Letters from the Cockpit

Neil Cosentino

Letters from the Cockpit
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Warren J. Brown, M.D.
Retired Flight Surgeon, FAA, U.S. Navy

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FEI: Letters from the Cockpit -

This book is for those who wish they were born with wings and/or enjoy short stories.

All the stories are true. They were written for all those who were with me in the cockpit, for my flight leaders, and for those who flew on my wing.

The stories are meant to share decisions, and to reflect my faith in God, family, friends, my country, fellow pilots friends-of-flight and my faith in the future of the USA...

Letters from the Cockpit – is also " a Familyiography "

I had to coin a short story genre, a " Familyiography " which joins the Biography and the Auto-biography family of books.

A " Familyiography " is an on-going collection of two or more published and unpublished true stories.

They are compiled like this book, into a story album, a Familyiography with the hope that others will write their own stories for their siblings, and for the younger generation.

Familyiographies are meant to inform, entertain, to put leafs-on-the-family trees - to compliment photo albums.

This book shares a personal insight into aviation and to what took place during the Cold War, the Vietnam era and beyond.
It is also meant to put you in the cockpit.
And it is a challenge for me to keep flying and keep sharing the excitement and the joy of flight.
I hope you enjoy this 1st Familyiography and you, family members and friends start writing theirs...

With very best thoughts for your " someday book " and for tailwinds all-ways,
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The Phantom and the Elephant

City of Hue, South Vietnam, 1972

My first combat mission in the F-4E Phantom took place in late summer of 1972. It was a few months before the 366th Tactical Fighter Wing "The Gunfighters" deactivated at Takhli Royal Thai Air Base, Thailand and my squadron, the 4th, moved a few hundred miles up the road to Udorn Royal Thai Air Base. This was my third combat tour, but my first tour in a fighter. I am not a war lover, but it was worth the long wait, a tour that most pilots can only dream about. Every mission was different, whether day or night, in clear or marginal weather; a different county - North Vietnam, Laos or South Vietnam, a different type mission and a different type of ordnance.
It would be the first time in my military career that I would be authorized by war orders to drop bombs that would destroy enemy forces This enemy started the killing and they learned over the preceding seven years how to shoot back with some success. The best part of my combat tour was the grand finale. I flew many of the combat missions during our proudest moment of the war, Linebacker II; the eleven nights of air war over the Red River Valley from December, 1972 to January, 1973. The Linebacker II missions not only drove the North Vietnamese to the peace table; it also brought home American prisoners of war, and proved once and for all that Air Power is the decisive weapon in any conflict. It was Kissinger who gave North Vietnam the win at the Peace table.
I had paid my dues for this tour by staying in Strategic Air Command (SAC) during the mid-sixties instead of going with the airlines. An important personal gamble that paid off after the SAC tours in bombers and tankers and two combat tours in other aircraft, including one as an airborne battle staff officer in a EC-130. I finally got into a Phantom; the world's greatest fighter aircraft, the aircraft that I flew in some of the best combat missions of the entire war in Southeast Asia.
The "frag", or fragmentary order of the war plan, the legal instrument that

authorized the use of deadly force and those to be killed, called for a low risk, almost introductory supply road cut mission. The target was located on a road in a low threat area of southern Laos. My Phantom 68-326 was loaded with twelve 500 pound Mark 82 "slicks" fused for road cuts. What a magnificent warhorse that aircraft still is. I believe that the F4-E and later model Phantoms with new engines and new electronics would still be one of the best all-around air weapons system ever made by man. And to this day I have never met or known of a fighter pilot who has done all the things the Phantom is capable of doing. And I suspect that even today our pilots are never asked to reach that goal.

The Wing policy was that the squadron operations officer (OPS) had to fly back seat with all the new pilots on their first combat mission. And as his luck would have it, my first mission was diverted by "Hillsboro" Orbit" (the airborne EC-130 command post) just after we crossed the Mekong river into Laos. We turned port to the northeast, toward Mugia Pass and crossed the mountains into Vietnam. Our new mission was a close air support (CAS) for a hot troops in Contact (TIC) mission in the city of Hue near the demilitarized zone (DMZ), where our troops were engaged in heavy street fighting. This was to have been a first mission milk run, an obscure routine road cut in southern Laos to prove to the squadron OPS officer that I could hit the ground with my bombs and find my way home. But this mission became something much more vital, it was now a troops in contact (TIC) in the middle of the city of Hue, near the DMZ.

It was his luck of the draw to be with me, the new guy on a TIC for his first combat mission; flying the back seat with a pilot who had never seen combat, had never "Seen the Elephant". We met only a week ago and now we were circling the center of Hue with a part of his future riding on where my bombs fell.

There are no really worthwhile personal rewards for killing an unseen enemy in this kind of a war. The very best that can be said is that it is a job that has to be done; hopefully it will be done professionally, with the appropriate level of human detachment. But it was fair in a way. Ho Chi Min started the shooting, the killing. If you shot at them and they could, and did, shoot back. On the other hand, there is a terrible price to pay for killing the innocent, especially the good guys, with friendly fire.

There was little or no worthwhile reward for the meaningless day-to-day risks everyone took in that war, especially the way it went on and on. And me the fool, voting for Nixon because his Secretary of State said they would end the war; and instead let it go on for years, in part so he could get re-elected. And worse our generals and admirals were on their stairway to the stars and let it go on and on instead of retiring in protest. Not one retired in protest, the only reason an armed service needs four star generals or admirals. In retrospect, in war, all general officers should be frozen in rank until the end of hostilities and then only those who contributed should be promoted.

There is an everlasting mental baggage if you kill your own troops with your friendly fire. Would it be my bombs that would kill the friendlies in the middle of

Hue? If it happened it would be clearly be my fault and my bombs; because there was little a back-seater could do but hold on and hope. Killing the innocent and the friendlies would have affected him and me the rest of our lives. We shared a once-in-a-lifetime that day, a bond, an experience that only deadly combat can fuse. I think back now as I write that for some reason there were no thoughts on my part at that time about killing the innocent or our own troops with my bombs. I found the truths about war over time, later in the missions ahead of me, but not then. That was not on my mind for a second - my only concern was to find the target and do my best to hit it.

We both listened carefully to the excited and concerned voices of the Marines and their forward air controllers pinned down on the ground in the city as they tried to talk me to the right building. The target was a small building in the middle of a city of small buildings. We both knew that the target was impossible to identify from the air by the descriptions given from ground level, most of the buildings had the same colors and the same roofs and they all looked alike. I don't remember one word from the back seat as we circled and looked. Most of the fine details of the mission are long forgotten. I do remember how hard and seriously I looked for that one building they wanted me to hit. What combat lesson did I learn that day to pass on? How do you pass on the vivid images of twelve bombs going off in the middle of that city? These are images of destruction that will never fade away from my memory.

I circled a few times trying as hard as I could to understand their descriptions of the target - to identify that one building. Hitting the wrong building would mean killing the innocent or worse, killing those Marines who were fighting for the innocent; killing our own troops. I knew that asking them to smoke their positions would give their location away, but I had to do it. It was a matter of fact request that they understood and immediately responded. Their white signal smoke filtered up from the alleys and streets near their general positions. But now at least I could select the best run in heading to reduce the danger of long or short bombs. Their "smoke" drifted up from the streets and rooftops forming an irregular semicircle that helped me make the final and fateful decision. It also helped me judge the wind.

I finally selected the one building that I thought housed the heavy machine gun and mortar position that had them pinned down. I described the building and a small rice paddy nearby and they said I had the right target. Then I was faced with the next challenge, to hit that building. Why did I decide on the steepest dive angle, and why did I select all twelve bombs to release on one pass using the tightest bomb release interval possible on the weapons select panel? Was it an unconscious hedge? If I missed the target, there would be nothing left of the innocent or the friendlies to bury or to ship home in body bags. I do not know what made me make a small last second maneuver; "jinking" the bombsight pipper rapidly toward the small rice paddy about one hundred feet at the 4 o'clock position from the building. Some of it was a correction for a wind shear that was

making the pipper drift.
It seems strange that I can still remember the shimmer off the brown water in that rice paddy as I dragged the pipper toward it. It seems now after some thought that it was all an almost subconscious act. The thought occurred to me after that mission, and many others, that I was not really trained or prepared properly for what I was doing on that day. Who would be held responsible besides me for killing with friendly fire? I clearly remember holding the dive run longer than necessary. I also remember holding down on the red round pickle button long after all the bombs were gone, until my right thumb hurt so bad, the pain told me to release. I remember the rapid succession of little thumps while in the steep dive. The thumps caused by the bomb release ejector racks firing almost instantaneously, releasing all twelve bombs.
It was bombs away in a tight pattern, like a swarm of black hornets heading at a steep angle downward toward the middle of the city. I recall the wonderful feeling of release and the sensation of man-and-aircraft-as-one, after the jink, into a graceful pull off the bomb run into a beautiful arching cloverleaf maneuver. A maneuver in full afterburner that had me for a moment looking straight up into a cool blue sky with small, bright, puffy white clouds. The Phantom and I were indeed one at that moment in time, one of my unforgettable moments: a feeling pilots know of and can fully enjoy. Then back to business, a hard G pull back to inverted flight to look over my left shoulder so I could see where the bombs hit. I paid no attention to the rapid loss of airspeed as I pulled up into an almost vertical recovery maneuver over the city. I had never seen that many bombs go off before. But it was too late; all I could see was a huge growing cloud of dirty brown and black smoke, dust, dirt, parts and pieces rapidly tumbling and flying in all directions, billowing up from where all twelve bombs hit.
It is an everlasting image, three tons of bombs slamming into the city at over 500 knots. Bombs fused to go off deep in the ground exploded together throwing tons of dirt - and thousands and thousands of pieces of debris into the sky then they rained down everywhere. What was once a building and the enemy was all part of a giant ugly brown billowing cloud. Many of the pieces were already hitting the nearby rice paddy making splashes like hail from a great Midwest thunderstorm. The debris rained down on the city and splashed down in that pond of shiny brown water that was just a moment ago in the middle of my gun sight. I recovered from the inverted position without a thought or concern about the nose high altitude and low airspeed. We circled and there was a long uncomfortable silence on the radio.
It was as if all of us, those on the ground and in the air, all held our breath at the same time - an eerie silence. The giant dirt cloud finally settled and the verdict came in with a rebirth of the radios. The forward air controllers and radio operators talked to each other and to me with excited voices. All in a glorious confirmation, each voice confirming to me and to each other that they were still there, still alive. As faith and luck and maybe some skill would have it, all twelve bombs, the first I

ever dropped in combat, were right on target.
Only now does it occur to me that maybe a part of the excitement I heard in their voices was a relief. We all survived and they would not be sent home in body bags or with missing body parts. My OPS officer and I would not have to live with the nightmares of killing the friendly. In retrospect I think it was fate, somehow confidence, good luck, and a big relief. That long ago mission eventually faded into all the others. Some of the others were just as exciting, but none as rewarding. Mostly there was the haunting reminder, during the early missions, that I really was not trained or prepared for what I was doing and there would be no time or person to train me in the middle of combat.
There is no substitute for being the best, and the cheerleader stuff we were exposed to was just that - cheerleader stuff - which is ok for football but no substitute for substance and performance. Some of our pilots are the best. And many more can be the best but only if demanded to be by our leadership. And that is where the fault lays, dear Brutus. For all of us to be the best we can be, our leaders must lead by example.
This story is dedicated to all those who wanted to be the best, but of whom it was never required.

***

The Envelope

Plattsburgh AFB, N. Y. 1967, A Top Secret Mission, Strategic Air Command, KC-135A/B Tanker

It was in November, near Thanksgiving, a particularly bitter cold, windy, and very dark overcast Friday evening. This would be my first and only top secret mission. It was very out of the ordinary, out of the corporate culture, for the Strategic Air Command (SAC); a pop-up mission. The flight started with a telephone call from the squadron operations officer. He asked in a hurried voice if I had been drinking, and if not, to call my crew; co-pilot, navigator and boom operator, and tell them to report to the squadron as soon as possible with their winter flying gear. I asked him what they should tell their families and how long would we be gone? He said that we would fly a mission and should be home the next day.
These directions put my imagination into high gear.
I followed his instructions and told each what I knew, and that they should get down to the squadron with their winter flying gear, that we were going to fly, and that the only thing I knew about the mission was that we would be back the next day. We met and were told that the aircraft was cocked, meaning it was fueled, pre-flighted as if on alert status; the mission was approved and a special flight plan had been filed. Our instructions were simple. We would be taken directly to the aircraft. We were to start engines, taxi and takeoff as soon as possible in radio silence, then open the envelope.
Plattsburgh Air Base is a former Strategic Air Command (SAC) base located in the northeast corner of New York State on Lake Champlain not far from the Canadian

border. It was a good location for a bomber and tanker base under the major flight paths en route to targets in Russia and the Eastern Block. My assignment to the 71st Air Refueling Squadron (ARS) was a seven year odyssey of how things completely out of our control can have a major impact on our lives.

I joined the Air Force to be a fighter pilot, but it was the wrong time for fighter pilots. The Russians put Sputnik into orbit in October, 1956, starting the space race and the missile scare. The scare caused the USAF SAC to respond by putting the entire SAC bomber and tanker force on fifty percent nuke alert duty.

To put that many aircraft on nuke alert around the world would require more aircrews. That meant that pilot training classes would have to be increased and many would have to be assigned directly to the 2,000 medium SAC B-47 force, the B-52 heavy bombers and the KC-97 and KC-135 tanker forces. It also meant for me that it would be a long time before I sat in the cockpit as a fighter pilot.

Faith and Sputnik locked me into being a copilot on a B-47 until they were phased out. I kept volunteering for fighters and Vietnam but instead got an assignment to tankers. The closest I would get to fighters was refueling them.

Going from two B-47 bomb wings that had been deactivated and replaced by land and submarine based missiles to a tanker assignment was just one more disappointment. My cross training program from bombers to tankers was at Castle Air Force Base in California. I was given a choice of assignments and selected Plattsburgh because it was close to all my family in New York City and New England.

We all met at the 71st squadron briefing room. The OPS officer spoke in a strange serious voice and almost a robot like monotone that sounded different coming from him. He told us that this was a special Top Secret mission and that our flight plan, mission orders, paperwork and pre-flight of the aircraft all had been completed. We were not to contact anyone unless instructed by the mission orders that were in the envelope. He also told us that time was a critical factor. He repeated that our aircraft was fully loaded with fuel and that flight lunches and coffee were onboard. He drove us out to the aircraft and told me during the few minutes we had on the way out to the flight line to observe radio silence, to start engines, taxi and takeoff as soon as we could.

We loaded our flying gear, I was the last to go up the crew ladder, and it was then that he handed me the envelope and told me the heading to turn to after takeoff. Then, during the climb out, I was to open the envelope which would have the flight plan, our instructions and the mission orders.

