



Missions for  
America  
*Semper vigilans!*  
*Semper volans!*

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

[300 Tower Rd., Groton, CT](http://300TowerRd.com)  
<http://ct075.org>

Official Publication of the Thames River  
Composite Squadron  
Connecticut Wing  
Civil Air Patrol  
[300 Tower Rd., Groton, CT](http://300TowerRd.com)  
<http://ct075.org>

Lt Col Stephen Rocketto, Editor  
[srocketto@aquilasys.com](mailto:srocketto@aquilasys.com)  
Maj J.Scott Farley, Publisher  
Maj Roy Bourque, Paparazzi  
Hap Rocketto, 2nd Lt, AUS, (ret'd.), Features  
Capt Edward Miller, Features

Issue 11.40                      07 November, 2017

### **CALENDAR**

*See the Squadron Calendar for Meeting  
Details*

10 NOV-Armed Forces Nights-Groton Elks  
11 NOV-Cadet Ball-Berlin  
11 NOV-Repair Work-Cadet Trailer  
14 NOV-TRCS Meeting  
18 NOV-CTWG SAREX-HFD  
21 NOV-TRCS Meeting  
28 NOV-TRCS Meeting  
02 DEC-First Aid Training-Salem  
05 DEC-TRCS Meeting  
12 DEC-TRCS Meeting  
19 DEC-Squadron Holiday Party  
26 DEC-No Meeting

### **ANNUAL FRUIT SALE**

The sale has ended. All orders should have been turned in Tuesday. If you did not do so, notify Lt Col Rocketto immediately.

### **CADET MEETING**

*07 November, 2017*

The mile run was cancelled due to inclement weather.

SM Diaz led a leadership activity about traits of leadership and communication as a special component.

Lt Schmidt conducted a weather briefing which looked at the frontal passage two days ago and its effect on temperature, wind, barometric pressure and humidity.

### **SENIOR MEETING**

*07 November, 2017*

The Citrus Fruit Fundraising Committee collected the last orders and payments and entered them onto the order form. If anyone did not turn in their orders they must do so immediately.

Send an e-mail to Lt Col Rocketto at [srocketto@aquilasys.com](mailto:srocketto@aquilasys.com) with the quantities of each item needed. Turn in the receipts at the next meeting.

### **PROMOTIONS AND ACHIEVEMENTS**

*ICUT*

Four Squadron members completed their evaluations for Introductory Communications User Training and are now qualified to operate CAP radios.

Cadet Rhys Thornell and SM Jennifer Thornell completed the program on October 21st and worked the Tuesday night CTWG net check-in under the supervision of C/SMSGt Benjamin Ramsey.

On Sunday, Cadets Daniel Martin and Jack Race also completed all requirements. They then checked into a directed net CTWG radio exercise. One of the activities was a test of the digital system which seemed to offer clearer transmissions.

When the exercise ended, Martin and Race took control of the free net and worked communications between a number of CTWG stations and practiced using the squadron's portable radio.

### **MRO/MSA COURSE AT CAMP HARTELL**

*04 December, 2017*

Twelve members of TRCS attended the Mission Radio Operator/Mission Staff Assistant School at Camp Hartell. The MRO portion of the course was taught by the course director, Capt James Steer, CTWG Assistant Director of Communications. The academic material for MSA candidates was offered by Capt Kristina Golden. Lt Cols David Hull and Stephen Rocketto served as skills evaluators.



*Cadets Thornell and Wischman maintaining communications watch with a hand held radio.*

Cadets Wischman, Hallahan, Martin, Thornell, Munzer, Race, Johnson, and Kirkpatrick and Lt Steven Schmidt and SM Jennifer Thornell completed most of the requirement for the rating which they sought save a second mission participation experience. Six of them plan to take part in a second mission on Sunday, September 5th.



*Cadets Martin and Wischman poised to copy incoming messages.*

### **NATIONAL COMMUNICATIONS TEST**

The Civil Air Patrol participated in a Department of Defense quarterly training exercise on Sunday, November 5th.

The test simulated a massive solar coronal mass ejection (CME) which takes down the power grid and all forms of normal communications; land lines, cell phone, satellite, and the internet.

CAP's nation-wide communications system consists of 840 high frequency radio stations, 5,000 fixed stations, and 10,000 mobile radios.

