

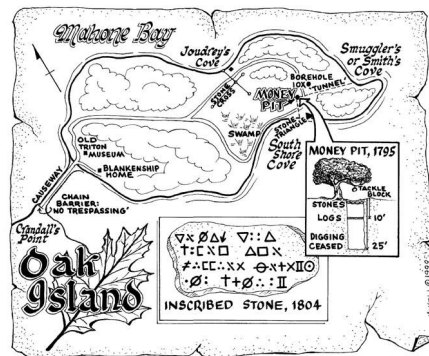


Feature Article

Common Factors in Unsolved Mysteries

by George Anderson

This month, we are going to sponsor a joint AIAA/INCOSE event that will revisit the salient facts accrued during the 73-year search for Amelia Earhart. This enduring subject has spawned a plethora of books, movies and dedicated explorers, who, using various theories, have attempted to find some clue that would lead to a conclusive identification of her aircraft and its final resting place. If this discovery were to occur and be made public it would likely cause a news sensation reminiscent of what occurred when the Titanic was found.



We can imagine that if the Earhart Lockheed 10E is found, analysts would then discard all the inoperative theories that accrued over the years and select the most likely explanation of the last hour of the fatal flight. How will that play out? Will there be a new story created? Will one of the theories be borne out at least in part? We cannot say, but it is informative and thought provoking to compare the Earhart loss with several other enduring mysteries. I have selected three that have reasonably good documentation including an alleged treasure and two fatal air crashes. In order of occurrence we have:

1. [The Oak Island Money Pit Mystery, 1795](#)
2. [The Hindenburg crash, May 6, 1937](#)
3. [The TWA 800 crash, July 17, 1996](#)

These are all popular unsolved mysteries that have been thoroughly covered in print and attracted large followings of interested investigators possessing both professional and armchair backgrounds. One common factor in these events is a huge public interest generated by an active press and broad media coverage. It is probably safe to say that all these events, including the loss of Amelia Earhart, still have significant public followings that increase with every related media release.

This common interest creates an expectation for information that exceeds the available supply. After all, it would not be a mystery if all or even most of the facts of the issue were known. How then does an investigator deal with this shortage?

Some of the methods are:

1. Develop a scenario based on plausible but unsupported elements

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Our Chapter now has a presence on



Check it out and join our group so we can together discuss the latest in Systems Engineering news and events.

Mark your Calendars with these upcoming events:



INCOSE
Chesapeake
Chapter and AIAA
Baltimore Section
Special
Presentation
[Finding Amelia A
challenge in
Systems](#)

[Engineering](#)

Date: Saturday, 20 Nov 2010
8AM to 3PM

Speaker: Ric Gillespie
Location: The Engineers Club at
the Garrett-Jacobs Mansion;
Baltimore, MD
Special Registration Page
[>>HERE<<](#)

[Our End-of-the-Year Holiday
Dinner/Awards Ceremony](#)

Date: Thursday, 16 Dec 2010 6 -
10PM

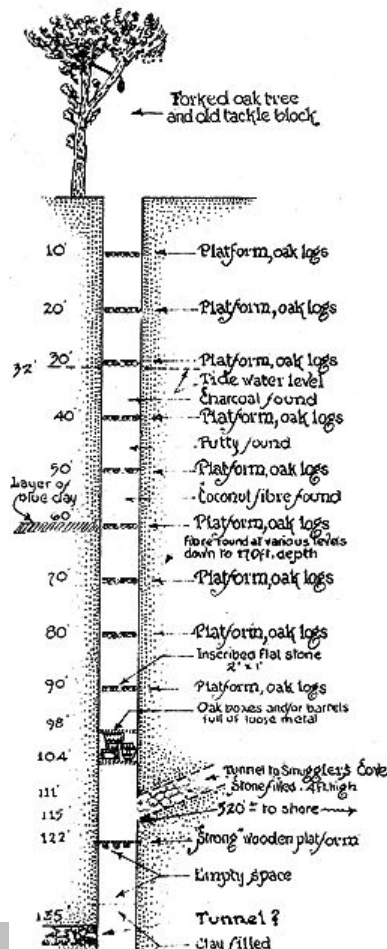
Sit-Down Meal: Either Beef
Tenderloin Forester or Maryland
Crab Cakes.
Location: The Engineers Club at