The only question I had was whether the landing gear down locks had been removed. He said they were in the aircraft. I kept all my speculation to myself about the mission since the telephone call, and noted the gear down locks piled in a corner on the flight deck. I looked around quickly; there was no cargo, special equipment or other personnel onboard on the aircraft.

My speculation all along was that we were going to refuel some aircraft on a special or secret mission or assist with a low fuel emergency somewhere up north.

I hoped that it would not be an outbound B-47 or B-52 bomber. If it was, I would need to verify a few things for my own personal satisfaction. If I was not able to get the right answers, and to verify them by others on the ground, then they would not get any fuel from us. The image of Doctor Strangelove kept coming to me, since this was so out of character for the Strategic Air Command (SAC). The tension built as we started engines, and taxied for takeoff.

I looked at the tower for the green light - we did a rolling take off into that very dark winter evening, it was less than an hour since the telephone call when we turned to the north by northeast heading that had been given to me. I established the aircraft at climb airspeed, put it on autopilot and told Mike, my co-pilot, to take control of the aircraft while I opened the envelope and read our mission orders.

The first thing was to hand Jim, my navigator, the maps and flight plan from the envelope for a heading to the first fix. My navigator was a second lieutenant that had just graduated navigators' school. He now had the maps and the flight plan to the orbit point. We were instructed not to make any radio calls unless it was an emergency. We were to maintain total radio silence and contact no one unless they called us first. If called, we were to answer only if the code words, in the envelope, were used.

In summary, we were essentially an aircraft that did not exist. We were on our own, to flying directly to a location above the Arctic Circle in total darkness between a thick overcast and under cast, with no Moon, no stars and no lights on the ground anywhere in northern Canada and Greenland, to the coldest darkest place on earth. If we were successful, it would be the longest endurance flight ever made in a KC -135A/B.

Navigation was a challenge; there was no way to shoot the stars or the moon. This would be the first time in the real world that my 2nd Lt. Navigator would go into Grid navigation for real, which to most pilots is like having Merlin the magician onboard. Grid was the method of navigation used before GPS, necessary because a magnetic compass is not accurate at the higher polar latitudes. Some very smart person designed Grid air navigation. It is essentially setting a gyrocompass to north and keeping track of the precession of that gyrocompass heading indicator that had been manually synced to north. Grid is no longer used, replaced by INS and GPS systems. I did my own navigation as best I could; with a last positive fix off of a VOR radio navigation aid. I tracked the wind drift until out of range of all radio aids. We headed north with all the red off flags bounding up and down or with off flags. We had radar, but it was of little use because of the ice. I watched for turbulence, a sign of a wind shift or the jet stream. There was no Aurora Borealis to break-up the strange atmosphere of tension looking out into the clear, vast black hole we were flying into - a tension that would soon slowly turn into very cold boredom.

My only contribution was to make sure the aircraft remained on the grid heading I was given. I kept looking at the radar but the flat sameness of the terrain and ice covered water below made radar navigation impossible.

Our mission, once we arrived, was to remain in one of the coldest and darkest places on the planet as long as we could. We cruised on autopilot since we did not have a fight plan or assigned altitude to fly. We opened the aircraft flight manual to the section in the back that is never used except by war planners. The mission was to go to maximum endurance and wait as long as we could and then return-to-base (RTB) in Plattsburg.

The book said that maximum orbit would require us to shut down two of the four engines. But I told my crew that we would keep all four engines cooking for two reasons; first, that we could always stay longer if it were absolutely necessary and then land at Thule air base; and second, if the mission was really that critical, they would have the pipe line filled by then with other tankers or other aircraft.

My new Navigator gave me his estimated time of arrival (ETA). Tension increased as we neared the time. Our navigation radios should have picked up the signal five minutes back, but the off flags kept bounding and there was no Morse code from the navigation radio at Thule air base. I said nothing. I did not want to shake his confidence, it would have been pointless. If we missed the rendezvous point, we could not be that far from it. If it became absolutely necessary, I could call their radar operations.

It was like the movies, suspenseful up to the last 10 seconds, when three things suddenly happened: the navigation radio off flags disappeared, the TACAN locked on and showed the mileage which was our altitude over Thule and, best of all, the clouds cleared for a moment off my side and, just for that one, blessed moment, I could see the lights of Thule air base directly below.

His ETA was near perfect and if no one else had been there, I would have given him a big hug, since words were just not enough.

We entered orbit with a very shallow bank to the left using a wide circular holding pattern. I slowly pulled back the throttles to minimum power for maximum endurance and, as the hours passed, a spooky kind of boredom set in.

Hour after hour we circled in that black hole in the sky in total darkness. I would turn the lights in the cockpit up full bright to make it cheerful and seem warmer then down again to look for the lights of Thule. On occasion, I changed the orbit to a right hand one, and slowly backed off - reducing power to maintain the best endurance airspeed, letting the autopilot cruise climb the aircraft as it got lighter from the fuel burn off. I continuously calculated the time we could stay in orbit with enough fuel to return to base (RTB).

Hour after hour we circled in the blackest, coldest place you can imagine on earth. We made no call sign radio checks with the base station using the special code. The aircraft kept getting colder and colder to the point where our breaths were white clouds of moisture freezing on the fur trim of our winter parkas. I told the Boomer to close all of the air ducts to the cargo compartment to direct all heat to the cockpit and to jerry rig a curtain to keep what little heat we could get from the engines in the cockpit. We were an airborne igloo. Finally near bingo fuel, I made the coded call and departing the orbit. I could remain if necessary and land there

or at other airports. They responded with a code word that cleared us to depart. They must have either fixed the problem or had another aircraft inbound.

The return to base in Plattsburgh was routine, but the night landing was one for the record books. I had established a routine with my copilot to alternate landings, and it was his turn on this flight. I took the aircraft off autopilot and let him hand fly it while I read the checklist. He flew a smooth ILS, but before he started to reduce power for landing as we crossed the runway threshold, the aircraft seemed to stop in midair and drop like an elevator. My instantaneous reaction was to jam all four throttles forward – firewall them and take control - which I did with a firm "I Have It". I cringed for a hard landing and hoped it would not be hard enough that I would have to reset the G Meter and write it up for special inspection. The aircraft was very light, at minimum fuel, and the air was cold and dense; the full thrust from those four J-57 engines kicked in - just in time - before we touched down. We surged forward and just kissed the runway like a giant 75 ton snowflake. I expected a firm touchdown or worse, a hard landing, instead the touch down was like a feather. I am amazed to this day. I had never seen or experienced this before. It was like a thrill ride at the state fair. I could sense the landing gear struts slowly compressing, then the aircraft seemed to leap into the air, over 100 feet straight up like a pogo stick, and we were along for the ride. There was no doubt, the bounce was one for the books; we seemed to have gone straight down and then straight up. Later, it occurred to me that we set two records on that flight; we remained in the air probably the longest, unrefueled time for a KC-135A/B, over 14 hours; and also the highest bounce of any KC-135 during a touch and go landing. The tanker had accelerated like a fighter in afterburner. I pulled back the power and then noticed how difficult it was to fly, as if we were flying in air that was molasses. The controls were extremely stiff and abnormal. I mentioned that to the crew and my copilot said that he noticed it to. I thought for a moment to get mad at him for not telling me, because if he had, I would have made that landing. In retrospect, it was my mistake for giving him the landing after this very long and special mission. Another lesson learned; cocky captains and fatigue cause bad decisions.

I flew a very tight closed traffic pattern, amid field overhead and made a normal landing.

Only one other time in my 6,000 hours of flying have I experienced a large aircraft that for no apparent reason - just stop flying. Was it frost on the very cold leading edge that caused the loss of lift? Was it wind shear, or something else that caused the aircraft to suddenly drop out of the sky like a lead balloon? I ruled out wind shear because the wind was not a factor. I still can't explain exactly what happened. I am sure someone; or some accident board will explain it one day. But it does explain to me why the touch down lines on a runway and the VASI lights have the touchdown point a good ways from the end of the runway.

The squadron operations officer asked me why we made the touch and go landing that night, a serious verboten in SAC. I told him how the aircraft flew, and how it,

for no reason that I could explain, just fell out of the sky. The safest thing for me to do after the bounce was to go around and not try to save the landing.

I said good-by to SAC and tankers soon after that mission. This time, just as Sputnik had changed my life, so did the Vietnam War. They were running out of fighter pilots for the Vietnam War. It was just before Christmas when I got the best present of my life, my orders to fly the F-4 Phantom; my assignment was to the 434th TFS, a Replacement Training Unit (RTU) at George AFB in Victorville, California.

I dedicate this story to Jim, our 2nd Lt Navigator, who like magic nailed our ETA at Thule Air Base, Greenland

Notes:

Our orders were simple, and a relief, to maintain complete radio silence and fly directly to and orbit over Thule Air Base in Greenland. We were to remain on orbit over Thule as long as we could and then return to Plattsburg with minimum fuel. We did not have a call sign or a mission number, but were to make radio checks with Thule ground station and to monitor that frequency and a high frequency radio.

Recently I was reviewing the original flight test of the 707/KC-135A/B and read that the test pilot reported that when light, the aircraft would occasionally lose lift abruptly. Since they could not explain when and why, they decided to not include that key finding in the flight manuals.

***

One Green Light

Bitburg Air Base, Germany, November 1976

It was a late winter night in the western Eiffel Mountains of Germany. A thick, black fog silenced every sound, and you could barely see the glasses on your nose. It was the right weather for night air defense alert duty at Bitburg Air Base. After all, who in Ramstein Headquarters command post would be crazy enough to approve a scramble into this kind of weather? The weather was so bad that my guess was the nearest alternate was somewhere in Africa or Nova Scotia. I pre-flighted my F-4E in the concrete shelter, readied it for an air defense scramble, and then found my way back through the fog to settle down for a night of popcorn and movies. I turned in around midnight.

I don't remember much after hearing the Klaxon ™ at zero dark 3 am or anything else until I woke up to a 25-degree deck angle. My Phantom was climbing through 20,000 feet. Who was the idiot that did this to us? Then I began to settle down. I leveled off and was given a vector toward East Germany. My focus was on the instruments and the intercept, but my thoughts were on fuel, alternates, and getting home that night. The only rationale for a launch in that kind of weather was East German - Russian "Bluff," an Air Force generals' game of Friday night air power. We were the dynamic part of their cold war game.

There was just enough fuel for an approach at Bitburg air base and a diversion due

to the weather to Solingen. Bitburg weather was variable, reported visibility of one-quarter of a mile or less in the thickest, blackest fog I can remember. The GCA controller was steady, calm, and professional, and that helped. We all were going to earn our beer money that night. The controller kept me on course and the glide path all the way to minimums. I flew the final approach as slow as I could to have the precious moments I would need to see the runway lights. I looked over the right side just before minimums. It was still there, the blackest night I have ever experienced. I couldn't see anything, not even the wing lights.

A moment later at minimums, I looked over the left side and saw one faint green runway threshold light. That one light was all I needed. I continued the descent which took us into a zero-zero fog bank, It seemed a lifetime until the moment we touched down at 160 knots, moments later the dim runway lights started to appear off the left wingtip. Everything after that was routine except I realized that we had landed with the left landing gear close to the edge of the runway. It was odd to see the dim runway lights passing so close to the left wingtip.

My back-seater was just as relieved as I was to be back on the ground and eager to break the silence and tension. He nonchalantly observed that we had somehow landed on the left side of the runway instead of at the centerline. I replied with a casual observation that this was the reason they make runways so wide.

I had no other answer for him or anyone else about why we landed so far to the left side of the runway.

I was pleased with the overall outcome of the mission but that incident stayed with me for many years. Why were we on centerline at minimums and a few moments later touching down on the left side of the runway? Everything happened so fast, spotting the one green threshold light at minimums, entering the zero-zero fog bank a moment later, then touching down on the left side of the runway.

Going back into the zero-zero fog after minimums could easily be explained because of a small valley just off the end of the approach runway. Could the GCA radar centerline have been a little off to the left? I did not question my judgment or my skills. We were in the hands of Mother Nature and our faith. I remembered the fog during taxi and takeoff during our RIB and descent back to Bitburg. I was glad the F-4E had such a short takeoff roll during the near zero-zero conditions. All I could do was my best on the approaches and then make the right decision about where to run out of fuel and eject, at Bitburg or at the alternate. All Europe that night had variable visibility, a quarter of a mile or less in fog. But why did we land on the left side of the runway?

It was years later I made a connection between the "moth effect" and that one green runway light. Humans, like moths, will steer toward a light source. I suspect it was the only thing I saw outside the cockpit, so I must have steered toward the light. Would I have resisted that tendency to steer left toward the light had I known about this type of hazard? I think yes. Knowledge and being aware of all aspects of flight prepares a pilot for all situations, especially those that come only once in a lifetime of flying.

We called their bluff that night. We have a rich history of examples such as this one, when added together; they are a part of how and why we won the Cold War. But I came about 20 feet from a different outcome. It could have resulted in an aircraft mishap or worse. We could have landed off the left side of the runway. If that had been the consequence, it would have been because of one small but essential bit of information that was missing from my formal training as a pilot, all the hazards associated with the "moth effect" and especially those associated with a low visibility approach and landing at night in dense fog.

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WHITE LIGHTS

Near Bull's-eye, North Vietnam, 1972

On a late December night we were headed north at 27,000 feet and, as the Christmas Carole goes, "*the stars were shining brightly.*" We were all headed for the Red River Valley and downtown Hanoi. Our formal mission was to escort the B-52s but our real mission was to be surface to air missile (SAM) magnets - missile bait.

The B-52 Linebacker II campaign had started a few days back and they kept coming, night after night, flight after flight - flights of B-52's pounding the North Vietnamese. Many seem to forget we paid a big price to pound the NV into ropes. They surrendered because they could no longer defend themselves; which should have meant that we won that round of the Cold war.

The Downtown and Route Pac missions up North all began at the fence check. After it was completed there were a few minutes to relax and get ready. We all took a deep breath anticipating what was out in front of us in the total darkness.

All the cockpit lights were dimmed by then. All the lights but one - the red AS light - we called it the "Aah Shit" light. When lit, you were in for visitors from below; usually two or more in-trail surface-to-air missiles; SAMs were on the way - your way. The panel lights were also turned down, the press-to-test lights were dimmed, and others were covered with gray see-through scotch tape to cut the glare on the canopy. The external fuel tank switches were rechecked to the fullest tanks, all four of the heat seeker missiles and the four radar missiles were tuned with the best ones selected to be fired first. The weapons select toggle switch on the inboard throttle was in the 20mm nose gun position. Now all was ready, the helmet strap tight, clear visor down, oxygen system checked, oxygen mask tight, all lose items, checklist, and flashlight secured or stowed, all navigation lights off except the dim green strip lights for close in formation flying. Finally, I rechecked to make sure that the ejection seat pins were all out and gave a last tug on the parachute harness, seat belt and survival kit straps until they were as tight as I could get them, even if it hurt. You soon forget the hurt when the action begins. They need to be tight for a safe, very high-speed ejection. The hurt returns only after it's finally over and you are out of harm's way headed south or eastbound, "feet wet" over the Gulf of Tonkin, out of the fireworks.