CAP's system joined the amateur radio community, the Military Auxiliary Radio System, and other cooperating agencies to determine the extent of national coverage, the "interoperability" among the participants, and the level of support for the incident command staff and field operations.

Thames River cadets and senior members participated in a radio roll call of Connecticut Wing stations.

Lt Col Rocketto was first up for the 0800 roll call and attempted to join the radio net using the radio in the squadron van. After transmitting from three different locations he struck out and retired from the field.

The squadron's fielded a strong team for the 1200 roll. Cadets Wischman, Thornell, Munzer and SM Jennifer Thornell successfully enrolled the squadron on the noon net and practiced net control techniques. Lt Schmidt supervised and Lt Col evaluated the performances.

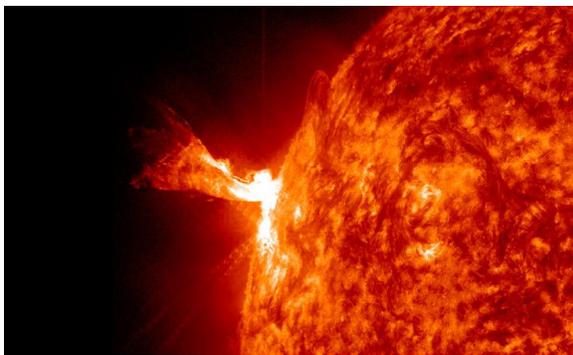
Lt Schmidt also taught an impromptu course relating wavelengths and frequencies to antenna design.

Cadets Race and Martin met with Schmidt and Rocketto for the 1600 roll. After the net rolls had been completed, Race and Martin developed a guidance script to use when directing a net. They then assumed net control and used their script to run an almost perfect link.

By the end of the week, Lt Schmidt had met all requirements for the MRO rating, Cadets Wischman, Thornell, Munzer, Race, and Martin and SM Thornell had completed all training tasks and taken an active role in two missions. The final steps require them to complete two Federal Emergency Management Courses and the third part of CAP's Emergency Service test.

### CORONAL MASS EJECTIONS (CME)

Sometimes called a solar storm, a CME is disturbance on the solar corona generally involving solar flares or solar prominences. High sunspot activity is a tell-tale for these disturbances.



*A typical solar flare might be 50,000 miles long and may release 50 billion times more energy than released by the Hiroshima bomb.*

Sunspot activity follows an eleven year cycle from maximum sunspot activity to minimum activity and back to maximum. At present, the sun is reaching the end of Solar Maximum Period 24 and the next solar minimum is expected around 2019-2020.



*TRCS cadets use a telescope equipped with a special filter to observe sunspots.*

When a mass ejection occurs, hydrogen is blown off into the solar wind. The hydrogen is in the plasma state, disassociated nuclei and electrons which create chaotic electrical fields. When the plasma reaches the earth, it interacts with the ionosphere. The result is the beautiful auroras and interference with electrical and electronic equipment on the surface of the earth. Communications are hampered and electrical grids can be overloaded and knocked out...the result...blackouts.

One of the largest disturbances recorded, the Solar Storm of 1859, sometimes call the Carrington Event, was first observed by an amateur English astronomer, Richard C. Carrington. Carrington noted the solar flare activity signaling the start of the event.

When the plasma interacted with the earth, auroras were observed as far south as the Caribbean, some bright enough to allow reading at night. Telegraph systems failed but so much electrical energy was inducted into the lines that some operators could send messages even though they had no external power supply.

National security officials, Energy providers, and state and local officials understand the enormity of the problem. A CME cannot be predicted and the effects can be generated by enemy action. A nuclear electromagnetic pulse (NEP) can result from the airburst of a fission or fusion weapon. The resulting pulse can not only interfere with communications but destroy equipment which is not "hardened" to resist the influx of energy.

Both the United States and the Soviet Union have experimented with this weapon, detonating nuclear bombs over test sites and collecting the data for analysis. One Soviet test, near a population center created a large surge of electricity which traveled back to the power plant and set it on fire!

Four years ago, the U.S. House of Representatives considered the "Secure High-voltage Infrastructure for Electricity from Lethal Damage Act." The legislation would enable a federal commission to order surge protection of major transformers. As might be expected, the bill went no further than committee. However, a study of the problem is underway by a non-profit arm of a consortium of public power utilities.

