow fire." Suddenly it dove toward him and collided with his propeller. It "...exploded like a bomb" but no damage could be found to any part of the aircraft. Graham landed at Capital Airport safely. Several witnesses on the ground reported seeing the same object that night. (United Press wire, July 30, 1950; New York Times, July 31, 1950)

3. November 7, 1950 1915L UM E. of Lakehurst NAS, New Jersey

This frightening series of near-air misses took place over the Atlantic Ocean but within sight of land under an exceptionally clear and dark sky. The heaven was filled with bright stars. Lt. jg Robert Haven was flying a Navy AD-4Q on a routine night radar navigation flight out of NAS Atlantic City, NJ. He was at 3,500 feet altitude on a westerly heading back to land. To his right-front side an estimated five miles away and somewhat above him was a steady white light which he thought was the fuselage light of another aircraft. He thought it was at 4,000 feet altitude at the time and was moving to the SE. Lt. Haven instructed a crewman to turn on their airborne radar to "intercept" mode and also began a slight climbing turn to the left "...in order to get on this object's tail." The motion of the other object was clearly visible in relation to the many background stars. As he rolled out on the same course as the object it turned somewhat more southerly so that the pilot thought he was directly behind it now. What follows is the pilot's narration of what happened next.

"In less time that (sic) it takes to tell, this light, without making any kind of reversal turn, bore down on me in a slight dive, passing directly over my canopy, at an incredible speed, about 100 to 200 feet above. Puzzled at this, my first reaction was that we had originally met head-on, and that this was some aircraft without running lights and that it had been a close miss for both of us." Lt. Haven deliberately pulled up into the flight path of the light just after it had passed to see if he would experience its wash or slipstream "...but there was none." The pilot then told the other crewman onboard what had just happened and he "...disregarded his radar operation and proceeded to witness the following events. I pulled into a tight "flipper" reversal turn in order to see this light again. As before, it was till (sic) slightly higher than I, and this time I was positive we were on his tail. Pushing to normal rated power and climbing, I attempted to hold the light in front of me, this object made another head-on pass, veering slightly port and below so that my crewman could see it too. Still nothing but a single white light, close to 10 to 12 inches in diameter, it moved with fantastic speed." The pilot then tried (twice) to radio Lakehurst on 142.74 MHz but without any success. The pilot then used another frequency to ask for assistance from any other Navy aircraft in the vicinity. "The Commanding Officer and his wingman in two F9F-2 (Panthers) answered, and set course for Lakehurst."

During his radio transmissions the light made five to six passages by his aircraft and then the light and the pilot's aircraft began a left-hand orbiting flight. He began a 60 degree climbing port (left) bank at 130 - 135 knots airspeed in order to gain altitude. But, much to his consternation, "This light continued to turn about me in wider climbing turns, making about two orbits to my one. " The pilot abandoned his climb upon reaching 11,500 feet altitude and only maintained his orbit so as to keep the light in sight. By the time his Commanding Officer arrived over McGuire AFB at 14,000 feet Lt. Haven turned his landing lights on bright and told the other air crew that the light was at about 18,000 feet and still climbing. When the other two jets arrived the object had risen to about 25,000 feet. Only the wingman of the other two jets saw the light. (USAF investigation file; handwritten note by pilot)

4. January 20, 1951 2030L UC Sioux City, Iowa

Captain Lawrence Vinther, 32, and FO James Bachmeier were flying their Mid-Continent Airlines DC-3 from Sioux City, Iowa to Omaha, Nebraska under a moonlit sky. Just after takeoff of flight 9 from runway 31, the tower operator asked them if they could see a bright light visually aligned with the NW corner of the airport (from the tower's vantage). They both spotted it, a red or orange light, and changed their course slightly to the NNW to better see what it was. Later, Captain Vinther said the light seemed to be about four miles distance at 8,000 feet altitude, perhaps 7,000 feet higher than their own altitude at that time. The airplane turned left in a slow arc and so did the light, still well above the two engine aircraft. They continued their left turn to near due south and the light was now in the SE at about their 11 o'clock position when it blinked on and off several times. When the light eventually reached their 9 o'clock position all that could be seen was a single, continuous bright white (like a landing) light. Then as the airplane continued a 360 degree left turn (now proceeding more northerly) "...the object made a sharp 90 degree turn and descended toward our plane at a terrible speed, crossing over and in

front of our plane." As Captain Vinther said, "The next thing I knew, the object was on our left, travelling in the same direction, about 200 feet from our left wing and at the same speed." It stayed at this location for 2 or 3 seconds "...and then disappeared below our plane and was not seen again... The tower advised that the object was following just below our plane but we could not maneuver our plane so as to observe it again, and continued on our scheduled flight to Omaha."

Both pilots saw a huge cigar-shaped fuselage pacing them. It also had a long, slender "wing" mounted well forward on the fuselage. No (engine) nacelles were seen. The unidentified object remained right beside them at their own airspeed! Vinther was in near shock and almost couldn't answer when Captain Bachmeier asked him what it was. It was at least as large as a B-29 bomber and had a small, short stabilizer on each end. He (allegedly) muttered, "I, I can't believe it." After a total of about three minutes the object departed to the NW at a tremendous speed without producing any air turbulence.

One of the passengers who saw the object from his window was an Air Force Colonel who asked the flight crew to radio the sighting to ground authorities. Upon their landing they were met by several Air Force officers who interrogated them and went over their aircraft with some instruments. The official Air Force evaluation of the object was a B-36! Captain Vinther said (later), "It definitely was not a B-36." If this huge strategic nuclear bomber can hover at low altitude over an airport and fly at very low altitudes near a commercial aircraft with passengers then the United States had a truly marvelous weapon system indeed that never should have been phased out. Details of the control tower's visual sighting of the original object will be omitted due to space limitations. (USAF Project Grudge file)

5. July 9, 1951 1340L UM Augusta, Georgia

Lt. George Kinman was flying an F-51 fighter plane over Augusta, Georgia on a sunny, clear day. He had flown for seven years, including jets, in the military at the time. He described his close call in these words. "I was cruising at about 250 mph (when) all of a sudden I noticed something ahead, closing in on me, head on. Before I could take evasive action - before I even thought of it, in fact - this thing dipped abruptly and passed underneath just missing my propeller. The thing was definitely of disc shape... white... pretty thick... it looked like an oval... it was about twice as big as my plane. It had no visible protrusions like motors, guns, windows, smoke or fire." Lt. Kinman banked rapidly to try to keep the object in sight. The object was nowhere in sight. Then, about fifteen seconds later the disc came at him again, dipping at the last minute; the unidentified object repeated this maneuver several more times over the next five to ten minutes! On its final pass the object zoomed upward instead of down, just missing his canopy. (Cleveland Press, July 30, 1951; UPI, July 30, 1951)

6. August 27, 1951 2000L UP Vandalia, Illinois

Private pilot Raymond Williams had just taxied out onto the runway to takeoff for a night flight around the city when he spotted "a big orange light with a blinding intensity." It was then at the SW corner of the airport. After he radioed CAA officials in the tower the light disappeared. Later he wrote, "Shortly after I had taken off I noticed the light again, approaching my plane. It came directly at me and then circled my plane twice before heading for Greenville. I followed it and it made a circle around that town and came back toward Vandalia." A commercial flight flying at 20,000 feet over Vandalia at the time was contacted and said he, too, saw the object.

"It was all very spooky," Williams said. "It wasn't an airplane but whatever it was the light was on the tail of it, and there was a small red light on top. Probably it was some military craft from Scott Field making a test run." The Air Force did not investigate the case further but relied upon several newspaper articles. (Vandalia Leader, August 30, 1951; USAF Project Grudge file)

7. September 15, 1951 Twilight UM 50 mi. W of Knoxville, Tennessee

Pilot A.S., 34, was flying an Air Force G-45 from Standiford Field, Louisville, KY to Elgin AFB, Florida on an IFR flight plan with his FO and five passengers on board. They were cruising at 6,000 feet altitude west of Knoxville heading south when both pilots sighted "three large glowing orange colored "balls" (approaching) in a (equilateral) triangular pattern, (there was) no apparent connection between objects. (They were) first observed dead ahead (and) then suddenly observed along side, moving at the same (forward) speed as my aircraft. (They) streaked off as I dipped my left wing toward (the) formation." They were brilliant, emitting off their own throbbing or flickering light, and their edges were fuzzy in appearance. Each object subtended an angle of over twenty degrees at one point and never changed shape. They did not break up into parts, give off smoke or vapor or change color. They all disappeared from sight by becoming smaller and smaller. This incident is not in Project Grudge files. (Pilot report form)

8. October 21, 1951 1250L UP 20 mi. E Battle Creek, Michigan

The following near-air miss CIRVIS report was evaluated by the Air Force as a balloon and lasted only from 3 to 5 seconds. Mr. N. Manteris was flying a Navion propeller-driven aircraft (N-91424) in the central lower Michigan peninsula at an altitude of 4,000 feet. The weather was bright and clear with unlimited visibility horizontally but heavy haze underneath him. Then he saw an oval-shaped, disc-like, highly polished object which was closing with his aircraft at an extremely high rate of speed. As it passed beneath his aircraft he estimated its altitude at about 3,000 feet. He noted an indentation in its top surface which outlined a dome or crown. He immediately did a 180 degree turn but did not see the object upon completing his turn. Four hours after the encounter, Mr. Manteris was giving an interview to an Air Force investigator and (allegedly) said, "...in the past, he has often laughed at reports of strange flying objects, but is "through laughing since his experience." Mr. Manteris was reluctant to tell his story "for fear people will think I have lost my marbles." He also said he was impressed the high degree of polished brilliance of the object's surface. He saw no exhausts or vents on the object or vapor emanating from it. The investigator determined that there were no known Air Force aircraft in the vicinity at the time. (USAF Project Grudge file; Gross, UFO's - A History 1951, Pp. 83-84, 1987)

9. November 24, 1951 1553L UM Mankato, Minnesota

A Civil Air Patrol flight of two 5-51 Mustangs were at 25,000 feet heading west in clear air. They were over Mankato in south-central Minnesota flying at 210 kts. airspeed. One of the two pilots (Capt. William Fairbrother) spotted a small white object which seemed to hang motionless in the air. Is shape was similar to the Northrop flying wing but of considerably smaller dimensions (estimated at eight feet). No trail or exhaust was seen coming from the object. Neither the second pilot (Capt. Douglas Stewart) i.e., the "wingman" on his left side nor ground control intercept radar detected the object. The UAP

passed about 100 feet over and 100 feet to the left of the flight leader's aircraft. The pilot executed an immediate 180 degree turn but, after doing so, could not see the object again. A check with ground authorities showed that there were no classified or other aircraft flights in that area and no meteorological conditions reported that could explain this incident. The Air Force classified this case as "Unidentified." (USAF Blue Book file)

10. March 1952 1430L UC Kirksville, Missouri

This 16 minute-long encounter took place en route to Kansas City, MO in the afternoon with the cargo aircraft flying above a solid undercast. The Captain of the TWA C-54 aircraft was the first to sight the silvery, disc-shaped object out his left window. It was located several degrees above his left wing but it was "...too far out to get a really good look at it." The object held its position for five to six minutes at a higher altitude before the pilot decided to bank gently toward it (to try to find out what it was). The range between them decreased for about 30 seconds but then the object began its own left-hand turn. The FO felt that the object was nothing more than a balloon of some kind. A third pilot in the cockpit also witnessed the object. "The pilot agreed halfway (with this assessment) - and since the company wasn't paying them to intercept balloons, they got back on their course to Kansas City. After resuming their original course, however, the object was still visible off their left side but it wasn't falling behind them as a free-flying balloon would do. The pilot then banked right 45 degrees. Then the object dropped back a small angular amount and then seemed to accelerate forward, still flying above their altitude. The pilot then flew the aircraft in a tight 360 deg. (right-hand) circle "...and the UFO had followed, staying outside" (all the way around the circle!). Then the object seemed to be descending so the pilot added full power and climbed several thousand feet to get above it. Then he banked toward the object, now below the aircraft. With the C-54 in a long and accelerating glide, the UAP descended even faster than before and finally disappeared into the cloud layer below. The crew last saw the object climbing steeply past their right wing and disappearing in several more seconds. (Ruppelt, E., The Report on UFOs. Pp. 80-81, 1956)

11. April 9, 1952 1430L UM Shreveport, Louisiana

The witnesses to this near-air miss were the flight crew of an Air Force C-46 flying near Barksdale AFB, Louisiana. They were flying at 9,000 feet on a heading of 90 degrees. They sighted a "disc-shaped, cream-colored" object about 30 to 40 feet in diameter ahead of them at about 4,000 feet altitude. At one point during their approach the object seemed to "...turn into the easterly wind" and its velocity was estimated to be between 200 and 400 mph. The Air Force's Project 10073 Record Card states, "As object closed on C-46 pilot made 360 deg. turn ... and climbed into clouds which were at 12,000'." The Air Force quickly scrambled two F-84 jet interceptors to investigate but their pilots reported negative results. (USAF Blue Book file)

12. April 14, 1952 1834L UM Memphis, Tennessee

This brief Air Force file report states that U.S. Navy pilots Lt. jg Blacky and Lt. jg. O'Neil reported seeing a UAP while flying over the NAS Range Station near Memphis for between 45 and 60 seconds. They were on a heading of 18 deg. at 2,000 feet altitude when they first saw the other object approaching them on their left side. It flew straight and level on a 300 deg. heading and at 2,000 feet altitude beneath an overcast at 4,200 feet (visibility 15 miles). Its shape was similar to an inverted bowl with slots running vertically from top to bottom. It was glowing bright red. The two passed within about 100 yards of each other! No further information is available. (USAF Air Intelligence Information Report No. IR-170-52)

13. May 8, 1952 0227L UC 600 mi. off Jacksonville, Florida

Pan-American Airlines Flight 203 from New York city to San Juan, Puerto Rico (heading 180 deg.) had just passed over the San Juan Oceanic Control boundary at 8,000 feet altitude well off the coastline of Florida. At the controls of the DC-4 was Captain Cent and FO Gallagher. A solid overcast above 10,000 feet and the sky was unusually dark because of it. Since they had been informed that there were no other aircraft flying in the area they were not being particularly alert for other traffic. The FO spotted a white light ahead and slightly to the left of them as he turned to look out at their number four engine. It looked like a taillight on an airplane and he was very surprised at its presence. It seemed much whiter than a normal tail light. Then he looked at the number four engine and back at the light which had not changed appearance in any way. Then he checked the propeller controls, synchronized the engine rpm, and looked outside again. As Ruppelt writes, "In the few seconds that he had glanced away from the light, it had moved to the right so that it was now directly ahead of the DC-4, and it had increased in size." The FO then alerted the Captain to the light by pointing toward it. "Just at that instant the light began to get bigger and bigger until it was "ten times the size of a landing light of an airplane." It continued to close in and with a flash it streaked by the DC-4's left wing" by an estimated 1/8th to 1/4 mile. Then two smaller (orange) "balls of fire" streaked by them. The two men just sat there with a "...sort of sick, empty feeling" all over. Captain Cent (later) told the Air Force investigator, "I always thought these people who reported flying saucers were crazy, but now I don't know." The Air Force investigator on this case could not find any records of missile, aircraft, or ocean going traffic at that time or location. Meteors also were ruled out because of the overcast and low altitude. (Ruppelt, The Report on UFOs, Pg. 133-135, 1956)

14. June 20, 1952 2026L UM central Mississippi

Airplane Commander Lt. Milo Roberts and Lt. Julius Prottengeier (bombardier) were assigned to the 380th Bombardment Squadron, 310th Bombardment Wing M at Forbes AFB, Topeka, Kansas when this encounter occurred. They were in an Air Force B-29 (No. 44-62204) on a routine training flight at 17,000 feet altitude and flying at 190 mph. An object was seen approaching them at their 2 o'clock position "... at a high rate of speed." As the Air Intelligence Information Report states, "Airplane Commander attempted a left turn to avoid a collision, but aircraft was on G-1 autopilot and before action could be taken, object executed sharp left turn and passed from line of sight." The other object was seen distinctly with sharp edges. It was a brilliant white and cone-shaped at the rear and its body was about three times longer than it was thick. Its size was estimated at from eight to ten feet long (if at

400 to 500 yards) or 100 feet (if at 15 miles distance.) The nearest thunderstorms were 50 miles away and a light haze lay beneath them. (USAF Blue Book file, IR-37-52)

15. July 11, 1952 Night UM Osceola, Arkansas

Two U.S. Navy aircraft based at Millington NAS near Memphis were participating in a night training flight about ten miles NE of Osceola when they spotted an object in the distance. Lt. J. Martin was flying one of the aircraft and said (later) that he thought what they were seeing was a jet airplane distorted by the glare off its aluminum body. He was the first to see the other object, then about two miles away. It appeared to him to be a round ball. Over the course of the following three minutes both aircraft got within about a mile of the object. The other pilot was Lt. R. Moore who was flying with Mr. D. Wehner, an electronics technician who caught the other object on his airborne radar set. He claimed, "It was on our left and traveled across in front of us and disappeared in the distance to our right. I think it would be about 25 to 45 feet across and about seven feet high." They thought the object "... looked like a WW-1 helmet as seen from the side or a shiny shallow bowl turned upside down. We wanted to follow it, but our training ships couldn't keep up with the saucer, or whatever it was." The object was moving at an estimated 200 mph and an altitude of 8,000 feet. (United Press wire story, July 12, 1952)

16. July 13, 1952 0300L UC SW Washington, D.C.

National Airlines DC-4 flight 611 was under the command of Captain W. Bruen and was some sixty miles SW of National Airport and northbound from Jacksonville, FL. The sky was clear with 15 miles visibility and only slight winds. The flight crew saw a "round ball of bluish-white light... hovering to the west of the aircraft." The light then rose to the same altitude as the aircraft (11,000 feet) and stopped its climb; it then began moving parallel with the aircraft's direction of flight off its left wing at the same speed. There were separated by about two miles distance. When Captain Bruen turned on all of his lights the object "...took off up and away like a star" at an estimated velocity of 1,000 mph. Neither the FAA nor the Air Force identified other air traffic in the area nor other conditions which might account for the sighting. And according to the official Air Force report of this incident, "no attempt to intercept or identify the object, has been reported." The flight crew made this report in accordance with JANAP 146. (USAF Air Intelligence Report IR-410-52)

17. July 20, 1952 0330L UC Richmond, Virginia

Captain William Bruen, 37, and his FO, N. Dixon, were flying a National Airlines flight toward Washington National airport and they had just begun their descent when they spotted a "whitish-bluish light... hovering" over dark woods below them. As the captain said later, then the light rose up "to about our altitude and maneuvered around a little bit... it went out to our left side. I thought it was some crazy airplane up there playing around with one light on.... It stopped several times and hovered. Then I knew it wasn't any airplane. It came back toward us, and I was worried that the thing might ram us. I flashed on my lights, signaling to it. If you see another plane at night, it will acknowledge that signal. But when I flashed at it, it turned and zipped upward and disappeared off to the southwest. Went right up until it looked like a star. I'd say it was doing 1,500 to 2,000 miles an hour when it left us." He estimated its

nearest distance to the airplane to be about a mile and its size "somewhat smaller than a DC-4." At first the object looked round but during its later approach the witnesses could make out a "star-blue color" in its middle with a white surround. Its body had no wings but was round and flattened. The total sighting duration was about four minutes. (Fort Walton (Florida) News, July 24, 1952; The Savannah Georgia Press, July 24, 1952)

18. July 22, 1952 2200L UP 10 mi. W. of Crossett, Arkansas

Private pilot A. Hanks was flying a light aircraft from Little Rock, Arkansas to Monroe, Louisiana and had reached the state border almost due north of his destination. There he sighted a "blood red star" some 2,000 feet higher than his own altitude approaching on his left-hand side. It traveled in a generally SW direction at about 100 mph but unexpectedly changed its course to parallel that of his aircraft (approx. heading of 175 degrees). He said (later to a reporter), "I thought at first it was an illusion. To test my theory, I made a 90 degree right turn. The "flying saucer" did the same. The thing followed my course for about 10 minutes, then suddenly swooped down approximately 2,000 feet below my plane. At first, I believed it to be a jet. After that swift drop, I changed my line of thinking." The red light followed his airplane flying beneath it, then, several minutes later, it suddenly rose back 2,000 feet above him. Then "it" began to accelerate at a tremendous rate of speed in its original SW heading. (Monroe, La. World, July 25, 1952)

