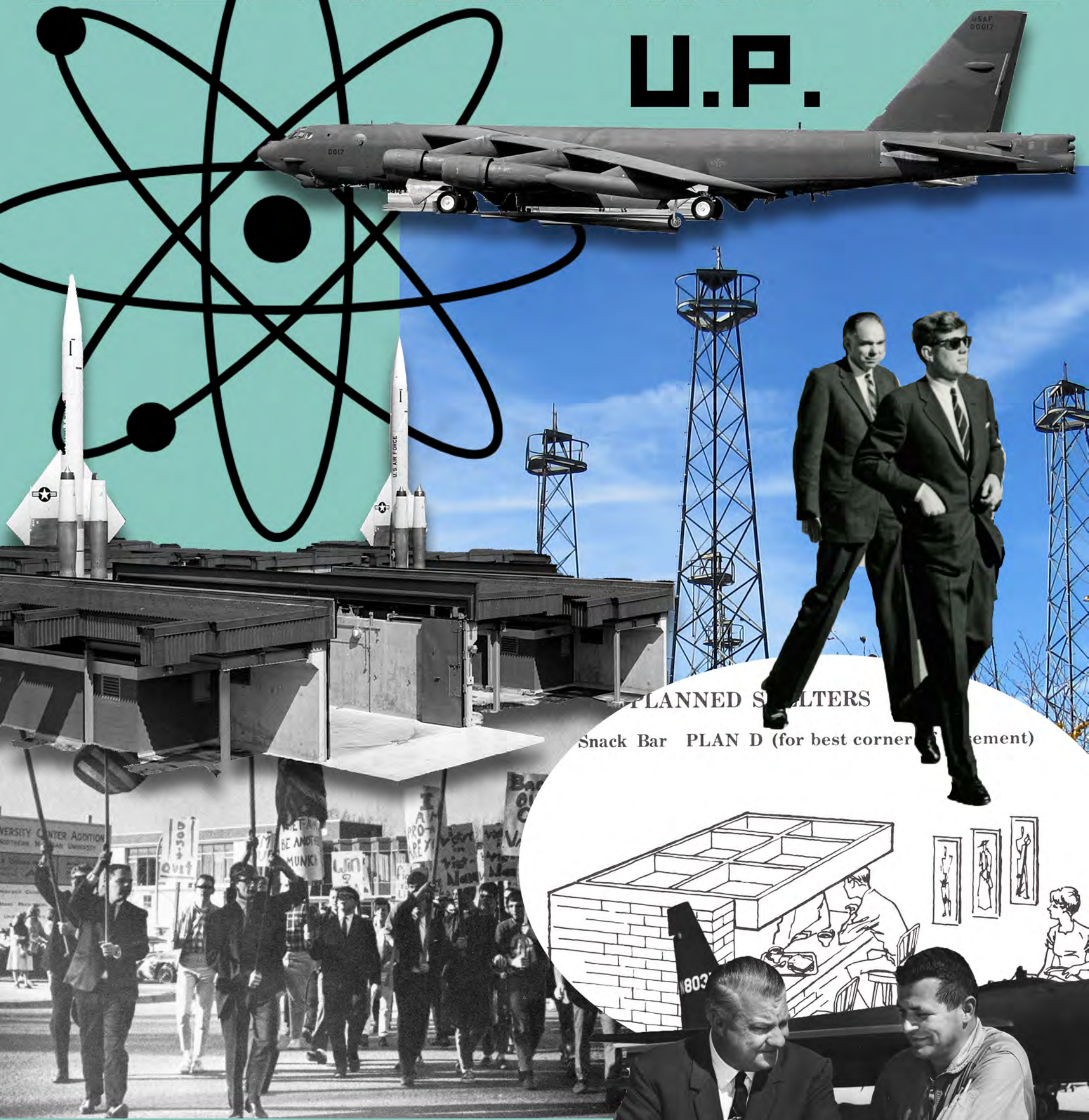


COLD WAR AND THE U.P.



