Missions for America
Semper vigilans!
Semper volans!

The Coastwatcher

Publication of the Thames River Composite Squadron
Connecticut Wing
Civil Air Patrol

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Vol. VIII, No. 13 01 April, 2014

SCHEDULE OF COMING EVENTS

01 APR-TRCS Meeting
08 APR-TRCS Commander's Call
15 APR-TRCS Meeting
19 APR-CSRRA AR-15 Rifle Rifle Clinic
22 APR-TRCS Meeting
26 APR-04 May-NER Mission Aircrew School
29 APR-TRCS Meeting

10-11 MAY-CTWG East Group CLC-HFD
10 MAY- CTWG SAREX at MMK
17 MAY-Commander's Cup Rocketry (tentative)
17-18 MAY-Quonset Airshow
30 MAY-Ledyard Aerospace Festival

16-21 JUN-Bi-State SAREX (CT/RI/)
19 JUL-02 AUG-Nat'l Emergency Services Acad.
08-16 AUG-CTWG Encampment-Camp Niantic
23 AUG-Wing Wide SAREX-HFD
20 SEP-Cadet Ball-USCGA (tentative)

01 OCT-CTWG Commander's Call and CAC
17-19 OCT-CTWG/NER Conference
16-18 OCT-NER AEO Course at Conference
18-25 OCT-NER Staff College-New Jersey

CADET MEETING
01 April, 2014
submitted by
C/SrA Virginia Poe

A formation and drill practice was held on the airport parking lot.

C/Capt Schultz and LtCol Rocketto discussed various issues concerning model rocket construction and use. Schultz concentrated on safety and Rocketto explained the details which must be considered in order to turn out a quality product.

Flight staff taught CAP general knowledge.

The balance of the meeting was spent working on the rockets.

SENIOR MEETING
01 April, 2014
submitted by
SM Raoul Lufberry
Wallingford Squadron

As is customary on the first meeting of the month, no formal training was scheduled. Officers worked on individual projects and squadron paperwork and building maintenance.

Maj Farley led an informal lap top simulator training session on G1000 waypoints.

TRCS ORIENTATION FLIGHTS

submitted by
Maj Scott Farley

Each O Flight takes the cadet through a standard set of maneuvers and learning experiences. The cadet sits in the right seat and is permitted to operate the controls with some restrictions on altitude and area. Often a second cadet will sit in the rear and observe or practice reading a sectional chart.

Maj Scott Farley flew Cadet Daniel Bryce on his first O Flight on 27 March which consisted of ground handling, take-offs, and landings. Then Cadet Cadet Nicholas Brouillard followed on a Syllabus 8 flight.

Syllabus 8 is a lesson in advanced powered flight and includes slow flight, ground reference maneuvers, imminent stalls, and medium and steep banked turns. A ground sessions which discusses what will be covered precedes each flight and a debriefing is conducted after landing.

Two days later, on 29 March, Maj Farley gave Cadet Matthew Bryce on his first O Flight He then took Cadets Daniel and Michael Hollingsworth on their Syllabus 8 flights.

LtCol deAndrade, Maj Farley, and Cadet Drost check time and manifests and wonder what has happened to the baggage.

(Photo Credits: SM Poe)

On the same day, LtCol John deAndrade took C/Capt Brendan Schultz on a Syllabus 8 ride and Cadet Virginia Poe on her Syllabus 7 ride, normal flight maneuvers such as trimming the aircraft, attitude flying, and shallow banked turns. The theoretical part of the lesson includes a discussion of load factors, the four forces which act on an aircraft in flight, and the relationships among lift, angle of attack, and relative wind.

Cadet Drost exhibits a happy countenance at the conclusion of his first orientation flight.

JUNIOR HIGH POWER RIFLE CLINIC

The Connecticut State Rifle and Revolver Association is sponsoring a rifle clinic in which cadets can receive instruction and fire the AR-15 match rifle.

The event will be held at the Bell City Rifle Club in Southington on 19 April. No walk-ins will be accepted. There is no funding this year so a donation will be requested. Those who wish to participate must contact Coach Brad Palmer at 860 649 4446 for further information.

RESPONSES TO THE G.O.C. ARTICLE

Lockheed had a dog in the fight, the F-94 Starfighter interceptor.

Last week's article on the Ground Observer Corps drew a number of interesting responses.

Col Fred Herbert said the following of his experiences in Essex, Maryland.