For a number of years, the electrical utility companies have been studying the problems which space weather can create in the power grid. In 1989, a "space storm" downed the power grid in Quebec. Solutions could also be supplied to mitigate the damage caused by an act of war. This is not speculative. The North Koreans have announced that they have developed a hydrogen bomb which can be used for an EMP attack.

Imagine the panic created when the U.S. population is deprived of TV, computer games, and access to Facebook.

### **TRCS DAMAGE CONTROL TEAM** **SPRINGS INTO ACTION**

*submitted by*  
*Maj. j. Scott Farley*

The prior wind and rain storm took its toll on the skirting materials on both the cadet and senior trailers. On Saturday November 4, a work crew, led by Lt Steve Heard tackled the chore of reassembling the blown out vinyl skirting on the senior trailer.

The cadet trailer presented a bigger challenge since the plywood skirting material was pretty much rotted out. Repairs were started on the cadet trailer and will continue the following week as additional materials are purchased.

Major Noniewicz attended to the outside spot light and replaced the bulbs and inside timer-just in time for "falling back" to EST.

The folks on the crew included, Lt Cols Bright and Doucette, Lts Spreace and Heard, Majors Noniewicz and Farley and Senior Member Michelle Martin.

Special thanks to Lt Heard who also came prepared with all of the tools needed and hauled away a pickup truck full of debris. There may be a future for these folks on the PBS program *This Old House*.

### **BENNIE DOVER JACKSON MIDDLE** **SCHOOL PROGRAM AT GROTON** **AIRPORT**

Maj Scott Farley and Lt Col Stephen Rocketto attended a multi-media presentation about drones offered by Mr. David Grainger of the Salem Propbusters R.C. Club.

Grainger's presentation commenced with a brief history of the large unmanned aerial vehicle (UAV) and the uses of them in the military, law enforcement, and commercially.

Grainger then explained some of the physics of the common small UAV which is in general used: the axes of flight and the use of torque to control yaw, roll, and pitch.

The talk concluded with a demonstration of actual drone flight which included the use of an on-board camera and video goggles.



*Grainger demonstrates camera equipped drone control. The drone is visible in the bottom right quarter of the screen. The image on the screen is what the drone sees, another drone on a podium at the left side of the picture.*

The program is part of a Connecticut Airport Authority initiative under the direction of

Katherine Young. Middle-schoolers from Bennie Dover Jackson in New London were offered an airport orientation and an opportunity to explore aviation career opportunities.

Eight sessions were held over a four week period. Groups of students visited Coastal Air, Mystic Jet, the CTARNG 1109th TASMG, and the control tower and fire fighting facilities.

Squadron Commander Farley and Lt Col Rocketto were allowed time to explain the CAP cadet program and distributed informational pamphlets to the students and teachers.

### **CURRENT EVENTS**

#### *The T-Bird is Retired.*

The last Lockheed T-33 operated by a military force has been retired. The Bolivian Air Force's *Grupo Aéreo de Caza 31* paid off their last four T-Birds on July 31st.

The Bolivian birds were built under license by Canadair and after service with the Canadian military were purchased by Bolivia in 1973. Later, former French Air Force T-33s were added to the fleet.



*Last Bolivian Bird of the Breed (Credit: scramblemagazien.nl)*

Despite modernizations which included digital avionic and new weapons systems, the near impossibility to acquire replacement parts for the half century old aircraft led to the decision to withdraw them from service.

#### *South African "Lawn Chair Larry"*

A British adventurer, Tom Morgan, followed

the air trails blazed by Larry Walters. On July 2nd, 1982, Walters initiated the sport of cluster ballooning, ascending 15,000 into the Federal Aviation Administration's restricted air space governed by Los Angeles Center ATC.

Walters attached 45 helium inflated weather balloons to a lawn chair and in the words of John Gillespie McGee, Jr.:

*...slipped the surly bonds of Earth  
And danced the skies on laughter-silvered  
wings...and done a hundred things  
You have not dreamed of — wheeled and  
soared and swung...High in the sunlit  
silence. Hov'ring there, I've chased the  
shouting wind along, and flung My eager  
craft through footless halls of air....*

Morgan used 100 balloons. Both balloonist controlled altitude dropping water ballast to ascend and using an air rifle to burst balloons for descent.