NORTHERN MICHIGAN UNIVERSITY
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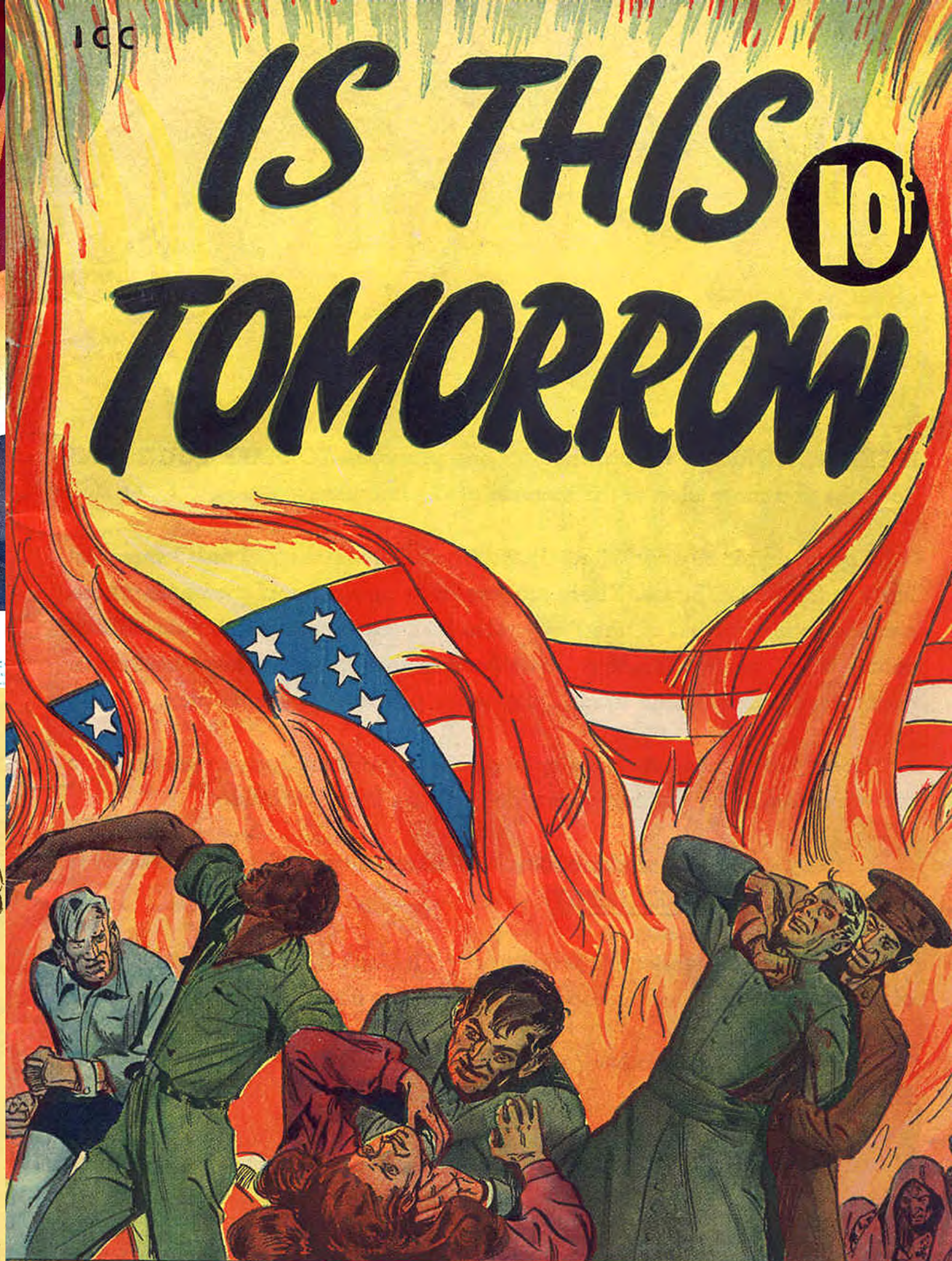
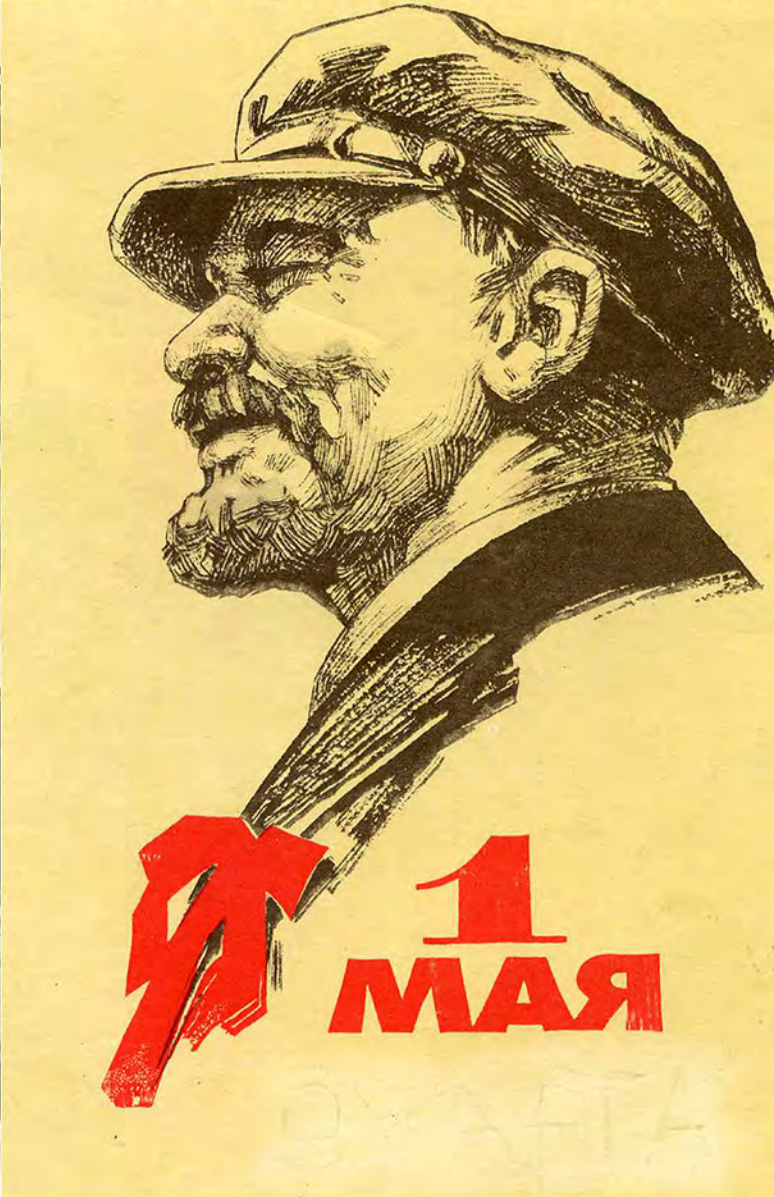
FALLOUT SHELTER