Reminds me of the time during WWII when I was a teenage messenger for the Office of Civilian Defense running messages from Air Raid warden to Control centers while CAP cadets were stuck on rooftops as aircraft spotters. I though my job was better because I got the chance to move around.

LtCol Carl Stidsen sent in this comment:

I wanted to join GOC in the worst way, but the minimum age for entry was 14. So, at 12 , I got my own copy of AFR 355-10 from a friendly GOC member (I still have it in my Library). I then memorized that thing (and earlier editions , plus some WWII era recognition manuals) over the next two years so I could pass whatever ID test they would throw at me. However, GOC in Massachusetts was shut down just before I turned 14. RATS! Oh well - 14 was also the entry age for CAP cadets back then, So I joined the Worcester Squadron (MAWG) of CAP and instantly became the resident Squadron aircraft recognition expert. (everybody should have something they are good at - especially at that age).... I used to bug my teachers, many of whom were WWII vets, to tell me their War Stories - especially if they included anything to do with the Air Corps or Naval Air.

The outcome was that I could recognize anything in the sky, back then (or at least, thought I could). And , I like to think I still can, since I still study three view drawings, photos and anything else Aviation-related I can find. It is a source of personal satisfaction to merely glance up and know what is going by overhead.

While doing some fact checking, the editor ran across a newspaper reference to a seven year old observer. Maybe he lied about his age but I guess that the rules applied by the Post Supervisors were as flexible as a politician's promises and LtCol Stidsen ran into someone not willing to bend them.

The editor also remembers veterans who were WWII airmen and used to talk to them about their experiences. His Boy Scout Aviation Merit Badge Counselor flew the notorious Martin B-26 Marauder, a Boy Scout leader was a crew chief on the Consolidated B-32 Dominator, Mr. Gracewski, his Latin teacher flew the Curtiss C-46 Commando over The Hump, and Mr. Tyropolis, an English teacher, was a radioman/gunner on a Douglas A-20 Havoc.

Attorney Bernie Steadman, an local pilot, wrote in and mentioned that his GOC post was

> *...Cocoa 17, "a small shack across Rt. 1, from the White Sails Inn (Lord's Point Road). We had a small shack with a cupola on it so we could view all four cardinal points. One of my aunts was also a member. I remember another post on Rt. 2, north Stonington, near the fire house.*

That reminded the editor that his Waterford post, Charlie Mike Five Two Black, did undergo a name change to Lima 17.

AEROSPACE CURRENT EVENTS

X-37B

The X-37B has now passes it 470th day in orbit as it continues on its undisclosed mission for the USAF.

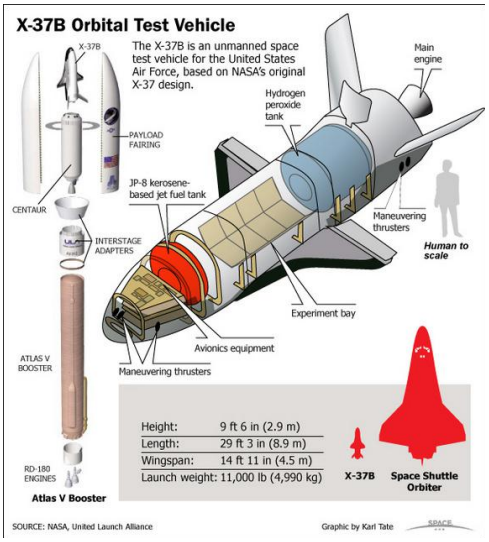
X-37B taxiing at Edwards *(USAF Photo)*

Military authorities have been close-mouthed about the details of this and two previous X-37 missions. They indicate that they involve experiments and the transport of various space technology packages and systems into orbit and back to earth.

X-37B and booster being prepared for stowage in its its payload fairing.

(Boeing/USAF Photo)

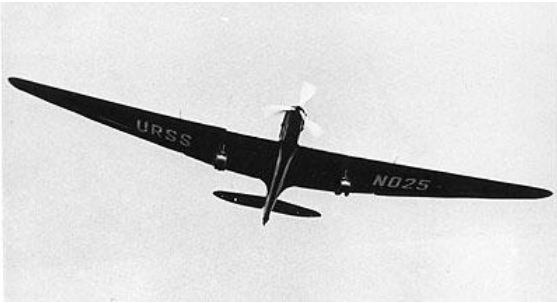
The unmanned reusable vehicle was launched on from the Cape Canaveral Air Force Station 11 December, 2012 on an Atlas 5 rocket. Previous missions landed at Vandenberg AFB. The X-37 class is the second type of vehicle which has demonstrated the ability to return to a runway from space. The Soviet *Buran* spacecraft, previously accomplished the feat.