Everything was set; now to just take a few minutes to relax a little and enjoy the beauty of a full cockpit view - the IMAX planetarium view. It was spectacular on that crystal clear December night, especially the Milky Way off the left wing.

We were nearing show time, 100 B-52 bombers and over 300 Air Force and Navy fighters were converging on the Red River Valley. That short relaxed mood changed the second I heard the first sounds of the early warning radar. The game was on. Each slow swipe of RF energy from the rotating Russian long-range search radar antennas gave off a sound like an angry Bullfrog on a small pond. These are the sound effects of modern warfare.

The radio chatter increased the closer we got to the Red River Valley and the "Bull's-eye". The sounds of the SAM search radars, on top of the early warning radar, reached a crescendo, the entire night sky quickly filled with a rain of 10,000 bombs falling on North Vietnam, with missile after missile crisscrossing the night sky. I could not see those 10,000 bombs falling, but I could see the clusters of explosions all over the Red River valley, the explosions on the ground. In the air, the real time, deadly, unbelievable sound and light show began with the sounds provided by aircrews, emergency beepers, missile radars and the lights provided by bombs, missiles and aircraft exploding. At times, there were as many as six SAMs airborne all arching up in different directions from different locations out of the total darkness below. First there was one, then two, then another, two more over there and another one there. I watched the fireworks as some of them burst in a flash at a very high altitude, some lower, some just arcing up, burning out and falling back to earth. The closer to Bull's-eye, the brighter and the louder things got.

We were now close enough to see the AAA bursts. I did not see that missile trail; it was a just a bright pure white light that flooded my cockpit. The light was a strange pure white, like someone turned on a floodlight directly over my cockpit. It was not a flash, like a camera flash bulb, but had a plasma quality to it that seemed to grow in thickness and intensity. It was very bright but came just slow enough not to cause flash blindness. I looked around the cockpit amazed at the intensity of the strange light - brighter white than any sunlight. I could see what caused the light when my full night vision returned, the huge fireball at eleven o'clock high, like a dying star. It must have been the clearness of the air at 27,000 feet that allowed the light to have such power so far away from the blast. It was an amazing moment.

That night was the first time I saw a SAM making a direct hit on a B-52. I saw the explosion of a hundred, five hundred pound bombs and over 100,000 pounds of jet fuel above and well in front of me.

My immediate reaction was my voice, I even surprised myself - I said only two words into my oxygen mask, a gut response to what I saw, "The Bastards", words that then and even now seem awkward and not my own.

There was a long pause after the fireball died. Then another flash - only this time closer, but on the ground. The second explosion was the remaining large pieces of

the bomber as they hit the ground. That explosion floodlighted the initial blast cloud and the ghostly vertical column of gray smoke trails intertwined downward; it looked like the tightly twisted trunks of a small gray ficus tree; the kind you see in a well-groomed show garden or hotel lobby. The burning pieces of that bomber fell to earth from 35,000 feet - a downward spiral of ghostly smoke trails. It was an unforgettable picture of a mushroom cloud, like that of the A Bomb dropped on Japan to end the killing in world war two.

Death is quick and merciful for most pilots and aircrews; there is no pain, just instantaneous death. It is not like the painful and the bleeding death in the mud of the jungle floor waiting for a Dust-off, the medevac helicopter. For aircrews, in contrast it's all over in a flash like to one I just saw. The fireball is the end, the finale, for all the crewmembers onboard. They all disappeared in that flash of pure, white light.

That moment, the burst of white light, was a dangerous distraction. Watching all those missiles slowly rise into the night was mesmerizing. I asked myself, "Would that be the one?" I forced myself to look around, not at them. It's the one you don't see that kills you. I saw a few more mushroom clouds in the nights that followed, when the sky was filled with missiles. Some of them aimed at me.

Even now, after all these years and especially during the 4th of July, my thoughts flash back to all those crews who just vanished in one a moment in the skies over North Vietnam. I think about all of them, my 4th of July's have never been the same since.

The number and intensity of the missiles diminished in the days ahead until the last few nights, I could have orbited over Hanoi with no sense of danger. We paid a big price. The North Vietnamese were defenseless, on the ropes, and they had thrown in the towel.

We won and then Nixon and Kissinger gave it all away - gave it back to them at the Peace table.

I want to dedicate this story to my B-47 navigator, and his pilot. They were in an F -111 out of Takhli and were last heard in a Mayday call after being hit over the Gulf of Tonkin. They were never heard from again and are still missing in action (MIA).

Mac, you can rest in peace now on the bottom of the Gulf of Tonkin. Know that we won the war that helped us win the Cold war. Know that you had something to do with that and that people may try, but can never take that mission, that honor, that duty and that sacrifice away from all of us.

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Andrew

Homestead, Florida, Civil Air Patrol [CAP] Cessna 172 -Dawn, August 24, 1992

The first leg of my first Florida Civil Air Patrol (CAP) hurricane support mission was to deploy as soon as possible from Vandenberg airport, now known as Tampa Executive Airport (VDF). Our squadron's trusty Civil Air Patrol Cessna 172 purred

that night, from Tampa all the way down to Lantana Airport. Not one rough engine sound. They always seem to happen over that pitch black hole called the Everglades. I arrived just before sunrise and, after refueling, getting a cup of just brewed coffee and a fast but very simple briefing, I was back out to the aircraft to fly solo to the location of Hurricane Andrew's landfall.

The mission briefing was simple; to get down there as soon as possible. Andrew had come ashore that night as a Category 5 hurricane, all communications were out and everyone from the White House on down needed to know the situation. It would be a solo mission because they did not want me to wait for another crew member; a copilot or mission observer. I would have liked to have had an extra set of eyes to look around or monitor radio channels with me, but that was not to be, they needed to know and needed to know now. There was a total communications blackout; no one knew at any level what was going on and just how bad things were. The Florida Civil Air Patrol was directed to send in aircraft and to report back.

So I was out-the-door with a real high sense of urgency, did a fast walk around with coffee in hand to check out the aircraft. I took a quick sniff of the engine compartment while checking the engine oil level; another check for water in the fuel and then I was on my way, just after sunrise. It was the most serious mission I had ever flown as a Civil Air Patrol pilot; to fly the first reconnaissance mission over the aftermath of a Category 5 hurricane to survey Andrew's path of devastation from land fall on the east at Biscayne Bay to Homestead west into the Everglades.

I leveled off at 400 hundred feet flying south along the beach from Lantana airport, now Palm Beach County Park (LNA) to my mission destination, Homestead, Florida. The VFR Flyway was the fastest, safest and easiest way to fly south; it required no frequency changes, no radio calls to approach controls or the control towers at PMP, FLX, HWO, FLL, OPA, X47, and MIA airports.

It was a beautiful bright, clear and calm tropical morning. The surf was flat and smooth as glass, a porcelain ocean blue. The beaches were like white marble, all deserted. I turned on the landing and taxi lights on to prevent bird strikes and to make it easier for any northbound aircraft to see me.

I flew low level in Class G airspace, which I hope in the future the FAA will rename correctly "pilot controlled" air space." I leaned back and enjoyed the morning cup of fresh coffee, taking in the beauty of the morning. I trimmed the bird, the trusty Cessna hands off, listened to the purr of the engine, sipped coffee and watched for birds and northbound air traffic and wondered what was ahead.

I began to see the signs of Andrews's passage as far north as the Port Ft. Lauderdale inlet, tell-tail signs beginning with an increasing number of palm fronds and other debris on the beaches. The debris fields got progressively larger and worse as I passed Hollywood Beach; there the random large beach cabanas were knocked over and awnings torn away. It was like a gradual descent into a bad dream or watching a Hollywood disaster movie, made even more eerie since there

were no other aircraft, no movement, no cars, and no people; only increasing damage.

The real shock came south of Miami Beach when I saw the 1,500 foot commercial radio and TV towers on Key Biscayne scattered on the ground like a giant's game of pickup sticks. That was the first shock and realization, my awakening, that this was not a routine CAP mission, but something much more serious. The second shock came as I climbed to a safe engine out, glide-to-land, altitude for crossing Biscayne Bay. I looked ahead west toward my destination in Homestead and saw one of the strangest sights that I have seen in over 6,000 flying hours. The entire horizon was a bright shiny, orange-yellow-gold color, like someone had used bright crayons to color the shoreline.

My first thought was that the sun rising behind me at my seven o'clock caused it. I ruled that out after looking more closely at the whole situation.

After I made landfall, I was able to get a closer look. I checked in with the CAP base station at Lantana about that time I realized what had caused that strange color. The winds had exposed the bright orange-yellow-gold plywood on roofs stripped of their shingles.

A far as I could tell, the Civil Air patrol was the first and only aircraft over the Andrew disaster area; other aircraft would show-up later. I kept looking around, as if for MiGs or SAMs over North Vietnam, not wanting a surprise midair encounter with a helicopter. I quickly scanned forward and then down into the devastation; but still saw no Coast Guard, no military aircraft or media helicopters or any other fixed wing aircraft.

It was still early morning; my guess was the locals were still in shock and that their airports and airport towers were out of commission and aircraft hangars all in pieces or that debris covered the ramps and runways. But I didn't see one the entire time I was in the hurricane area. I neared "Bingo Fuel", just enough fuel to get back to LNA with minimum reserves. It was the same thing all over Homestead and beyond, all the homes had their roof singles and tiles stripped off by the 165 mph winds, with gusts even higher, and embedded tornados.

The mystery was solved, but to this day, I can still see that incredible image. I had a flashback to the nights I sat in my Phantom north of Hai Phong watching our B-52's bomb Hanoi. What I saw over Homestead seemed worse. The mobile home trailer parks were totally demolished and all that was left was piles of yellow pine wood studs, orange plywood panels and pink insulation scattered in random heaps of rubble.

Each trailer park was like a landfill piled high with debris. Nothing was moving; there were no people, no one waved to me for help.

I was totally dumbfounded about what I saw. Every street was impassable due to fallen trees and debris. I reported all this with repeated calls to the CAP base station. I told them to get help moving fast - lots of help. And I reported that they would need lots of help moving debris of every kind off all the streets.

It was a total wipe out for some neighborhoods; in others the roofs were gone and

in others just the shingles and tiles were missing and probably somewhere west in the Everglades by then. Many neighborhoods no longer existed. It felt more and more strange. What I saw seemed to stop the clock; it was surreal and still not one person in sight.

It was both eerie and puzzling. I was sure they could hear the aircraft and yet no one came out to wave or to signal their distress. In a strange way it was good since I could not do a thing to help them unless helicopters were available and airborne.

I radioed in and repeated to the CAP station that initially rescues would have to be strictly by helicopter since it would take a lot of manpower and equipment to remove debris and clear access paths for rescue vehicles. I used the strongest words I could think of to describe the devastation and the need to mobilize support fast. It was a helpless feeling, like watching a house burn when you had no water to put it out. I did figure eights and random turns all over the area and could not spot anyone. I flew toward the Miami - Dade zoo thinking that the animals might have escaped. I circled the zoo a number of times getting lower and lower looked down into the animal cages and compounds. It was the same scene, the same story there, no people, no animals, only devastation.

It was like a giant fist pounding a table - Andrew was that fist that pounded Homestead; and no one knew but me just how bad it really was. People had to be hurting and needed help, there had to be life and death situations down there for many. I flew in random tracks looking for anyone in need of help so I could at least forward the coordinates and information to the Civil Air Patrol Center. The CAP team in-turn would forward them to the FAA ATC air controllers for the USGC and other helicopters, but I still saw no other people or aircraft. I was the only one there and time stood still. It was only when I got low on fuel and had to return to Lantana that I began to see other aircraft entering the disaster area and survivors emerging from their homes and the rubble.

My low fuel state made me leave the area. It was still bright and beautiful weather, but impossible to enjoy as I flew back to along the beach line north to Lantana. The commercial airlines were beginning to arrive at Fort Lauderdale International Airport, Miami's Airport was still closed, and their control tower was a mess.

It was a much different, more sober mood than on my way down to Homestead. It was hard to shake off what I saw on my way home and for a long time after.

I accomplished the mission, but it disturbed me that I could not help further, that I could not communicate with anyone on the ground. It was good to see inbound aircraft as I exited the disaster area. It also disturbed me that even as I left, survivors began appearing in the middle of the street. All I could do was rock my wings as I turned to the Northeast to exit low on fuel. It seemed to me then that better capability would be needed in the future since even if I saw survivors, I could not communicate with them and could not provide direct help.

I landed at LNA and shut down next to the refueling truck; my CAP replacement crew was there waiting, ready and eager to go. I gave them a briefing of what to expect and then went inside to debrief the mission with the wing staff members

that had arrived while I was flying. I felt very proud of the CAP, of the mission we all accomplished during Andrew. Our hope is that we will never have another Andrew or Katrina, but if we do, you can be sure that the Civil Air Patrol will be there first and do all it can to help.

Post Script - I made recommendations to improve air to ground communications in disaster areas to help connect with survivors in the early stages of recovery. I called the project "Operation Heads Up". But those in charge at the time in the Florida emergency management office did not read them or ignored them. There is an ongoing attempt to revisit "Operation Heads Up" for future hurricane season.

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The Cobra Turn

Peter O'Knight Airport, Davis Islands, Tampa, Florida
Headquarters of the Gasparilla Air Force, Ye Mystic Flying Pirates

On a late Saturday afternoon in April, the day that MacDill Air Force Base holds its annual open house and air show, Mystic Flight, of Ye Mystic Airkrewe, taxied out in a trail formation of five aircraft. Our mission was to conduct a four-ship diamond formation for the Annual Tampa Bay Air Fest at MacDill AFB. We had started our practice missions for the MacDill flyby a few months before. The air tattoo would end with the Cobra Turn just after we passed the reviewing stand. Our families and friends were there on the flight line along with over 230,000 spectators. It was a great honor to demonstrate the first Cobra Turn just before the main event. When our mission was complete the Blue Angeles Demonstration Team would fly their exciting air show.

Ye Mystic AirKrewe formed at Peter O'Knight airport in the early 90's. There were three two high wing and two low wing Cessna and Piper aircraft. We lined up for takeoff on both sides of the runway at Peter O'Knight Airport, located on the south end of Davis Islands.

Formation flying is a hoot. It makes no difference whether you are flying in four ship, a Diamond formation, doing Cobra Turns in general aviation aircraft, being an aviation cadet and number three in a four ship of T-33 doing loops in trail, landing at night on the wing in a snow storm, or having vertigo as a wingman in a thunderstorm, formation flight is never routine.