朝鮮人民軍中國人民志願軍勝利萬歲!



Radio Free Europe
AND
Free Europe Press



AMERICA UNDER COMMUNISM!



Post-WWII was a time of nuclear tension. Better known as the Cold War, the United States and the Soviet Union had a strained relationship, which resulted in the nuclear arms race. The United States government did not overlook the Upper Peninsula during this period. In fact, the U.P. played an essential role in U.S. defense. The U.S. government placed many military sites throughout the region. While systematically positioned military sites were of significance, individuals from the Upper Peninsula were also key to the Cold War narrative. The remote Upper Peninsula was fully engaged in the atomic age and its inhabitants still endure the many long-lasting impacts the Cold War had on the area.

RED STAR OVER ASIA

SLAVE WORLD FACTS

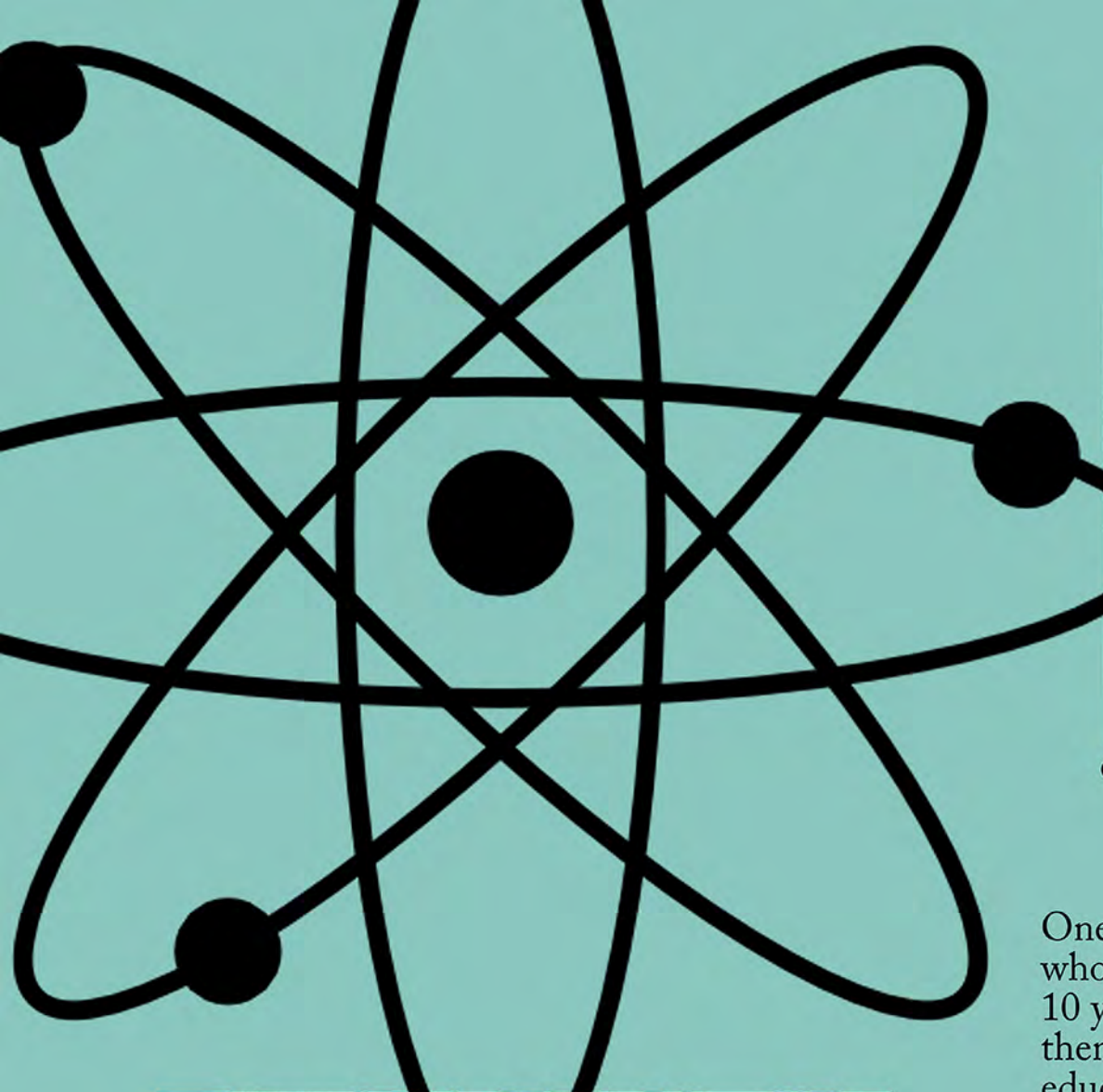
- The Communists seek to place all Asia under the Soviet Slave Empire!
- To bring this about the Communists have promoted bloody civil strife throughout Asia!
- In all this strife the Soviet Imperialists have made sure that it is Asian and not Russian blood that spilled!
- Communist China has been added to the Soviet Slave Empire. Korea was next, but the United Nations are preventing it!
- Since World War II the Red Imperialists have added more than 2,166,000 square miles of Asian territory to the Soviet Slave Empire. At the same time the Free World has given full independence to 3,074,551 square miles of Asian territory!
- This is not idle talk! These are facts!