AEROSPACE HISTORY

A Correction and Some Notes on Aspect Ratio

The last issue of *The Coastwatcher* contained an article about the Ground Observer Corps. A statement was made about the ANT-25 which was used by the Russians to pioneer the polar route to the United States was incorrect. The ANT-13 used a high aspect ratio wing, not a low aspect ratio wing as stated in the article. Capt Ed Miller was good enough to point this out.



ANT-25 displays its high aspect ratio wings in a flyover.

Aircraft designers will choose an aspect ratio to meet the requirements of the aircraft's mission. However, there is no "free lunch" and the choice will improve performance in some areas but decrease performance in others.

For example, the choice of a high aspect ratio wing, one which is long relative to its chord results in a better lift/drag ratio which leads to efficient flight and longer ranges at the cost of lower roll rate, slower speed, greater wing bending stress, and a larger footprint on the apron.

As a result, fighters which demand speed and maneuverability demand low aspect ratio wings whereas gliders and long range aircraft tend to exhibit high aspect ratios.

Here are some typical approximate values of aspect ratio for various aircraft.

Lockheed SR-71 "Blackbird".....2
General Dynamics F-16 "Viper".....2
Bayerische Flugzeugwerke Me-109.....6
Mitsubishi A6M Zero.....6
Supermarine Spitfire.....6
North American P-51 Mustang.....6
Piper PA-28.....6
Cessna 172.....7
McDonnell DouglasMD-88 airliner.....9
Lockheed U-2 "Dragon Lady".....11
Schweizer 2-33.....12
Anatov ANT-25.....13
DG Flugzeugbau Gmbh DG-800S.....28
Rutan Voyager.....35

The highly maneuverable Viper and the hypersonic SR-72 require very low aspect ratios to meet their performance requirements.

The Schweizer 2-33 is a training glider. Note that the U-2 possesses an aspect ratio which will give it some glider-like flight characteristics. But when the maximum efficiency is needed for sailplane competitions of an un-refueled non-stop circumnavigation of the earth, then planes such as the DG-800S and Rutan's one-of-a-kind Voyager emerge from the designer's drawing board.

A selection of World War II fighters all show about the same aspect ratios, six, as does the general aviation Cessna 172. Their superior performance in speed and in some cases, range was due to fuel capacity and their very powerful engines which delivered around eight times the horsepower of a typical Cessna172 or Cherokee.

These general aviation aircraft fill a niche just before the more demanding performance requirements of the airline industry.

Compromises are often needed. Airliners must have high sub-sonic speeds but be fuel efficient so the MD-88 and most of the fleet used by airlines have aspect ratios in the 8-9 range.

The Book of Nature demonstrates these principles. Compare the wing of that consummate long distance flyer, the albatross, with that of the super hunting machine, the goshawk.

The albatross is noted for using both slope soaring and dynamic soaring to cover distances of up to 600 miles per day without wing flapping! Their aspect ratio is around 14-19.
(Photo Credit: Glen Fergus)

The agile goshawk's aspect ratio is around 5.5, comparable to a World War II fighter.
(Photo Credit: Steve Young/Vireo)

Lost Without Trace
A Review of Some Aircraft Disappearances
by
Stephen M. Rocketto

The case of the missing Malaysia Airlines Flight 370 has resulted in a two week media frenzy, lots of speculation, and damned little information. Both the media and the public are responsible. The 24/7 broadcast news cycle and the need to draw an audience for ratings and profit makes demands on the industry to fill a lot of bandwidth with "news" which is either dubious or redundant. The public seem to have a hunger for instant information and instant answers. What is delivered is often neither.

The competition to "scoop" news rivals leads to erroneous reporting, misinformation, and speculation ranging from the entirely plausible to the farfetched to the preposterous. Reporters who lack expertise in the subject contribute to the flood of information and opinion with little regard for fact or soundness. The marketers know that sensationalism draws attention so "over-hyping" a common technique to the number of viewers or readers.