19. July 24, 1952 1540L UM Carson Sink, Nevada

The two Air Force officers who reported this near-air miss were Lt. Col. John McGinn, 34, Deputy of Operations, Fighter Branch, USAF Headquarters and Lt. Col. John Barton, 34, USAF Headquarters, AFOOP-OP-D. They were flying in a B-25 bomber (No. 8860) having taken off from Hamilton AFB, California on Green 3 Airway; they were just east of Carson Sink, Nevada at 11,000 feet and 185 kts air speed. It was a clear day with excellent (50 mile) visibility when they both sighted a tight grouping of three "arrow-head" shaped objects in "perfect formation" at their one o'clock position. Each was silver white and slightly larger than an F-86 jet fighter and had a ridge running along its upper surface and each was seen clearly and sharply. They flew directly in front of the B-25 in a continuous bank only from 400 to 800 yards ahead! Both observers said that they are familiar with "... the latest U.S. experimental aircraft and these objects do not conform to any of them." (USAF Blue Book file)

20. August 13, 1952 Night UP near Dallas, Texas

This encounter was reported by Max Jacoby, Chief Pilot for Pioneer Airlines who, with Captain J. McNaulty, FO, was flying an empty commercial aircraft on a routine test flight. Unfortunately, not many details are given. When his aircraft was 15 to 25 miles from Love Airfield, Jacoby spotted a strange looking light in the distance. He decided to chase it to find out what it was. But each time he drew near to it "it eluded him and finally disappeared." The light turned and dove down but the appearance of its body "...did not change when it turned... I couldn't tell whether it was just a light or a light coming from some object," he said. Jacoby said he delayed telling about the incident "because he feared he would be ridiculed." (United Press wire story, August 15, 1952)

21. Autumn 1952 2200L UC Trenton, New Jersey

An Eastern Airlines (Martin 404) flight from Washington, D.C. to Boston, MA was at 9,000 feet on a NE heading in very clear weather (the western sky was still very light). Its airspeed was 225 kts and everything seemed normal. Then both Captain John Warner, 33, and his FO sighted a yellowish light at their 9 o'clock position about ten miles away. It seemed to be heading toward them (approximate heading to SE) at their altitude and speed. As it drew closer the captain radioed New York Airways Traffic Control Radar at Islip, Long Island about the possibility of other unscheduled air traffic. Ground radar succeeded in detecting the other object but could not contact it by radio. Now both pilots could make out an "incandescent yellow elliptical shape" without any firm detail. The other object had no red or green navigation lights and simply passed in front of their aircraft about a mile ahead and, shortly thereafter, began a 30 degree vertical climbout on the same heading as before. Its color changed from yellow to a blue-white as it accelerated upward. Radar confirmed that the object was accelerating (about 800 mph) as it climbed over Fort Dix. The entire near-air miss lasted three or four minutes. Neither Warner nor his FO reported the event either to his company or the Air Force "...because of the climate of ridicule prevalent at the time." (Webb, W. 1952 Radar - Visual. The APRO Bulletin, Vol. 27, No. 7, pg. 1, January 1979)

22. September 13, 1952 1940L UP Allentown, Pennsylvania

The pilot of a Beechcraft Bonanza was flying at 10,000 feet altitude from Allentown to the Caldwell-Bright OMNI station. Visibility was about 12 miles with some ground haze present. Suddenly he saw a "fat football" (about three feet long) shaped object ahead of him at his 11 o'clock high position. It was "flaming orange-red in color." Its distance was judged to be from 150 to 200 yards and descending at a 30 degree angle. In the pilots own words, "My first impression was that it was a "falling star" and that I was on a collision course with it. I immediately pulled up into a sharp climb to avoid hitting it; but the object, instead of continuing on it's (sic) downward course, very suddenly pulled up into about a 65 deg. climb and went directly over my windshield. I quickly made a 180 to the right but could no longer see the ball of fire. If the object was at the distance and was of the size that it appeared to me to be, I would estimate it was travelling at better than 700 miles an hour." This sighting lasted less than 15 seconds. (remainder of report illegible) (USAF Project Blue Book file)

23. December 4, 1952 2046-2053L UM 8 mi. SW, Laredo, Texas

This very near-air miss event took place after Lt. Robert Arnold, piloting an Air Force T-28 aircraft had been carrying out a training flight for two hours. He was tired and radioed Laredo tower for permission to land. But due to other conflicting air traffic he had to circle at 6,000 feet outside of the traffic pattern several miles away. Then he saw a bright bluish-white glowing light source below him (at about normal traffic altitude) which climbed rapidly to his level. It had no position or navigation lights of any kind. In order to keep it in sight he "steepened his turn to the left." Then it suddenly rose to about 9,000 feet in several seconds and dove back to his level. The astonished pilot then added full power and tried to chase the light. At one point he realized that the object was flying straight toward him at such a high rate of speed he didn't have time to turn out of the way. As author Keyhoe (Pg. 26, 1954) described the event, "Three hundred feet away, the machine wavered for a split second. Then it flashed to one side,

hurtling past his right wing, so fast it was only a blur." According to the Air Force's investigative report, at one point, "The object then turned Eastward and immediately descended to the pilot's altitude of 6,000' again and proceeded Eastward until approximately 6 miles SE of the base again and it seemed to stop as if it were hovering, going straight away or coming straight toward the pilot's aircraft. At this time the pilot added full power and proceeded directly SE toward the object. The pilot's intentions were merely curiosity. Approximately 2 seconds after this action was taken by the pilot, the object appeared to close at a terrific rate in a head-on approach. At approximately 100 yards in front of the pilot's a/c the object seemed to waver slightly in a vertical plane as if determining on which side of his aircraft to pass. The object passed very closely off the left wing of the a/c within 50 yards distance and the pilot noted a blurred reddish-bluish haze of undetermined size and shape but definitely no larger than his a/c. This action happened so rapidly that the pilot was unable to take any evasive action.... At this point, out of sheer fright, the pilot turned off all his running lights and spiraled steeply to the left, keeping the object in sight and leveled off at 1500." The object then appeared to level off from a descent towards the pilot's aircraft, turned sharply to the right and then rose up into the atmosphere until it was out of sight. Other intriguing details are omitted here except to point out that the Air Technical Intelligence Center's conclusion was that the pilot had seen another aircraft! In a letter dated April 12, 1961 from the skeptic and noted astronomer, Dr. Donald Menzel, to Maj. Robert Friend (ATIC) he wrote, "... I think he (the pilot) was still seeing Venus." (USAF Blue Book file; Keyhoe, D., Flying Saucers from Outer Space. Hutchinson, London, 1954)

24. December 10, 1952 1915L UM Hanford, Washington

The pilot and radar observer of an Air Force F-94 interceptor on patrol over the Hanford Atomic Plant were at 26,000 feet altitude when they sighted a light in the darkened sky. When they reported the light to their air intercept officer they learned that no aircraft were known to be in the area; then they initiated a standard approach. Upon closing with it, they saw a "large, round, white "thing" with a dim reddish light coming from two "windows." They also established a radar (ARC-33) lock-on but lost visual contact with it. As they attempted to approach it "...it would reverse direction and dive away. Several times the plane altered course itself because collision seemed imminent." (USAF Blue Book file; Ruppelt, E., The Report on UFOs. pg. 43, 1956).

25. February 13, 1953 2030L UM Vichy, Missouri

The three witnesses to this pacing incident were Captain Robert Bailey, his FO, and the crew chief of their C-47 Air Force aircraft. They were at 7,000 feet altitude, 170 kts airspeed, and on a heading of 43 degrees. The captain first sighted a small diameter, round light as they neared the Vichy Radio Range Station. The light changed intensity and looked like it was on a converging course (238 degree bearing from aircraft's position) and would (eventually) collide with their aircraft. He turned his landing lights on to try to signal to it and pointed it out to the other two men present. The light then stopped its approach and flew off their left wing at an estimated range of one mile while changing color from red through amber to green. After between five and ten minutes the light dropped back, increased its speed, "... and made three dives and zooms on a course parallel to that of the aircraft before disappearing." When contacted about the sighting Vichy radio indicated no aircraft in that area. The official Air Force

explanation was that the three trained observers had been misled by the planet Venus. (Gross, L. UFOs: A History, 1953, January - February, Pg. 83; USAF Blue Book file)

26. August 6, 1953 1700-2400L UM Barbers Point, Hawaii

An estimated seventy five objects with lights on them were seen by many witnesses on the ground around Barbers Point Naval Air Station, Pearl Harbor, from the airport control tower, and from the air. Many of the objects also were detected by radar. At 9 o'clock the crew of a Navy patrol aircraft reported three head-on passes by a UAP. These close calls alarmed the pilot so much he landed immediately at Barbers Point airfield. Jet fighters were also scrambled and the same night the pilot of a TV-1 interceptor saw a "glowing blob" rising rapidly toward him. It came to a sudden stop just behind his aircraft then accelerated briefly until it was beside him for four more seconds before accelerating away out of sight at several times his own top speed. (Keyhoe, The Flying Saucer Conspiracy. Henry Holt & Co., NY. Pp. 63, 182, 1955)

27. August 9, 1953 n/a UM Moscow, Idaho

This near-miss incident involved three USAF F-86 jet fighters flying near Moscow, Idaho. The pilots saw a large (estimated 200 foot diameter) disc descending toward them on a head-on approach. Just as it would have struck at least one of the aircraft the object jerked aside out of the way. (Hall, The UFO Evidence, pg. 41, NICAP, 1964)

28. October 19, 1953 0010L UC 33 mi. NE Baltimore, Maryland

An American Airlines DC-6 was en route to Washington, D.C. from Philadelphia at cruise altitude (8,000 feet) just after midnight. The lights of Baltimore were clearly visible below and to their right side. The FO first saw a light ahead of them which was alternately covered by wisps of cloud and then visible again. It seemed to gleam in the moonlight. The object had no running lights and was closing rapidly at their own altitude. Captain J. Kidd yelled, "Give him the landing lights!" He also reduced his power. As soon as the FO had switched on their own landing lights the oncoming object sent a "blinding light back at the DC-6." Now temporarily blinded by the intense light the captain pushed forward on the control wheel and the aircraft went into a rapid dive. "Caught unaware, the passengers were tossed about the cabin, several suffering (minor) injuries." After he pulled out of the dive (at 5,000 feet) he angrily radioed to Washington National Airport air traffic control to complain about the near miss. He was told that "...no known air traffic was supposed to be in his vicinity and said medical personnel would meet the plane upon arrival." Both crewmen said that the object was huge, at least as large as their own aircraft. (Washington Post, October 20, 1953; Keyhoe, Flying Saucer Conspiracy, Pp. 60-62)

29. March 24, 1954 Afternoon UM Fresno, California

The Secretary of the Air Force was in an airplane en route to Palm Springs, CA when this pacing incident took place. The aircraft was above Fresno at cruise altitude (at least 5,500 feet) when everyone on board saw a "large metallic-looking object following their plane in a position about a 1,000 feet below and a like distance behind." Secy. Talbot ordered the pilot to turn around, but when the aircraft

banked the UFO made a "tight little orbit and streaked away at an incredible speed." No report on this important event could be found in the USAF Blue Book files. (Gross, L. E. , UFO History 1954: January-May, pg. 61, privately published, Freemont, Calif.)

In Keyhoe's book "Flying Saucers from Outer Space, (1953), Two UAP allegedly circled the airplane twice in which Secretary of the Navy, Dan Kimball, was riding en route to Hawaii in about April 1952. Admiral Arthur Radford, flying an another aircraft fifty miles behind, saw two disc-shaped craft circling their aircraft for about two minutes.

30. March 25, 1954 1520L UM NE of Ft. Lauderdale, Florida

Capt. Dan Holland, 33, was flying a U.S. Marine jet of the Third Marine Aircraft Wing at an altitude of about 26,000 feet over the Air Force's guided missile range near Banana River in the afternoon. The flight of three aircraft he was a part of were passing to the east over the Atlantic Ocean coast at Ft. Lauderdale when he sighted a "round unidentified object" about twice the size of his own aircraft. It seemed to descend vertically out of the sky "like a falling star." Later he said, "I moved out of the way - thought the thing was going to hit us, and called to the others to look... It startled me by suddenly stopping 3 or 4 thousand feet above us. It looked like a gleaming white ball with a gold ring around the lower 1/3 of the ball... Then the thing accelerated faster than anything I've ever seen before and disappeared to the East at an amazing speed in about 15 seconds. We were doing over 400 and it made us look slow. I always thought anyone who said he saw a flying saucer should have his head examined, but I'm damned convinced now that saucers exist."

At one point he allegedly banked toward it and activated his gun camera but the UAP suddenly flew away toward the east "at a tremendous speed." The other pilots in his flight who were flying ahead of him did not see it. (UP wire story, News, Washington, DC, March 25, 1954)

31. April 13, 1954 before midnight UC Long Beach, California

Captain J. Schidel and his crew on United Airlines flight 193 were at an altitude of 5,000 feet in clear weather when he reported a near-miss with an "unidentified craft." He testified to the Civil Aeronautics Board that a "huge bulk came at him out of the blackness." It had one red light on its right side which appeared just before what he felt was an "unavoidable head-on collision." The frightened pilot put his aircraft into a rapid, steep bank causing some of his passengers and a stewardess physical injuries. "It was in sight just two seconds and made no movement to avoid me," he said. Local ATC personnel said there were no other aircraft in the area at the time. (Gross, L. E., UFOs: A History 1954, January - May. Pg. 71, privately published, Freemont, Calif.)

32. June 23, 1954 2100L UM 10 mi. SE of Columbus, Ohio

The pilot of an Ohio Air National Guard F-51 fighter, Lt. Harry Roe, Jr. was flying from Dayton to Columbus, Ohio at 240 mph on routine training flight when he said he was "followed in close formation by a (round, white) light for more than 30 minutes. He performed various maneuvers in an attempt to either lose the light or collide with it; however, it remained in relatively the same position to the aircraft ("a little above and behind him")." The sky was still illuminated by some twilight but there was no moon. The unidentified light eventually departed to the SE. During the sighting Lt. Roe thought he was seeing a

jet aircraft but he never observed any exhaust flame or light. The Air Force investigators concluded that he had seen a light reflected into his eyes off the surface of his own canopy. Due to intense interest in the case shown by the local press the Air Force carried out "a complete investigation." The results of this complete investigation are not a part of the official Blue Book file, however. If the light had been an Air Force aircraft they would have likely offered that explanation to the press. (USAF Blue Book file)

33. September 26, 1954 2104L UC Altoona, Pennsylvania

This pacing incident involved a United Airlines DC-6 (flight 606) at FL190 and a ground speed of 382 mph. The crew sighted one object approaching them that was flat on its bottom and rounded on top. It was the color of "fire." Captain Picune reported that it flew parallel with his aircraft for about a minute and then pulled forward at "tremendous speed" disappearing from sight in the east. Unfortunately, the estimated separation distance from the airliner was not given. The Air Force's speculation was that it was a "possible aircraft" but also concluded there wasn't enough data for an evaluation to be made. (USAF Blue Book file)

34. November 19, 1954 2104L UC 130 mi. SE New Orleans

A National Airlines flight (Aircraft N918) was at 17,500 feet altitude flying direct to Tampa, FL. on a heading of about 105 degrees. The night was dark but forward visibility was not particularly good (about 10 miles) when the flight crew saw a light flashing blue and white and moving up and down and remained directly in front of their aircraft at an unknown distance. They watched this phenomenon from between three to five minutes when it then disappeared by moving to the NE until it was out of sight. Later the captain was contacted by Air Force investigators and he claimed he had seen a star. This explanation is found wanting if the light actually moved to the NE as the captain claimed. (USAF Blue Book file)

35. January 1, 1955 0544L UM 30 mi. W of Cochise, New Mexico

This display of aerial maneuverability certainly captured the attention of two Air Force pilots in their B-25 bomber. The instructor pilot sighted the object first and pointed it out to his student. The object looked like "two pie tins placed together at their rims... metallic, and large" (est. 120 - 130 feet across). During the seven minute-long sighting the UAP flew along with the aircraft it changed its attitude. It rolled so that they could see its top surface and also its side view. Finally it disappeared. The Air Force investigators labeled the object "Unidentified." (USAF Project 10073 Record Card and file)

36. January 29, 1955 2107L UM Winterset, Iowa

This sighting involved two air national guard pilots, Major A. Packer (132nd. Fighter Bomber Group) and Lt. D. Myers in a T-33A jet (52-9590). It was a clear (100 mile visibility), dark night. The Iowa ANG report stated that they were travelling on a heading of 030 degrees at 290 kts. near Des Moines, Iowa when they sighted a white light which varied in intensity at a constant frequency and which subtended an angle of about 1.5 degrees arc. It made a direct, head-on pass at the jet in level flight at 20,000 feet altitude. At the last instant the object rose and flew over the jet, "climbing rapidly to

35,000 feet." When the pilot tried to chase the object it out climbed and out turned him. The sighting lasted about 25 seconds. An Air Force investigator wrote, "It would appear in retrospect that the object was able to maintain contact with the observer aircraft by other than visual means...". "The object was highly maneuverable and showed some understanding of tactical maneuvers and used the excess speed and altitude to his advantage in every case." (USAF Project 10073 Record Card and file)

37. February 1, 1955 0655L UM 20 mi. E. Cochise, Arizona

An instructor pilot and his student in a TB-25 bomber (44-86894) were in level flight at 13,000 feet altitude on airway Green 5 under a bright moonlit night sky. Their ground speed was 238 mph. Then they saw a very bright, round object showing red and white hues about five degrees arc above the local horizon. At one point it subtended an angle of between six and ten degrees arc diameter. It approached them and hovered off their left wing for about five minutes before departing at an "extremely high speed" in a steady climb maintaining its parallel track (it took about three minutes to disappear from sight). This is another USAF Unidentified object. (USAF Blue Book file)

38. June 16, 1955 2300L UC 40 mi. NE Springfield, Missouri

A Flying Tiger Airlines scheduled flight was at cruise altitude northeast of Springfield, Missouri when this event took place. The sky was dark; the flight crew sighted a blue-white disc travelling at "tremendous speed." At first it only looked like it was moving toward their aircraft but then ended up circling the airliner "in a tight turn." Then the object tilted up steeply and accelerated out of sight. His radio report to CAA authorities was to be only one of dozens that night from Chicago to Baltimore. (Keyhoe, The Flying Saucer Conspiracy, pg.270-271, 1955)

39. December 11, 1955 2100L UC,UM Jacksonville, Florida

The crews of two separate airlines and witnesses on the ground saw a "fast-maneuvering, round, orange-red object." When two U.S. Navy jets (on a practice night-flying mission) were vectored to the area by a Jacksonville NAS controller they tried to approach it. But the object suddenly rose up to 30,000 feet altitude and then dove back down in a circle, buzzing the jets. Everything was detected on military radar. (Hall, The UFO Evidence, pg. 32, 1964)

40. May 22, 1956 2305L UM 50 mi. NW of Monroe, Louisiana

Earl Holwadel, 25, USAF, was in the front seat of a T-33 jet and an unnamed officer in the back seat during a night flight. Their heading was 50 degrees at 18,000 feet altitude when they both noticed a bright light due east of them travelling in a southerly direction. Holwadel decided to investigation the object and banked right toward the SE somewhat behind the object which was now seen in the SE from their location. The UAP looked like it was a great distance away at this time. "Suddenly it came straight at the observer (sic) at a rapid rate of speed.... The witness (sic) stated they crossed the rear of the object, experienced no wash, and then moved to the south of it. The object moved away and then returned at high speed on a westerly course. As the aircraft cruised in front of the object, odd and extremely bright lighting which did not resemble lighting of any known aircraft was observed. The shape (of the object) could not be clearly determined at that time....". The object's maneuverability was

"fantastic and it never appeared to change its flight attitude at any time during the encounter. "Mr. Holwadel stated that his aircraft passed under the 'nose' of the object at a distance of approximately 75 yards and on a heading of 330 deg., at which time an intensely bright white light flashed from the object, lighting up the canopy of the aircraft." A sketch of the UAP made by the main witness showed a bulky, squat cross-section, shorter than a C-47 aircraft but wider. the overall length of the elliptical-shaped object seemed to be about 30 to 40 feet. It had no visible wings but only stubby protrusions extending out from the edge of the object perhaps three to four feet long and 25 feet long on each side. Its bottom surface looked like it was made of steel with "ribs extending (downward) two to four feet and creating a wave-like impression." The meaning of this is unclear. The bright white light came from what looked like a "greenhouse-shaped dome" or cockpit window at its front end. One small, steady red running light was seen centered on the main body of the object. (USAF Air Intelligence Information Report 2D-UFOB-2-56)

41. August 16, 1956 0145L UC Azores (Atlantic)

This near miss incident took place at 4,000 feet altitude while Eastern Airlines flight 49 (DC-4) was en route to Laguardia, NY from POU. Their westerly heading carried them over the Atlantic Ocean. The flight crew sighted the strange light for from 20 - 25 minutes time and then radioed a near miss with the "bright white light" which was seen initially to the west of their course. According to the CIRVIS report (No. 170232Z) received through New York ARTCC," the object passed within 40 ft. of aircraft coming in from above and below. The meaning of this is unclear but suggests multiple passes made by the UAP. The pilot took "evasive action" according to the report.