My best formation flying experience was in combat. I was the flight leader of the fourth flight, in a sixteen-ship formation of Phantoms in Vietnam. It was in December of 1972 and the first time my entire squadron, the 4th fighter squadron, flew together. I knew every crew in all sixteen aircraft that took off from Udorn Royal Thai Air Base heading for the Red River Valley. That was the only time during that combat tour that I wanted to be the squadron commander, to lead a squadron into combat. It's difficult to describe the feelings and the personal satisfaction when pilots fly together, not as a gaggle, but as well trained group, be it combat or for a local peacetime air show.

My own formation flying training came from years of military experience flying

different aircraft on different types of missions. It is always a privilege to lead any flight. That air show day was no different, yes smaller, slower and lower, but still a privilege. Formation flying always challenges your planning and your airmanship. As teachers, it is an enjoyable and worthwhile experience to pass on these skills and knowledge to new general aviation pilots.

The Airkrewe was formed with formation flying as the main focus. The primary mission was to support aviation tourism during the month long pirate festival in Tampa and to help increase the public profile of Ye Mystic Airkrewe and Gasparilla. Our goal was to form a local air show group to promote aviation to our EAA Young Eagles in the Tampa Bay Area and Florida. It all started with forming Ye Mystic Airkrewe. All members, pilots and non-pilots alike, were eager to join when they heard that formation flying would be a key activity of the club, each wanted to learn about and experience the needed skills. My motivation was how to teach them the skills after starting the club, to keep the training program moving forward and most important, to keep it safe. The challenge was to pass on these skills in as short a time as possible, in time for the up-coming air show. There is no book or manual to go to since most formation flying is done with same model aircraft. No two aircraft in the Mystic flights was the same. Safe formation flying requires a good briefing, which is up to the flight leader. It is an interesting dynamic; the leader must provide the information and instill a sense of leadership and confidence that is needed.

The briefing includes the mission, the flight objectives, call signs, position in the flight, frequencies, and the maneuvers, what to do in an emergency, most of all safety how to look out and the other tricks of the formation trade. Most Important of all was when and where to expect the unexpected, and how to prevent a midair collision. All our formation flying training took place from Peter O'Knight (TPF). "Peter 0" is a first level, fly-in downtown Community Airport located on the south end of an island only a mile south of downtown Tampa, and about four miles as a pelican flies southwest to MacDill AFB. It is not uncommon to see large military aircraft make a low approach at the airport thinking they are landing at MacDill AFB. I decided to use the in-trail formation as the basic formation-training building block. The weekend training program fell into place. We taxied out in order of position and lined up in extended trail on the parallel taxiway, using the runway lights to take equal spacing. Each pilot and co-pilot was asked to mark the wingspan of the aircraft in front with a grease pencil or tape on the windshield. When this was done and all checklists completed, we would make a rolling in-trail takeoff. A wide turn was used so the underpowered aircraft in the flight could use cutoff to join-up and to maintain spacing as we climbed to 1,100 and departed the area to the farmland on the eastern shore of Tampa Bay. When we all were in position with the aircraft silhouetted in the "gun sight" and in stabilized flight, each had noted their power settings for 100 knots airspeed, only then would we start the training maneuvers. The spacing got to be near perfect, each pilot matching the aircraft ahead at 12 o'clock inside the wingspan marked on the

windshield. I could tell the spacing was good by flying headings using the sun angle so that I could see the shadow of the formation as it moved across the roads and farmland section lines below. We would then line up on the north-south headings using lines of fences, railroad tracks and highways. A call was made for a 90-degree turn to the east or west. All five aircraft would very slowly and simultaneously make flat turns keeping the wings level by using opposite aileron. Only the rudder was used to slowly turn the aircraft to the new heading at the same rate as the aircraft ahead or abeam. It was like an aerial water ballet. All five aircraft would turn slowly from an in-trail formation to a line abreast formation at the rate of turn used by the first aircraft. One could see the progress as each pilot learned his aircraft's power settings and worked out his own techniques. It was not long before we went from in-trail to line abreast with great precision and satisfaction. Each aircraft had to add a little power as the turn started and reduce power as they rolled out on the new headings in position at 100 knots airspeed.

Spacing in the formation was reduced as skills improved, using fewer runway lights until that was no longer needed. Most general aviation aircraft have about the same wingspan of about 30 feet. Other maneuvers were added, such as 360 close trail join-ups, pitch out and join-ups, or breakups and rendezvous, the terms depending on which branch of the military you had flown for. Skills and esprit grew hand in hand, and it was then time to get ready for the Diamond formation and the Cobra Turn. The air show announcer contacted me a week before the MacDill Air Fest and asked to write something he could use as a script for the air show announcements. He asked that I include something about Ye Mystic Airkrewe and the formation we would fly. The script I sent him read something like this, "The next formation flyby will be a four-ship flight of general aviation aircraft. The aircraft are flown by your own Tampa Bay hometown air show pilots of Ye Mystic Airkrewe of the Gasparilla Air Force. The Airkrewe will use a diamond formation of high wing Cessna and low wing Piper aircraft flown by general aviation pilots. The Ye Mystic Airkrewe is one of the one hundred krewes of Gasparilla. The Airkrewe was formed to provide air cover for the annual Gasparilla pirate ship invasion and parade and to hold the Tampa-Gasparilla International Invitational Fly-in. The Airkrewe flies in other events including the annual fly-in at Peter O'Knight airport. The Airkrewe also flies missing man formations at Bushnell and other military cemeteries throughout the year honoring our Fighters, our Fallen, the Missing in Action and their Families. Their pass-in-review Air Tattoo today will end with a Cobra Turn. Ladies and gentlemen, we are in for a special treat today, if you have never heard of, or seen a Cobra Turn, don't feel bad, neither have I. They have just reported inbound and will be here in five minutes. They will start the Cobra Turn maneuver as they pass the center of the viewing stands. Watch closely and we will all find out what kind of maneuver it is and why Ye Mystic Airkrewe calls it the Cobra Turn. "

I selected the diamond formation so I could fly in the slot and watch all three aircraft, coach the flight if necessary, watch for other aircraft, and be in the best

position to watch the track so we did not fly over the air show crowd. We would use the flat turn, I called it the Cobra Turn simply because it sounded good, better than a ninety degree turn to the east. The turn was needed after the flyby to stay out of controlled airspace. The Cobra Turn would be better suited since the flight had both low and high wing aircraft and there was not enough time to safely go back into a trail formation to make the turn.

The name Cobra Turn came to me from an experience in 1970 while flying F-4E Phantoms in Korea. I was in the 67th fighter squadron based out of Misawa Air Base in northern Japan; we did our tactical flying out of Tageu, Korea.

Korea was a great place to fly because there were only three rules there. We would takeoff on training missions then troll for targets in the countryside to practice all types of ground and air attacks. Everything was fair game, bridges, tunnels, and trains, everything except commercial airliners. The second rule; do not over fly the President's Place, their Whitehouse. Third, stay out of the DMZ. Everything else was fair game south of the DMZ. These were the kind of missions all who fly would enjoy, especially combat pilots, because it honed the skills of the trade.

My favorite targets were the ones that moved; trains, trucks and especially army helicopters. I loved to sneak up on them and make passes, goading the helicopters to respond. It was good training for both crews when the helicopter pilots joined in the game of cat and mouse. But it was an OV-10 that made me think of and name our air show maneuver - the Cobra Turn. The OV-10 is a two engine turbo-prop aircraft designed and used as a FAC forward air control aircraft. It happened only once with an OV-10; the pilot spotted us before we could make our first pass. We could tell he knew we were going to make a pass because he stood his aircraft on the props almost vertical. He stayed in the vertical position like a Cobra Snake. He slowly turned his aircraft facing us all the time, as we circled him trying to work out an attack plan. The only way to get behind him was to come up the valley from opposite directions. I will always remember how well he flew, turning the aircraft like a Cobra trying to keep the two mongooses insight. That is how the Cobra Turn got its name for the air show.

We were in high gear for the fly-by. The weather was great, typical for April in Florida. We took off on time, flew in-trail south paralleling the Air Tattoo - Air Parade run line and passed the IP, or initial Point, going outbound. The offset and flying in the opposite direction gives the flight leader the maximum flexibility and time to make the wind drift correction and adjust the ground speed to make the time over target good for the viewing area. For the jets, the Fast Burners flying at 450 knots, this is not a big problem, but an important planning factor when flying at 100 knots. It allows time for the flight leader to adjust the turn-in to make the IP time good, which would be six minutes plus or minus from the IP to the VIP viewing stands. A good show required our arrival at exactly show time. We remained in trail until we were established on the inbound track, then we formed up into the Diamond formation prior to the IP. Those ten miles would give the flight over six minutes of wings level straight in time to settle down and get in just right.

No corrections were needed, our flight leader killed the drift, and we flew up the track and across in front of the viewing stands exactly on our assigned show time. The flight leader called for our Cobra Turn to the right, and all four aircraft rotated 90 degrees to the east using a four ship flat turn. We held that heading and formation for a few minutes, then the new flight leader called us back into trail formation to enter downwind to land back at Peter O'Knight airport. The announcer added a few nice words after we flew by. Someone told us that there was loud applause from the crowd, and big smiles on the faces of the Blue Angels. Those were the observations that really made our day. The first Cobra Turn was in the history books.

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Kentucky Windage

4th Fighter squadron, F-4E, Udorn Royal Thai Air Base, Thailand, 1972

Cricket called us just as we crossed the Mekong River heading northeast toward our rendezvous point. Cricket, the call sign of the EC-130 airborne command post orbiting nearby in Laos, told us that our escort mission had been cancelled due to weather.

With three bags of fuel, the centerline and two outboard fuel tanks, we had lots of free flying time. I decided to use the time and fuel, to sharpen my target acquisition skills with a flying tour of northwestern Thailand. I gave my wingman a choice to stay with me or return to base. Had he stayed, we would have done a different type of training, some low altitude head-to-head air combat training (ACT) and some rat racing up and down the Mekong River. But he decided by a one-eighty to head back to Udorn; and I turned toward Chang Mai - the mountain resort town in northwestern Thailand.

My mission now was a self-directed, low-level road reconnaissance training and some R&R sightseeing to check out that area. My goal was to look over the city, airport and the surrounding mountains.

Who knows, maybe sometime I would have to make an emergency landing there low on fuel or with combat damage after coming out of Laos or North Vietnam.

I pulled the power back to the best low altitude cruise airspeed and descended to five hundred feet and started to weave my way to the northwest. I slowed, smoothly, gracefully banking, crisscrossing the countryside, circling some sights.

I call this type of training a National Geographic mission; to sharpen the eye, looking for trucks, trains, people, rivers, roads, farmers, schools, temples, small villages, water buffalo, anything of interest or that would spark my curiosity. It was a pleasant change, a welcome break, a little R&R flying, a change from the routine of being shot at. It was good to take time to sit back, relax and just watch this new, beautiful intense green landscape pass below - God's creation.

This flying was like sitting in the best seat in an IMAX theater. But the spirit of the hunt is never far removed, it should always there, its' a part of the DNA.

This was air training that hones the skills. It took only a few moments for the mood

of the flight to change. The new focus was caused by what I saw in the distance. I spotted a very long, November contrail, straight as an arrow. The strange part was that was coming out of the northwestern corner of Laos.

The hunter instinct kicked in. What aircraft could that be? It was coming from a very isolated chunk of air space in the world; one that very few have been to or know of. Its contrail was very high, very long and persistent, a wide white smoking arrow crossing from right to left that stretched out over half the horizon. A contrail that big, that high and that far away, had to be made by a big aircraft, but whose?

We had the fuel and the time so I decided to chase it down and take a look.

I turned to put the target, the forward tip of the contrail, on the nose, then tracked it for a while, then made the decision. Using pure Kentucky windage, I check-turned to the left eyeballing a lead intercept heading that was way out in front of the contrail.

I locked in the heading on the autopilot then went into full afterburner and started the climb. The hunt was on.

We started to work the radar after engaging the autopilot heading hold and trimming pitch to maintain the best climb speed while in full afterburner. It was still too far away to find on our radar. It was an excellent opportunity to see just how good the intercept radar was - how far out would it pick up that aircraft - that target.

The heading was pure Kentucky windage, the autopilot holding that heading steady. I refined the airspeed to get an optimum rate of climb holding the same heading still in full afterburner - it was a very interesting climb. Would the heading put us on a collision course, making it the shortest distance to fly to the target, time would tell.

The long distance from the target made the climb feel like we were in slow motion, a very interesting dynamic still life.

The questions to be answered as we climbed: did I guess the intercept heading right, what was that aircraft? Was it friend of foe? Did we judge its altitude and heading correctly? Just keep climbing, be patient, wait and watch.

It came to mind as up we went up, like the words from every pilot's favorite poem, High Flight, by John Gillespie Magee,

"... Up, up the long, delirious burning blue I've topped the windswept heights with easy grace where never lark or even eagle flew... '"

We were well above the eagles; it was up, up from the "delirious burning green" of the Thai countryside - to a delirious burning blue of the Thai sky.

But how right, his words were so perfect for that day.

Up we went until the target aircraft came slowly into view at two o'clock high, crossing from starboard to port, right to left.

I was pleased with the initial heading, the one we kept in the climb. It should have taken us to a collision course, not quite right, just a little too much lead, but that eyeball intercept heading was close enough to write home and brag about.

The radar fire control system gave us a yellow in-range light as the range circle

appeared and kept getting larger. I rechecked to make sure no radar missiles were selected and armed.
The red "FIRE" missile indicator came on, ending the intercept that started at 500 feet and hundreds of miles away. I make a check-turn to right, turning into the target so as not to pass in front and then back to the left to pull up parallel and along the left side, the pilot's side of aircraft, while having to remain in afterburner.
It was a new experience, a new sensation, flying formation well above 45,000 feet, not a good altitude for the Phantom. We had to remain in afterburner to just to stay on the huge left wing of that bomber.
It was not a Russian reconnaissance aircraft or airliner; it was a B-52, an eight engine bomber, probably returning to U Tapao air base in southern Thailand. I rocked my wings as I pulled up alongside.
The B-52 pilot rocked those big wings slowly waving a return greeting. Two friendly gestures, the way pilots say hello and later part.
My one and only Kentucky windage mission was then complete. No fighter pilot could resist the next maneuver for our bomber friends; I pulled up in front and sharply snapped, inverted, and did Split S's back to Udorn now far to the north.
I did not do what John Gillespie Magee's High Flight said in the last verse. I could not *"... Put out my hand, and touch the face of God."*
But for some reason I know that it is easier for pilots to believe that they have been touched by God; it's what we see daily from above, what a beautiful creation this planet is. You do not have to be a pilot to enjoy the delirious burning blue, or to believe, and the next time pick a spot to intercept that contrail you see far off in a clear November sky. For no matter where you are, low or high, you can never get closer to God than yourself, especially when chasing contrails.