As this story is being written, a new media feeding frenzy, the Washington State landslide which obliterated the town of Oso, is replacing the Flight 370 disappearance on the news channels. Disaster are always good fodder for the news. Consider the over-hyping of hurricanes, the fear of asteroid collisions with the earth, and the specter of flesh-eating diseases. Not only is disaster good for business but it is great for Hollywood and its steady production of catastrophe films

This phenomenon is not unusual. One can go back to the winer of 1927 and the 18 day saga in which spelunker Floyd Collins was trapped in a cave in Kentucky. That incident is now ranked as one of the three biggest media events between the two world wars. Information was transmitted by amateur radio to the telegraph station and coverage was massive. Thousands flocked to the site, radios filled air time and newspapers filled column inches and a reporter won a Pulitzer Prize.

Oddly enough, the two other events which rank with the entrapment of Floyd Collins were Charles Lindbergh's New York to Paris Flight May 20-21, 1927 which occurred three months later and the 1932 kidnapping and murder of his infant son. Lindbergh was one of the pilots who flew photographs from the cave site to the newspapers!

As it turns out, aircraft disappearances are not unusual. It is not an "unprecedented aviation mystery" as one senior official involved in the search stated. Airplanes disappear without trace every year.

A recent *Coastwatcher* feature about Antoine Saint-Exupery recounted his disappearance without a trace while flying a wartime mission over the Mediterranean. The same article mentions the disappearance, without a trace, of two of his Aéropostale comrades, Jean Mermoz and Henri Guillaumet, both flying airliners lost without a trace over the South Atlantic Ocean and Mediterranean Sea respectively. By luck, Saint-Exupery's identification bracelet was dragged up form the bottom a half century later and the wreckage of his aircraft found.

The same cannot be said for Charles Nungesser and François Coli. They disappeared in 1927 while attempting to complete the first non-stop Paris to New York flight in a Lavasseur PL.8 named *L'Oiseau Blanc* (*The White Bird*). Flying against the prevailing winds and in foul North Atlantic weather, they were never seen again.

The losses of St-Ex, Mermoz, Guillaumet, and Nungesser and Coli occurred long before the electronic marvels of radar, satellites, and Aircraft Communications Addressing and Reporting System (ACARS). The users of today's instant communications devices need come to grips with both the limitations of modern technology and the frictions which prevents national bureaucracies from communicating with each other with the same speed at which they text their friends.

Search and Rescue agencies know the difficulty of finding aircraft wreckage in a timely manner. The experiences of our Civil Air Patrol colleagues testify to this fact. The Kennedy crash off Martha's Vinyard was restricted to a relatively limited portion of the earth's surface yet it took three days to find the wreckage of the Piper Saratoga. The Steve Fosset air search found nothing after a month. A hiker found what was left of the Citabria a year after the search had been suspended. On Christmas Eve, 1996, a Lear 35A departed Bridgeport, Connecticut for Lebanon, New Hampshire and while executing a missed approach disappeared from the radar. An intensive search which included CAP flights from Connecticut found nothing. Three years later, a forester smelled jet fuel and found the wreckage.

The world seems to have forgotten about Air France 447 lost off the coast of Brazil in June of 2009. Within five days, some wreckage and bodies had been recovered but it took two more years to recover the flight recorders from the floor of the South Atlantic. The data from the “black boxes” and ACARS transmissions received before the crash resolved the mystery of why the aircraft crashed. But it took years and the location of the crash site was fairly well established. Malaysia Flight 370 has not yet yielded any physical clues to its whereabouts but the search continues. Not all mysterious disappearances can be resolved in the attention span of the average television viewer. Even the television series *Lost*, the fantasy story of an airliner which disappears due to supernatural forces, took six seasons and 121 episodes to resolve them drama, much to the delight of the viewers, advertisers, and cast and crew members.

The rest of this article will highlight a number of other aircraft disappearances over water, some well known and some lost to the public's memory. Many aircraft have been lost over water and often, wild speculation arises about the causes. Although there have been notable losses over water such as the PanAm Clipper *Romance of the Skies* over the Pacific in 1957 and a Northwest Orient Douglas DC-4 over Lake Michigan in 1950, wreckage and in some case bodies were recovered although no definite causes for the tragedies were ever officially offered. The following cases have been restricted to overwater disappearances of airliners or significant military flights in which no physical evidence was ever recovered despite extensive search efforts.