*Morgan Aloft*

Morgan launched just north of Johannesburg and traveled 16 miles, reaching an altitude of 8,000 ft.

Kent Crouch made the first interstate cluster balloon voyage on July 5th, 2008 departing Bend Oregon and flying 240 miles in nine hours to a safe landing in Idaho.

On January 7th, 1785, French aeronaut Jean-Pierre Francois Blanchard and John Jeffries, an American doctor made the first crossing of the English Channel by balloon.

Some 250 years later, Jonathan Trappe made the first cluster balloon crossing of *La Manch*. See Jonathan Trappe's website at <http://clusterballoon.com/> for further information about the sport.

## AVIATION HISTORY

### The T-33

The T-33, arguably the most important fighter trainer at the start of the “jet age” was an offspring of the famed Kelly Johnson P-80 Shooting Star, America's first operational jet fighter. The P-80 development was an early product of Lockheed's Skunk Works. The lean design team of less than 30 engineers started work on June 26th, 1942 and delivered the first airframe on November 16th.



*The XP-80, Lulu-Belle, the first of 1,700 now on display at the NASM.*

The Shooting Star was the USAF's first operational jet fighter, making its first flight on Jan. 8, 1944. It operated extensively in Korea in the ground attack role--primarily for low-level rocket, bomb, and napalm attacks on fixed targets--and as the RF-80 reconnaissance airplane. On Nov. 8, 1950, an F-80C flown by USAF Lt. Russell J. Brown claims a Russian-built MiG-15 in the world's first jet-to-jet air battle. The claim is disputed by the US Navy. See the Chronology Section dated November 8th and November 9th.



*An F-80C carrying the “Buzz Number FT-173. The 'F' means fighter. The 'T' means that it is an F-80. The 713 is a unique number assigned to the plane. For a period of time, all Air Force aircraft carried these numbers, writ large, on the fuselage and top of the port wing and bottom of the starboard wing. One purpose was to assist in identifying pilots who flew “buzz jobs.”*

The T-33, also known as the Shooting Star but

fondly called the “T-Bird first flew in 1949 piloted by noted test pilot Tony LeVier. Lockheed lengthened the fuselage of the Shooting Star and added a second cockpit. First flight was made on March 22nd, 1948. The Navy and Marines adopted it as a shore-based trainer and carried the designation T2V SeaStar.



*T-33*

*Grissom AFB Museum*

*Navy T2V  
New  
England  
Air  
Museum*



*USMC T2V  
at Pima*

A T-33 at the Eglin AFB Museum is proudly maintained by the Civil Air Patrol.



**T-33 T-BIRD**  
THE TWO-PLACE T-33 JET WAS DESIGNED FOR TRAINING PILOTS ALREADY QUALIFIED TO FLY PROPELLER-DRIVEN AIRCRAFT. IT WAS DEVELOPED FROM THE SINGLE-SEAT F-80 FIGHTER BY LENGTHENING THE FUSELAGE SLIGHTLY MORE THAN THREE FEET TO ACCOMMODATE A SECOND COCKPIT.  
ORIGINALLY DESIGNED THE TF-80C, THE T-33 MADE ITS FIRST FLIGHT IN MARCH 1948. PRODUCTION CONTINUED UNTIL AUGUST 1950 WITH 45,023 T-33S BUILT. IN ADDITION TO ITS USE AS A TRAINER, THE T-33 WAS USED FOR SUCH TASKS AS GROUND DIRECTOR AND TARGET TOWING, AND IN SOME COUNTRIES EVEN AS A COASTAL AIRCRAFT. THE RF-32A VERSION, A RECONNAISSANCE AIRCRAFT PRODUCED PRIMARILY FOR USE BY FOREIGN COUNTRIES, HAD A CAMERA INSTALLED IN THE REAR COCKPIT.  
BOMB AND ADDITIONAL EQUIPMENT IN THE REAR COCKPIT.  
THE T-33 IS ONE OF THE WORLD'S BEST KNOWN AIRCRAFT, HAVING SERVED WITH THE AIR FORCES OF MORE THAN 20 DIFFERENT COUNTRIES FOR ALMOST 60 YEARS. MANY ARE STILL IN USE THROUGHOUT THE WORLD.  
THIS T-33 AIRCRAFT S/N 53-5947 ON DISPLAY WAS LAST FLOWN BY THE 325th FIGHTER WEAPONS WING AT TRICAL AFB, FL.