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Little Alice Learns to Fly

One Rooster, One Pigeon Dove, and One Lobster

Nassau International Airport, Bahamas, Piper Navajo, PA-31/CR, 1982

The aircraft was pre-flighted with the left engine unchained - the heavy anti-theft chain and lock removed from around the propellers. The oil was checked; I gave a quick sniff to the engine compartments - something is wrong if there is a difference from the familiar odor of hot oil.
All fuel tanks visually checked, seven drains passing a visual check for water and the smell test for unwanted jet fuel. The cabin and cockpit windows were cleaned, the cabin spic and span and there was cold beer and soft drinks in the ice chest for our guests.
The flight plan was filed, we were ready to go. All we needed was our two passengers.
They were already 30 minutes late. We were on island time so it no longer bothered me. I was in sync with the easy going Island rhythm and the absence of a

time culture. The close proximity to Florida made it an even more interesting time-culture contrast.
The speed of life in Florida, like a battleship at flank speed - the speed of life and in the Bahamas like a beautiful wooden Man-of-War Cay built row boat anchored just off the beach, rocking slowly back and forth with the peaceful surf. If you like the la dolce vita like me, you will love the life and the flying in the Bahamas.
Their lateness made our new company lawyer nervous; he was a feisty likeable Englishman, in suit and tie and all wound up like a Terrier. His job was to close a real estate deal that day. He arrived in the Bahamas only a few months ago. I told him to relax, the weather was excellent and flight down to the property should be a smooth one. My job as the part-time Air Treasure Cay taxi charter pilot and mechanic was to get them down there, circle the island that was for sale and make the flight there and back as comfortable and enjoyable as possible.
This was my second job after retiring from the Air Force. It followed an aerospace consultant job with TRW in Iran teaching the Imperial Iranian Air Force fighter pilots how to fly and fight safely. It was another interesting contrast, we evacuated Shiraz, Iran in the middle of the revolution and immediately got this new job in Bahamas; going from the Middle East revolution to a job more like a paid, extended, flying vacation. It was another nice contrast and a good life.
It really is "Better-In-the-Bahamas" and I tell those people I like, those who live in Florida and have not visited the Out Islands - not to visit would be like living one mile from the rim of the Grand Canyon and never looking in. I felt lucky living and flying in the islands, enjoying the many new island landfalls, enjoying the brilliant mosaic colors from all the reefs I got to know.
I hardly ever used a map. I knew all the headings to and from the islands surrounding New Providence. I knew where the best reefs were, those filled with schools of yellow tail and hoards of spiny lobsters.
I slowly became an “island pilot”. I learned where the most beautiful reefs were and the tricks of how to fly to the get the right sun angle for the best reef colors; and I got to know the many beautiful deserted beaches - those remote places where time stands still and you can easily dissolve into the tranquility of the silence, clean sea air, pure white beaches and the beautifully clear waters. It was easy to get lost in a wonderful state of tranquility, one melting into space and time. The Out Islands is the place to be for those who want to experience pure tranquility and La Dolce Niente.
The weather for the flight was typically great with the friendly easterly trade winds. Winds from the built-in Bermuda High pressure system that helps keep the entire Island nation breezy cool.
Our two passengers, a man and his daughter finally showed up, hot sweaty, and a little bedraggled. He apologized, and explained how they had gotten lost and how difficult it was for them to find the airport. We greeted them with a big smile, words of welcome, firm handshakes and handed him an ice-cold bottle of beer and his daughter a cold drink. The refreshments immediately changed the mood. It

came easy.
I saw myself as a self-appointed flying ambassador and air tour guide for the Bahamas, and enjoyed it in many ways. I had read the history of the island nation and had so many good things to say about all the sweet island people I had met and made friends with on my many islands stops.
It is still a special place for me; where I first heard Reggae and danced the night away fueled by rum and cola; then at dawn, walked a long way home along the surf's edge in the silence of a full moon.
The lawyer was from England, traveling with his wife and a daughter who was about 12 years old. A pretty girl with blue eyes, blonde hair, and a voice that had a special quality, a clear sweet polished Alice-in-Wonderland British accent. Her mother must have stayed behind on the hotel beach, but had made sure she had on a pretty print dress and a bow in her hair.
She was very proper, no sloppy flip-flops, no short cut Jeans. She was indeed an English treasure, a beauty that would remind anyone of Alice-in-Wonderland and was as close to being like her as anyone I have met, before or since.

I let them remain outside on the ramp, to cool down in the shade of the aircraft, while I went aboard for the passenger-safety briefing checklist and life vests. I gave them the safety flight briefing outside since it was too hot inside the aircraft. We departed Nassau international leveling off where the outside air was cool and the air was not as bouncy.
I set cruise power, trimmed-up hands off, engaged the autopilot and the altitude hold. I could take time now to just lean back and enjoy the flight, listen to the purr of the engines and watch the horizon for the puffy clouds.
The clouds are typically the first sign of the landfall. On this flight, the first land fall is the north end of the Exumas Archipelago. The Islands are like sparking gems in a sea of dark blue. A paradise for the "gunkholers", sailors that anchored for weeks at a time in the many isolated coves who like to go nude most days.
We continued south to Crooked Island where we circled and made our air tour of the Island property, then climbed and turned back for Nassau. I looked back into the cabin to see if everyone was comfortable with the cabin temperature.
The two lawyers were busy talking business.
Alice seemed bored, so I waved to her to come forward and pointed to the co-pilot's seat - then pointed to her father. She asked and he nodded to her and gave me a thumbs-up in approval. I moved the seat forward and placed a few pillows on the co-pilot's seat so she could get a good look outside.
She could not reach the rudder pedals, but could easily reach the control wheel. Now strapped in and with a headset on, I suggested we do some fun flying and asked her to point to a cloud up ahead and told her I would dip a wing tip into that cloud.
We were on an instrument flight plan and I could have flown into all the clouds, but they were a little bumpy and it would be more fun for her to fly, to weave our plane

around those towering canyons of clouds.
We dipped the wings into a few of those, and then I asked her to point to a cloud to fly to and then go above or below it. I was teaching her cloud dancing; only thing missing was the music.
The aircraft was my partner in the turns, climbs and descents, making them as slow and graceful as I could.
I told Alice that it was her turn to dance with the aircraft. I would point to a cloud and with a hand signal, ask her to dip the tip, or go over or under each of the smaller clouds that were building as we headed north. It was a wonderful surprise; she was as smooth and graceful with the aircraft as I was. And she did it as if she had done it for years; a wonderful learning experience for me to see how easily young people learn. She had no fear of failure and that makes learning easy and fun.
I then told her to pick the cloud and tell me what she planned to do. I looked into the cabin catching her father's attention. I held both my hands up as Alice wove the aircraft through the halls of clouds.
I gave him thumbs up with a smile. He nodded responding with a big smile understanding that she was flying the aircraft and doing a beautiful job of it. As pilots say - she had "the hands".
We had run out of Island clouds and were back over the wide span of water south of New Providence Island. I showed her how to trim the aircraft hands off and asked if she knew how to get back to their hotel on Paradise Island.
She shook her head no.
I explained - go out of the airport to the main road, go right at the Red Rooster roundabout, go straight ahead past the Pigeon roundabout until you come to the Lobster roundabout - then go left over the bridge and you are home. She asked me to repeat it. She said that's easy right at the Rooster, past the Pigeon, left at the Lobster, over the bridge and we are back home.
We both smiled at each other then went back to flying the aircraft.
I learned a lot from Alice that day, mostly how easy children learn to fly compared with the adults I taught to fly over the years. The big difference I observed is that they have little fear of making mistakes. With adults that fear of even a small mistake seems to block their learning and enjoyment. We should all learn like children.
I asked her if she remembered the directions back to their hotel one more time before taking back control of the aircraft and contacting the approach control tower for landing. She repeated the directions to me; saying it like Alice would in a short poem, in that wonderful clear little girl English accent, ending with a big smile.
We shut down, I let down the passenger door with the built in steps and was first out offering a hand to “Alice” and her father. He thanked me for the flight and for letting his daughter fly the aircraft.
I then asked him if he would have any trouble finding his way back into Nassau and

his hotel on Paradise Islands; and if he did, that his daughter could help.
She smiled and said to her father. Daddy it is really easy, "we go out the airport road, go right at the Rooster, past the Pigeon and left at the Lobster over the Bridge and we are home".
She said it as perfect as could be. I could see the love and admiration he had for his charming and smart daughter, who had laid-it-on a bit.
I waited a moment not the break the spell she cast and thanked her for helping me fly and wished them a safe trip to England. I encouraged them to come back soon since there are many more islands to see and enjoy. With that, they nodded and walked off as her father beamed; it was the perfect ending to another beautiful day of flying in the Bahamas.
I hope wherever that once young lady is that she might read this story someday, and enjoy it as much as I enjoyed meeting her and sharing this story.

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A Surprise Sunrise

George AFB, Victorville California, 1968

It was well past midnight on a moonless night and I was shooting instrument approaches at El Toro, a Marine Corps air base south of Los Angles. I disliked these "Skyhook Missions", but never turned one down.
This one was to build up flying hours for a back-seater, or guy in the back (GIB), so that he could get the total hours he needed to graduate and go off to war. How crazy does it get, when you have the privilege of flying the best aircraft in the USAF inventory, a new F-4E Phantom, and are told to just go out at night and bore holes in the sky.
We did many different instrument approaches at El Toro, went back to the tanker for more fuel, and then did some night aerobatics over the ocean, then back to instrument approaches. The only thing left would be to fly them inverted, lower the gear at the outer marker and fly the glide slope inverted.
The repetition got boring and therefore dangerous, so I decided to knock it off, and head back east across the mountains to George Air Force base. There was still too much fuel left so a plan was needed to burn off the remaining fuel and land at minimums. I was a student in the 434th fighter squadron, a Replace Training Unit (RTU) for F-4 crew training. George AFB is on the Mojave Desert near Victorville, California. The base is closed now, but at that time was going full bore turning out crews at about the same rate the McDonnell Douglas factory was turning our new F-4E Phantoms. We had started receiving their new F-4E series 68 - 301, 302, and 303; the E models. This Phantom had a longer nose section for a Gatling gun and 640 rounds of 20mm ammunition. A nose gun is a must for a fighter aircraft, another lesson our pilots in Vietnam had to learn the hard way. A short burst from that gun would tear almost anything to pieces.
The new aircraft was the icing on the cake and the only time in my Air Force career that I got to fly a brand new aircraft. I remember my first flight in a new aircraft. It

was a complete surprise and a real pleasure the day it happened. I first noticed how beautiful and clean the aircraft was, even from a distance, but as I began the preflight, the work around, it was like a museum piece - not a scratch, leak or stain anywhere. I climbed up the ladder and stepped into the cockpit enjoying every moment as if it were my own new Lamborghini. I stood there purposely pausing for a few moments to take it all in; this was living on a high. It was a discovery, the aroma of the cockpit of a new aircraft. The ejection seat pads, no sweat stains, brand new, only sat in twice before, by the factory test pilot and the ferry pilot. The aroma of that brand new Phantom was just like an expensive new car. The life for a fighter pilot could not get better: great location, great instructors, great classmates, great flying weather, great training, and a great fighter. All this and a full bar at the officers club every night full of young single pilots going off to war and many beautiful California women ready for fun.

My six months in training was coming to an end. I lived for this time and enjoyed every phase of the training from the first flight, the "dollar ride", a flight in a clean F-4 with the external fuel tanks removed, to the very last.

My instructor pilot took me through Mach one and then Mach two and on until we hit "bingo fuel" and had to turn back to George. He added to the pleasure with a flight through the California snowcapped mountain valleys - and topped it off with a pop-up maneuver - to see the entire Sierra Mountain range all at once - a wide IMAX view that maximized all the senses. What a joy, what a thrill that long ago flight was. The training that followed my dollar ride was the best, tactical formations, the bomb range, the air refueling, the air-to-air combat, air-to-air firing at the DART, the tactical ranges, the low level night navigation, the simulated nuke deliveries, all the missions, even the instrument approaches. It was all my joy. And it was all coming to an end, assignments would be posted soon.

The skyhook mission was one of the last I flew at George, but one that I remember the most. It was in the wee hours of the morning. I decided to try something different on the way back to George AFB. We needed something to get us back on the ground at the edge of the legal fuel reserve, which if I remember correctly, was 2,000 pounds at shutdown.

I decided to use up the fuel in afterburner instead of doing more instrument approaches. Was it fatigue that made me do it? Was it the thrill of doing something different and special with my Phantom? My plan was hatched from nowhere, a simulated double engine flame out from above 40,000 feet, directly above the approach end of the runway at George. Who would question that as a good training outcome?

We letdown, descended onto and crossed the Mojave Desert in afterburner, keeping below the Mach. The desert was still in the gray darkness of early morning. The mountains to the east, toward Las Vegas, blocked the dawn causing many shades of desert gray. I flew a course 20 miles straight in at about 3,000 feet above the terrain and told the tower that I would start a climb to high key to start a simulated double engine flameout. I did not tell them my altitude or speed,

or how high I would climb, partly because I didn't know and would have to find out myself.

We shot across the dark grayness of the desert just under the sound barrier, careful not wake everyone with a sonic boom. The climb started at .98 Mach which was my last look at the airspeed indicator as I pulled back and started up at about seven miles from the approach end of the runway. I had about 7,000 pounds of fuel remaining when I went into after burner in level flight. Then I pulled hard back and shot straight up. The burners were eating up the fuel as I rotated. We slowly morphed into a "rocket ship". The engine power, the thrust of the two J-79 engines in afterburner, was getting closer and closer to the weight of the empty aircraft and it was just before then that I pulled back on the stick and headed toward space.

I then enjoyed to spectacle of what it looked like to leave earth as if we were a camera strapped to the moon rocket. The desert melted into a solid gray world below and for a brief moment, we were on our way to the stars. It was a thrill ride, watching the earth disappear as we streaked vertically toward space like a rocket. We neared the edge of the atmosphere where a space suit would be needed.

I pulled back the throttles out of afterburner, slowly, ever so slowly to the idle stops. My only concern was a single or double engine flameout as the altimeter kept spinning trying to catch up with the aircraft. Up we went, the air got thinner. I have never seen an altimeter spin the way it did, my last look was passing 50,000 feet as the aircraft slowed and stopped.

I awkwardly used both hands - below the top of the throttles – and pressed down on the red engine start igniter buttons to keep them hot. This kept the fuel ignited to prevent flameouts. I had to use the inside of both legs to hold the control stick neutral to let the aircraft fall out of the sky and float like a leaf back to earth. All I did was the keep the AOA steady to prevent a stall and spin. I let the Phantom have its way

As luck would have it, the top of the Phantom was facing east just before the climb ended with the airspeed stopping at zero knots. Moments before we started down, there was a shock, a blinding flash of light in the cockpit.