The most famous of all aircraft disappearances is that of Amelia Earhart and her navigator, Fred Noonan during Earhart's attempt to be the first woman to pilot an aircraft around the world. Their Lockheed 10E Electra departed Lae, New Guinea on 02 July, 1937 bound for Howland Island. Their last radioed position report was sent when they were about 800 miles or one third of the way out. Later messages indicated that they were unsure of their position, low on fuel, and flying along a line, determined by celestial navigation methods, which ran through Howland. The Navy and Coast Guard mounted a massive search for 19 days for signs of the missing aircraft before abandoning their efforts. No physical evidence has ever been found which might resolve the details of their disappearance.

One year after the Earhart-Noonan loss, a Pan American Martin M-130, *Hawaii Clipper*, disappeared without trace between Guam and Manila. A passenger affiliated with the Chinese Nationalist forces then fighting the Japanese was on board and was transporting a very large sum of money to them.

The popular personality, musician Glenn Miller went missing on 15 December, 1945. He was aboard a USAAF UC-64, a Norduyn Norseman, which was taking him across the English Channel to France where he was to perform for the troops. No bodies and now wreckage were ever found.

Five of these incidents occurred in the region bounded by Florida, Bermuda, and Jamaica, a region which has become known as the "Bermuda Triangle. The area comprises at least a half million square miles and the water depth can run as deep as two miles.

In 1945, a well-known disappearance occurred in this region. Flight 19, five U.S. Navy Grumman TBF Avengers were on a training mission of the east coast of Florida. The lead pilot was experienced but all of the other pilots were low time aviators. The most likely reason for the disaster was because they got lost due to a combination of circumstances including inexperience in the area, bad weather, confusion, and the fall of night. No trace of any of the aircraft has ever been found.

Two aircraft belonging to British South American Airways (BSAA) disappeared in roughly the same area. *Star Tiger* was an Avro Tudor IV carrying 25 passengers and a crew of six. The Tudor was a four engine aircraft based based upon the Lincoln bomber which itself descended from the famed Lancaster of World War II fame. The aircraft left Santa Maria in the Azores on 29 January, 1948 bound for Bermuda. *Star Tiger* was an hour behind a company aircraft and maintained communications with them. Celestial navigation indicated that *Star Tiger* was 60 miles off track. A course change brought the aircraft back on course but into gale winds. A radio direction finder bearing located *Star Tiger* on a 72 degree bearing from Bermuda. No other communications were received and after a search, no sign of the aircraft was found.

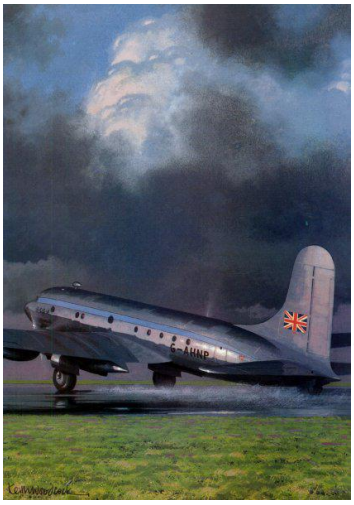
Another 1948 loss in the "Bermuda Triangle" was the disappearance of a Douglas DST, the sleeper version of the DC-3 en-route to Miami from San Juan, Puerto Rico. Twenty-nine passengers and three crew members were on board. Weak batteries may have prevented the aircraft from receiving a report of a 90 degree wind shift but visibility was good and no adverse weather was reported. No wreckage was ever found.

A year later, in 1949, a Tudor IVB, *Star Ariel*, a second BSAA aircraft disappeared on a flight from Bermuda to Kingston, Jamaica. The aircraft departed with 13 passengers and six crew. An hour after take-off, the captain reported that he

was at 18,000 feet and visibility was good. The aircraft never arrived. A search started which included a U.S. Battleship, two aircraft carriers, and their associated vessels. After five days, the search was abandoned. No signs of wreckage or an oil slick were found. Like her sister, *Star Tiger, Star Ariel* has disappeared.

In 1951, a Douglas DC-4 belonging to Canadian Pacific Airlines heading for Japan disappeared between Vancouver and Anchorage, Alaska. Weather reports were heavy rain, icing, and 500 feet visibility. The aircraft and the 37 persons on board were never found.

A Skyways Avro York charter carrying British military and dependents went missing in 1953 over the North Atlantic. The York departed Stansted Airport near London bound for Jamaica with 39 aboard. It stopped at Lajes in the Azores and then headed for Gander in Newfoundland. Regular meteorological reports were transmitted from the aircraft but six hours into the flight, an urgency signal and position report was broadcast followed by an SOS which broke off before completion. The *USCG Cutter Campbell* reached the area on the next day during a snow squall and reported finding an an oil slick and dye markers No other signs of the aircraft were found.