FREE WORLD FACTS

- The Free World believes all nations are equal and should be independent!
- The Free World believes in peace and prosperity for all nations!
- The Free World wants for Asia the same things Asians want for themselves!
- The Free World is actively helping Asia throw off the poverty and oppression of past centuries!
- Since World War II in Asia one-fourth of the population of the world have attained self-rule and independence. The Communists seek to build a Soviet Slave Empire in Asia! The Free World seeks peace and abundance for all!
- The Free World has nothing to hide! These are facts!

COMMUNISTS SEEK MORE SLAVES!





Glenn Seaborg (right) with his sister, Jennette, in Ishpeming, ca. 1918.



Glenn Seaborg working at a geiger counter at the University of California, Berkeley, ca. 1950.

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One of the most important scientists of the 20th century was Glenn T. Seaborg, who was born in Ishpeming, Michigan on April 19, 1912. Seaborg spent his first 10 years in Ishpeming, living with his family at 802 Wabash Street. His father then decided to move his family to California, where Glenn finished his education. He had an impressive intellect as a young man and graduated at the top of his class from David Starr Jordan High School in Watts. He was accepted into the University of California, Berkeley, eventually receiving his Ph.D. in Chemistry in 1937.

He continued his research at Berkeley and was appointed to the faculty. In 1941, Seaborg and his collaborators at Berkeley were the first to produce element 94, Plutonium. As WWII progressed, Seaborg accepted a post at Wartime Metallurgical Laboratory at the University of Chicago. Under the direction of Enrico Fermi, he led the effort to produce plutonium for the Manhattan Project (the top secret project to create the first atomic bomb).

Even during this period of intense research, Seaborg found time to revolutionize elementary science with his concept of the Actinide Series. In 1944, he proposed that elements 90 through 103 (transuranium elements) which were heavier than uranium, fit into the periodic table. He proposed that these elements, which rarely exist in nature, could be created in a laboratory, even for a brief second. For his work and research, Seaborg was awarded the Nobel Prize for Chemistry in 1951.



Glenn T. Seaborg and Andronik M. Petrosyants, Chairman of the State Committee for the Utilization of Atomic Energy, signing the U.S./U.S.S.R Agreement for Cooperation, May 1963.