**SPECIFICATIONS**  
MANUFACTURER: LOCKHEED AIRCRAFT  
THRUST: ONE-ALLISON J33-A-35 TURBOJET ENGINE RATED AT 5,400 LBS.  
LENGTH: 37 FT. 9 IN.  
HEIGHT: 11 FT. 8 IN.  
WINGSPAN: 38 FT. 11 IN.  
WEIGHT: 6,084 LBS. EMPTY / 15,000 LBS. MAX.  
SPEED: 643 MPH. MAX / 450 MPH. CRUISE.  
RANGE: 1,343 MILES  
CEILING: 47,500 FT.  
ARMAMENT: NONE



**PROUDLY MAINTAINED BY THE  
CIVIL AIR PATROL (CAP)**



Some 6,500 aircraft were produced, most by Lockheed but some by Canadier and Kawasaki. The Canadian's called their version the CT-133 Silver Star and used a Rolls-Royce Nene engine rather than the Allison J33. The Nene, coincidentally also powered Grumman's F9F Panther and the MiG-15!

Aside from their primary role, training, the T-Bird towed targets, flew reconnaissance, chase, and attack missions, and was used as a drone director and squadron "hack."



*This Canadian CT-133 flew with the Red Knights, a predecessor of the present Canadian Flight Demonstration Team, The Snowbirds.*



*An NT-33 in the USAF Museum. The aircraft was permanently modified to test experimental systems.*

At one time or another the T-Bird could be found on the flight lines of over 40 different air forces.

*From top to bottom: T-Birds from the Ecuador, France, and Spain. The Spanish bird is one of a number of hulks found in a yard in Putnam, Connecticut!*



*NASA T-Bird  
(Credit: Dryden Flight Research Center)*

The T-33A airframe also gave birth to Lockheed's F-94 Starfire. The nose was lengthened to accommodate guns, radar, and electronics. An afterburner equipped all weather interceptor, the Starfire flew combat missions in Korea.



*The F-94C carried no guns. Twenty four 2.75 inch unguided rockets were contained within the nose fairing and twelve on each of the mid-wing pods. They were volley fired at the target.*

There was one unusual and aborted project to produce an improved T-Bird. Early in the 1980s, the Skyfox Corporation offered a kit to upgrade the T-33.

Two turbofan engines were mounted in fuselage nacelles and the internal systems were upgraded. Boeing bought the rights, produced a single prototype but failed to sell a single kit.



*The Skyfox backed by a conventional T-Bird.*  
(Credit: Boeing Aircraft)

## AEROSPACE CHRONOLOGY

08 NOV, 1959-1st Lt Russell J. Brown, flying a Lockheed F-80C Shooting Star, is credited with downing a North Korean MiG-15 in the first jet over jet aerial victory. Brown was flying for the 16th Fighter-Interceptor Squadron (51st Fighter-Interceptor Wing) out of Kimpo Air Base.

One source claims that MiG which Brown shot down was piloted by Captain Mikhail F. Grachev.

The claim has been disputed. Access to Soviet records have revealed that the MiG, likely flown by Soviet Senior Lieutenant Kharitonov, returned to base.



*Lt. Russell J. Brown*  
(Credit: Air Force Times-Europe)

*The Opposition-North Korean MiG-15s generally based in China and flown by Soviet pilots.*



09 NOV, 1950 – Not to be outdone, on the day after Brown's purported victory, the U.S. Navy announces that Lt. Cdr. William T. Amen has shot down a MiG-15, the first jet over jet victory. Amen was commanding officer of VF-111, the Sundowners, was flying a Grumman F9F-2B Panther off the *U.S.S. Philippine Sea*.



*Amen congratulated on shoot-down*



*Sundown Panther*  
(Credits: US Navy)

10 NOV, 1942 – Operation Torch/US Landing in North Africa-Sonme 75 USAAF P-40F Warhawks are launched from the escort carrier USS Chenango and land at the former French Vichy Airbase at Lyautey, French Morocco.