The well known aviation artist Keith Woodcock painted this dramatic image of Star Tiger departing the Azores on its fatal flight.

In 1956, the USAF lost a Boeing B-47E Stratojet which was carrying two capsules of nuclear materials left McDill AFB in Florida for Ben Guerir Air Base. It failed to meet its second refueling aircraft off the North African coast and disappeared. The USAF call this a "Broken Arrow" incident, the loss of nuclear material and as you might imagine, is taken very seriously. The USAF, British, French, and Moroccan troops carried out an intensive search over the Mediterranean and adjacent land areas but nothing was ever found.

A Lockheed 1049 Super Constellation chartered from Flying Tiger Airlines was bound for Saigon in March of 1962. The aircraft was carrying 96 military passengers and a crew of eleven. The Connie refueled in Guam and departed for Clark Field in the Philippines. There were sightings of what may have been an aerial explosion but no parts of the aircraft nor bodies were ever recovered in an eight day search.

The USAF 54th Weather Reconnaissance Squadron lost a Lockheed WC-130H, call sign *Swan 38*, on 12 October, 1974. The aircraft was heading into the eye of Typhoon Bess. No emergency signal was broadcast and the neither wreckage nor bodies of the six crewmen were ever recovered.

Swan 38, one of the few weather reconnaissance aircraft lost while on a mission.

A Varig Airlines Boeing 707-323C cargo flight departed Tokyo's Narita Airport on 30 January 1979 bound for Rio de Janeiro via Los Angeles. Thirty minutes after take-off and 200 miles out, radio contact was lost. No wreckage of the the aircraft, which carried a 1.24 million dollar cargo of art, was ever found.

In many of these cases, highly improbable or preposterous explanations are forwarded to explain the disappearance, often tinged with the imputation of a government conspiracy. The Earhart disappearance has been attributed to Japanese military actions. The claim is that Earhart was involved in spying on Nippon's military preparations in the Pacific. This story can be attributed to a post Pearl Harbor Hollywood film titled *Flight for Freedom* starring Rosalind Russell and Fred MacMurray. Russell played an Earhart-like aviatrix who is set-up to fake a disappearance so that the U.S. Navy has a excuse to "recon" the mandated islands held by the Japanese.

The *Hawaii Clipper* has also been attributed to a hijacking by Japanese agents who wanted capture the funds on board and hijack the aircraft, fly it to Japan, and reverse-engineer it.

The losses of Flight 17, the two BSAA aircraft, and the Douglas DST contributed to a cottage industry which grew up around speculation about the "Bermuda Triangle." Many an author has made many a buck pushing the story with theories ranging from alien abductions to mysterious natural forces. The public loves it. To to a bookstore and you will probably find more books on the occult than on science. There is no arguing with the "true believer." Consider the outrageous conspiracy theories about who is really responsible for the 9-11 World Trade Center collapse or the claims that man never landed on the moon.

The most rational process is to apply the principle of Occam's Razor. The theory with the fewest assumptions is best if it provides a coherent, verifiable, and complete explanation for the event. This is not to say that the simplest theory is the correct explanation. It is only the most reasonable among competing theories.

Take the "Bermuda Triangle" as an example. Depending upon how it is defined, the region is covers from a half million to 1.5 million square miles ranges from the 200 foot depths of the Continental Shelf to the 5.5 mile abyss of the Puerto Rico Trench. Some of the worst weather in the world can be found in these waters. So it is not surprising that ships and planes go missing and are never found again. Alien abductions, magnetic forces, and multi-dimensional universes are not needed as explanatory devices.

One is better served when flying over water by good flight planning and preflight, filing a flight plan, staying in contact with air traffic control, and training for and carrying emergency equipment. But no one is issued with a guarantee of good fortune with their birth certificate. Living is risky.

The predictability of a Newtonian universe might be trumped by the indeterminism of quantum mechanics. Charles Sanders Peirce was first to suggest that randomness affects events and that what he dubbed tychism, chance, operates along with determinism and personal responsibility to produce unplanned outcomes. So as the character of Nathan Detroit, the gambler in *Guys and Dolls* suggests, luck can be a lady or a tart and Einstein might be wrong with his claim that "God does not play dice with the universe." When your number is up, it is up, and one need not postulate aliens nor supernatural forces secret conspiracies to explain why.