- Weave fact and the above scenario into an interesting story
- Exaggerate, distort or generate new facts to fit a compelling story that has desirable, exciting or titillating elements.
- Attribute motives to the participants that suggest possible actions that might have been relevant.
- Exploit the reader's pre-existing biases or present questions that are really assertions designed to subtly intimidate the reader into accepting the conclusion. Or, simply suggest that only a dimwit would accept any other explanation.
- Develop a complicated technical approach that is wittingly or unwittingly inconsistent with the known or knowable facts.
- Last, ignore all inconvenient facts and assert that a fiction is truth.

Sadly, for the professional investigator, these 7 elements are constantly obscuring and interfering with progress. If one seeks examples of how the press can frequently distort and inject unqualified opinion just consider how wrong the initial stories were on the following news events:

- Ted Kaczynski, the Unibomber
- The Washington area sniper attacks.
- The Marine Corps shooter (an unfolding story that will play out in the next few weeks and I will take the calculated risk of including it here)

I believe that there is a discernable trend in the life cycle of a mystery. In the beginning, hype and sensational information circulates freely and even political biases are given free rein. Just think of those experts on TV who opine on technical problems minutes after a plane crash and assert carefully worded scenarios. The primary function is to overcome the doubts of the more educated and technically astute audiences, keep their interest and allow the message to become accepted, if not as fact, at least as the most likely explanation among the larger audience.



As a mystery ages, the press largely abandons it to the researchers who are variously motivated to continue. Some see riches, some see a successful book, others, wish to vindicate participants who perhaps have been wrongly blamed for the mishap. Let's now look at our cases.

The first of our mysteries is the 215-year old treasure hunt on Oak Island located off the coast of Nova Scotia. Initially in 1795, two local boys found a sinkhole beneath a large oak tree. The oak tree had marks where lifting tackle may have been attached and they suspected that a pirate treasure had been buried there. They dug in the sink area and found all kinds of encouraging indications that they were opening a man-made pit. From that point on, the stories of successive diggers gets more and more fanciful and includes oak planking, a flooding from underground tunnels, and people dying from cave-ins in the open shaft. Even Franklin D. Roosevelt participated in a digging expedition as a college student. At the present stage of the mystery all kinds of neat theories of what might be

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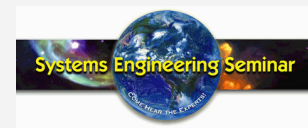
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The Chesapeake Chapter is always looking for volunteers to speak at our upcoming meetings! Please contact our Programs Director, **Mr. Donald York**, if you would like the opportunity to speak or can recommend someone.

The Chesapeake Chapter of INCOSE is proud to recognize the following organizations for sponsoring our endeavors to expanding the understanding and appreciation of Systems Engineering in the local area:



Events in the Area:

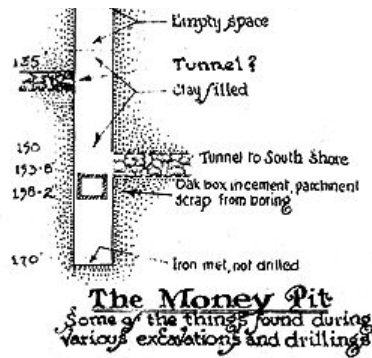


NASA's Goddard Space Flight Center

Date: November 2, 2010, 1:00 pm
 Presentation: *Common Sense Engineering and the BP and Upper Big Branch Oil Spills*
 Speaker: Beverly A. Sauer, Ph.D.
[More Info Here](#)