42. November 1956 2300L UC Hickory, North Carolina

This near-miss with a UAP took place with a commercial aircraft flying from Laguardia Airport, NY to Atlanta at FL130 in a dark sky. Captain Dick Russell, FO, provided this (abbreviated) account of what happened. "He (the Captain) told me that he had seen UFOs a number of times before, but I'd almost forgotten, and all at once, he said, "Dick, look there!" And I looked up, out his windscreen and I saw an object which was saucer in shape, in fact like two saucers, one on top of the other, and ... uh... it was kind of an indefinite milky-green type of shape, almost an indefinite type of shape, and it was sitting there motionless. And I looked at him, wondered, ... I was stunned, and I said, "What is that?" And about that time it zoomed across the front of my windscreen and stopped and then flew off at about a forty-five degree angle. Very high speed. I could not understand what it was. I said, "What in the world was that?" He said, "Well, now you've seen one." He says, "You can't tell anybody because they think you're nuts." Well, I was about as convinced today as I was that night." "I've not seen one since." ("Pilots in Peril," interview for Fox TV production, Hollywood, Calif., March 6, 1994)

43. November 14, 1956 2210L UC 60 miles from Mobile, Alabama

This close encounter received wide press coverage and intensive investigation and still remains as a classic example. Captain W. Hull had 17 years of flying experience and 15,000 hours flying time when he and his FO Peter MacIntosh were flying Capital Airlines flight 77 from Laguardia Airport, NY to Mobile, Alabama in a Viscount aircraft. Their heading was to the SSW and they were above a cloud

layer only broken occasionally. Then they saw what looked like a "brilliant meteor" falling diagonally downward from left to right. The light decelerated rapidly but did not burn out or explode as they had expected. Rather, it came to an abrupt halt directly ahead of them. Hull said, "It was an intense blue-white light, approximately 7 or 8 times as bright as Venus when this planet is at its brightest magnitude. Pete shouted, "What the hell is it, a jet?" His first thought, of course, was that the object was a diving jet fighter which had turned sharply away from us and in departing, was giving us a view right up its glowing tailpipe. Instantly I knew that could not possibly be an airplane. "

Captain Hull then radioed Mobile Control Tower asking about their visibility of his aircraft and the strange light. They cannot due to the cloud cover. He went on, "It is directly ahead of us and at about our altitude, or slightly higher. We are right over Jackson, Alabama and have descended to 10,000 feet." He then requested that Mobile contact the USAF tower at Brookley Field some 20 miles to the SE to see if their military radar showed anything. "Just after this exchange, the object began to maneuver. It darted hither and yon, rising and falling in undulating flight, making sharper turns than any known aircraft, sometimes changing directions 90 degrees in an instant. All the while the color remained constant, a brilliant blue-white, and the object did not grow or lessen in size. MacIntosh and I sat there completely flabbergasted at this unnerving exhibition." Very soon thereafter the light "...began another series of crazy gyrations, lazy 8's, square chandelles, all the while weaving through the air with a sort of rhythmic, undulating cadence, the likes of which neither Pete nor I had ever seen." The light then "shot out over the Gulf of Mexico, rising at the most breathtaking angle and at such a fantastic speed that it diminished rapidly to a pinpoint and was swallowed up in the night." Captain Hull completed his signed statement with these words, "I am seeking no publicity. I didn't report this sighting to the press and not a word has ever been printed about it until this moment." (Hull, W.J., Personal statement, 1957; USAF Blue Book file, reel 27)

44. March 8, 1957 2145L UC Pasadena, Texas

Victor Hancock was piloting a DC-3 aircraft belonging to the Tennessee Gas Transmission Co. from Beaumont to Houston on a heading of about 250 degrees and an altitude of about 1,500 feet when this incident took place. In the right seat was Guy Miller, FO. Unexpectedly, an object with three very bright lights on it crossed in front of them travelling from south to north. Then the object came to a stop and maintained station with their aircraft (within a quarter-mile distance) for an undisclosed period of time before continuing on its way in the night sky. Its lights were so bright that the two men could not see its outline shape and it had no navigational lights at all. It did not move like an airplane moves. Miller said, "When it wanted to, it kept ahead of us easily. It would stop, or seem to stop, just under us. We would bank around, get close to it and it would be gone again." Hancock estimated its size to be "at least the size of our plane." The pilots watched as the object then flew toward the main runway at Ellington Air Force Base, cutting across military traffic. When it reached a point about 200 feet above the runway it then departed out of sight to the south. The encounter was also allegedly picked up by airport radar at Houston International Airport. (The Times, NY, March 10, 1957: The Chronicle, Houston, TX, March 9, 1957; APRO Bulletin, Pg. 5, March 1957)

45. March 9, 1957 0345L UC Atlantic Ocean, NE Jacksonville, Florida

Capt. Matthew A. Van Winkle, First Officer (FO) Dion W. Taylor, and Flight Engineer (FE) John Washuta were flying Pan-American DC-6 flight 257 with forty four passengers from New York to San Juan, Puerto Rico. They were on autopilot flying at 19,000 feet altitude, 290 kts. airspeed and were about 350 miles NE of Jacksonville, FL [32 deg. 35'N; 80 deg. 30' W]. Bound for a stop in Miami, the aircraft was on a southerly heading. Suddenly to their right front all three flight crewmen sighted a glaring, white, dazzling light with a pale-green tinged (core) with "an outer ring which reflected the glow from the center." (NICAP report) It approached them at high speed. Several passengers who weren't asleep also saw the approaching light. The light source was variously described as a "round," "large, glaring spot light," "magnesium-flash white," "burning greenish-white appearance," "brilliant, greenish-white object," "clearly circular-shaped object," "not a meteor." "When it got closer," (Van Winkle) said, "he had noticed it was not shaped like any known jet." (UP wire story, March 9, 1957)

"It appeared to fly in level flight from the SW to the NE Capt. Van Winkle later said, "Instinctively, I thought it might be another plane heading straight toward us (so) I pulled the plane up and to the side... Since it was on automatic pilot, apparently I forced it too much and all the forty-four passengers except one or two who had belts fastened, came out of their seats and rolled on the floor." (Ibid.) Another account stated that three passengers and a stewardess were injured when the pilot "took violent evasive action" climbing sharply about 1,500 feet to avoid a possible collision with the object. The air crew radioed a CIRVIS report (following Joint Chiefs of Staff regulation J-146). According to Air Force report UFOB-702-101, their investigators found that the luminous object was roundish or oval in outline and the angular size of a basketball held at arm's length, or about 20 degrees diameter! It appeared "bright green" with four exhausts protruding downward, the angular length of each being about one-fourth the diameter of the object.

The pilots of at least seven other aircraft spanning 300 miles all en route to Puerto Rico also saw the luminous object with sightings that ranged from seconds to three minutes. Air Force officials said that it was not a missile but rather a "seldom-seen form of a meteor, a 'bolide,' often referred to as a fireball." (USAF Blue Book Report). Interestingly, an article in the New York Journal - American stated that an unofficial report said a jet intercept task force accompanied by a radar plane was sent aloft to investigate from a strategic air command fighter base in the south. Reports from the air crew of the other six aircraft flying along the same route to Puerto Rico also were analyzed by Air Force investigators.

46. March 27, 1957 2035L UM Roswell, New Mexico

The pilot of an Air Force C-45 (Lt. Sontheimer) was flying near Roswell at an unknown altitude when he looked out his left-hand window and noticed three bright lights in a tight formation. Each was round and brilliant white and about the angular size of an aircraft landing light (at an unspecified distance). His official USAF report submitted to the Project Blue Book office stated: "The pilot of the C-45 claims that when he realized the objects were on a collision course with him he immediately flashed his taxi lights on. One of the objects shot straight up in the air above him the other two continued on passed in front of aircraft. When the pilot flashed his taxi lights the objects immediately blacked themselves out thereby disappearing from sight." (USAF Blue Book files)

47. June 3, 1957 2135L UC Shreveport, Louisiana

Trans-Texas Airlines flight 103 had departed Shreveport Airport headed for Lake Charles, 166 miles to the south. They were climbing to 9,000 feet altitude in the dark night sky when the control tower operator called the Captain's attention to a small white light nearby the airplane. Its captain was Lynn Kern, 34, and FO, Abbey Zimmerman, 32. The time was about 2135L. The pilots saw an "unidentified object" approaching them from their 2 o'clock position "at a tremendous speed and 10 o'clock high. It then "...settled down and paralleled his course all the way to Lake Charles. Soon a second object appeared on the opposite side of his aircraft. Each appeared as a blue-green pulsating light and kept pace with their aircraft which was flying at 165 mph.; these objects paced the airplane for virtually its entire trip at a slightly higher altitude. "Captain Kern blinked his lights at the objects, objects lights flared extremely bright then went back to normal." Upon reaching Converse, LA the pilot radioed ground radar at England AFB (Alexandria, LA) and reported the objects. Air Force personnel said that they had two targets in his approximate area at 9,700 feet. A radar controller stated that since he saw "...nothing unusual about (the) sighting." he did not file a report. The Air Force summary pointed out that there was heavy B-47 aerial refueling operations in the area at the time. Interestingly, a tower operator at Shreveport Municipal Airport viewed both objects through binoculars until the aircraft and accompanying objects were out of sight. The lights disappeared from sight in a cloud deck to the SW. This report is one of the USAF's Unidentified Cases. (USAF Blue Book file)

48. July 17, 1957 1132L UP Eagle Lake, Texas

This close encounter with a domed disk occurred with a Cessna 172 was at 1,500 feet altitude climbing to 4,500 feet at 80 mph while travelling VFR from Eagle Lake to Palacios near the Gulf of Mexico. According to the signed witness form from the pilot, C.M., 26, he and his passenger Mr. C. C. were in bright daylight with broken cumulus clouds covering about one-tenth of the sky. The passenger, a Church of Christ pastor, was learning to fly. Unexpectedly, they saw a very strangely shaped object appear almost directly ahead of them moving up and to their right. The sharply edged object was pointed at its left- and right-hand ends (7.5:1 width to thickness ratio) with a low, rounded dome on top. The object's length subtended an angle that was almost as wide as one-half of the forward windshield! Its surface appeared metallic and its dome glass or plastic. "It was a vehicle foreign to this planet," he wrote. It remained in view for about sixty seconds before departing. The pastor was so upset, "...that he stopped flying the aircraft. I had to take over...". He stopped all further lessons after this event took place. (Pilot report form)

49. July 17, 1957 n/a UC 100 mi. E. of El Paso, Texas

A commercial airliner (flight 655) was flying from Dallas, TX to Los Angeles, CA when a near miss occurred. The other unknown object was described by Captain E. Bachner "at least the size of a B-47" jet aircraft but other than that he could not identify it. Because of the evasive maneuver which the captain felt necessary to carry out two passengers were injured and had to be taken to a hospital upon landing. There were no known aircraft in the area at the time. (Lorenzen, C. and J. Lorenzen, UFOs: The Whole Story. pg. 79, Signet Books, New York, 1969)

50. July 24, 1957 2215L UC Amarillo, Texas

TWA flight 21 from New York to Phoenix at FL180 had reached northern Texas when Captain G. Schemel saw red and green lights suddenly appear ahead of him at his altitude on a collision course. The sky was dark with thin scattered clouds. Although visibility was greater than 15 miles the flight was operating under IFR conditions. According to the CAA report, eight of the passengers and two hostesses on board were thrown into the aisles and suffered minor injuries when he dove 500 feet to avoid hitting the oncoming object. "One elderly lady was thrown against the ceiling, receiving a bad head cut. Seven additional passengers and two hostesses received bad head bumps and bruised hips and legs." (Anon, 1957) The unidentified object quickly passed above his aircraft and out of sight. The Civil Aeronautics Board investigation of this close encounter could locate no military, commercial, or private aircraft an the area at the time. (Anon., Scientists say near collisions may involve space vehicles, UFO Investigator, Vol. 1, No. 2, pg. 9, August - September 1957, Center for UFO Studies, Chicago, Illinois)

51. October 23, 1957 2015L UC Pampa, Texas

Two commercially rated pilots were flying a charter flight in a Beechcraft Bonanza from Kansas City, Missouri to Albuquerque during this event. Emerson Goff was flying with Harold Briggs, his passenger, about 10 miles NW of Pampa, Texas under clear, dark (no moon) skies when they sighted an "exceptionally bright star" slightly above their altitude and about 30 degrees on their left side. They were descending through 12,000 feet MSL on a heading of 210 degrees. At first, they estimated its range from them at about 40 to 50 miles, perhaps over Estelline or Silverton, Texas. However, very soon the light seemed to approach them at a high rate of speed, its apparent size increasing rapidly. And, as it became larger and larger, they could just see a "faintly solid elliptical shape with an apparently rounded upper portion," explained Goff. It was now about five to eight miles in front and perhaps 3,000 to 4,000 feet above them. "It was "lit up" so brilliantly in a bluish, greenish, white brilliance that it was really hard to discern just the exact shape it did have." It drew near to their aircraft and "maneuvered sharply... at high speeds." Then the light suddenly rose vertically an estimated 8,000 to 10,000 feet very quickly and leveled off and continued flying horizontally to the NW. The object did not change its attitude at any time during these maneuvers. The two astonished pilots watched it disappear into storm clouds about 30 to 40 miles to the NW. This encounter lasted about six minutes. At no time did the UAP change color or shape or emit a smoke or vapor trail. (The UFO Investigator, Vol. 3, No. 10, October-November 1966, Center for UFO Studies, Chicago, Illinois).

52. June 9, 1958 1017L UM central Puget Sound, Washington

1st. Lt. Charles Scharf, 25, of the 318th Fighter Interceptor Squadron at McCord AFB, near Tacoma was flying an F-102 (No. 1425) on a heading of 180 degrees and between 40,000 and 50,000 feet altitude and about 600 mph during this incident. The weather was clear and visibility was unlimited. He then observed a cylindrical shaped object (12:1 length to width ratio) that was pinkish-white and had a dark circle in its center. The object was first seen at 30 degrees elevation above his own altitude. It seemed to oscillate as it approached his position at a high rate of speed. It isn't known whether either of these motions were objective object motion, aircraft motion, or a combination of both. The pilot banked left "to keep it in sight" and noticed that the object continued north and then appeared to climb, decelerate, and perform a "large 360 degree orbit." The UAP then circled the F-102 three separate

times as it descended toward him. “It finally pitched up 45 degrees altitude (sic) and accelerated in a climb, rapidly disappeared on a northwest heading.” Then the pilot descended and returned to base. The object was not detected on ground radar; the pilot did not check his on-board radar for contact during the event. The official Air Force explanation for this object was a “balloon.” A U.S.Navy “Sea Balloon” had been launched twenty minutes earlier and was claimed to have reached an altitude of 40,000 feet by the time this sighting took place. What was overlooked or ignored were the following reported facts: (1) the cylindrical shape of the UAP, (2) the visual oscillations of the UAP, (3) the decelerations and accelerations of the UAP, (4) the relatively low wind velocities at that time and place, and (5) the 45 degree pitch up maneuver prior to departing. (USAF Project Blue Book file, Incident: NC-4320)

53. November 4, 1958 2103L UM Pope AFB, North Carolina

The pilot of a KB-50 USAF tanker was in the downwind leg of the traffic pattern during a ground controlled approach to Pope AFB about to make a night landing when he noticed an object on a collision course. He and his flight crew also noticed that “strange lights were observed in his cockpit while he was on the final approach...”. [Note: The Air Force file does not discuss this further] He executed a go-around maneuver and climbed in altitude to await the disappearance of the object. Air Force tower personnel also saw the UAP hovering above the airport, watching it through their binoculars for twenty minutes. They are convinced it was not an atmospheric phenomenon of some kind. They said that “the UFO presented a hazard to aircraft operating in the area. (USAF Blue Book file - WDO-INT 11-WC23)

54. July 4, 1961 2215L UP NW of Akron, Ohio

Private pilot Ernest Stadvec, a B-29 bomber pilot in WW-2 and owner of a flying service had strange encounters on two consecutive nights. He was flying NW of Akron with two passengers on Tuesday night, July 4th at about 2215 local time when they saw a brilliant green and white light appearing above them and to their right side. They were at 5,000 feet altitude. He said, “The object we saw dived at us on a collision course to the extent that I actually called out to my passengers that the object was going to ram us... After the object came at us it reversed course and climbed rapidly into a clear night sky.” He went on, “This happened again the next night [about the same time and altitude] when the object flashed up in front of us and again climbed into a clear sky. In both instances, the object climbed at tremendous speeds, leveled off and disappeared to the northwest.” Radar at Cleveland Hopkins Airport detected a “meteor-like” object for several minutes. (Hall, R., The UFO Evidence. pg. 43, NICAP, Wash. D.C., 1964)

55. February 7, 1963 2345L UP Charlottesville, Virginia

Carl Chambers, pilot, and his passenger John Campbell were about 95 miles SW of Washington, DC en route to Pennsylvania in a light aircraft when they noted a star like light in the night sky which seemed to be flying toward them. After his encounter the pilot estimated the yellow-white light was about three feet in diameter. Concerning its flight dynamics he wrote, “After noting that its altitude and position changed rapidly, I radioed the Washington FAA and reported the incident.... For nearly an hour after,

we stayed in contact with Washington. During that time, the object hovered off the right wing [easterly] and moved toward, under, and above the aircraft. Then it dropped off and a few minutes later appeared about 35 miles south of Washington...". Chambers was told by the FAA that another pilot in the area had reported a similar event at that time. (Hall, The UFO Evidence, NICAP, Pg. 43, 1964)

56. August 18, 1964 0529L UM 200 miles E. Dover (Atlantic Ocean)

This USAF Project Blue Book air-visual case is interesting because of the apparently intelligent responsive behavior of the UAP to the behavior of the pilots of a C-124 cargo (aircraft 31007 assigned to the 31st. ATS, 1607 ATW). Briefly, at least four crew members on a flight out of Dover AFB at 9,000 feet altitude, 200 mph true airspeed, sighted a round, diffuse-edged self-luminous object ahead of and about 500 feet below them on a collision course. The object was visible for about two minutes as they were flying between layers of scattered clouds. Lt. J. F. Jonke and a Major who were in control executed an evasive maneuver, turning from 260 degree heading to 340 degree heading while maintaining their altitude. As the airplane turned the UAP turned right and disappeared. They called Boston Center and were told no other aircraft were in the area and no radar contact was made with the other object. [AF IN : 10417 (20 Aug 64)E/der] (Unclassified: RUEASB 118)

57. January 3, 1965 Dusk UC East Coast, USA

Capt. Bill Williams, FO, Ed Dynes, and FE, Charley Booth (all pseudonyms) were flying a four-engine Electra of a major airline on a commercial flight toward a large eastern city when this incident took place. The captain was a former military pilot with a total of 25 years flying experience. The flight crew sighted what they thought was another aircraft as they neared their destination but it unexpectedly changed its course and approached them head-on. The object was huge and delta-shaped and was only seen by a black silhouette against the dwindling skylight. "I called out 'What the hell is it?' ... Somebody said 'Good God!' ... It started to turn away, then as suddenly as it had appeared it departed... It disappeared at a tremendous speed - a speed of several thousand miles per hour. I did not report to the tower because I did not feel it was a near miss with a conventional aircraft.... And also because of the ridicule that was heaped on Captain Pete Killian of American Airlines," said the captain. (UFO Investigator, Vol. 3, No. 2, April-May 1965, Center for UFO Studies, Chicago, Illinois)

58. April 25, 1966 2052L UP Near Ocala, Florida

Captain Fred Sharrer, Herbert Bates (FO), Frank Stockton, (executive assistant to the Governor of Florida), Governor Haydon Burns, Capt. Nathan Sharron, State Patrol Officer, four newspaper reporters, and three others were the witnesses to this prolonged close encounter at 6,000 feet altitude. They were in a Convair, propeller driven aircraft flying at 230 mph during a campaign-related flight. It was a clear, moonlit night. Two yellow-orange luminous spheres of light side-by-side (dumbbell shape) kept exact pace on the right side of their aircraft for about forty miles distance during their flight from Orlando to the Capital at Tallahassee. Passengers in the rear of the airplane saw the luminous globes for from three to five minutes while the flight crew watched them for about ten minutes duration. At one point Governor Burns asked his pilot to "turn into it." As the pilot did so the thing rose at a steep angle and quickly disappeared from sight. Its distance from the airplane wasn't determined but some of those

on board estimated the UAP to be at a near distance while others at a great distance. (Clearwater (Fl.) Sun, April 26, 1966; Kalamazoo Gazette, April 27, 1966)

59. May 21, 1966 1515L UP Willow Grove, Pennsylvania

This two-witness, daylight, near-miss with a domed disk incident at 4,500 feet altitude was carefully investigated by many people including the noted atmospheric physicist Dr, J. McDonald. William Powell was flying in his Luscombe single engine propeller-driven aircraft with his passenger, Muriel McClave. They were touring the Philadelphia area and were only about five miles NW of Warminster when they sighted a domed disk at their 11:00 o'clock position. It looked like it had been following several Navy jets that had just taken off from Willow Glen Naval Air Station field. But suddenly it changed its course (without banking) and approached their small airplane, passing on their right side by only about 100 yards. The object did not appear to rotate or have any exhaust. The disc was "dayglo red" with a low, white glistening dome centered on its top surface. This account is adapted from McDonald's testimony before the Committee on Science and Astronautics of the U.S. House of Representatives on July 29, 1968. (Anon., 1968)

60. January 1967 Night UP SW New Mexico

Jimmie Moran, a passenger on a Lear Jet 23 en route to Las Vegas, NV from Houston, Hobby Airport, Texas was the first to sight the bright red light associated with a sharply defined object ahead of them at their 10 o'clock position in the dark sky. He was seated on the left-hand side of the passenger cabin. Flying at FL410 to the NW just beyond jetway J-86 which ended at El Paso, the pilot, Carl M., filed for a direct flight to Winslow (AZ) on a heading of 300 degrees. He was delivering the new aircraft to its owner. An unnamed FO was also on board and saw the UAP which kept pace with the jet off its left-hand side for 29 minutes. Their airspeed was 300 kts. (Mach 0.82).