It was a total surprise and after the first moment of fright, a smile and a sense of joy. The mountains to the east have slowed the sunrise upon desert for millions of years, but not for us - we chased the sunrise - we made it happen. What frightened me at first, the explosion of light, was another unforgettable moment in my flying career. It was totally unplanned. The sunlight entered the cockpit in a flash directly above the cockpit, everything turned bright and crystal clear, all colors of the earth, the browns, greens and sand colors of the aircraft camouflage, the colors of the instruments and the cockpit were all pure and bright.

The world around us was so beautiful in those short moments, like a blessing from God. I remember the descent from the brilliant light down into the solid gray soup below and felt the air density increased, giving me more control as we descended. I released one engine ignition button, paused and then released the other. I could

feel the pitch and roll control gaining as the air density built. At about 45,000 feet I took full control again and started to maneuver into a flight path for High Key at 30,000 feet. At 15,000 feet I lowered the gear for the simulated double engine flame out approach and landing. The control tower was advised that we were on our way down for a simulated dead stick landing.

The dead stick descent was almost directly over the runway. I could see the runway in the haze of the morning. The rest was routine, setting up the high key, putting the gear down and keeping the speed up while in idle and using the pitch like a glider to control the airspeed I needed for a safe touchdown. I don't know what my GIB thought after the flight. I never saw him again. I never told him not to talk about what we did - our out-of-this-world experience.

But it was good to know, even now after all these years, we were not like the rest of the world at that moment, we had the wonderful surprise of making the sun rise and not having to wait like everyone else on earth.

Was the risk taken that morning worth the moment? Were the flash and the short emersion of light in that high altitude sunrise worth it? Would you have taken the risk if given the chance? I hope so.

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20 Mike Mike

Central Vietnam, Late Summer, 1972

We circled above the target area and waited our turn as we watched the forward air control (FAC) and the flight of Navy A-7s as they worked over the target. Their aircraft had the newest dive-bombing system with a circular error probability (CEP) of less than 5 meters, even if flown by trained monkeys. It was a little intimidating when the FAC directed them to move their next bomb 5 meters to the right or left as if he was threading a needle.

Needless to say those Navy pilots were doing a lot better than trained monkeys that day.

The FAC must have been an old head. He seemed to know the target like he lived there, the way he was moving the bombs' target around that bunker complex.

We were knocking down trees trying to find the above ground stores, entrances and the other tell-tale signs of North Vietnamese Army (NVA) activity. He used our bombs to uncover the complex of entrances and escape tunnels.

We watched each bomb as it dropped, hoping for a large secondary explosion. We wanted that "Mushroom Cloud" that would signal that one lucky bomb had hit an underground weapons storage cache. It looked like the NVA complex was purposely placed near a village to prevent the B-52 strikes, so we had to do it one or two bombs at a time. The whole scene is forever etched in my memory; the enemy, the farmers, the children, the village, rice paddys and the forest. The forest was filled with bunkers to the northeast on the edge of that village of poor farmers. We could see about thirty roofs all covered with brown palm fronds. The village was surrounded by rice paddys. A system of levees and dikes wove their

way across the paddys with one main dike that led to a very large dense forest area that broadened to the northwest into a razor back shaped mountain ridge.

The forest the NVA selected was heavily wooded and only about one football field away from the village. The A-7 pilots were good, really good and it was a little intimidating for us. We did not have the latest, more accurate electronic aided dive-bombing systems. From what I saw, their system must have been just out of the box, tuned and calibrated with a perfect INS alignment.

We were next and started to drop ours bombs. I told the FAC that we would be using two bombs each pass, my way of compensating. The forest was a maze of tunnels and in many respects it did not matter where the bombs hit since the FAC had us basically knocking down trees in hopes of uncovering the main complex and its entries and exits.

Our bombs seemed to have gotten their attention or maybe the USAF was going to send in the B-52s strike and the NVA knew they were headed their way. They must have also counted each of our 24 bombs, each explosion.

Once they thought we had no more bombs and saw that there were no other strike flights stacked above us, they started to pour out of the bunkers through the underbrush and dashed in the open into the village just a few hundred feet away.

We wondered if the NVA had decided to abandon their forest stronghold while under attack or were just pulling a "red herring" and with a squad trying to draw our attention away from the main target area. They must have had an entry-exit tunnel near the village. I could see them pouring out of the complex running into the village.

In minutes they rounded up everyone in the small village, men, women and children, and forced them onto the wide dike that led to that dense forest to the northwest. They were using the villagers as human shields to escape to the mountain range where they could disperse and regroup.

I could clearly see what was happening. They used the whole village as a cover for their escape, wolves among the sheep.

The FAC asked me if I had additional ordnance. I told him that each aircraft had 640 rounds of 20 Mike Mike. He then asked if we had the target in sight. We would have to have been blind not to see what was happening.

I did have the whole scene clearly before me, but responded back on the radio that we were low on fuel even though we were not. I lied, because I knew what he wanted us to do.

There were no further radio transmissions from my wingman, the FAC or me.

I asked the FAC for our bomb damage assessment (BDA) that we needed for our after mission Intel report. I was mad for a moment that the FAC suggested that we strafe the dike. But I hid my feelings and told him that that we were at bingo fuel and were returning to base.

Using civilians as shields is against the Geneva Convention, but strafing all those innocent villagers on the dike just to kill a few uniformed NVA was also a crime. In my estimation, it would have been a much worse crime and I wanted no part it; nor

did I want to drag my wingman into a lifetime of living with those ghosts.
We are Americans; we don't do that, we are better than that.
Why did the FAC not understand that? We had 1480 rounds of 20 Mike Mike. We could have staffed them, shredded them all; but just to kill a handful of NVA?
I shake my head even today about that FAC. What was he thinking? What church, what faith, and what oath did he take? What officer leadership school did he go to? The thought occurred to me for a few moments during the flight back to our base in Thailand that he or another wacko war lover would report the incident after landing, that I might have to explain my actions.
What would happen if my Squadron Commander called me in? I dismissed the concern with a cold solid conviction that if my squadron commander, wing commander, general or anyone else asked me to explain, I was ready to toss them my wings and move on. It would be all over for me; I would be out-of-there in a heartbeat, if they thought for a moment that I would kill all those villagers for a few NVA.
It was not in the heat of battle so it would have been pure cold-blooded murder, a real killing field.
I was pleased that no one mentioned what happened and I sleep well; no night sweats, no guilt, and no haunting images to keep me awake. Was it in the Old Testament, a statement I have heard and even seen on a T-Shirt that said "Kill them all and let God sort them out".
But we are Americans, and I believe we are better than that individually and collectively. But we still have those crazies in uniform and some who may be in office even today who would not have given it a second thought. Those are the same people who would call me a traitor, a coward or worse.
I had no problem with the war, for many good Cold War reasons, but mainly because we did not start it. The North Vietnamese started it - it was Ho Chi Minh who directed the killing to begin. I came home after three tours convinced then and now that whoever starts a war, even if it is an American President, is personally and directly responsible for all the killing that takes place and should be held accountable.
And my guess is that Vietnamese communism will be gone is less than fifty years and Ho Chi Minh City will be like other cities, Stalingrad for example. Just wait, it will be renamed Saigon.

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A Night Round-Robin

USAF Primary Pilot Training, Spence Air Base, Moultrie, Georgia- T-28 - class 60 Foxtrot, 1959

Tiger Flight's first night solo cross-county navigation was a night mission to remember, including unusual altitudes and night aerobatics.
My aviation cadet call sign was Tiger 23. The mission was our first solo night cross-country in a T-28. The weather was perfect. A recent front followed by high

pressure cleared the haze and lowered the temperature leaving behind a beautiful, clear, star-filled night that was perfect for night cross-county flying. We all went out to our aircraft while it was still daylight, pre-flighted, pre-positioned our seat parachutes, head sets, flashlight, and got everything set up to start our engines. In my case Tiger 00, Tony-the-Tiger, would be my back seat passenger. Tony was our Tiger Flight's twelve inch tall stuffed mascot. I strapped him in as tight as I could get the shoulder harness and seatbelt.

Every Tiger Flight cadet waited, in the cockpit or nearby, for the sun to set and the start engines light signal from the control tower. It is a fond memory, one of my best as a Spence aviation cadet. I sat at the left wing root, just below the open cockpit, my back up against the cool aluminum fuselage with my legs stretched out toward the wing tip, warmed by the heat coming from the fuel in the wing tank below. A light, cool breeze crossed the flight line; I remember the scents of the earth, the local pine trees mixed with the aroma of wood fires from the nearby homes.

I thought then, and now, that life could not be better; that flying was what my life and my future was all about. The warm fuel, the chilled fragrances of the earth, the Southland, the surrounding pine forests and the aroma of the smoke - the excitement of the night flight are all to this day wonderful memories of my flying at Spence.

Finally after the sunset, as the dusk faded, came the green light - the signal from the control tower for us to start engines and, in timed sequence, to taxi and take off. It was a good feeling to sit there watching the instructor pilot's aircraft taxi by, followed by each aircraft in Tiger flight and then it was my turn to taxi out with the group, a part of a big mission.

I somehow knew that it was a glimpse of what combat flying was like in the past. I didn’t know that 14 years later I would be waiting my turn to start engines in the cockpit of my F-4E Phantom for my first Linebacker II night mission. The Linebacker II missions were the December 1972 night missions to Hanoi that ended that war.

For a young aviation cadet at Spence who was getting the best flying training anywhere, and getting paid to do it, life just could not get any better. A little tension was building. Thoughts came to me as the sky darkened about what it must have been like on those World War II night combat missions. I told myself that it was not much different than now. I dropped those thoughts and went over in my mind my plan to squeeze at least twenty extra minutes from the mission that night. I wanted that time for myself, for a little night aerobatics. I did not tell my roommate or anyone else my plan, knowing that if the word got out somehow there would be serious trouble.

Those thoughts ended with the green light from the tower. The flight line woke up as each aircraft started engines. The taxi, takeoff, climb and level off were normal. The flight plan was a night solo navigation mission using a left hand box route with four almost equal legs. They had prepositioned our instructor pilots orbiting at

each turn point to check us as we turned the corners, to keep an eye on the weather, and to stay in radio contact with the cadet pilots in case of an emergency.

We were required to call in at each of the turn points, which I did exactly at the planned time. But I flew a much smaller box inside the box than they were flying and flew at a lower altitude so I could look up and see the lights of the other aircraft in the stream. The smaller box would give me the time I needed for my first night aerobatics.

Only one of the instructor pilots called me at a turn point. I told him the truth, that I had him in sight. I did have him in sight when I turned inside that second turn point. It worked as planned, and I arrived back at Spence twenty minutes early. I stayed at altitude and flew a short distance to the southeast away from the stream of aircraft and the airways. My big adventure was about to begin, but first came a few confidence maneuvers, a few steep turns. That went well. Next I did a few ailerons rolls. My confidence increased, and I had just enough time for one loop and one barrel roll. I should have looped first because the barrel roll turned out hairy. It was a maneuver I'll never forget. I started down; building up air speed, then slowly rolled right and pulled up toward a point of light 45 degrees on what I thought was the horizon. I passed through that point wings level and climbing and kept rolling until I reached what I thought was a ninety degree bank turn and started to look for a light to roll toward. I slowly rolled inverted and suddenly I lost all orientation. The barn yards lights of the isolated Georgia farms below all became part of the stars, and the stars became barn yard lights. The scattered lights of the night countryside blended in with the stars and my view of the world was all blended into one. For a few scary moments I could not distinguish up from down.

This was my first real scare in an aircraft. It was good scare and a bit of a shock to realize that I was in trouble. I tried for a moment to go on instruments to recover. That seemed hopeless, for all the instruments were spinning or pegged, so I slowly pulled back on the throttle, released the back pressure and looked around for a cluster of lights, a small town, or the lights of Moultrie City, anything that would tell me up from down. No luck.

I just pushed the stick forward, unloaded and waited until the aircraft started down then rolled to what I thought was wings level based on a cluster of lights and waited. Finally I spotted the town of Moultrie and nearby Spence Air Base. My breathing slowly returned to normal. It was scary but it was over. Now I could focus on how I would safely re-enter the returning stream of aircraft.

Lessons learned: If you are going to do night aerobatics on a moonless night, use a big city or light cluster or a good reference as the starting point. I still enjoy night aerobatics because there is no glare from the sun; the air is cool and calm. I pick nights with a full moon and like to takeoff when the moon is at about thirty degrees above the horizon. I also ask for a block altitude and flight following. I filled out Tony's logbook after landing but left out the introduction to night

aerobatics and our recovery from unusual altitudes. Our mascot Tony the Tiger and his logbook disappeared when Moultrie air base closed and we have been on a Tiger hunt ever since.

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A Bomber Crew Christmas

Lincoln Air Force Base, Lincoln, Nebraska, 372 Bomb Squadron, B-47/E, 1964

It was a week before Christmas 1964 and we had some time left to fly after returning to base from a typical 9 hour training mission. I talked the crew into flying at about 1,000 feet not far from the air base, to scout the snow covered countryside for a Christmas tree. I was the copilot on the B-47E, and we started to look for the right size tree in a remote field away from the farmhouses, out in the open range. The mission was to find one, go there after landing, cut it down and take it home for Christmas. Our navigator was looking through the zoom lens of the optical bombsight and we both gave directions about where to fly to take a closer look at the trees we spotted. We spent about a half hour looking around until I spotted what looked like a good tree near a snow covered county road with good access and no farmhouses around! Now we just had to land, go out and cut down the tree and haul it home on the top of my car.

We drove out to the area and finally found the right location, which was no easy task. There was light snow falling when we reached the open field. Everything looked much different from the ground than from the air. The size of that lone Christmas tree looked about right, but its location in that field was a different matter. To get to the tree we had to walk in deep snow across a windswept field that seemed to us more like an escape and evading (E&E) mission across the steppes of Russia. But we had gotten that far and were now determined to get that tree. We headed out with ax in hand. The snow began falling heavier, but we kept on course in the "whiteout", and finally got to the tree. It turned out to be a cedar tree. It had sure looked good at 1,000 feet and 220 knots, and even from the. Up close it was one that would be the last tree to sell on Christmas Eve! It was a tough, shaggy tree that had survived years in winter winds out there in the middle of nowhere. It was a tough survivor on the Western Prairie, but very special to us!

The snow started to fall harder than ever. It came down so suddenly that it was like being hit by a small avalanche. It pressed down in a strange sensation as though it was sucking our breaths away. We cut the tree down and started back across the field. The snow started to blow like a blizzard in strong horizontal bands. We felt like we were walking across the front of a giant Langley wind tunnel. The bands of snow looked like the smoke trails in a wind tunnel.