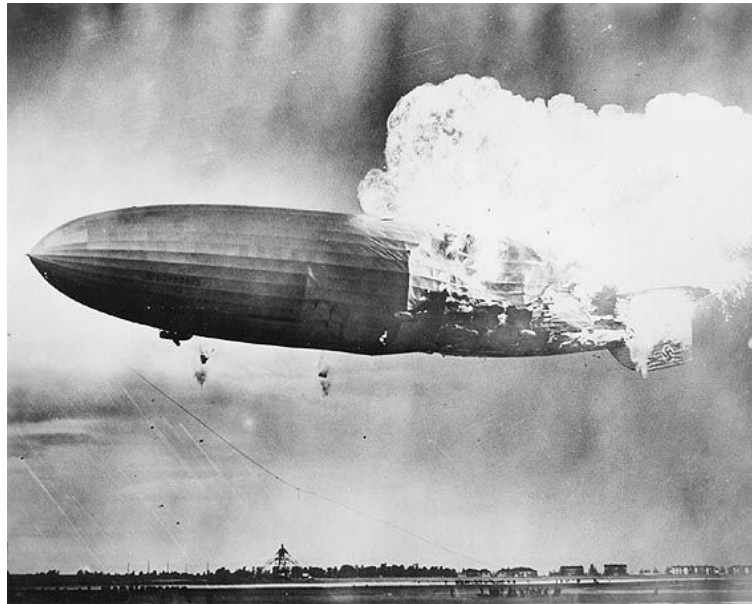
IEEE Baltimore Section



buried there have been presented. They range from pirate treasure to Knights Templar gold to Roger Bacon's Shakespearean manuscripts. The one I like is that it's a long-running Canadian practical joke designed to take in gullible Americans. Regardless of all these theories, the facts are elusive and the only reliable one is that the area where the treasure should be has not been fully investigated. I say fully because all kinds of modern methods

have been tried but have stopped short of completion. Has anything been found? Probably not, but many persons over the 215 years of digging at Oak Island have claimed [otherwise without providing any physical proof](#).

My point is not to tell this rich and complex story but to use this brief outline to show the story's general movement from a factual beginning to a mature state where more facts are needed. It is almost always possible to obtain these facts with further investigation. For some reason, however, all three of my stories seem to stall at this point as if the investigators unconsciously sense that the truth is better left untouched. No glory, for instance, in discovering that Oak Island was a natural lime stone sinkhole phenomena and many of the clues had more to do with the archeological history of early inhabitants than pirates. Please keep this point in mind as we turn to the loss of the [rigid airship, Hindenburg](#).



Almost everyone has seen the actual newsreel footage of the Hindenburg catching on fire and being totally consumed during its arrival at the mooring field at Lakehurst, NJ on May 2, 1937. (For historic context, Amelia Earhart failed to arrive at Howland Island two months later on July 2, 1937). What most people don't know is that there was a full investigation of the event and much of it was not made public at the time. This was because the Government was not sure if it was an accident or sabotage. Well, no one should be surprised to learn that apparently they still haven't answered this question. A report is available that gives all kinds of first person statements and from these suggests that the fire was an accident but cannot establish a conclusive cause. Again, all kinds of experts have opined about nitrate dope used to stiffen the fabric, static electricity discharge, small meteors, and on and on. Nobody, to my knowledge, seemed to question why anyone at the time believed that [flying around with large bags made of cattle or oxen gut](#) and

Event: IEEE Senior Member Grade Elevation Day

Date: Nov 6, 2010, 9 AM to 2 PM

Location: National Electronics Museum -- Pioneer Hall

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[More Info Here](#)

Event: IEEE Baltimore Communications Society Meeting

Presentation: *The Capabilities of the Undersea Telecommunications Industry.*
Presented by Neal S. Bergano

Date: Tuesday, Nov 9, 2010, 5:30PM

Location: National Electronics Museum

Event: IEEE Baltimore Power & Energy Society Event

Date: Nov 9, 2010, 11 AM to 1 PM

**Location: Fort Smallwood Building, Conference Rooms 1, 2 & 3
Curtis Bay, MD 21226**

Presentation: *Future of coal power in Baltimore.* *Presented by Jim Perry*

RSVP: Joshua.Skillman@ieee.org

by Friday, November 5th

National Electronics Museum
History of the Nation's Defense Electronics

Event: National Electronics Museum Meeting Notice

Date: Wednesday, November 3, 2010

Time: 7:00 PM - 8:30 PM

Location: National Electronics Museum

Cost: \$10 (\$5 Members)