In the pilot's own words, "I told Jimmie and the other passengers in the back, that maybe it was a light on a weather balloon. A few minutes later my passengers called me again, saying the bright red light was moving, so I told them that the light was in a military flight training block, so it might be a military plane."

"The light had a red ray below the light towards the ground and about 2000 ft. below the first light, a second oval light appeared, then a third light, and then a fourth," said Capt. M. "Each had a red ray of about 2000 ft. from one to the other. Then the lights retracted one at a time until there was one light shining bright red. Then it ran the lights down again, but at a 40 degree angle. And then retracted the lights the same way." Capt. M. then radioed Albuquerque Center to inquire if they showed any aircraft at their 9 to 10 o'clock position. They replied they did not have any transponder signal there." At this moment the UAP's light extinguished for 30 seconds and came back on again. "Then Albuquerque Radar (AR) called me and said they had the object on their radar"... 39 miles west of our aircraft and moving at the same heading. Next Albuquerque Radar contacted a National Airlines DC-8 then over Casa Grande, AZ heading for Houston and learned from its captain that "...he had been watching the light and said it did everything the Captain on the Lear Jet said it was doing. AR asked the DC-8 captain if he would like to make a "UFO" report, and the captain said no. AR asked the captain for his name, and he told them it was none of their damn business." It was at this point that the frightfully close near miss occured.

In the pilot's own words, "AR called me to tell me the object was closing in on me, and before they finished telling me, the vehicle was so close that the blips on the radar screen became one. [The captain's sketch of his cockpit window outline shows the UAP filling at least 75 percent of the window's forward area!] The red light was so bright that when I looked up from the instrument Panel and would look back at the panel my eyes were having trouble ajusting (sic) each time to the panel white lights. At this close formation the encounter lasted 29 minutes.... My passengers in the back were hollering at me to get them away from the object... After a few minutes the bright red light of the vehicle went out, but I could not get a good look at the vehicle, because my eyes couldn't adjust to the darkness before the vehicle turned the bright light back on. Then the vehicle slowed down [meaning unclear] to the point that I pulled away from him. The passengers were overjoyed when the light went behind the left engine... But that was short lived. The vehicle passed us up at a speed so that the red light was trailing the object like a comet for as much as 150 yards. It slowed down again, which allowed me to overtake the vehicle at Winslow. We both made a left turn over Winslow at 41,000 feet. The UAP remained with the jet to beyond Flagstaff (where the aircraft was now under Los Angeles Center control which, the captain learned, also had the UAP on their radar). The captain said, "My passengers were still hollering and in a panic for me to get them away from the vehicle. The UAP finally accelerated to the west at a 30 degree climb angle when we were only fifteen minutes from landing at Las Vegas. No official inquiry was made of this high altitude encounter. (Pilot report form)

61. October 27, 1967 0300L UP NE Jacksonville (Atlantic Ocean)

This fascinating aerial encounter involved Charlie Little, pilot of a Piper-Twin Commanche PA-30 (N7942Y). He was multi-engine rated and a flight instructor. Two other commercially rated pilots, and a passenger were also on board. Having taken off from Opa-Locka, FL to Morristown, NJ, they were headed ENE at 8,000 feet altitude in uncontrolled airspace under an IFR flight plan but were in radio contact with Jacksonville ARTCC for safety reasons. Stars were visible in the dark sky. Ground control helped them maintain a correct heading when their two VORs apparently displayed significantly large angular deviations toward the east. About half-way between Jacksonville and Charleston, SC over the ocean at least three of the occupants saw a light moving across the sky and interpreted it to be a commercial flight at high altitude bound for Miami. But the light began to descend and approach their airplane. The pilot radioed radar control to inquire if any other traffic was seen in their vicinity (now at their one o'clock position high and seemingly southbound). The answer was "negative."

Little turned his landing and taxi lights on. He said (later), "As the light came closer and closer, it was very apparent that we were going to pass very close and that the aircraft was not making any move to avoid us." He then asked for permission to descend immediately... "We may need all the way to the deck immediately." He received permission to do so even though permission was not legally required. Under the circumstances, he was probably trying to set an example of extra-safe procedures for the benefit of the other two pilots on board. Little then disengaged the autopilot, pulled the throttle back and pushed the wheel forward "...trying to avoid a head-on collision. We descended to 6,500 feet but the lights came closer and closer." Then they saw not one but six, huge, round, bright, white lights in a (horizontal) row. "A collision seemed imminent. Panicking, I yelled, 'We can't get away from him!' The situation seemed hopeless; there was no way to avoid him. We were all going to die because the pilot in the other craft wasn't paying attention." Little had to shield his eyes with his hands the lights were so intense. "Suddenly, a soft green light was all over our cockpit."

At the very instant of collision, "...the craft made an unbanked 180 degree turn, remained ahead for a few seconds and then "took off and disappeared like a flash bulb."" At least two of the witnesses agreed that the huge object was a gray equilateral triangle, each side at least 200 feet long and twenty feet thick. Its outer edges were very smooth and sharply defined (with no rivets, doors, antennae, windows, etc.) while at its center there was a triangular-shaped opening or hole large enough to fly through. It flew with one side directly forward. "As a pilot, I did not believe in UFOs but we had just had a near mid-air collision with one!" When Little told radar control what had just happened he was met with ridicule. Later he recalled, "I became very angry and threw the microphone on the floor instead of hanging it on the clip... We all knew we had just seen a UFO but we didn't know what to say. We were afraid that if we told anybody we would lose our pilot's licenses. This was very important to us because we were all hoping to become commercial airline pilots. It could be the end of our careers." Investigator Smith also discovered that Little was told by radar control that a United B727 captain allegedly had just reported the same shaped object over Washington (about 535 miles away)! I could not locate any record of this other claimed sighting which isn't surprising given the continuing attitude of derision shown toward air crew by authorities on the ground and the understandable reticence to report bizarre aerial sightings.

One final word is appropriate. Is it possible that Jacksonville radar was actually tracking the UAP and not the aircraft when the several clock-wise deviating VOR "events" were taking place? It isn't clear whether the aircraft had a transponder (they were relatively expensive at the time) so that ground radar might have had only a weak return from the aircraft's skin paint. Indeed, broadband radar in the 1960s wasn't particularly effective when it comes to a non-transponder equipped aircraft. The far larger radar "skin paint" return from the triangular object might have been significantly larger than that of the aircraft. If true, this would explain the progressive clockwise deviation of the ground radar's track that also corresponded with the south-bound movement of the UAP before it apparently changed its heading to approach the aircraft. (Smith, W., A huge "open" triangular UFO, International UFO Reporter, Pp. 4-6, Sept./October 1984, Center for UFO Studies, Chicago, Illinois).

62. July 8, 1968 2220L UP Warren, Ohio

Richard Montgomery was piloting a Cessna 172 Skyhawk and his brother Kenneth was in the right front seat. Elizabeth Soverns and Rosalind Rians were passengers in the back seat. They were flying at 4,000 feet altitude near Warren when they noticed an erratically moving light approaching them from the SE in the direction of Youngstown. The young pilot changed course flying more in its direction "...to get a closer look" at it. Then "...the object headed directly toward our aircraft. It stopped and hung motionless in the air, momentarily, and as our aircraft came closer, it moved swiftly upward and came back at us from another angle." Each time the pilot tried to approach the object it kept its distance of from 150 to 200 yards. It disappeared by accelerating to the east until it was out of sight. The object was six to ten feet in diameter and from 16 to 20 feet tall and appeared to be metallic. At least three eye witnesses on the ground in Warren watched these maneuvers take place. (Ridge, F.L., (ed.), Regional Encounters - The FC Files, Mt. Vernon, In. 1994.)

63(a). September 15, 1968 0031L UP Gulf Mexico, W of Cross City, Florida

Two men were flying in a Twin Beech C45H (N36H) at about 9,500 feet altitude on a heading of 120 degrees over the Gulf of Mexico. Mr. Ray Cole, 39, was a missionary pilot. His passenger was a Ray Rushing, also a pilot. Cole was flying from Dallas, TX to Nassau and had stopped in New Orleans to pick up his passenger. The witnesses reported two separate sightings. Upon reaching a point several miles from the Florida coast in perfectly clear weather they first sighted a light at their altitude which Cole first thought was a jet trainer, a single pale green light that flashed at less than one pulse per second (perhaps a brief flicker every other second) with an intensity equivalent to an aircraft landing light seen from five to eight miles away. The light "would go straight up and then over the top and straight down to maybe 500 - 1000 feet below us, below our altitude..." said Cole in a recorded interview soon after the event. The light did not seem to follow an arc at the top or bottom of its motion but went "straight up and then straight down and then straight back up again." With the aircraft flying at 200 mph true this part of the sighting took place over a distance of about 50 miles and yet the light maintained the same apparent distance ahead of the airplane. The UAP departed by turning about ten degrees right (relative to the aircraft's heading) and climbed at a 15 degree elevation angle until it was out of sight.

"I was on an instrument flight plan, and it irritated me because Jacksonville Center had not warned me of this traffic. And so I called them and I said, "Have you got traffic at our twelve o'clock position?" And he said, "Negative." But the ATC personnel there "were very interested." We were exactly 12 miles DME from Ocala at that time.

63(b). approx. 0045L

Then the second phase of this encounter took place. Cole noticed not only the lights of Ocala ahead of him but also a very bright white light that was below his altitude (estimated at 5,000 feet AGL). Cole asked Jacksonville Center if they had traffic over Ocala and they replied "negative." Following is the pilot's narrative.

"And I said, "Well, we have a bright light there," and in the same transmission I said, "And he's moving toward us," and then I just hollered at the microphone, "We're on a collision course," and threw the microphone down (sic) to try to take evasive action. This one moved directly at us. And I was quite certain that we had been victimized by a sidewinder, [an air-to-air missile] because, and both of us, it scared us to death. We were ready to leave the airplane, if we could have. But the thing came straight at us and I'd say at a distance of, I don't know, maybe two miles, you can't tell those distances at night, but he made an instantaneous 90 degree left turn and at our altitude. [Note: This turn prevented the object from colliding with the airplane according to the pilot] Well, I wouldn't say just, he was maybe 500 feet below us." Then the UAP descended and receded away from us. "...at that point I knew it wasn't a missile because they have no control...". "It went a distance, I told them, 15 miles, but I couldn't tell the distance. It went some distance west of Ocala and he just parked out there, and sat there (shining steadily), and we flew on past it." As the light departed it flashed with the same pale green color as the first one. "...I looked diligently for any aircraft identification type of lights, and there were none." Also, the light was so angularly large that it appeared not as a point but as a circle at all times during this sighting. Other interesting facts are not included here to save space. (Transcript of witness interview by J. A. Hynek, September 1968; USAF Form 117)

64. November 21, 1968 2000L UC Daytona Beach, Florida

The following ATC transcript was made by Lt. Paul Boulon while on duty at McCoy AFB, Orlando, as Flight Facilities Officer. He was responsible for the tower and ground control approach (GCA) facilities when he was phoned by personnel at the McCoy tower. This transcript is a radio transmission between two scheduled commuter and Daytona Beach ATC which had been picked up by Air Force equipment in the tower. [Note: They were probably flying under a single flight designation so that only one pilot would communicate to the ground on behalf of both] Boulon wrote the following to me on October 15, 1979, "To the best of my knowledge, no formal report was made by our squadron to Air Force channels for we considered the incident to be civil and not involving Air Force aircraft. I think this was our rationale to avoid the paperwork that would have been involved."

The Daytona weather was warm (70 - 80 degrees F) and very clear with the moon 1/2 full. [274 = commercial flight; DT = Daytona Tower. Note that no radio transmissions were heard from DT ground control transmitters because of line-of-sight blockage].

274: Well, we - just now - they just vanished out of sight and the other aircraft behind me here is witness to everything I was and, uh, they stayed right up with us for a good long way and they came back once and now, now, just now, they're gone again. And there is definitely one on the ground because I watched him land and went over close by and I could see it sitting on the ground. And, uh, the other aircraft saw it also. It's a, uh, perfectly symmetrical (sic) looking object and what look like probably four legs. Now, uh, I, uh, don't know what to think of it either but they were definitely there. We have - each aircraft has a passenger on board and everyone witnessed the same thing I did.

DT: No reception

274: O.K. Now, right now we have two of them that have appeared off our right wing again about my four o'clock position and they're coming in alongside of us right now. There's two of them. They seem to be flying in a - what looks to be about a left echelon.

DT: No reception

274: Ah, we have two of them right now that are still in my four o'clock position and they're flying in a left echelon.

DT: No reception

274: O.K. I'll be turning around now.

DT: No reception

274: (Garbled, appears to be one word) Ground, this is TWO SEVEN FOUR

DT: No reception

274: I turned in on him and they stayed with me for a while and now one of them - one of them just flapped right off and the other one is following him and they're going straight up.

DT: No reception

274: Ah, he's quite, quite a ways behind me now. I don't know if I can relocate him. I'll have to turn and go back towards Winter Park, I mean Winter Haven, and I'll try and see. But the two that were alongside of me when I turned in on them - one of them left and the other one followed him right straight up, just as straight as he could go.

DT: No reception

274: O.K. Well, we'll see you on the ground and talk to you about this.

DT: No reception

274: (Short laugh) Alright.... Ah, I don't want to see any little men standing there in white suits either.

DT: No reception

274: Alright. I'm going to bring these other pilots and passengers with me too.

(Non certified ATC transcript, dtd. November 21, 1968) No record could be found of this event in FAA or NTSB databases.

65. June 5, 1969 1600L UC 70 mi. S. Kansas City, Missouri

The reporter for this near-miss was James V. Beardsley, an FAA air traffic controller who was flying jump seat on American Airlines flight 112 from Phoenix, AZ to Washington, D.C. on a routine familiarization flight. The B-707 jet aircraft was at FL 390 heading ENE having just passed over the Missouri River (now under St. Louis Center control). The weather was calm and clear with excellent visibility. The FO was flying (while the captain was out of the cockpit temporarily) and was the first to sight the oncoming objects. Beardsley heard him cry out, "Damn. Look at this!" Beardsley looked straight ahead of the jet and saw "a flight of four - whatever they were - flying in a square formation." They were almost directly ahead at their 11:00 o'clock position and passed with about 300 feet of their aircraft within a period of three to five seconds little more than 1,000 feet above the jet.

The four objects consisted of one longer, smooth, "hydroplane-shaped" body about 18 to 20 feet long and 7 to 8 feet thick. Its estimated width was about 12 to 14 feet. It was located in the upper left-hand corner of a (vertically oriented) square with three smaller, identical missile- or dart-shaped objects one at the other three corners of the square. All had the color of burnished aluminum. The object in the lower right-hand corner "was on a collision course with us," said Beardsley. However, at the last instant the three smaller objects appeared to climb toward the larger object. As he turned to look back at the objects just after they passed Beardsley saw that they each had a bluish-green flame (like a gas stove burner) in their aft ends. The FO then radioed St. Louis Center and discovered that their radar had picked up their aircraft as well as two "paints" of unknown objects near the airliner. Nothing was said about why ATC didn't alert the flight crew to the approaching objects.

Flying eight miles behind the B-707 was a United Airlines passenger jet at FL370 and four miles behind it at FL410 was an Air National Guard jet. Several seconds after the objects passed the first aircraft the pilot of the second radioed (on a common radio channel), "We see it too!" A few seconds later came yet a third radio comment, "Damn, they almost got me!" This statement was from the Air National Guard jet pilot. The radio chatter following this incident was intense, however, as the field report states, "All participants agreed they had seen a flight of UFOs but none seemed willing to pursue the matter further, at least officially," remembers Beardsley. Neither the FAA nor the airlines ever investigated these near-air misses.

Beardsley said that, "the lack of interest or follow-up in the sighting was not surprising considering the skepticism and caution expressed by most aviation people following the release of the Condon Report." (cf. Gillmor, 1968; UFO Investigator, pg. 2, NICAP, February 1972)

66. April 26, 1970 2130L UP 15 mi. S Ft. Myers, Florida

This single pilot case took place under dark but clear skies above Interstate 25 linking Ft. Myers with Naples, Florida 34 miles south and was investigated by George Fawcett (1970). Mr. Nelson Faerber, Jr., 18, had just taken off by himself in a Piper Cherokee 140 and had climbed to 3,000 feet altitude on a heading of 175 degrees. But being very familiar with this region when he first noticed a rotating green/white beacon ahead of him at 130 degrees heading he knew it was not the Naples airport. He checked his flight chart and found that he was on the correct track. When he looked up again the

green/white light was clearly approaching him at a high speed. In his own words, "This object had, in fact, many green/white lights appearing to be flashing.... I changed my course to a heading of 185 in order to avoid a mid-air collision which seemed inevitable at my original heading.... The craft had now approached me at a fast speed and was cruising along side of me, to my left. I did not attempt to use my radio. It is necessary to point out at this time that I had never been a believer in U.F.O.'s and had no intention of reporting this craft." He also said that he marveled at the fact that the object maintained perfect formation with him (115 mph) even though it had just accelerated to his location seconds before... He estimated the separation distance between his left wing tip and the object to be about 50 feet. He could hear the sound of an electric fan operated at a very low speed. No air buffeting was felt at any time. He saw no wings or engines; his sketch showed a long, thin saucer (1:5 ratio) with eight equally spaced lights each of which was red on its forward facing direction and white on its aft facing direction. They were attached along its upper convex surface. There also were long rectangular lighted areas ("windows?") along its apparent circumference. In the leading edge was a bulbous transparent or white shaped structure inside of which he detected something moving. No E-M effects were noted and his flight control surfaces worked normally. He wrote, "The craft did not attempt to force me out of the air but only seemed to be watching me. About two or three minutes after it came to my side it disappeared at a very fast speed...." (on an easterly heading). Then still very fearful, he visually checked for other air traffic but saw none. So he turned all of his exterior lights "for the time being... to make it harder to spot me in the air." He also acknowledged the fact that this is "against Federal Aviation Regulations but I considered this an exception to anyone's rules."