We made it back in spite of the snow and enjoyed a wonderful happy ending and a very Merry Christmas season. We celebrated in the great German tradition of drinking hot red wine from a heated silver lined bowl. The tradition calls for a brandy and rum soaked sugar cone that is set on fire and melted into a pot that has orange rings floating on top of the heated red wine. We brought the red wine

back from Spain in our B-47 when we returned from nuclear alert duty. We toasted our tree many times. We may have had the poorest looking tree, but after my wife decorated it, it looked wonderful! It was the most memorable tree of all of my Christmases. We were able to celebrate Christmas at home for a change, and it was one never to be forgotten, and no one but our wives knew where that tree came from and how we used a SAC bomber to find it!

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The DFC

MacDill AFB, Tampa, Florida, 1978

It was a pleasant surprise. I was reviewing my military records just prior to retiring from the Air Force. I was putting together a resume that resulted in a well-paying job as an aerospace consultant working for TRW and the Imperial Iranian Air Force in Shiraz.

I was the right fit for the position and I was also eligible to retire.

They called me from One Space Park in Redondo Beach, California, and offered me a job. The DOD could not assign me there as a USAF major because of the politics and I was told that I would have to retire first.

I knew I could stay at MacDill and get promoted beyond major, but I decided that this was far more interesting and, in a way, a Golden Parachute job that would help me decide and would help our Country and Iran, then one of our strategic Cold War allies.

I reviewed my records for retirement and discovered that I had received a Distinguished Flying Cross (DFC) for a combat mission flown in South Vietnam in the summer of 1972.

It was a strange feeling as I read the citation; my mind raced back to that time trying to get ahead of the words to find and fill in the details as I read.

There were many missions to think through, so what made this one so special? Slowly the details came together but much was still missing.

I do not know who submitted the paperwork for the DFC or who else was with me that day and if they also received the DFC. Who were the others in the flight? Who was that forward air controller (FAC)?

My mind started that interesting process of recall, slowly the images started to connect, and memories of the excitement of the mission were relived.

I remember that I was the flight leader on that mission and that the target area was about 100 miles northwest of Saigon, South Vietnam. It was during my third air combat tour and my first in the Phantom, an F-4E with the 4th tactical fighter squadron out of Udorn air base, in Thailand. It was late summer, the last year of the war.

We were flying routine "double bangs", two missions every day with two refuelings, one outbound to the target area. The second followed quick turns at Bien Hoa for bombs, fuel, ice-cold milk and fresh vanilla cupcakes for our lunch. We delivered

the second load of bombs; hit a tanker and then returned to base (RTB) at Udorn in Thailand.
We would get back in time for dinner at the Officers' Club, have a few beers, some "loowling, loowling, loowling down the liver" from a live band or "I can't get no satisfaction" from the juke box, then off to the hooch for some sleep and another early go for another "double" the next day and then the next.
Like so many missions, much is long forgotten.
We would refuel out bound to our targets in South Vietnam, find our FAC and deliver twelve Mark 82 five hundred pound bombs, where he wanted them, then land at Bien Hoa for a quick turn.
Those quick turn crews were really good and would have us refueled and rearmed, uploading with another twelve 500 pound bombs - snake and nape or daisy cutters, 750 pound slicks or 1,000 pound bombs, the targets and bomb loads were always different.
But the mission that afternoon was different because the thunderstorms arrived earlier and meaner than ever before. Everything, the refueling and re-arming had to stop in the quick turn area because of the intense air-to-ground lightning. The longer we waited, the darker it got and that was the problem.
Thunderstorms were moving westward off the Gulf and getting darker, higher and more severe than I had ever seen before.
I was hoping it would rain at our location to cool things off, but all we got was intense lightning, the revetments and ramp stayed hot and the air got even more muggy, if that was possible.
We were running way late and if it took any longer we would miss our go home tanker with the fuel we needed to get back to Udorn.
They gave us a ten-minute call, time to suit up again, in the now cold and still sweaty G-suits, harnesses, gun belt and survival vests. There was time for one more last glass of ice cold milk and one of the soft delicious vanilla cupcakes before heading out the door into a wall of intense heat, humidity and continuous sweat to go back to our Phantoms.
We started our engines and taxied to the runway. The quick check ground crews held up hands filled with the bomb fused safety pins they had just removed.
I saluted them, it was heartfelt, those salutes were the only time I could thank them for the hot hard work they did. They were our troops, still the best in the world.
I was concerned, and took another look at the storms in the direction we were headed.
I pushed the engines to 100 percent, got a nod from my wing man then released the brakes and went over the stops into full afterburner. My wingman followed moments later.
I made a wide turn to the right and picked up a north by northwest heading to rendezvous with the airborne forward air controller. The heading was directly toward that solid black wall of the blackest, meanest storms I had ever seen.

There was no turning back. With some luck the target would be nearby and we could quickly find the FAC, drop our bombs and be on our way. If everything went well, we could hit his targets, go afterburner, top the thunderstorms, rendezvous with our tanker in Cambodia and head north into Thailand and return to base (RTB) back at Udorn.

Luck was with us at first, we made good clear radio contact with the FAC early on. He was able to brief us before we arrived overhead. He told us clearly what he wanted us to do and what he intended to do. Good radios can make a big difference. Like us, he wanted to get the job done before we had to fight the thunderstorms all the way home. They were still growing, towering in height and the lightning became more and more intense. The thunderstorms closed in behind us at about the time we rendezvoused with the FAC and started to orbit.

We circled inside what now looked like the eye of a very dark, black hurricane.

The target area below was dark as night, with shear vertical walls all around us and lightning in every direction. Every minute counted now because the clouds were still building and closing in.

My backup abort-escape plan was to turn back to the east try to go through or over the thunderstorms, jettison the bombs in the Gulf of Tonkin and land back at Bien Ha. The FAC could see our problem, that the storms had all three of us boxed in.

Their thickness and intensity completely blocked the light from a setting sun. We were now on a night mission during the daytime.

We circled overhead as the FAC set up and told us what he was doing as he maneuvered for his pass. This was critical information and helped me setup when and where I would time my pass, there was only time and space for one pass each.

The lightning in the surrounding clouds was so close and intense that we could have had flash blindness had we not been flying belly-up to the closet ones. The hole was closing fast forcing me to fly in a tighter and tighter circle slowly having to increase the bank angle.

The lightning was really wild, air-to-air and air-to-ground lightning. It was spectacular but disorienting like strobe lights at a Go-Go bar dance floor. The lightning was helpful, but in a hairy way. It helped me see the black clouds and stay clear of them as we circled. Just one lightning strike on the nose of one of the five hundred pound bombs and it would be all over. In an instant we would have been a part of the fireworks. My job as flight leader was to get rid of the bombs and get us the hell out of there as quick as possible. I increased the bank angle to stay out of the clouds, until we reached 90 degrees of bank with full afterburner. We were heavy just after takeoff with full fuel tanks and three tons of bombs.

The only maneuver option left was to increase the back pressure and pull more and more G's to stay in the air. We could only do so much or lose a wingman.

The FAC then called in on his target marking pass - just in time since I was pulling

more G's than I wanted to.
It was "Show Time".
I needed the ninety degrees of bank so I could look almost straight down to keep an eye on the small red identification light on top of the FAC's aircraft.
I told my wingman to take spacing as I started to roll my wings level to climb for the roll in; the afterburners would help wingman keep me in sight as I rolled up, over-the-top and down into that black vertical tunnel.
My wingman had the best view with all of the black, white, yellow and red of the afterburners. He had to follow me. We had the opportunity for only one pass and he had to do everything I did.
I released back pressure to unload, rolled wings level for just a moment, then pulled hard straight up and rolled right, inverted, then I pulled hard down into the dive angle I needed.
All the time I kept an eye on the moving red light on the top of the FAC aircraft.
I had to judge my roll-in and pass based on his roll-in timing and description during his target marketing pass.
I saw the flash from his spotting rocket. It was what I needed to aim on and I had enough time to make a final adjustment.
I needed to hit the flash of his Willi Pete, a white phosphorus rocket. I felt good - I was more relaxed and relieved now as we arched up, over and down into that black hole. I had asked the FAC to clear to the east since we would make one pass each and pull off to the west.
It was all like a circus trapeze act - timing was everything. The timing worked perfectly and if my wingman took enough spacing he could use my bombs and adjust his bomb run to where the FAC wanted them. We were dive-bombing in a black hole, with flashes of lightning from all 360 degrees.
I pickled and pulled up after the bomb released and went back into full afterburner and climbed almost straight up toward the dark blue evening sky above. My wingman picked up my afterburners again and called that he had me in sight as he came off his pass.
The last leg of the mission was in the smooth air above the clouds where we watched a beautiful golden sunset over Cambodia. We were too late for our RTB tanker and had to land and remain overnight at Ubon air base in Thailand. We had a few beers that night made a few remarks about how hairy the mission was.
Did we deserve a DFC for that mission? I guess so in the eyes of the person who filled out the paperwork. I would like to know more and so that I could say thanks. There were other combat missions where the enemy tried very hard to shoot us down. Those were far more dangerous and maybe one other that I remember was more deserving of a DFC, but things have a way of balancing out.
I am proud of my DFC; and to all those who were there with me that helped make it a successful mission - thanks.

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Teeny Tigers

George Air Force Base, Victorville, California – Lockheed AT-33, 1968

It was a crystal clear morning with a light breeze from the mountains that cross the desert and the flight line. The air was cool and dense mixed with the aroma of the sun baked rocks, sand, and tumbleweeds. The ramp was beginning to wake up, full of the hustle of crew chiefs and mechanics getting their aircraft ready for a full day of flying.

There was a good feeling building up inside as I walked across the ramp toward my assigned aircraft. The familiar scent of cold aircraft, JP-4 fuel and hot jet engine exhaust permeated the ramp. I remember walking tall in my flight suit with my helmet in hand in a slow, almost ritual like walk. I paused to savor the moment; it was a beautiful morning and the start of a perfect flying day. I could not help but smile inside with gratitude for being paid to do this.

It was exactly the same exhilaration that I felt as a six year old boy in the Bronx as I sat on the stoop when a Navy Bearcat buzzed the neighborhood during World War II. From then on, I knew exactly what I wanted to do. Now I was a grown man, doing what I always wanted to do more than anything else, fly fighters.

The mission that spring morning at George was a four-ship formation to the nearby tactical bomb range. Each aircraft had an instructor pilot in the back seat; and pilots like me qualifying to fly Phantoms in combat. It was smart to test us to be sure we all had the right stuff, had “the hands" for the fighter business. The pilots, the instructor pilots, the AT-33s and the missions were all there to confirm that we did.

I was the flight leader for that mission. It all started on time, on ground power. The four-ship flight checked-in, all responded loud-and-clear with crisp "2", "3", "4", as if scripted. The start engines, radio calls, taxi, run-up, takeoff and join-up went as smooth and flawless as my Rolex.

As I turned the flight slowly and smoothly toward the tactical bomb rage; I sensed that this first morning mission would be a good one.

It is a wonderful feeling when the pilot, the aircraft and the flight seem to melt together into one. These are the far too few joyful moments in life - of just being, just enjoying, being alive and flying. The feeling comes naturally for pilots who love to fly. We were happy warriors, en-route to a combat tour in Vietnam. I am not a war lover, but this is what I felt I had to do, volunteer to go to Vietnam again to get into fighters.

It was good to get back into a single engine cockpit. I was assigned to the "retread unit" that had a squadron of AT-33 aircraft as late as 1968 for their fighter re-qualification program. The AT-33 is a 1950's vintage single engine jet trainer. Those aircraft were pulled out of the aircraft bone yard at Davis-Monthan Air Force Base in Tucson for the Vietnam War. It was a long and interesting road to get to the Phantoms with this short stop for AT-33 qualification. I was happy to leave Strategic Air Command (SAC) and get on a ramp filled with fighters. The first rehab flight was an AT-33 "Dollar Ride", an old Air Force term used for your first

flight in a unit's aircraft. Those six months in California were for me, in many ways, a joy filled flying vacation with pay. It was great, to just go out and fly; back to "stalls-and-falls", jet aerobatics, formation flying and touch-and-goes in the AT-33. When that basic flying was out of the way, we got down to business.

This was the third flight, a formation flight of four AT-33s to the tactical bomb range. The targets for that day were an old collection of dark blue painted Korean War vintage, shot-up Navy Cougars and Panthers, surplus Navy carrier fighters. They had been trucked to the bomb range and unloaded into the earthen revetments that lined a simulated runway. The entire area was bulldozed to look like an airfield in North Vietnam or East Germany.

Flying the AT-33 was Deja vu. It was the same aircraft I flew in my aviation cadet days. I got my silver wings and gold bars in March 1960 as a brand new second lieutenant in your United States Air Force. Pilot training class 60 Foxtrot started at Lackland AFB, Texas; went on to Spence Air Base, Georgia then on to fly T-33's at Greenville AFB, in the deep South, near Greenville, Mississippi, which was still segregated at that time.

The T-33 or "T-Bird" is a solid, very stable, and at that time was an advanced pilot trainer, a nimble easy aircraft to fly. The only difference between the T-33 and the AT-33 model was a gun sight, the 50 caliber machine guns in the nose and a weapons release system. I could not have known then, but as both luck and life would have it, the 50 caliber nose guns in my aircraft were perfectly bore sited. The six-gun barrels adjusted so all rounds would hit at the exact same spot, at a set airspeed and range where the gun sight's red pipper was placed-aimed. It is much like today's laser pointers, put the red dot, the pipper, on the target and pull the trigger. If the aircraft is rigged and trimmed properly, and its bore sited accurately at the calibrated range, with no yaw, no turbulence or strong crosswinds, and no one shooting at you, that spot is exactly where all of the 50 caliber rounds will hit.

The most important "kill-skill" is total awareness, to watch everything closely; especially where the rounds hit so you can make corrections to compensate for the gun sight and wind, if needed, on the next pass.

That AT-33 responded beautifully. It smoothly responded just so to the slightest touch. The feeling of stability and solidness of the aircraft comes directly from the control stick, right though the hand to the seat of the pants and then to the brain. If you have all those things going for you, and a solid aircraft like the AT-33, only smooth, slow, small and well-timed corrections are required to fly the aircraft with little or no effort. If there are no distractions, no one shooting at you, no jinking required, then there is a good chance to hit your target.