*USAAF Warhawks marshaling and departing from the US Navy's USS Chenango's 502 foot flight deck..*  
(Credits: US Navy)



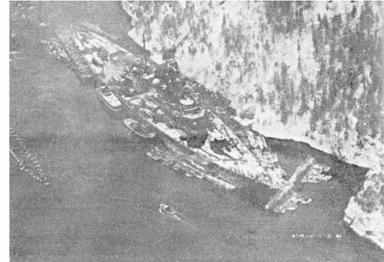
11-12 NOV, 1940 - Nineteen Fairey Swordfish are launched from *HMS Illustrious*, fly to the Italian Navy Base at Taranto, and put three *Regia Marina* battleships out of action.



*Swordfish departing HMS Illustrious*  
(Credit: IWM)

Shortly thereafter, Japanese military attaches travel from Berlin to study details of the successful attack: carrier aircraft launching torpedoes at capital ships in a shallow water harbor. Hmmm!

12 NOV, 1944 1942 – Operation Catechism- After mini subs and dive bombers have failed, the Royal Air Force attack the German battleship Tirpitz moored in Fættenfjord, Norway. Twenty-nine Lancasters use 12,000 lb “Tallboy” bombs. Direct hits and near misses mortally damage the ship. A magazine explodes, the Tirpitz capsizes and turns turtle.



*The Target* (Credit: RAF Bomber Command, IWM)



*The Attack*  
(Painting by Gerald Coulson)



*The Result*  
(Credit: Flt.Lt. B.J. Daventry, RAF, IWM)

13 NOV, 1942 – A US Navy OS2U Kingfisher floatplane rescues U. S. World War I ace Eddie Rickenbacker and two other survivors of a ditched B-17D Flying Fortress from a life raft. They had been adrift in the Pacific for 22 days.



*Rickenbacker Assisted into PBV After Rescue*  
(Credit: US Archives)

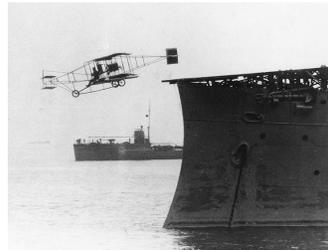
14 NOV, 1966 —A Lockheed C-141 “Starlifter” became the first jet aircraft to land in Antarctica.



(Credit: C-141 Heaven Website)

14 NOV, 1910 – Eugene Ely takes off from an improvised 83 foot flight deck on the cruiser USS *Birmingham*. Flying a Curtiss biplane, Ely is the first aviator to fly off a ship.

(Credit: US Navy)



14–17 NOV 1965 – A Boeing 707-349C “Combi” leased from Flying Tiger Airlines and named “*Polecat*” departs Honolulu on the first successful circumnavigation of the earth around the Poles.



*The Polecat*  
(Credit: Flying TigerMechanics)

The flight took just over 57 hours and covered 26,320 miles. The route took them from Honolulu to London to Lisbon to Buenos Aires to Christchurch and back to Honolulu

The newest navigation techniques and radio communication devices were tested and compared with traditional methods and meteorological data and magnetic field data was collected.

The flight's visionaries, Fred Austin, Jr, and Harrison Finch, both retired TWA pilots, were at the controls on the first take-off. Three other airline captains shared flight duties: Capt. Jack Martin, Chief Pilot of Flying Tigers, James R. Gannett, Boeing Senior Engineering Test Pilot, and Capt. Robert Buck, TWA, a noted expert on aviation weather.

In 1930, Buck was the youngest rated pilot in the United States, age 16. That same year, he became the youngest pilot to fly coast to coast.



*The 16 year old Buck prepares to depart Newark on his record setting transcontinental flight.*

John Larsen, Chief Navigator from TWA planned the mission and was backed by two other navigators from Flying Tigers. Two Flying Tiger Flight Engineers completed the crew.

One of the better know observers aboard was Col Bernt Balchen, expert in high latitude operations and the first man to pilot an aircraft over both poles.



*Col. Balchen and the PBY in which he made a daring wheels-up landing and take-off to rescue survivors on the Greenland Ice Cap.*

Balchen was a Norwegian aviator who later became a colonel in the United States Air Force. During World War II, and post-war he developed arctic search and rescue techniques, flew supplies to the resistance, and was instrumental in developing the Greenland air bases which served as ferry stops during the war and Strategic Air Command bomber bases in the Cold War.