Presentation: *Steam Coffin: Captain*

Moses Rogers and the Steamship

Savannah Break the Barrier

Speaker: John Laurence Busch

[More Info Here](#)

Averill M. Law & Associates

Event: Simulation Modeling for System Design and Analysis

Date: November 15-19, 2010

This course is designed for systems analysts, operations research analysts, engineers, military planners, computer scientists, and technical managers who would like to use simulation to design and optimize real-world systems.

[More Info Here](#)

filled with pure hydrogen was a safe practice. If you have already caught a common thread between these two mysteries, please read on. Oak Island and the Hindenburg both have facts that tend to deflate the more exciting stories linked to the actual events. Lets see if this idea can be observed in a more modern air accident, TWA 800.

Trans World Airlines Flight 800 took off from New York's John F. Kennedy Airport on the evening of July 17, 2006 bound for Paris, France. Twelve minutes into the flight, the aircraft broke up climbing through an altitude of around 18,000 feet (above mean sea level) and all occupants perished. Initially, the FBI took over the investigation believing that sabotage was the most likely cause. Press reports of witnesses seeing missiles and unidentified boats and planes in the area immediately reached fever pitch. Many asserted that nothing but a bomb could have caused such an unprecedented and catastrophic event.



First impressions can be off the mark. It took a congressional hearing and several months of political bickering but, finally, a technical investigation began that eventually cost million of dollars, involved thousands of man-hours and resulted in at least one major public hearing. The conclusion reached after all this was that the center wing fuel tank had exploded

due to an unidentified ignition source (spark?) inside the tank. Many in the press greeted this finding with disbelief. Any tour of the Internet today will turn up sites attempting to discredit the fuel tank explosion theory and replace it with a missile strike or other hostile action.

It appears that interested parties are unwilling to accept that a Boeing 747, can just blow up without being attacked. In fact, I should mention that several Boeing 747 aircraft, one Boeing 737, and a number of Boeing 707's, had previously experienced massive fuel tank explosions and sustained comparable casualties. This was an inconvenient truth for persons wishing to discredit or ridicule the explosion theory. Once again, no one appears to have caught the irony of a modern airplane flying around with an empty fuel tank about the size of a two-car garage and filled with fuel vapor as being similar to the earlier massive bags made of cattle gut and their load of hydrogen. Both air vehicles were carrying dangerous amounts of explosive gases and for reasons still not discovered, both had an ignition event that produced a violent end to their flights. The regulatory authorities that certified the two designs as a safe practice probably had more responsibility for these explosions than the [errant and perhaps inevitable spark](#).

It will be a few more years until the "investigators" accept that TWA had a preventable fuel tank explosion due to mishap, not sabotage. Like the Hindenburg, the source of the spark is probably not important anymore. After all, there are no more rigid airships and the FAA now does not permit the Boeing 747 to fly with an empty center wing fuel tank. Behind the scenes and only for some, lessons have been learned. For the rest, the mysteries have a life of their own and will always be part of our discourse, heritage and culture. It may be that in our collective subconscious there are some things that we really don't want to know.

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This article is from the monthly newsletter for INCOSE Chesapeake, a local chapter of INCOSE International. We are a not-for-profit organization dedicated to providing a forum for professionals practicing the art and science of Systems Engineering in the Northern & Central Maryland & Southern Pennsylvania area.

Keep up with the latest news and events. Find out about our new Board of Directors. Explore our extensive library of previous lectures from our Monthly Dinner Meetings. Learn of the Benefits of Joining INCOSE. Check out Systems Engineering education in the local area. All this and more awaits you at our [INCOSE Chesapeake Chapter Website](#).

For any comments or suggestions about this newsletter please e-mail our [President, George Anderson](#) or our [Communications Officer, Paul Martin](#). We value your feedback.

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