For a successful strafing run all you had to do was roll out on the exact target heading and line up early, aim at the right spot in front of the target aircraft and let the pipper move forward and drift slowly toward the target. Let the red dot move along the desert floor, in a straight line, and at the right rate so that the pipper reaches the center of the target aircraft at the calibrated range. When the power

setting and dive angle are correct and the airspeed is right, smoothly pull the trigger and the result are amazing. I watched what happened like a spectator.
I could see the 50 caliber dummy rounds hitting the aircraft. It looked like a barrel full of Chinese firecrackers exploding at the same time - with traces, flashes, sparks, and black and white smoke and then finally, to my amazement, the aircraft burst into flames.
I rolled in on the second attack heading, smoothly placed the piper a few hundred yards in front of the aircraft in the second revetment.
Then I watched the pipper again move slowly over the brown sandy desert floor in a smooth straight line forward toward the next aircraft. I pulled the trigger just as the red dot reached the center, the largest section of the aircraft.
I was amazed again as each round caused the same red flashes. Every one of those non-explosive rounds hit the same spot exactly where I aimed.
How could that be? Those old shot-up Navy aircraft looked like Swiss cheese - shot full of holes - like trash cans in the Fearless Fosdick Dick Tracey cartoon.
I pulled up off the second pass, called "off right" and picked up the other three in the flight that were rolling in on the now smoking targets. I rolled out and leveled off on the downwind side to set-up for the next target; made sure the other three aircraft were in sight, and that number four was off the target and called in for my third pass. It was easy to duplicate the first and second pass and again, to my surprise, another aircraft to burst into flames.
And so it went, aircraft after aircraft, until I ran out of ammunition. Each pass was a great feeling. The mass of the aircraft under me was solid and smooth, as if the aircraft was going down a well-greased chute. It was like being the first in the morning to ski down a new deep powder snowfall. On the second pass I did start to notice the strange unfamiliar popping sound of the fifty caliber nose guns firing.
I started to look around more and looking back at the airfield, noticed the black smoke rising from each revetment.
Our flight of four aircraft rejoined over the range, and it was then that I saw the black vertical smoke trails; they looked like thick vertical black cats' tails. All the aircraft were burning, each with a tail of dense black smoke, all in perfect symmetry, sticking straight-up in the still air. I still wonder even today what was left in those old aircraft to burn, but burn they did. My instructor pilot (IP) remarked to me on the way home that he had never seen that done before, I did not say a word. And found out later that all four-instructor pilots must have agreed.
Those were an enjoyable ten hours and eight sorties in the AT- 33.
The flying hours that followed were in the F-4E before shipping out to the war. My assignment was with the 366th Tactical Fighter Wing, "The Gunfighters". My new squadron, the 4th fighter squadron had just moved from Da Nang, known then at Tahkli Royal Thai Air Force Base. Takhli was in Thailand and the same base where I flew my first KC-135 tanker mission back in October of 1966, a small world!
There was a pleasant surprise later at the Officer's Club, during the AT-33 rehab

class graduation dinner. I was called up to the stage and received one of my favorite military mementos, a shiny highly buffed brass and copper 50 caliber round. It was an empty casing re-assembled with the 50 caliber copper head and it had been buffed to a beautiful shiny gloss with the inscription; *"**Exceptional Teeny Tiger".***

It's a proud possession. They did not say why I got it, but I was pretty sure it was the result of that one morning, months back in the program when I "smoked" all those aircraft at the tactical range.

Postscript: If I knew who had bore sighted those guns on the aircraft, I would have also named them in this story. They deserve an award for being "Exceptional Teeny Tigers" because it takes a total team, like football, to be the best in this business. I want to give them my thanks and appreciation. We were the happy warriors, a small band of brothers, the "Teeny Tigers" then and now. I think it is accurate to say that the first requirement for a Teeny Tiger is to love what you do. The rest is luck, a good aircraft, gun sight, "good hands"; smooth flying and most important of all I think is a love for flying fighters.

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Hut Flight Cleared to Fire

North of Hai Phong - North Vietnam, December, 1972

My Linebacker II mission call sign was Hut flight.

We were a flight of three. We had lost Hut four due to a refueling problem. We were on a bomber escort mission that crossed the fence south of the Chinese border north of Hai Phong.

I positioned my flight of F-4E Phantoms between the missile sites around Hai Phong and the flight of three B-52s we were assigned to escort. They were above us and to our right, parallel to the north of our track. My plan was for us to act as bait to attract the missiles away from the B-52s.

The SAMs would have to come to us, or go through us, to get to the bombers. We had a much better capability to evade by out-maneuvering them, but it was a deadly game to play with the SAMs.

In contrast, the bomber crews' orders were the do-or-die variety like the change of the light brigade. They could only use jammers and chaff and a tail gunner to defend themselves while pressing on straight and level to deliver their bomb loads. Those tactics changed as their losses increased.

Those Linebacker II missions explored the gamut of emotions and senses as in any deadly reality game of hunters and hunted.

As flight leader I always considered myself the hunter with two equal priorities: the mission and my wingman. I always sought to find the threat, the enemy and the target; and to protect my wingman. I would never sacrifice a wingman for the mission unless I was the first part of the sacrifice. Targets, in a sense, did not go away. They would generally be up again another day, but experienced aircrews were hard to replace.

The cacophony of radar warning sounds got louder and more mixed as we approached North Vietnam. We had no sooner crossed the fence than I caught what looked like a single MiG in afterburner at our three 0' clock low position. I got off my radio to call my flight before the after burner – the MiG passed directly under me. There was no warning from my RHAW equipment. We had no warning from airborne early warning or Red Crown, the ship based radar picket-ship in the Gulf of Tonkin. They were all probably too busy with what was going on over Hanoi.

The MiG must have come from China, been vectored to us, but must not have used its radar to lock onto anyone in the flight. It was impossible for the enemy pilot, or for that matter any pilot, to get a visual on us in the pitch darkness. Still, we were lucky our first visual hadn't been cannon muzzle flashes, or missiles plumes from the MiG.

I had briefed the flight that we would engage MiGs singly. If any one of us saw a MiG, we were to break off, tum off exterior lights, and attack. The same was true if we got a vector from Red Crown. I don't know what other flight leaders briefed, but those were the night combat rules-of-engagement (ROE) for my flight.

My thinking was that at night a wingman was unlikely to be able to hang on to a maneuvering lead and there was no sense keeping your external lights on so he could. Further, once the flight is split, two fighters going after the same target in the dark is a recipe for a mid-air collision. I was the one who saw the MiG, so I broke out of the formation knowing that my element leader, Hut three "Snake", would then take over as briefed and continue inbound escorting our bombers while I went after the MiG single ship.

I called, "Hut flight, MiG three o'clock low," unloaded and went into full afterburner, as I rolled down and toward the MiG. I pulled hard down, turning as fast as I could ninety degrees to the south, the heading change I needed to match the direction of that afterburner plume. I knew that heading was taking us straight towards the heart of the five SAM sites around Hai Phong.

I rolled wings level, looking, listening, waiting, and hoped that Pojo, my guy-in-the-back (GIB), would find the MiG on our radar and lock him up so I could fire our AIM 7's.

I strained to see in the afterburner of the MiG in the total blackness, it seemed to have disappeared. I listened for the growl of my AIM 9 missiles, the heat-seekers, "sniffing" for the heat of that MiG's tailpipe.

I needed something, anything; the afterburner as a visual, a growl from my best AIM- 9, or a radar lock-on with yellow in-range light, in order to ripple fire the radar missiles.

The MiG was out there somewhere in that black hole we shared, the hunted, we the hunter.

Then the radio call in the blind from Red Crown, but no vectors or range to the MiG, only, "This Is Red Crown on Guard; Hut flight you are cleared to fire."

Beautiful words-if you're locked up or in sight. But I saw and heard nothing and my

GIB could not find the MiG on our radar. I don't blame him. 'Pojo' had just arrived in the squadron from an RTU in the states. He was a new second lieutenant on his very first combat mission. Even the most experienced back-seater would have needed a lot of luck to find a small radar target in all the ground clutter and interference from jammers and chaff that night.

I tried, looked, and listened as hard as I could for the heat signal I would need to fire the AIM-9-to find the afterburner but nothing.

We were approaching Mach one in a 20-degree dive hurtling toward where I had last seen the MiG afterburner. The only thing I had to go by was the last heading of his afterburner plume.

My guess later was that the MiG had come out of afterburner, did a "Split S" and headed back to the north into China. His mission was completed. He was a successful decoy and we were now deep inside their five SAM rings around Hai Phong.

The hunter had become the hunted.

A few more seconds passed. I was about to call Red Crown. We were passing through 20,000 feet and Mach 1.4 when I picked up two SAMs. The red square RHAW AS light (aptly called the "aw shit" light) was lit; there was a strobe showing the right direction on the RHAW scope, and the rattlesnake sound confirmed we were now the hunted. We had become the prime target for the five SAM batteries.

I had learned from experience that those missiles without a halo were of little threat. The halo, the ring around the rocket engine plume, was the give-away. Think of the halo you see around street lighting on a foggy night. The halos tell you at once that the SAMs are near enough to be lethal. There they were, the two were in trail, deep below us off the starboard side, both with halos and both headed directly at us.

I turned to put the missiles at 90 degrees off the right wing. I used right rudder to slice the nose of the aircraft down and used zero-g to get more acceleration. I watched the missiles. As soon as I saw them tum to follow us down, I rolled the wings level and pulled straight back on the stick and watched and waited. They tried to turn to follow us, but the missiles' wings were too small to produce the turn needed. Both missiles passed well behind us at our six 0' clock, heading toward the Gulf of Tonkin.

It is much like the way a bullfighter watches as the bull chargers, concentrating on the horns. A move to avoid them too soon and the bull has time to move away and redirect his charge. Move too late and the bull wins, with a trophy on his horns. The maneuver must be just right or the matador gets the horns.

We were in a nose high climb as the SAMs passed behind us. I rolled to the left so that I could look around. It was just in time, there were two more missiles, both in trail, both headed directly at us, and both had halos around their rocket plumes. I did not have to confirm using the RHAW, or the missile lock-on sounds, or the azimuth strobe or the red AS light to know we were their destination.

I rolled further left toward them keeping them at ninety degrees off the left wing. I

had to use more negative G to get them to commit down, knowing that we were on the edge, exceeding the negative G limits of both hydraulic generator drives. Our radarscope started to flash bright green as the generators cycled on and off. Then we waited. I watched for their course correction and the moment when they moved to follow us down. At that moment, I could pull up. Get that pull wrong and the fight is over.

The other lights in the cockpit were going on and off like a pinball machine as the generators tried their best to deal with the excessive negative G's. There was no choice, I had to use all the negative G's I could, knowing that there was a good chance of losing all electrical power in the middle of the SAM rings. But total power failure in a total black out night was the better choice over those two missiles.

I yelled at Pojo to turn off the radar, the bright flashing green radar screen was affecting my night vision. He did and just seconds later we lost all electrical power. I held the high negative G nose down pitch altitude, watched, and waited. The missiles started to tum to follow us down, and at that moment, I pulled up as hard as I could, and was relieved to watch them pass behind us toward Hanoi.

We were on battery power now as we headed southwest almost out of the last SAM ring. Pojo called out that we were being trailed by AAA air burst, but the pitch and tone of his voice told me that they were not an immediate or serious threat. I did start to pitch, roll and weave, more to scout the skies for more missiles, at the same time making us a more difficult target for the radar directed heavy AAA batteries.

I found my flashlight and started to work on getting the generators back on line. I moved the right generator toggle switch to reset. The generator come on line, but when I tried the left generator switch both would drop off line. The right generator came back on and that was all we needed until we were out of the Red River Valley and the threat area.

We had enough fuel and things started to settle down, so I turned more to the west. I tried to use the flashlight to read the standby compass for a heading but instead used the Milky Way for a rough heading once out of the SAM ring.

In a strange way, the missiles helped me know up from down and where Bulls Eye Hanoi-was. We eased further to the west and waited until Pojo could get the INS to re-align to give us more accurate headings for our flight home.

We now had one generator, the INS for steering and the radar back on so I turned to the northwest to see if we could intercept and rejoin Hut flight and the bombers during their egress from the Hanoi SAM rings.

Maybe I could still contribute by drawing the enemy interest away from the egressing B-52s. It was a good mission, especially for Pojo. It was his first combat mission and could not have been more interesting. I felt good about it too. We did not lose a B-52 under our protection that night and the enemy wasted four missiles on us, four missiles they could not fire at our B-52s in the nights that followed.

***

Hello Dylan

Good meeting you today and sharing a few my Think Tank projects:

And thanks for joining and helping FAHS ...

We need many more of you to help keep the aviation afterburners burning...

I am a FAHS member and of an also all volunteer, public interest - self funded - think tank - CAMELOT FLORIDA.

And as the Global Air Mobility Projects manager, I am developing

five major programs to promote aviation and maintain USAero leadership...:

The AGENDA:

1. The NATIONAL INTERSTATE FLYWAYS SYSTEM [NIFS].

2. Global Airports - THE NIFS HUBS/NODES [The Florida Global Airport].

3. A 50 passenger combi COMMUTER aircraft [the JCR 5019C] the flagship of the NIFS, and the 21st century replacement for the C-47/DC3.

4. The SOLAR FALCON - a low cost - electric powered - two seat - tandem - motorglider - primary pilot trainer.

5. The EARN your STEM Pilot Wings from schools ages K6-12+.

Neil Cosentino
USAF, Retired
Camelot Florida
Global Mobility Consortium - AIR
Tampa 813-784-4669

Also hope you enjoy my book Letters from the Cockpit:
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Letters from the Cockpit

Neil Cosentino

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The author has experienced true-to-life situations that he now recalls for you in an effort to give you the thrill, the fear, the wonderful feeling of freedom of flight into the heavens-the long sought ability to escape the trivialities of earth-bound mortals.

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Warren J. Brown, M.D.
Retired Flight Surgeon, FAA, U.S. Navy

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FEI: Letters from the Cockpit -

This book is for those who wish they were born with wings and/or enjoy short stories.

All the stories are true. They were written for all those who were with me in the cockpit, for my flight leaders, and for those who flew on my wing.

The stories are meant to share decisions, and to reflect my faith in God, family, friends, my country, fellow pilots friends-of-flight and my faith in the future of the USA...

Letters from the Cockpit – is also " a Familyiography "

I had to coin a short story genre, a " Familyiography " which joins the Biography and the Auto-biography family of books.

A " Familyiography " is an on-going collection of two or more published and unpublished true stories.

They are compiled like this book, into a story album, a Familyiography with the hope that others will write their own stories for their siblings, and for the younger generation.

Familyiographies are meant to inform, entertain, to put leafs-on-the-family trees - to compliment photo albums.

This book shares a personal insight into aviation and to what took place during the Cold War, the Vietnam era and beyond.

It is also meant to put you in the cockpit.
And it is a challenge for me to keep flying and keep sharing the excitement and the joy of flight.
I hope you enjoy this 1st Familyiography and you, family members and friends start writing theirs...

With very best thoughts for your " someday book " and for tailwinds all-ways,
neil
" Fighter Pilot Emeritus "
Cell/Text 813-784-4669

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Those stories with an * are my combat stories ...

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