Nothing happened for another four minutes and he was feeling more relieved until he saw the object approaching him now from the east. Very quickly it arrived at the same position off his left wing tip as before and flying at his exact speed. He turned his lights back on. He wrote, "I tried to fly as if no other craft were in the air but it was indeed difficult. By this time I was very near the Naples area and proceeded to make myself ready for landing. The craft either sensed this or had completed that which it set out to accomplish and dived down out of my heading of 175 degrees at a fantastic speed..." and departing out over the Gulf of Mexico. "I landed safely with no difficulty about 10 minutes later than expected." (Pilot report form, from: Fawcett, G.D., dated 4-26-70)

67. November 1970 Night UC 70 mi. S New York city

FO Kenneth Duncan was flying a B-737 jet at FL240 when he and the captain spotted a "bizarre pale blue light.... It wasn't blinding but it was changing intensity at a beat per second.... It looked like a semi-round sphere. We thought that it was another plane and what really upset us most was that it looked like it would strike our aircraft. The UFO was between one-half and three miles from us. It stabilized at our speed and altitude. Then it accelerated and made a 90 degree turn across our front and disappeared over the ocean in just a few seconds. We were flying at 480 knots and the UFO's speed was up to eight times greater. I've never seen anything like it before or since," he said. (Press release, Feb. 8, 1977)

68. February 1, 1971 1910L UP 10 mi. E Douglas, Georgia

Will Burt, 36, was piloting a Piper PA-28-180 with a passenger (also a pilot) in the right front seat from Rome to Waycross, GA when this event took place. They were on a heading of 115 degrees, an

altitude of 3,500 feet, and about 25 to 30 miles NW of their destination airport under dark skies. In the pilots own words, "my right seat passenger called my attention to a large red ball like object about 1000 or 1500 yards away off the right wing at the same alt. I can't remember if there was a moon out at that hour, but the weather was clear. The object stay (sic) right with me off the right wing with every heading and alt (sic) change." This encounter lasted about five minutes before the light "just disappeared." The light was bright red with "orange shades of yellow" in it. It subtended about eleven degrees arc diameter and never changed shape, never flickered or broke apart, never gave off smoke or vapor. No E-M effects or buffeting was experienced. (Pilot report form)

69. February 14, 1973 0230L UC 40 mi. E. McAlester, Oklahoma

An unscheduled DC-8 cargo aircraft en route to Dallas-Ft. Worth International Airport on a heading of about 195 degrees and descending from FL210 in bright moon conditions and clear skies. The FO was the first to notice a steady amber light at their 2:30 position and at a slightly lower altitude. It just didn't look like other navigation lights he had seen. He estimated its range to be about 5,000 feet away and it paced them precisely in airspeed. Then the UAP rose vertically until it was slightly higher than the jet and executed another 90 degree turn to fly horizontally again almost directly toward the astonished and concerned witnesses. It then stopped about 300 yards away and just higher than their altitude. At this distance they could make out a smooth, silvery disc-shaped object with a symmetrical dome on its upper surface. Its dimensions were estimated to be about 75 feet in length and 40 feet thick and its surface reflected the bright moonlight. They also noticed a horizontal fin-like structure protruding from each side and two more vertical fins, one on each side of "a rocket-like pod mounted on the object's training edge." No light of any kind was seen coming from the pod-like protuberance. The captain quickly sent a radio message to the nearby object "to keep away" but it did not reply.

Soon after this the captain turned on his weather radar a spot was seen on the extreme edge of its cockpit display screen. Very soon thereafter the UAP accelerated vertically upward (while still matching the forward velocity of the jet) and slid toward the airplane, soon passing above it and out of sight. The flight crew then saw the disc reappear from above and to their left to take up a position just under the left wing's leading edge. Then it rapidly dropped down and drifted behind the jet and left their vision again. Other details are purposely omitted at this point in the narrative due to space limitations. The object departed by flying horizontally forward while following "smooth sine-wavelike up- and down-maneuvers" followed by another 90 degree turn and then flying quickly out of sight. While no E-M effects were noted during the encounter, when the captain tried to radio the incident to center control their radio did not function. "Rather than try again, both agreed it might be best to keep the whole episode to themselves." Nevertheless, a month later they changed their minds and, according to investigator Fowler, were questioned intensively by USAF Intelligence officers and a government official who warned them never to speak further about their sighting (except to authorized personnel). (Fowler, R.E., Casebook of a UFO Investigator, Pp. 183-184, Prentice-Hall, Inc., New Jersey, 1981)

70. April 12, 1973 2230L UP 20 Mi. N. Farmington, Missouri

This near miss incident involved a commercially rated pilot, Kenneth Pingle, 23, and his passenger Marvin Colyer who was also a licensed pilot. They were in a Piper Cherokee flying at 3,500 feet altitude (under 150 mph) toward the Farmington airport when they saw a "strange light off the left wing

tip." Pingle said the light was bright white with an occasional orange tinge; it "...seemed to give off heat waves." The circular shaped object did not seem to spin as it paced the small aircraft at the same forward velocity as both approached the north runway at Farmington. Then they saw a white beam of light emanate from the object. Pingle also said that the object had moved directly ahead of his aircraft on final approach so he added full power and performed a go-around maneuver. He said, "It looked like it was moving at us at a high rate of speed, so I pulled back up and flew toward it. It immediately stopped, reversed its direction and flew away from us at a high rate of speed." The pilot then changed his mind about landing and chased the aerial object for several miles at full speed before it disappeared into the dark night sky. Both pilot witnesses were experienced in night flying. Pingle said, "This was definitely not a star or any kind of airplane...." Other witnesses on the ground also reported seeing the strange light that same night. (UFO Investigator, Pg. 2, June 1973, Center for UFO Studies, Chicago, Ill.)

71. October 18, 1973 2305L UM Mansfield, Ohio

This near midair collision with a UFO report was filed by Capt. Lawrence J. Coyne, FO, Lt. A. Jezzi, and two others (Ssgt. R.Yanacsek, and Ssgt. J. Healey) all assigned to the U.S. Army Reserve's 316th Medical Detachment, at Hopkins Airport, Cleveland. The Bell Huey UH-1H helicopter (68-15444) was returning to Cleveland from Columbus when this highly publicized incident took place SE of Mansfield Airport. The helicopter was at approximately 1,200 feet (AGL) altitude heading 30 degrees when Ssgt. Yanacsek noticed a red light to the east and visually near the the earth's horizon. At first he thought it was an obstruction light on a radio tower. About thirty seconds later he told the pilot that the red light was "converging" on the helicopter's course at the same altitude, at an estimated 600 kts, and "on a midair collision heading." Capt. Coyne turned to his right and saw the light, took over flight control, and initiated an immediate powered descent down (at between 500 and 2,000 fpm) down to 1,700 feet altitude (MSL) "to avoid impact with the object." The crew also radioed Mansfield Tower to find out if there were any high performance aircraft in the vicinity. While the tower acknowledged hearing the call no reply was heard by the air crew. [Note: No tape records of any transmission could be found by investigators following the event] The flight crew then tried to contact other stations in the area on VHF and UHF frequencies but without any success even though the "channel tone" and keying sound" were heard. As the object neared the helicopter the intensity of its red light became very great. It was compared to that of a landing light of a B-727 at only 500 feet distance. The witnesses generally agreed that the object maintained a fixed position relative to the helicopter that was just to the right side and somewhat above the nose of the helicopter. Just at the moment when impact was expected the object "was observed to hesitate momentarily over the helicopter and then slowly continue(d) on a westerly course accelerating at a high rate of speed." A white light on the trailing edge of the object became brighter as it departed out of sight.

One of the most interesting aspects of this incident had to do with an unperceived change in altitude of the helicopter during this encounter. Later, Capt. Coyne said that his altimeter indicated a 1,000 fpm climb rate and also read 3,500 feet altitude with the collective in the full down position. No adequate explanation has ever been given for this reported, yet bizarre, fact. The vehicle was climbing even though its flight controls were in a dive configuration. Soon after the object departed Capt. Coyne then climbed back up to 2,500 feet (MSL) and landed at his destination and the flight plan was closed. Their radio also worked normally as soon as the object left them. The local FAA Flight Service Station was

also notified of the incident who instructed Coyne to contact the FAA GADO office at Cleveland's Hopkins Airport.

It is highly interesting to note that the account of this incident recorded on the official U.S. Army reporting form says nothing about the much larger "cigar-shaped, slightly domed, sharply delineated, grey-coloured UAP (that was) observed by three of the crew" on which the red light was attached. (Zeidman, 1976) When the UAP was momentarily suspended in front of the helicopter Coyne stated that the unidentified object completely filled the right-front windscreen with the red light on the nose (leading edge), another (white) light at the trailing edge and a green light source both underneath and at the trailing edge. One of the green lights then seemed to aim toward the cockpit like a searchlight and projected a greenish ray upon the men and their instruments. (Disposition Form, 2496, Flight Ops. Office, USAR Flight Facility, Cleveland Hopkins Airport, Dtd. 23 Nov 1973; Zeidman, J. UFO-Helicopter Close Encounter over Ohio. Flying Saucer Review, Vol. 22, No. 4, Pp. 15-19, London, 1976.

72. October 19, 1973 2035L UP,UC Huntington, West Virginia

This close encounter involved a private pilot (flying from Indianapolis to Beckley WV) and a Piedmont Airlines crew who had just landed at Huntington airport and who watched the event from the ground. The private pilot flying a Cessna reported watching in utter amazement as a huge green-glowing "blob of light" assuming "a rough pyramid shape" flew quickly alongside his airplane "from nowhere." As investigator Spickler (1973) pointed out, "He (the pilot) had always been a fervent skeptic about such "nonsense" and in a twinkling was clearly looking at something which just shouldn't be!" He had carefully planned his flight route that night and knew that he was directly above a particular (York) OMNI beacon so, when he radioed for radar confirmation and flight assistance from a controller at Indianapolis center he was relieved to hear that both his aircraft and another "non-aircraft return" were seen beside him on ground radar. The Piedmont crew were able to look up and see the Cessna and second strange object nearby as well. Now the private pilot had gained some self-confidence and requested permission to investigate it further. ATC personnel said the area was clear of other air traffic and gave him permission to study the object in more detail. "He flew above and around the green light which had CHANGED SHAPE and would PULSATE; as it dimmed radar contact was lost, as it brightened, radar contact was re-established." The green light was so bright that it cast a shadow inside the Cessna's cockpit. Then, without warning, the UAP accelerated vertically out of sight "in an instant!" "The pilot is very much taken now with UFOs but fears ridicule as he himself would have ridiculed anyone else before that Friday over Huntington." (Spickler, T., West Virginia "Saucer" Scene. The APRO Bulletin, Pg. 9, October 1973.

73. October 11, 1974 0415L UC 20 mi. W Gander, Newfoundland

Capital Airlines flight 348 was en route to Gander International Airport at 7,500 feet altitude on an approximate heading of 90 degrees and 290 mph airspeed when the flight crew saw an object with red and white flashing lights pull up along side their DC-8. It kept station with them for about five minutes and "would speed up just a little ahead" of the jet and then return alongside it. When they were about five miles from the airport it disappeared by flying into low cloud cover and was not seen again. Gander

radar control did not show any other air traffic in the area. (R.C.M.P. Gander Airport Detail Report, Radio Records Oct 11, 8.36 AM 74 FM 22 NRHQ North Bay).

74. December 22, 1977 2340L UC North Atlantic ocean

En route to Boston's Logan International airport, a TWA flight was 600 miles above the dark surface of the ocean at 21,000 feet altitude on autopilot. Other than scattered clouds below the airliner the air was clear. The FO noticed a grouping of "twinkling lights" first at their 1:30 position slightly below their altitude (and also visually below the earth's horizon). Both pilots realized that "...whatever the thing was, it was moving in a hurry, that it was entirely too close, and appeared to be about to cross in front of, or about to collide with us. And it was huge!"

In the captain's own words, "I slammed on some power, hauled the nose up and prayed we'd go over the top of that thing. Just as we started to climb, this thing swept straight up, did an impossible right angle turn and begins to pace us. I don't see how ANYTHING could have executed a maneuver like that -- I mean almost a simultaneous two-directional turn -- up and to the right, not to mention coming to damned near a dead stop!" "...it just kept flashing a lot of lights around the middle. Once we leveled off again, the thing stayed just ahead of us off to our right and we had a chance to observe it (for about twenty minutes). We couldn't see any hard outline or shape to it but, you could tell it was circular because of the lights." To the Captain the UAP reminded him of an Oreo cookie with a red blinking light on the top and many silvery-white smaller lights twinkling around its circumference. Intermixed among these white lights was an occasional reddish-purple light as well as several blue lights. All of these lights flashed on and off intermittently in no apparent sequence. When the UAP rose in altitude the flight crew noticed another red blinking light on its bottom surface. The two witnesses estimated the diameter of the object to be about 100 feet or more. At the end of the sighting the many small lights began "going out "in clusters." When they and the top and bottom red lights had all become dark "...only scattered blue lights around the middle (were) still blinking." The darkened bi-convex saucer-shaped object then assumed a "bluish corona" and suddenly accelerated straight ahead... "leaving nothing in front of us but a blue streak in the sky." Other details are not included here in the interest of brevity.

The captain was becoming anxious that his passengers may have seen the object and were panicking. He said he thought to himself, "What am I going to tell them?" Much to his relief he discovered that no one had seen anything. Here is yet another factor that commercial pilots must cope with when dealing with the consequences of a UAP encounter. This captain had no idea what the object was nor what to tell his passengers. The report does not mention the passengers' responses to the sudden pitch change. Another relevant fact is that this captain had reported a previous anomalous sighting to his company and the FAA. In his own words, "...upon the ensuing company and other authoritative harassment, (he) has sworn never to report another UFO encounter." Fortunately, his confidence in the field investigator's confidentiality and discretion helped convince this witness to change his mind in this instance. (The APRO Bulletin, Pp. 5-6, April 1978)

75. January 7, 1978 2000L UC N. of Grand Canyon, Arizona

Capt. Leonard H. was flying a commercial flight to the NE from Phoenix to Salt Lake City, Utah at 35,000 feet altitude. Although the sky was perfectly clear he and his FO noticed a broad sky glow

visible over "most of the western sky." "The glow approached the aircraft rapidly, in a period of about 30 seconds the glow lighted the airplane on the outside and (also) lit up the cockpit on the inside.... as this glow approached the airplane, a sphere was in the center of the glow. A sphere that appeared to be about the (angular) size of the moon when it comes over the horizon. And at this particular time the moon was half full, directly overhead. And so this had nothing to do with the moon, but it did appear to be something like the moon in that light metallic coloring with a little bit of mottled effect. And this object came in at 90 degrees to us (on the left side) and it stopped about a quarter of a mile away from the aircraft.... And it paced us -- we were traveling along at normal jet cruise speed of about 600 miles an hour." Capt. H. called Los Angeles ATC to ask if they had a report of "any glowing objects in the sky. ATC's immediate return was "We have a rocket off of Vandenburg." I said, "This is no rocket. Do you have anything else?" They said, "No, you're cleared to Salt Lake control"." Capt. H. then called Salt Lake control who gave him the same basic information. He then stated, "And about this time, this object started to recede from our position and angled up about 45 degrees and disappeared, in about 5 seconds. And the next day I called the FAA and asked them if they wanted a report. They said there was no agency at this time taking reports of this nature. And that was the end of the incident." (Interview by J. Timmerman, CUFOS, June 17, 1989) [Author's comment: Once again, we find disinterest on the part of FAA officials with no follow-up. It is little wonder that pilots feel disinclined to report such encounters.]

76. January 15, 1978 1910L UP 22 mi. N. Louisville, Kentucky

This event took place at 5,500 feet altitude when an instructor pilot and his girlfriend were flying in a single engine 'Sundowner' from Evansville, IN to Cincinnati, OH. While above Washington County, IN (approximately half-way to their destination, nearing Interstate 65) the private pilot was the first to spot two bright lights approaching them directly. The separation distance could not be determined. Then the antics began. One of the lights flew horizontally away from the other and "made a perfect circle, and then another, while remaining at the same distance... (this) continued for several minutes, then the animated object became brighter, looking like a "blob" and began what appeared to the pilot to head in a collision course with the Sundowner. As the blob came menacingly closer, the pilot, fearful of collision dove his craft down 1,000 feet. In an instant, the white blob streaked overhead and out of view." Upon landing in Cincinnati the pilot phoned the Standiford Control Tower in Louisville (about 25 miles S of their encounter) and learned that there had been no confirmed radar contacts at that time. They had received phone calls from people who had seen a UFO in that general area, however. (Ridge, F.L., Regional Encounters - The 1994 FC Files, Mt. Vernon, Indiana)

77. February 23, 1978 0934L UC 65 mi. N Louisville, Kentucky

The pilot of a small corporate jet was flying at 43,000 feet altitude when he caught sight of a "small brown, football-shaped object which preceded the aircraft at about 41,000 feet." The pilot said the object remained in the same fix location ahead of him for about 10 minutes and then increased its speed and began to climb and to move away to the south. (National UFO Reporting Center, Case 192-78, Seattle, Washington)

78. June 4, 1978 1330L UP Pasadena, California

Private pilot, Mrs. Henrietta N. was flying her husband's Beech Bonanza H35 light plane as her husband (also a private pilot) was checking flight charts in his lap during this close encounter. They were planning to land at the Van Nuys airport and were descending through 4,500 feet MSL when Mrs. N. saw "a very large brilliant disc shaped object appear in front of the aircraft; she noticed it initially in the upper-right quadrant of her windshield. The object then rose enough to miss the aircraft and passed over the cabin." The UAP was round and almost half-filled the forward windscreen area before it passed them. It appeared "frosty, white, thick in the middle and it was tapered to both sides." "It appeared as if I was looking at the edge of a plate." She said, "I really thought it was going to crash right into our windshield. In the twinkle of an eye it went from a dead standstill to tremendous speed right up over the top of our plane." After her husband took control of the airplane he executed a sharp 180 degree turn they looked for the object but could not locate it. (Pilot report form)

79. June 11, 1978 1315L UP North central Los Angeles, California

Private pilot and flight instructor Robert W. was flying a Cessna 150 with a student (A.S.) near the Mt. Wilson observatory NE of Los Angeles in calm air. There was heavy smog below him and bright sunlight above. Horizontal visibility was about 15 miles. The outside air temperature was 70 - 80 deg. F. Here is the pilot's own story. "I witnessed a small ovoid shaped object fly literal circles around our aircraft. I first spotted the object underneath us on a northeasterly heading and about 500 ft. below our altitude (5,000 ft. MSL). At first I saw the overhead sunlight reflect off it and thought it was a reflection off something on the surface. After a few seconds I realized that it was definitely a small spherical aircraft travelling at a speed of about 200 - 300 mph. My student, who was on his third lesson, though it was a balloon but I have never seen a balloon maneuver at high speeds and maintain a constant altitude in calm air. I turned right to follow the object and by the time I turned it was climbing to my altitude and was on a westerly course in a matter of seconds. It went by us very fast and turned in front of us to the south at a range of about 2 - 3,000 feet. Then it took up an easterly heading on our left doing a complete circle around us quite a few times."

"On one of the object's easterly passes... I could see that it definitely was a solid metallic aircraft of ovoid shape having a definite axis about which it moved... with a continuous highly reflective surface with no visible seams, markings, bolts.... (it) was no more than 3 ft. in length and slightly smaller in height. When it turned it banked on its axis much like a conventional aircraft, however, it had no wings or any visible means of propulsion." When the pilot radioed Ontario approach control he was told they had no radar contact with any unidentified traffic "... only our transponder reply," he said. He (later) discovered from tower personnel that they had no knowledge of any weather balloons being released. No buffeting was ever experienced. (Pilot report form)

80. August 27, 1978 1340L UP 10 mi. NNW Provincetown, Massachusetts

Mr. Arthur Silva, 55, and a passenger, Harold Johnson, 62, had just taken off from Beverly Airport, Mass. and were above Massachusetts Bay heading for Provinctown, Massachusetts on the tip of Cape Cod. They were flying in a Cessna 150 (N5907G). Visibility was reported as 15 miles with thin scattered clouds at 25,000 feet and the wind was at 10 kts. from the ESE. Soon after reaching their cruising altitude Silva received an ATC (Logan International Airport, Boston) warning of traffic near him

at his 8 o'clock position but neither witness saw anything. The unknown traffic did not respond to ATC radio calls. Then, at about 1340 EDT, they saw an object thought to be some four miles directly ahead of them at their altitude of 2,500 feet (sic). As they closed on the object the veiling atmospheric haze effect was reduced and it became visually darker than before. They also noticed it had a "vague (oval) outline" with no wings, and was not a helicopter or other known type of airplane. The UAP suddenly began moving faster than a helicopter and looked like it was heading directly toward them. "Silva wondered why ATC was not warning him." It passed them at about 600 mph an estimated 1,000 feet away on their right side. The object was seen clearly as it passed. It was spherical in form with a silvery-white metallic surface (like "burnished aluminum"). "Johnson had the impression that it could have been an upended silver disc, some of which seemed translucent." Silva radioed ATC informing them of the near miss and they confirmed that their radar had shown that traffic had just passed him. Fowler, the field investigator systematically eliminated all of the known or suspected aeronautical objects from consideration. (Fowler, R.E., The MUFON UFO J., No. 129, Pp. 5-7, August 1978).

81. June 9, 1979 1530L UP Clear Lake, California

A private pilot (name withheld) was flying westerly (heading about 255 deg.) in a light aircraft at 5,500 feet en route to Clear Lake. He was alone. The sun was almost directly overhead, his head shaded by the cockpit structure. When he reached a point only five miles E of the lake's southern end he said he saw, a single "flashing object approaching me from the west on a collision course and it was closing in extremely fast. I hardly had time to bank to avoid it and it hovered for a second off my left wingtip. The way it maneuvered gave me the feeling it could have avoided me anyway. It was about the size of a large truck inner tube that was covered with tiny mirrors. It was sort of sparkling and reflecting the sunlight. It hovered about 20 feet off of my wingtip for a second and then continued on its course. It was gone out of sight in a second." (Phenomena Research Report, Vol. 3, No. 4, 1980)

82. August 28, 1980 1315L UP Red Bluff, California

Private pilot Lloyd List, 34, and his passenger and employer Dr. John Clark, 59, were flying from Travis AFB back to Redding airport 160 miles to the north in a Cessna 172 at 6,000 feet altitude in very clear air. As they approached Red Bluff they both sighted an angularly small, dark object at their own altitude and almost directly ahead of them. Pilot List said, "It looked round in the distance and it seemed to grow in size as we approached it, which it would do if we were overtaking it. Then it stopped growing in size and seemed to be maintaining the same speed we were, about 120 kts., for five or six seconds. Then we started to overtake it again, and suddenly it shot past our left wing not more than 20 or 30 feet off my wingtip.... I got an unobstructed view of it. It was football shaped but it wasn't sharp at the points. It was more blunt. It was definitely metallic. I couldn't see any seams or lights or rivets. It just seemed to be very smooth. It was approximately three feet long and a foot and a half to two feet thick. It wasn't saucer shaped. It wasn't a flying saucer."

After the object passed behind the airplane both witnesses turned and looked back at it with surprise. "This thing didn't bobble at all," remarked List, "... I can't understand anything being that dense that can go through (our) turbulence like that and not oscillate... but this didn't oscillate at all." The pilot radioed Oakland Center informing them that he was reversing his heading because he had "spotted an unidentified flying object, if that's what it was. So we turned around but the object was gone." After searching the area for five to ten more minutes they radioed Oakland Center again to inform them that

they were resuming their original course. ATC personnel then began asking questions of all kinds about what had been seen and said that they didn't have anything on radar. "It was so close we almost hit it. *If it had been an airplane, I would have had to file a near-miss report*." (italics mine) This final statement by pilot List is important since it suggests that pilots are not likely to file a near-miss report unless they judge the other object is an airplane. Apparently, UAP do not count, or at least may be undercounted for this reason. (Pilot report form)

83. September 28, 1980 1500L UP Pompano Beach, Florida

Mr. H.C., 37, had just taken off from Pompany Air Park in his two engine Aerostar PA60 and was climbing at 1,300 fpm on a VFR flight when he first caught sight of "something that looked like a guy coming down on parachute. I turned to the left to avoid. When I got closer I saw two flying objects one on top of the other. They came apart and start(ed) to make circles around me "... (now at 6,000 feet altitude). "They looked like a hamburger (in form) and the color was yellow like (a) life raft." "I tried to approach the objects making a steep right turn toward them, above a 60 deg. bank. For every 360 degrees I make (sic) they fly at least 8 or 10 times around me, making it almost impossible to get closer."

The witness said that both objects appeared to be solid and were clearly outlined. Their maximum (nearest point?) angular size was that of a basketball held at arms length (i.e., approx. 20 deg. arc.). They never changed shape, flickered, gave off a smoke or vapor trail, broke apart, or changed color. No buffeting was ever experienced during the encounter which lasted for about ten minutes. Part of this encounter took place above the Boca Raton airport. His radio did not work during these ten minutes; he attempted to call the Pompany tower several times without success. They both departed into the distance; Mr. C. tried to follow them for another 30 minutes without ever seeing them again. Winds were steady at 10 kts. at 100 degrees. (Pilot report form)

84. November 5, 1980 2130L UP Lake Barryessa, California

Private pilot Shannon Davis, 19, was flying a Piper Turbo-Saratoga SP (PA32R-301T) (N8170J) NE of Lake Berryessa California on airway V-87 at about 8,000 feet altitude while returning from an air-charter flight to Chico, California. He was travelling at about 145 kts. air speed, 170 kts. ground speed. The sky was dark but clear. Suddenly he noticed a bullet-shaped, "fully symmetrical air foil" object approaching him from his 7:30 position and moving smoothly forward to his 9:00 position where it slowed down to his air speed and remained for over fifteen seconds. The object had a self-luminous orange nose and a (CW) ring of white light spinning normal to the long axis of the object with a red and blue component as well, something like a propeller set back about half-way from the forward tip. The UAP changed its relative position and appearance in the following stages: (1) UAP paced his aircraft for 15+ seconds matching his airspeed exactly at a separation distance estimated at between 1,500 and 3,000 feet. (2) Over the next 3 - 5 seconds it began to pulsate and it's ring appeared to spin faster and faster. Its luminosity increased with every pulsation just before it accelerated forward on a horizontal path. (3) Its basic outline form almost faded completely from sight while the overall object took on a "very bright glow" over the next three seconds. (4) The luminous pulsations stopped and were replaced by a large, intense, diffuse glow that further obscured the body of the object. (5) The "object (was) now totally unrecognizable (and) took on a 'fireball' type of appearance and (was) very bright ("but it doesn't hurt his eyes")" as it suddenly streaked forward at an "unbelievable speed." (6) Approximately

3 miles ahead of the airplane the object performed an instantaneous, vertical, 90 deg. turn, and (7) The object rose vertically out of sight through the overcast in less than five seconds!

Davis immediately radioed Oakland Center about the sighting and (later) remarked, "the controllers were curious about the sighting."

About five minutes later Davis was above the southern part of Lake Berryessa when he saw the same object again, now at his 6:30 position. He turned all interior cockpit lights and all exterior lights off and found that this did not in any way change the appearance of the glowing orange object. He banked to the left and saw light from the object reflected off the top of his white, painted metal, wing proving that it was outside the cockpit. Now travelling more easterly he saw the UAP move to his right side. While Davis was in clear air at the time there was an overcast starting at about 12,000 feet to the east of his position. Then the UAP "shot forward, passed the plane and made an instantaneous 90 degree turn upward through the overcast.... An airliner at 22,000 feet saw it come up through the overcast. Oakland Center asked if the pilots of either aircraft wanted to make a report, both declined to do so." (Pilot report form)

85. February 9, 1981 2240L UP San Jose, California

Two young pilots (Gary Rounds and passenger C.S.) were in a Cessna 150 (N16032) doing touch-and-go practice flights at San Jose International Airport under warm, calm-air conditions. After touching down on one of their landing approaches, adding full power, and climbing through 600 feet MSL, both witnesses spotted "another aircraft entering the (right-hand) traffic pattern." Its estimated altitude at that moment was about 1,700 feet and Rounds, who was flying, extended his upwind leg to avoid a collision. In his own words, "As the other aircraft paralleled me, I turned crosswind. As I was turning downwind, the aircraft turned toward my plane. It flew over mine and then fell into a position behind my plane. We got the best look at it while it was flying over. The object was red and very large. It seemed to be a light that pulsated as a heart would go in and out. It was also very bright" Passenger C.S., also a licensed pilot, provided much the same information, independently, with the addition of the following: The unidentified object stayed about 800 feet above us. It appeared to be about ten feet in diameter and was extremely bright." ATC personnel at the San Jose airport tower also saw the red light, timed the incident (two to three minutes), and helped the pilot cope with the near-miss overflight. The pilot and his passenger "stopped looking (at it) after tower advised (us that) traffic was no (further safety) factor." After interviewing both ATC tower personnel and the two young men it was clear to me that, since the identity of the red object could not be determined, no one was going to officially report this incident. Fortunately (for me) a newspaper reporter found out about the event and wrote an article about it in the San Jose Mercury News soon thereafter. (Pilot report form)

86. July 4, 1981 1646L UC South central Lake Michigan

Captain Phil Schultz, 54, was flying TWA flight 842 from San Francisco to John F. Kennedy Airport, New York (on autopilot control) and was at cruise altitude (FL370) at 280 kts airspeed (540 kts. ground speed) in an L-1011 heavy jet. The sky was generally clear over Lake Michigan with a high, thin layer of cirrus over much of the southern part of the lake and some scattered mid-level clouds at about 10,000 feet. The sun was still high in the sky (41 deg. above the horizon) and behind the aircraft. Then the high altitude encounter (FL370) happened. In the captain's own words, "A large, round, silver,

metal object descended into the atmosphere from above and to the left of my airplane to about 40,000 feet overhead and passed off to my left." After an extensive reconstruction of this event in the cockpit of his aircraft, I was able to ascertain many more important facts about this event [cf. Haines, 1982(a); 1982(b)]: (1) The object traveled very smoothly during the five or six second-long encounter. (2) The UAP was about 2.5 times wider than thick with six jet black perfect circles ("portholes") aligned and equal-spaced around its circumference. Centered on the bottom surface of the circular disk was a single, jet-black circle. (3) The UAP traveled along an approximately parabolic course and performed a high speed turn (calculated to be approximately 20 g) relatively near the aircraft before departing in a gradual climb to the north and leaving a darkish wavy trail behind in the sky. (4) Its approach and departure speed was calculated to be about 1,000 mph, (5) No shock wave or turbulence was felt at any time. Capt. Schultz remembered seeing a fan-shaped region extending outward from behind the object which was "of a much darker blue than the rest of the sky." (6) The aircraft's autopilot remained coupled throughout the encounter and no E-M effects were noticed. (7) The FO saw approximately the final two-thirds of the event but the FE did not see anything due to his position in the rear of the cabin. (8) When Captain Schultz called Chicago Center to ask about other possible traffic in the area he was told there was none. He did not report what they had just seen. (9) Before this sighting Capt. Schultz did not believe in UFO at all. His extensive jet combat experience during the Korean War and afterward had left him with the strongly held belief that such objects "simply do not exist." This encounter instantly changed his view and, when I asked him what he thought the object was he quickly replied." (10) Both pilots were very concerned about a mid-air collision and began to brace themselves for an impact. Other technical details must be omitted due to space limitations. (Pilot report form)

87. Fall 1981 0010L UP Yakima, Washington

Private pilot David Hensel, 47, was piloting his brother's Cessna 185 by himself from Walla Walla to Auburn, Washington on a night VFR flight on airway V-4 just west of Yakima at ten minutes after midnight. He was travelling about 183 kts. at 8,500 feet altitude when he saw a white light approaching him directly ahead. He flashed his landing lights and also called Seattle center to verify the traffic but was told there was no other traffic present. Fearing a collision he made a rapid descent and turned left 15 degrees. In his own words, "Then I noticed the light went to my right and seemed to park outside my window. I could not tell if it was a small object close or a large object farther away." He radioed Seattle center again and described what he was seeing. "They said there was (sic) several reportings in the past 1/2 hour... United Airlines over Portland, Continental leaving Seattle and others. Center asked me to describe my sighting which I did. Then, approximately one minute later while I was talking to center, the object moved at a very rapid rate off to the NE" until it was out of sight. He also described overhearing the pilot of a Braniff flight outbound from Seattle remark, "Oh, it's going to be one of those nights." The UFO's diameter was about twenty degrees in extent and had a narrow band of various colored lights around its horizontal dimension. Its upper and lower convex surfaces appeared fuzzy and somehow indistinct. This incident could not be found in any U.S. government database as of June 3, 2000. (Pilot report form)

88. October 1, 1981 0030L UP Burlington, Vermont

Capt. Glenn Stanzione, 25, was 25 miles NW of Burlington, Vermont a half-hour after midnight in a two engine Piper Cheyenne II (N129CC) in the clear above a cloud layer at 16,000 feet. Then he "spotted a bright orange object in my windshield. I watched the object for five minutes not knowing what it was. I shut off all my lights inside and out thinking it was a reflection of some sort but it was still there. I looked in the rear of the cabin thinking a light was turned on and possibly been reflecting off the windshield but there wasn't. Finally an Air North Commuter asked Boston Center about the bright orange object thinking it was an airplane. Then I told center about the object and watched it for another 4 - 5 minutes. It didn't change shape or form until it disappeared. Center couldn't pick up anything on its radar. At its largest, the UFO subtended over twenty degrees arc and stayed at the 12:00 o'clock position maintaining his exact speed of 200 kts. Through out the encounter! It faded from sight by moving away from the airplane. It was very dark with only a few stars visible and the air temperature was below freezing with broken clouds 6/10ths coverage located below the aircraft. No turbulence was felt at the time and no electromagnetic effects were noticed. The pilot's drawing of the UFO's elevation view showed a gently convex bottom and low conical top. It remained tilted right-side higher at about a 40 degree angle to the horizon. This incident was not found in any U.S. government database as of June 3, 2000. (Pilot report form)

89. February 20, 1985 2000L UC Charleston, West Virginia

This interesting close encounter involved one "large white circle" which paced the commercial airplane and then performed three separate 360 deg. vertical CW loops around the Beechcraft King Air TC263 while remaining in formation, i.e., while matching the aircraft's forward velocity. Capt. Mark Savage, 63, and his FO were carrying eight passengers all of whom watched the unidentified object hover some distance off their right wing for between five and eight minutes. The Captain had 4,100 hrs. flying time in this type aircraft. The King Air was at 19,000 feet altitude (MSL), 210 mph IAS, and 260 mph (DME) ground speed. Only stars were visible as there was no moon and the aircraft was flying above a solid under cast. One by one, passengers in the rear of the airplane asked the Captain various questions about helicopter flight behavior. Only then did he and his FO see the "bright white light" beside them. He radioed to Atlanta Center to ask about traffic in the area and was told there was none. It was then that the "light" made one full, 360 deg. CW horizontal orbit around his airplane. It then made two more identical loops (each about ten seconds apart) while staying abreast of the two engine aircraft at all times. He estimated each loop's diameter to be from 4,000 to 5,000 feet. Its flight path would have been a symmetrical (constant radius) corkscrew. The UFO then accelerated very rapidly to the south and disappeared from sight. No air turbulence or unusual electromagnetic effects were experienced at any time and the unidentified light source did not flicker, change shape, break apart, give off a trail, change colors, or stand still. He estimated its diameter to be about 1.2 degrees arc. (Pilot report form)

90. Summer 1985 1731L UC Bimini Island, E of Miami, Florida

First Officer James C. Metzger, 50, was flying Eastern Airlines, flight 975, a B-727-225A. The weather was clear with a few low scattered clouds present. They were climbing to FL250 after departing Miami International at about 300 kts. at the time. The aircraft was approximately sixty miles east of Miami. At

1731L Metzger spotted a "shiny chrome-colored object" closing rapidly toward them from straight ahead. Within four seconds it passed about 100 feet below their right wing, subtending about 2.5 degrees diameter at its nearest point. No buffetting was felt and the object looked like a sphere with a protruding V belt around its circumference. It was sharply defined with no seams. It never flickered, broke up, accelerated, gave off smoke, or changed color. It disappeared by passing behind the aircraft. The witness formerly flew for the Air Force with thousands of flight hours in five different aircraft. (Pilot report form)

91. May 11, 1986 1600L UP 25 mi. S Sedona, Arizona

The Rev. and Mrs. Robert H. Henderson were flying in their Cessna 172 private aircraft from Phoenix to Sedona, AZ at an altitude of 8,500 feet AGL at 115 mph. The weather was clear and visibility unlimited. They were headed ENE flying over the heavily wooded Tonto National Forest and had just passed 5,840 foot high Turret Peak and 6,820 foot high Pine Mountain. The couple was just 25 miles south of their destination when Rev. Henderson sighted something at first on their right side seeming to reflect sunlight and moving at a very high speed. It then changed direction of travel when almost straight ahead of them. In his own words, "I lost sight of it temporarily, then saw a very bright object heading almost straight toward us. I prepared to take evasive action, but it was immediately evident that it would pass below and to our left. I estimate it passed less than a mile to our left and probably less than a thousand feet below... As it went by abeam and to our left... I could not make out what it was. My reactions: 'Definitely not an airplane, no wings, not a chopper, no rotor... it is about twice the size of a 'bubble' helicopter... more compact than an airplane would be. Too much glare to see details... impression is that it was a modified half-sphere, with the flat side down." Mrs. Henderson agreed with this description of the object's shape adding, "The front seemed rounder as it approached... as it passed by, the front looked a little more pointed and the roundness was in the back, more like a teardrop. The bottom was convex rather than perfectly flat. The bright silvery light came from the top of the object. It didn't look like the upper part had any seams." The approach took place in less than a minute which suggests a velocity of the UFO of about 1,200 mph if it was initially seen 20 miles away (which is possible under these viewing conditions and assuming the witnesses had good eyesight). (Report by W. Nelson, Dtd. June 11, 1986)

92. November 17, 1986 1800L FC NNE of Fairbanks, Alaska

The following close approach and pacing of a Japan Airlines B-747 (flight 1628) over a long period of time (about 50 minutes) ranged from cruise altitude down to 31,000 feet altitude. The cargo aircraft had departed Paris France via Reykjavic, Iceland following the polar route and was scheduled to refuel in Anchorage, Alaska before continuing on to Tokyo. Capt. Kenju Terauchi, FO Takanori Tamefuji and FE Yoshio Tsukuba (and a relief crew) were onboard. Upon reaching the approximate boundary between Alaska and Canada (67 deg 56 min N; 141 deg W) Edmonton Center instructed the aircraft's crew to contact Anchorage Center which they did at 1705 L. They were scheduled to fly on Jet 529 direct to Ft. Yukon, then on Jet 125 via Nenana, Talkeetna, and then Anchorage. FAA confirmed their location and identity by transponder return but ordered flight 1628 to turn left and fly directly to Talkeetna. Capt. Terauchi turned the jumbo jet left as ordered and soon saw "an unidentifiable light ahead." *All following quotations are from the witness's personal statements and translated by*

Sayoko Mimoto, (FAA Alaskan Region, Airways Facilities Division, dtd. 1/2/87). The controller was Carl Henley, Anchorage Air Route Traffic Control Center, with whom the flight crew spoke.)

The aircraft was at FL350 and travelling about 900 km/hr. when they saw "lights that looked like aircraft lights, 30 degrees left front, 2,000 feet (600 meters) below us, moving exactly in the same direction and with the same speed as we were." Thinking the lights were the jet exhausts of several military jets, the FO called Anchorage Center to inquire if other aircraft were in the area. They were told, "...there were no other aircraft in the North area." After several more minutes "the two lights began to move in a manner different from ordinary aircraft maneuvers, like two bear cubs playing with each other." After "seven or so minutes since we began paying attention to the lights, most unexpectedly two spaceships stopped in front of our face, shooting off lights. The inside cockpit shined brightly and I felt warm in the face... the ships appeared as if they were stopped in one place in front of us. Then three to seven seconds later a fire like from jet engines stopped and became a small circle of lights as they began to fly in level flight at the same speed as we were, showing numerous numbers of exhaust pipes. However, the center area of the ship were below an engine might be was invisible. The middle of the body of the ship sparked an occasionally stream of lights, like a charcoal fire, from right to left and from left to right. Its shape was a square, flying 500 feet to 1000 feet in front of us, very slightly higher in altitude than us, its size about the same size as the body of a DC-8 jet, and with numerous exhaust pipes." "The ships moved in formation for about three to five minutes, then two ships moved forward in a line, again slightly higher in altitude as we were, 40 degrees to our left. We did not report this action to the Anchorage Center. Honestly, we were simply breathtaken (sic). The VHF communication, both in transmitting and receiving was extremely difficult for ten or fifteen minutes while the little ships came close to us and often interfered with communication from the Anchorage Center; however, communication conditions became just as good as soon as the ships left us. There were no abnormalities in the equipment or the aircraft. I have no idea why they came so close to us."

While FAA ground radar showed no returns other than the B-747 Capt. Terauchi turned on his digital (X band) weather radar (20 mile range) to horizontal pitch. "There it was, on the screen, a large, green, and a round object had appeared in seven or eight miles (13 kilometers to 15 kilometers) away, where the direction of the object was.... While we were communicating with the Anchorage Center (about their on-board radar contact), the two pale white lights gradually moved to the left side and to left diagonally back 30 degrees as if they understood our conversation and then... totally disappeared from our radar."

"We arrived at the sky above Eielson (Ellison) Air Force Base and Fairbanks. It was a clear night. The lights were extremely bright... We were just above the bright city lights and we checked the pale white light behind us. Alas! there was a silhouette of a gigantic spaceship. We must run away quickly! 'Anchorage Center. This is JL 1628, requesting a change of course to right 45 degrees.' It felt like a long time before we received permission. When we checked our rear there was still the ship following us. 'This is JL 1628. Again requesting for change the course 45 degrees to the right.' We had to get away from that object. 'JL 1628. This is Anchorage Center. We advise you (to) continue and take 360 degree turn.'' The B-747 continued through the complete 360 degree right turn (30 deg. bank) above Fairbanks now being flown manually. "We were relieved, thinking (that) the object may have left us and returned to the level flight but when we checked to our rear the object was still there in exactly the same place. 'Anchorage Center, this is JL 1628. The object follows us in formation. We request a change in altitude, 3,100 feet, yes, 3,100" (sic.) (actually 31,000 feet). Anchorage controllers approved the descent to 31,000 feet. The jet then rolled out on a direct heading to Talkeetna (radio navigation fix)

and descended. Later during intensive interrogation the Capt. stated, "We checked behind us again. The ship was in formation and ascending (sic) with us. We wondered and feared as to their purpose. 'JL 1628, this is Anchorage Center. Would you like to request scramble for confirmation?' We turned the offer down quickly."

The B-747 was now flying east of Mt. McKinley toward Anchorage in a gradual descent. A United Airlines flight had taken off from Anchorage bound for Fairbanks and was climbing to cruse altitude when ATC ordered them to maintain 3,300 (sic) 33,000 feet. I spoke with the Captain of the UAL flight who told me the sky was very dark ahead of them when they radioed JAL 1628, asking Capt. Terauchi to flash his landing lights for identification purposes. Capt. Terauchi did so shortly thereafter and, as Terauchi told me during an extended telephone interview, the UFO suddenly "went out" as the two airplanes flashed their landing lights at each other. The aerial object was not seen again. The B-747 was now 150 miles from Anchorage. The UAL flight crew said they never saw the huge object ahead and slightly below their altitude. The jet landed safely at Anchorage at about 1825L. Author interviewed Capt. Terauchi extensively through a translator, on January 12, 1987.

The USAF radar controllers at Elmendorf Air Force Base told the FAA they "saw a second target (object) 8 miles away (from the jet)" seen on three different radar scopes. The return allegedly disappeared a minute later. Head of local FAA security, Jim Derry, and others interviewed the flight crew. Later, Derry was quoted as saying, "We weren't really sure what we had... Was it a security situation, or a violation of air space? It was just a strange thing." He judged Capt. Terauchi to be "a very stable, competent professional." The entire crew was judged to be "normal, professional, rational, no drug or alcohol involvement...."

According to an in-depth article by Del Giudice of the Philadelphia Inquirer (May 24, 1987) one of FAA's inspectors, Paul Steucke, handled press inquiries about this incident. "Before long," wrote Del Giudice, "Steucke started hearing rumblings from afar that higher-ups in the FAA were queasy about any association with unidentified flying objects. The agency's image might be tarnished." Like Capt. Terauchi, Steucke had entered the dangerous arena into which are cast all those who dare to publicly involve themselves with unidentified flying objects... To avoid ridicule, most serious researchers have retreated to the shadows and keep their mouths shut about what could be going on in the seemingly infinite universe."

93. August 20, 1987 day UC W of Chicago, O'Hare International

A Northwest Airlines B-747 was at 6,000 feet after having taken off from O'Hare airport for Tokyo, Japan when the pilot reported that they had just passed "four or five parachutists and that he almost hit one." What makes this an interesting case is that nothing was seen on local radar, (helium filled) balloons had not been officially released, and no parachutists were known to be in the area then according to a spokeswoman for the Hinkley Parachute Center. (Houston Chronicle, Aug. 23, 1987)

94. November 17, 1995 2220L FC Long Island, New York

The following near-miss incident occurred to a Lufthansa B-747, flight 405 at about FL290 near Long Island well after darkness had fallen. Following are selected portions of a radio communication between two different aircraft pilots (Lufthansa 405: (L) and British Air: (B) and a Boston Center ATC flight controller: (C):

(C) “Lufthansa 405, go ahead.” (L): “Uh, we just passed traffic on the left wing, uh, about 2,000 to 3,000 feet above us. What traffic was it?” (C): “Is this Lufthansa 405?” (L): “Affirmative, Lufthansa 405. We had opposite traffic on the left wing. Can you confirm this?” (C): “Lufthansa 405, negative. I show no traffic in your area within, uh, 20 or 30 miles.” (L): “It should be now on our tail, about 10 miles... We passed it just one minute ago, and it was looking strange.” (B) “Speed Bird 226 confirms that. It was just above us on our left-hand side about 3 minutes ago.” ... (C): “Lufthansa 405, roger. And the heading of the traffic, was it the same direction, or opposite direction?” (L): “Exactly opposite. Lufthansa 405 - heavy.” ... (B): “Yea, Speed Bird 226 confirms that. We saw the same thing. It certainly looked like an aircraft initially, but it may not have been one.” (L): “We can’t tell then? It was looking very strange, with a long, uh, light, in the tail.” (B): “Yea, a big bright white light on the front, and a greenish tail coming out the back..” ... “It was overhead and off to the left, much the same as (garbled). It actually looked about... opposite traffic, 2,000 feet above. That’s what it initially looked like. But then it did have a very strong trail to it... a vapor trail, which looked more like smoke. And the light on the front was very, very bright, and as it went past us, it seemed to (just?) disappear and (went) 5 miles behind us.”... (C): “Roger. Lufthansa 405, how far off to your side did that pass, the traffic pass?” (L): “It was pretty close, and like Speed Bird said, it looked like (four?) or three thousand feet above on the left wing... It doesn’t have,... it didn’t have any uh, lights... (normal) lights, beacon lights, or red or green lights. Only a white light in the front, and with a long green light. It looked like a U-F-O.” (C): “Lufthansa 405, roger that. Like I said, we had nothing flying in your area. You are just north of a military operating area, but the traffic shouldn’t have varied out that far out, out of the area.” (L): “Must have been a military. Lufthansa 405/Heavy.” (C): “Roger. Giant Killer (garbled) 59.”

At this point Boston Center controller contacted a military controller (M) on another line: (M): “Giant Killer.” (C): “Hey, you got anything flying out in the area?” (M): “Negative (105 is?) turned over. 0300.” (C): “Well, I just received a couple of UFO reports.” (M): “Oh, is that right?” (C briefly describes the sighting here). (M): “It could have been a meteor, or something.... No we don’t have any aircraft out there.” <http://www.nwlink.com/~ufocntr/CB951117.htm>

95. November 17, 1997 Night UC New Jersey

This ground-to-air and air-to-air radio interchange was tape recorded by ham radio operator John N. Gonzalez, N21XW. Interestingly, as of June 10, 2000 no records of this incident could be found in any of the official government aviation incident records. Nevertheless, three different commercial aircraft were involved. The transcript reads: Jet #2: “Watch out! The two (UFOs) are coming up to you.” FLT 262: “Well, Captain, the two up here are coming down to meet with you.” Tower (Newark, N.J.): “Flight 262, what is your status?” FLT 262: “We have 236 souls on board and fifty thousand (pounds) of fuel. I think these damn things are going to hit us. We are over Morristown just in case there is a collision with them. (pause) They have taken off towards the northeast. And, by the way, towards the northeast, it also looks like a meteor or space debris is coming down.” TWR: “Do you wish to report a UFO sighting?” FLT 262: “(Pause) No, we have nothing to report.” Jet #2: “We heard you. I am making sure the passengers are all right. And, no, I have nothing to report, either.” Jet #3: “You guys have seen more than your share of UFOs. I know I have.” TWR: “Who are you? Please identify yourself.” (No response) “Flight 262, go to the emergency frequency. We will meet with the both of you there.” (Anon., The HUFON Rept., pg. 9, Jan/Feb 1998, Houston, Texas)

Appendix 3

Mid-air Collisions and Missing Aircraft

96. November 23, 1953 night UM Lake Superior

One prominent example of Air Force ground radar coverage of an apparent mid-air collision and subsequent disappearance between a jet interceptor and an unidentified flying object took place on the evening of November 23, 1953 over Lake Superior. The USAF all-weather F-89C fighter that was deliberately scrambled because of an unidentified radar return was piloted by Lt. Felix Moncla, Jr. with Lt. Robert Wilson flying as radar officer. Air Force Project Blue Book files lists this case as an unrelated accident with nothing at all to do with UFO phenomena. Nonetheless, it was their own air defense command radar that first spotted an unidentified target over Lake Superior and scrambled the interceptor from Kinross AFB, Michigan. These controllers vectored the jet toward the unknown radar return and watched the two "blips" merge together and then fade out from the screen. According to the official accident report prepared by the 433rd Fighter-Interceptor Squadron, both radar and radio contact with the jet ceased when the radar returns disappeared from the screen. The air base said they were not aware of any other aircraft in the area at the time. Also, when the two radar blips merged ground control intercept (GCI) saw no blips break off from the target. According to authors Sachs and Jahn (Pg. 118, 1977) "From all appearances the aircraft and the UFO had collided. No trace of the jet was ever found nor were the two men on board... ever seen again." Interested readers should consult Smith (1997) for further technical details of this event. (Keyhoe, The Flying Saucer Conspiracy. Pp. 13-23, 1955; USAF Project Blue Book file, Case 531123; Smith, W., On Pilots and UFOs. Pp. 49-58, Privately published, Florida, 1997).

97. July 22, 1956 1140L UM Pixley, California

Another mid-air collision with an unknown aerial object occurred in the mid-morning of July 22, 1956 when a USAF Convair C-131-D piloted by Maj. Mervin Stenvers was flying from Hamilton AFB, California to Albuquerque, New Mexico. Upon reaching a location above the small town of Pixley, CA (about 30 miles N of Bakersfield) at an altitude of 16,000 feet in clear weather, the aircraft suddenly struck something ("a brick wall") and went into a 9,000 foot vertical dive. The pilot eventually brought the aircraft under control; Airman Charles E. Stamper, 21, on board, was injured and had to be taken to Kern County Hospital for treatment. Both the horizontal stabilizer and elevator were "badly damaged" according to press accounts (Herald Tribune, New York, NY, July 23, 1956). The tail structure had been bent downward by a "terrific impact." The Air Force announced that rivets had worked loose on the tail structure so that the air stream caused the skin to bend backward and downward. However, Edwards (1966, pg. 73) said that he could not find a single case on record of such a thing happening to any Convair at any time in the past. "The pilot and copilot said "...they believed they were struck by another aircraft, possibly a fast rising jet." The Kern County Sheriff's office searched for reported wreckage of another plane but never found any. Edwards (Ibid., pg. 72) wrote that "Major Stenvers radioed that the plane had been "struck by a flying saucer," and asked

permission to make an emergency landing at the Bakersfield Airport." Later accounts of the accident failed to include this statement.

Appendix 4

Transient and Permanent Electromagnetic Effects in the Cockpit

98. August 13, 1959 1600L UP Roswell and Corona, New Mexico

Jack Goldsberry was piloting his Cessna 170 on a heading of 313 degrees from Hobbs to Albuquerque, New Mexico on business at 8,000 feet altitude and 135 mph. He was a former Navy PBY pilot during WW-2 with about 6,000 hrs. flight time. The weather was warm, clear and calm with unlimited visibility. Suddenly his Magnesyn compass needle began to rotate slowly through 360 degrees over a four to five second period. He looked outside to try to orient himself relative to known landmarks, thinking that his aircraft had flown off course. Then he checked his second (magnetic) compass and noticed that it was "spinning crazily" Its needle was spinning so fast he could not read it! It was only then that he caught sight of something through his windshield.

Goldsberry saw three elliptical-shaped, gray, fuzzy-edged objects in "close echelon formation" moving from left to right directly ahead of him. The lead object was low and the next two were successively higher. Their outline shape was almost round and were from ten to twenty feet in diameter. He thought their distance was from 150 to 200 yards from him and each object had a diameter of about 2.5 degrees arc and left a short "whispy trail" behind them. As he watched them fly completely around him in a horizontal plane he noted that the needle of his Magnesyn compass pointed at them. The three UAP circled his aircraft three times while maintaining the same rigid formation and then disappeared somewhere behind him. Then he noted that his Magnesyn compass was, again, pointing in the correct direction. Finally, his magnetic compass also settled down and pointed correctly. The postscript to this event is equally familiar.

When the pilot radioed the air traffic controller at Albuquerque he asked if there was a procedure for reporting a UFO. As soon as he admitted he had seen something unusual he was instructed to land at Kirtland AFB (south of Albuquerque) immediately; his flight plan was canceled. After landing at the air base he was escorted to an office and interrogated for several hours by an officer who handled UFO sighting reports for that base. As he left he was told "to say nothing of the incident to anyone except (to) his wife." The Major said that if he should experience "anything unusual" (e.g., felt ill) within the next six months to immediately go to a U.S. government hospital for treatment. Fortunately, no such symptoms showed up. (other details are found in the NICAP file) See Haines, (1999) for details of a very similar event which took place on August 13, 1976 in northern Germany.

99. June 29, 1967 2100L UC Los Angeles area, California

This interesting incident involved a DC-3 cargo flight departing Los Angeles International airport in twilight illumination. The aircraft was climbing through cloud layers when the flight crew first sighted an unidentified object descending from about 9,000 feet ahead and above them. It disappeared into the clouds ahead at about 8,000 feet altitude. Upon reaching FL180 and leveling off the FO reported that

they saw a very bright light below and ahead of them in the clouds with only a diffuse lighted area visible. Then a solid object emerged into clearer air and four separate white lights were seen (at the corners of a diamond), each one brighter than an aircraft's landing light. As the object approached the aircraft "...the compass began to spin. (and) the electrical system failed." Then the UAPs suddenly turned, shot away from the plane and disappeared into the clouds and, about three to four minutes later, the circuit breaker panel began to short (out).." When the FO checked the circuit breaker panels he discovered they had been fused "...as if subjected to an intense heat, and they were still hot to the touch." The flight crew was able to see the sky glow coming from the last sighted direction of the object for several seconds before it faded completely. The magnetic compass was found to be "not totally inaccurate." It had to be recalibrated upon landing. (Official UFO, Vol. 2, No. 3, Pg. 66, May 1977)

100. November 28, 1974 1143L UP Shabonna, Illinois (WSW of O'Hare)

The private pilot of an Aeronca Champ (N82198) and a passenger were flying at 2,500 feet altitude from De Kalb to Mendota, a short hop of 32 miles. The weather was bright with only six to seven mile visibility due to haze. Passing over the small town of Shabonna not quite half-way to their destination on a heading of 240 degrees (at 75 - 80 mph), a large (est. 120 feet length by 30 feet thick) dull silver or white disc with smooth surface and a possible depression on its top surface was seen pacing them on their left side about 1/4 mile away. It maintained the same airspeed as their own aircraft for about 15 seconds. The concerned pilot also noticed that his magnetic compass was rotating CCW at from four to five rpm during this interval. This E-M anomaly quit after the UAP tipped up and accelerated out of sight into the sky. (Ridge, F., Regional Encounters - The FC Files,1994)

101. March 12, 1977 2105L UC S of Syracuse, New York

This unexpected UAP event involved an uncommanded heading change of a United Airlines DC-10 (flight 94) from San Francisco to Boston's Logan International Airport at FL370. The jumbo jet was flying at 275 kts. indicated airspeed on airway J-94. The FO, H.E., 45, was flying and had coupled the number 2 autopilot to the "to" radial heading (288 degrees) from the Albany VOR ahead of them. Suddenly the airplane started a gradual, smooth (15 degree bank angle) turn to the left by itself. Within five to ten seconds both captain Neil Daniels, 57, and the FO turned and looked to their left side and saw an "extremely bright white light at about their own altitude." It was perfectly round and was almost three degrees arc in apparent diameter. Captain Daniels estimated its distance to be about 1,000 yards and probably as big or bigger than a DC-10 in size. Its intensity was like that of a flashbulb, viz., very very great. Then Boston center called them and asked, "United 94, where are you going?" Capt. Daniels replied, "Well, let me figure this out. I'll let you know." Then they noticed that "the three compasses were all reading different headings. The FO's compass was within twenty degrees arc of the compass in front of the captain and was not rotating. It was then that the FO uncoupled the autopilot and flew the airplane manually. Meanwhile, the UAP "followed right along with us" for about four or five more minutes then "it took off and picked up speed very rapidly and just disappeared, over about fifteen seconds, back towards our 8:00 o'clock position and slightly upward." Captain Daniels asked ATC if they had any radar traffic in the area and they replied, "no." He told me later, "So whatever it

was, we don't know. But it did cause a disruption in the magnetic field around the aircraft to the point where it did pull the aircraft off course." It may be noted that the magnetic sensor that provided the input to the FO's compass was located on the tip of the left wing nearest the UAP. The sighting was not reported. Other details are found elsewhere (Sturrock, Pp. 199-199, 1998) (Pilot report form)

102. November 18, 1977 2117L UP 50 mi. W of St. Louis, Missouri

Private pilot Gregory Barnett and two passengers (both asleep) were in a Seneca 2 (1975) en route from Vichy to Troy, MO and were almost due west of St. Louis on a heading of 60 degrees flying at 13,000 feet altitude. The aircraft had just completed a 100 hour check. Unexpectedly, he saw a brilliant white light was behind, above, and to his right side. It seemed to accelerate ahead on a parallel course until it reached his 2 o'clock position where it slowed to his speed and remained for three minutes before moving away at high speed. During the pacing the pilot said (later), "I pressed IDENT (on transponder no. 1) and nothin' happened... I turned on my other transponder and nothing happened. It was really weird. Then it took off on a one-twenty, one-thirty heading. It shot out of my eyesight... (then) the second one (transponder) started working OK... I never could get the first one to work again." No radio static was experienced at any time and his DME continued to work fine throughout this incident. It should be noted that one of his two transponders stopped operating several hours before this UAP sighting for some unknown reason. (NUFORC Case No. 1027-77) (Pilot report form and taped interview)

103. May 26, 1979 0005L UP S. Central Utah

James Gallagher had left Blackfoot, Idaho before midnight and was at 10,000 feet altitude in his light airplane just south of the Challis National Forest intent upon landing at Friedman Memorial Airport, Hailey at Idaho, 14 miles south of Sun Valley. In his own words, "I looked up in front of me and saw these five orange objects in a horizontal formation in front of me and then they tilted - like an airplane would dip its wings - and I thought it was (lights on) some kind of aircraft. Then they spread out and I knew damn well it wasn't an aircraft." At one point the objects regrouped, formed a vertical line, then moved around randomly, apparently coming closer (to me). Then all five came to the left side of the aircraft... "my magnetic compass started spinning and my ADF [automatic direction finder] started spinning. At that point they were in a straight line formation and then they just blinked out... I did have trouble receiving on the radio because of heavy static and my engine started running rough.." It is also of interest to note that a Braniffff flight crew also reported seeing orange objects below their altitude that same morning (0240L) while flying at 35,000 feet altitude only 120 miles south of Gallagher's sighting and again at 0253L when they were some 70 miles NW of Ogden, Utah. Ground radar also tracked the objects during this encounter. (Hall, Pp. 21-22, 2000)

104. April 8, 1981 0300L UP N of San Francisco, California

Charter pilot Shanon Davis was flying a Piper Archer II (1980 model) well after midnight above San Luis Reservoir in northern California when he spotted a very bright, orange object. He thought it was about 35 to 50 feet long and 16 feet thick and it appeared to pulsate in intensity. It performed instantaneous sharp angle turns near and directly ahead of him at an estimated range of 500 yards. He tried to radio Oakland

Center about the sighting however both of his radios went "wacko." He could neither send nor receive at this time. Simultaneously, his distance measuring equipment (DME) also displayed a random readout and then displayed a dashed line. Once the object had departed out of sight (in about 4 to 5 seconds) all of these instruments returned to their normal function. They were all checked the next morning and found to be in perfect condition. Significantly, the TRACON controller with whom Davis spoke after the event claimed that the aircraft had disappeared from radar during the time the UFO was out in front of the aircraft as if it was blocking the microwave radiation. (International UFO Reporter, Vol. 7, No. 1, pg. 6, January 1982)

105. March 1, 1986 2030L UP Western Washington (state)

An instructor pilot and his student (Shawn Kiaer) were flying near Snoqualamie Pass east of Seattle at 2030 when they both noticed two spheres approaching them on a collision course. The pilot "went into evasive action to avoid the collision. After the pilots had leveled off, two objects turned around and started to follow their plane. The instructor pilot tried to his radio and said it was inoperative due to heavy static. The pilot said that one object was on one side of the wing and one on the other. The objects then accelerated at phenomenal speeds heading due west... at which time the pilot's radio became operative again." (Goudie, D., MUFON UFO J., pg. 13, July 1986)

Appendix 5

Attention Distraction in the Cockpit

106. December 22, 1977 0400L UP Bay City, Texas

William Lupinski was flying a light plane from Alice, TX to Bay City, TX and was passing over the Port LaVaca bridge at Matagorda Bay when he saw a light off his right wing. Since it appeared to be pacing him (and he was traveling only 125 mph) he deduced that the light could not have been running lights on a commercial jet aircraft [of course it could have been a jet airplane at a much greater separation distance than he first thought]. Now more curious, the pilot banked in the direction of the light "to take a better look at the object." The UAP also made an almost instantaneous 45 degree turn to the right towards the southern horizon and then disappeared "over the ocean" (sic) [Gulf of Mexico]. He called the tower at Palacios airport NE of his present position to inquire about other air traffic in the area. They answered "no." He continued on toward his destination some 26 miles farther to the NE. Suddenly he saw a UAP about 500 feet below his aircraft, "just over the Palacios airport runway. He became confused and didn't know if there were two objects or if it was the same one from two different directions." He had (recently) been turned over to Houston ATC. He flew on and was about 4 to 5 miles from the Bay City airfield when he saw yet another "glowing" object as he entered the traffic pattern. "This time it was 50 to 100 feet above the ground and dead square over runway 31, this

flipping thing hovers." It had an intense blue-white glow overall was "pretty much circular shaped (and) aerodynamically lousy... weird."

The now very concerned pilot radioed Houston control again who called to several aircraft in the same area. Lupinski lined his airplane up with the runway centerline and "was watching the ground and the glowing object. I made a backwards approach and didn't care... I actually landed my plane from the wrong direction and at the wrong end of the runway." The UFO was still hovering over the other end of the runway... that's how I knew it was approximately 60 feet in diameter." As his wheels touched down the UFO backed directly away about 1/4 mile and turned right and then flew out toward the gulf and disappeared from sight.

The pilot stated later that "the first time it was thrilling and the second time it is terribly exciting... and now (during his final approach) I'm getting a little bit worried about this thing." Later he also admitted that all he wanted to do was to get down on the ground. The multiple appearance of unidentifiable lights in the air seemingly near to him had affected his personal self-confidence. Fortunately, this incident ended happily. (The Daily Tribune, Bay City, Texas, Nov. 26, 1978)

107. March 31, 1999 0039L UP Carson (12 mi. SE LAX), California

The pilot and police officer observer in a Los Angeles Police Dept. helicopter were working a call in Carson just after midnight. They were circling at between 400 and 500 feet AGL when the pilot noticed (and called out) an orange ball of light apparently at their own altitude passing from west to east in front of them at that moment. Its distance was estimated at two miles and appeared to be closing with them. Its airspeed was an estimated 150 kts. During part of the sighting the pilot flew straight and level to the north and noted that the object passed from the 10 o'clock to 2 o'clock position and then changed its flight path more southerly, now passing to their right side. After the pilot turned right another 30 degrees and stabilized his heading the object suddenly accelerated, changed its direction of travel and sped directly toward them. "The object got within 200 feet of the aircraft and then (instantaneously) changed directions again, flying to the north at a very high rate of speed and out of view." (*National UFO Reporting Center* (NUFORC) Rept. Dtd. 3/31/99 14:47).

It is problematical whether air safety was directly impacted here, but both observers were clearly captivated (and engaged) by this close aerial encounter over urban Los Angeles to the extent that they abandoned their official assignment in order to keep the unidentified light in sight. Another similar police helicopter encounter took place in the early morning hours of October 12, 1999 over north Phoenix, AZ. (National UFO Reporting Center, Rept. 101299 2200)

Appendix 6

Abbreviated Review of FAA's *Near Midair Collisions System Search* (NMAC) Database

108. June 8, 1997 1849L UC Los Angeles, California

This NMAC illustrates a typical incident where the other (intruder) aircraft could not be identified. The pilot of a Martinair Holland N.V. Douglas MD-11 reported a near miss with an unknown object at

12,000 feet altitude during his climb phase in Class B airspace. He reported an estimated two seconds sight separation from the other object. (NMAC Report No. NWPCZLA97003, GMT Date: 06/08/97)

No other information is given in the report. Such reports are virtually worthless in helping to understand either the original stimulus for the report or how to prevent a reoccurrence of a similar event in the future. One wonders whether the lack of narrative hides other information of military significance, politically embarrassing significance, or UAP significance

109. April 12, 1998 1622L UC Washington, D.C.

This near miss took place eight miles south of Washington International Airport (DCA) at 1622 hrs. when a Delta Airlines B-727 was at 2,700 feet altitude. The pilot noticed a "conflicting aircraft" ahead of him and "initiated a climb to avoid conflicting traffic." Use of these two different terms should not hide the fact that the identification of the other aircraft was not possible despite the fact that both were in Class B airspace where all vehicles are strictly controlled for air safety purposes. The only other option here is that ground control did not deliberately pursue the identification of the other aircraft for some reason. (Rept. No. NYC99IA036, Local Date: 12-08-98)

110. August 27, 1998 0957L UC Valdosta, Georgia

An Air Traffic controller at Moody departure (near Valdosta, Georgia) notified the crew of Alaska Airlines, flight 7320 climbing out of 2,500 feet altitude of "traffic. " The flight crew tried without success to locate the other aircraft now also at 2,500 feet altitude. A right turning climb was initiated immediately. The person who completed this incident report expressed the opinion that ATC personnel "...did not see the other traffic in time to issue an earlier report." Those familiar with these kinds of reports will be satisfied with all of the details provided, particularly since no one was killed or injured. However, those who are open-minded to the possibility that unidentified air "traffic" may be UAP may not be as satisfied or comforted. (Rept. No. NSOZVAD98001, GMT Date: 8-27-98)

Appendix 7

Selected Cases from National Transportation Safety Board's *Aviation Accident/Incident Database*

111. September 25, 1996 1330L UP Kent, Washington

In this first NTSB accident report the pilot never saw the object that struck and damaged his airplane and the investigators could not determine what caused the structural damage. The pilot of a light plane flying at 2,000 feet altitude near an uncontrolled airport suddenly "felt something hit the airplane. The airplane began to vibrate, and the pilot encountered trouble with the flight controls." He declared an emergency to a nearby controlled airport and made a landing without further incident. The leading edge of the vertical stabilizer was found to be bent to one side along with other damage. "No determination could be made as to what kind of object struck the airplane." The NTSB report did not cite this event as a mid air collision for some reason. (Rept. No. SEA96LA220, Local Date: 09/25/1996)

This report raises many more questions than it answers such as why didn't the pilot see the other object since it was daytime and VMC (no visibility restrictions) conditions. What could have caused the metal vertical stabilizer to be bent to one side and fracture the rudder control push rod? In most bird strike incidents substantial damage is done to the airplane but the remains of the bird are also usually found. Such was not the case here. The identity of the other object still remains a mystery.

112. August 9, 1997 1707L UC between Philadelphia and New York

This near-miss incident occurred between Philadelphia and New York and involved a Swissair Transport Co. Ltd. B-747-300 (HB-IGF) at about 1707 EDT. Flight 127 was in level flight at FL230 en route to Boston in VMC weather on an IFR flight plan. Its heading was 060 deg. and it was abreast of New York city to their left. The aircraft was flying at 340 kts indicated airspeed. Currently in radio communication with the Danbury sector of the Boston air route traffic control center, the captain radioed, "...sir, I don't know what it was, but it just over flew like a couple of hundred feet above us. I don't know if it was a rocket or whatever, but incredibly fast, opposite direction." Maybe "2, 3, 4 hundred feet above... the three of us saw a light object, it was white and very fast." The airplane wasn't damaged and there were no injuries to the occupants. The observation time was very short (about a second or less). The captain saw no wings on the object and he "was not sure it was an aircraft. He thought it was cylindrical in shape." There was no TCAS warning. [This is a highly automated collision-avoidance system on-board the aircraft that prompts pilots about what is the most effective mid-air collision avoidance maneuver to use]. The FO said he also caught a glimpse of the object as "it passed overhead very quickly. It was close enough that he ducked his head because he thought it would hit them. He said it was white and had a round shape. There was no smoke or fire visible from the object." It had no visible markings. Its angular size was about 1.5 deg. diameter. The FO said he had seen a weather balloon previously in his career and this object didn't look like a balloon. When Boston ARTCC radar data was examined for this time and place either beacon nor non-beacon data moving in the opposite direction were found. (Rept. No. NYC97SA193, Local Date: 08/09/1997) (Swissair 'Air Traffic Incident Report Form, RAC1-2App B1)

Also see Durant, R.J. (1999) for an excellent, in-depth discussion of why the object could not have been a weather balloon, missile, or part of the Perseid meteor shower. Based upon a private interview with the pilot, Durant discovered several facts which U.S. authorities either accidentally disregarded or deliberately chose to ignore. The NTSB still has no conclusion concerning the identity of the object and considers the case officially closed!

113. December 8, 1998 night UC La Guardia Airport, New York

In Rept. No. NYC99IA036 (Local Date: 12-8-98) we find a particularly interesting nighttime near mid-air collision report involving a B-737-100 (C-GCPX) operated by Canadian Airlines International Ltd. as flight 528 during its downwind pattern to land at La Guardia Airport, New York. The airliner was at an altitude of 4,000 feet MSL at the time. According to the company's chief duty dispatcher the "...crew caught a glimpse of three lights. The lights were red, white, green, and aligned vertically with the red light on the bottom." The First Officer saw the other airplane but didn't have time to carry out an evasive maneuver. Fortunately none of the 52 people on board were injured during this event. Other interesting technical details are found in the report such as the allegation that the other aircraft was a

Cessna 172 flying under instrument flight rules (IFR) at 5,000 feet altitude and that its pilot saw the approaching B-737 at his 12 o'clock position and "perceived it to be at the same altitude." He executed a descent down to 4,000 feet by passing the airliner to one side by about 500 feet. Reference to any diagram of aircraft exterior lighting will show that the red wing-tip light is on the left wing and the green on the right with white (flashing or constant) navigation beacon on the centerline of the aircraft's body visible from all azimuthal directions. If the First Officer's memory is correct, the "Cessna" would have had to be in a 90 degree bank with its left wing downward. This degree of extreme bank is very dangerous (particularly in darkness and at low altitude) and, if this explanation is correct, it suggests that the light aircraft was turning to avoid a collision. Might it be suggested that the other aircraft was not a Cessna but a UAP, many of which have lighting patterns that look like this?

Appendix 8

Selected Cases from NASA's *Aviation Safety Reporting System*

114. September 1977 n/a UC S.E. USA

An ASRS incident report of a near-miss in early September 1977 contains many details that seem to be typical of other pilot reports. A medium size commercial jet (with 90 passenger seats) was climbing to FL 270 on a center (Memphis) vector of 165 degrees to intercept Rome VORTAC 326 degrees radial inbound, "...we passed opposite direction traffic (unknown type aircraft or object). Unknown traffic was moving almost directly opposite of our heading and was moving extremely fast. Closure rate was faster than anything I have ever observed.

"I (captain) first noticed aircraft or object almost directly ahead and slightly low and to the left. (First officer did not observe it). It moved extremely fast just off of and below left wing. Total time observed was no more than about one (1) second. The object was, or appeared to be red, or orange or reddish brown."

"I questioned Memphis center and they replied that they had no primary/secondary targets on radar in the immediate area except for one slow-moving VFR (believe that they said at 9000 ft. unconfirmed)." They said they had no traffic in the vicinity of FL230. "It happened so quickly that no action was taken to turn the aircraft. I have no idea what the ACFT/object was. This report (is) filed mainly for information only." (ASRS report form)

115. August 1983 n/a UC USA

Another interesting near-miss report was found during a review of the ASRS database dated August 1983. The pilot, FO, and FE of a commercial aircraft saw a missile-like object approach them at a very near distance during daylight. They were 40 miles (DME) NE of SB Vortac IA [a low frequency navigational reference] and were climbing at 230 kts. between thunderstorms and were inside a Terminal Control Area. Passing through 7,000 feet they saw an "unidentified flying object" which "passed within 50 feet of our aircraft. Object looked to be on a heading directly opposite to ours.... Object looked like it was about 3 - 5 feet long, shiney (sic) exterior, rounded nose, about 6 inches diameter, cylindrical body. Looked like it was polished. (It) was descending at an angle of about 5 - 8

degrees to horizon. Very fast. Pushing vapor waves." Its nose was a glowing white while the rest of the object was "shiny like the inside of a thermos bottle." No fins could be seen on it. The pilot radioed La Guardia departure control and was told "...they thought they had it on radar (for one sweep). What was it? Did some one fire an air-to-air missile at us?" The reporter (captain) was convinced "it was not a weather balloon." The ASRS analyst discovered that the incident was being investigated by the FBI, FAA, and Dept. of Defense. The reporting pilot was interviewed by a "tactical fighter shop" who said that "...if it was a missile it would have hit me and if it was a rocket I would never have seen it. They were trying to convince me it was a weather balloon." (ASRS data file 31566)

116. February 1988 afternoon UP Killeen, Texas

In another report a two engine turboprop small transport aircraft with passengers was at cruise altitude (4,000 feet MSL) in Class E airspace nearing the Killeen, Texas airport. The pilot was flying under VMC flight rules in February 1988 sometime between noon and 6:00 pm. He stated that he had been receiving traffic advisories all day long. During his return trip they had a "very close near miss (had to take evasive action to avoid the other aircraft....therefore we were especially on guard for more traffic the rest of the day. These factors, plus the fact that both transponders would not XMIT (transmit) for approx. 5 minutes, worked with both trying to get them to work and eventually succeeded and was at altitude at (the) time." (Report No. 82530, Local Date: 1988/02) Of interest here is the combination of other radar-detected traffic and a transient loss of both transponders. If the reporting pilot had merely inserted the term UAP for "aircraft" the entire report would be consistent with many scores of other similar reports, some of which are included later in this paper. It is quite understandable why the reporting pilot would not use the term UAP or UFO.

117. April 1988 Dusk UC Minneapolis, Minnesota

In the following incident the VHF transmitter function of a medium large jet transport aircraft was totally lost at 17,000 feet altitude during their climb to their flight plan altitude of 29,000 feet. They were approximately 35 miles SE of MSP at the first indication of malfunction. It was dusk with mixed VFR and IMC flight conditions (about 2 miles visibility). The flight crew wisely squawked 7700/7600 on their transponder system and, as their altitude increased, they "regained ability to XMIT (transmit) on both VHF radios. (The) FLT completed W/O (without) incident." (Report No. 86091, Local Date: 1988/04)

This interesting incident raises such questions as how often do two independent radio transmitters fail on the same large jet transport aircraft in scheduled service? Was there an electrical system failure common to both radios? How and why did the fault repair itself later? How often do such electronic system faults return to normal status later after completely failing? What maintenance checks were made after this event and what was discovered in this case? There are numerous electromagnetic interference cases in the UAP literature. Could this incident have been one of them despite the fact that the flight crew did not report seeing anything unusual?

118. February 1989 midmorning UC Location not specified

A high altitude "encounter" between a three engine, low wing, large transport turbojet passenger aircraft and an unknown object left a "6" diameter dent approx. 1" deep on (the) leading edge of right wing just inboard of the leading edge flaps. Damaged area was not gouged or scraped nor was there any residue from a bird strike. No other vis(ual) damage was noted." The commercial aircraft was at FL290 heading for La Guardia (New York) airport between 6:01 and noon. (Report No. 103704, Local Date: 1989/02)

This "miscellaneous" type incident was not followed-up on and no information is given concerning other findings that might point to the source of the physical "encounter." Although the altitude of the aircraft at which this event happened is not known definitely, it would be interesting to know how many different kinds of birds fly at 29,000 feet altitude where the air density (and corresponding oxygen pressure) is very low.

119. November 1994 evening UP W of San Antonio, Texas

An in-flight collision with an unknown object occurred in November 1994 almost due west of San Antonio, Texas between 6:01 pm. and midnight. The reporting (private) pilot's narrative account stated (in part) that he was cruising by himself at 2,500 feet from San Antonio to Del Rio, Texas under a cloud ceiling at about 3,000 feet AGL. Winds blew him off course about 30 miles and his low altitude prevented him from using his available navigational aids. He wrote, "During the confusion of returning to my desired course I had a collision with an unseen obstacle...". The single engine, high-wing aircraft weighed less than 5,000 lbs. (Report No. 287423, Local Date: 1994/11)

The pilot had only 220 hours total flight time. It is interesting to note that: (a) if this collision had been with a bird the reporting pilot likely would have noted it in his report since this type of event is both relatively common and politically acceptable, and (b) the probable flight path of this airplane would have been directly within a military restricted area (A-640) extending from 200 feet AGL to 7,500 feet AGL then in operation. Perhaps the airborne object that collided with the single engine airplane was of military origin which also would tend to inhibit further comment by the reporting pilot and by others.

120. September 1997 evening UC Salt Lake City, Utah

On the left downwind leg of the traffic pattern for runway 34L the pilot reported that he saw "something whiz past us on the L (left). Estimating its size is difficult as I have nothing in memory with which to compare, but I estimate it at 4 - 6 ft high. Initially, I thought it was a light ACFT (aircraft), then I thought it was a bird. I then observed sunlight glinting off the lower portion of the object. As I observed it pass, I realized how close we had come to it." Very shortly thereafter he saw "...another similar object whiz by on our R. The first object was approx 10 - 20 feet below our FLT Path." This time I "could CLRLY (clearly) see that it was a metal object suspended by a cluster of 2 or 3 balloons. They were nearly the same color as the setting sun - - a pinkish flesh color. My FO (first officer) and ACM called them out also, but when I looked, they were looking slightly below our FLT path. They observed 2 additional balloon objects. We all agreed they were observing different objects than I." A total of four objects were seen in close proximity to the aircraft. (Rept. No. 380120, Local Date: 1997/09) Whatever these objects were they were dispersed horizontally by perhaps several hundred feet from each other and at slightly different altitudes. Since the balloon-like objects were never positively identified they must remain UAP.

- End -