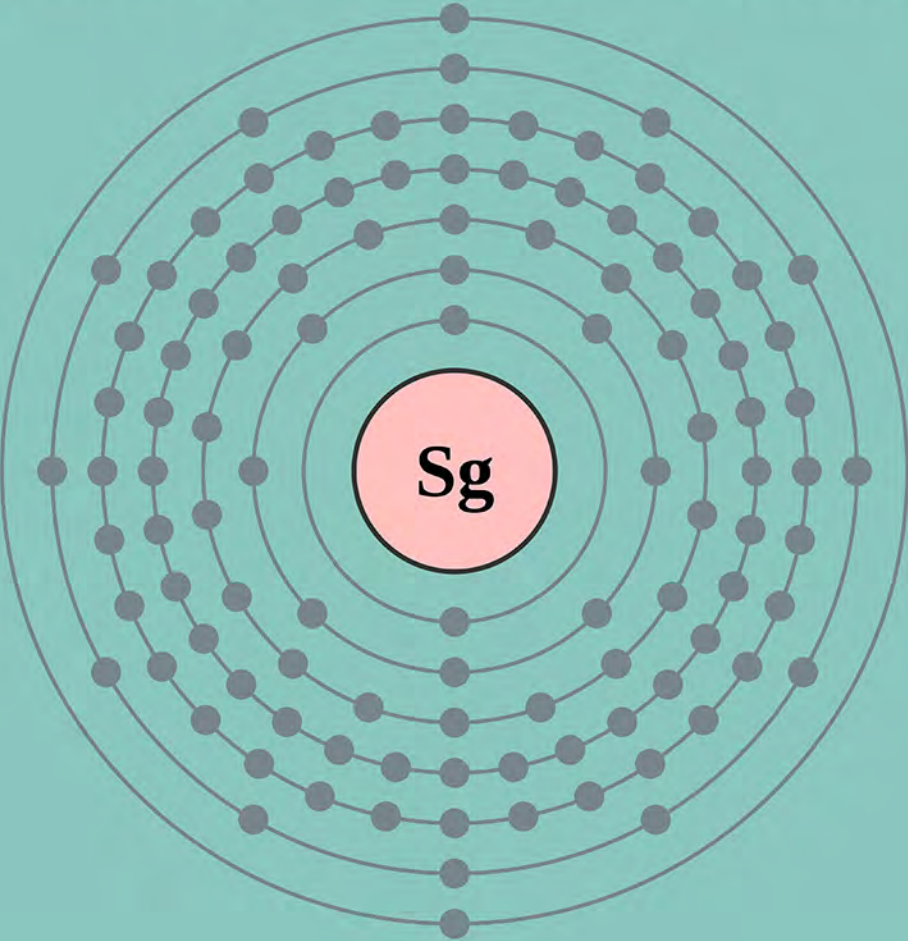


President John F. Kennedy visits the Nevada Rocket Development Station, December 8, 1962. Glenn Seaborg, just behind the President, was Chairman of the United States Atomic Energy Commission. On the left is Harold Finger, Manager of the Space Nuclear Propulsion Office.

In 1961, he was named the Chairman of the U.S. Atomic Energy Commission. For the next ten years Seaborg was the main advisor on nuclear science developments in the U.S. to Presidents Kennedy, Johnson and Nixon. He represented the United States throughout the world at scientific treaty negotiations and conferences and travelled to both the Soviet Union and China during his tenure.

Seaborg continued to serve his country and the scientific world in several capacities, and served on the National Commission on Excellence in Education. In 1998, ground was broken on the Seaborg Center at Northern Michigan University, in honor of his accomplishments and continued connection with his home in Michigan. He said was it was one of his greatest honors, which says a lot since he is the only human being to have an element named for him while he was still alive: Element 106, Seaborgium.

106: Seaborgium 2,8,18,32,32,12,2



Periodic Table of the Elements																	
1 1A 1A 1 H Hydrogen 1.008																	2 2A 2A 2 He Helium 4.003
3 Li Lithium 6.941	4 Be Beryllium 9.012											5 B Boron 10.811	6 C Carbon 12.011	7 N Nitrogen 14.007	8 O Oxygen 15.999	9 F Fluorine 18.998	10 Ne Neon 20.180
11 Na Sodium 22.990	12 Mg Magnesium 24.305	3 IIIB 3B	4 IVB 4B	5 VB 5B	6 VIB 6B	7 VIIB 7B	8 VIII 8	9 VIII 8	10 VIII 8	11 IB 1B	12 IIB 2B	13 Al Aluminum 26.982	14 Si Silicon 28.086	15 P Phosphorus 30.974	16 S Sulfur 32.066	17 Cl Chlorine 35.453	18 Ar Argon 39.948
19 K Potassium 39.098	20 Ca Calcium 40.078	21 Sc Scandium 44.956	22 Ti Titanium 47.867	23 V Vanadium 50.942	24 Cr Chromium 51.996	25 Mn Manganese 54.938	26 Fe Iron 55.845	27 Co Cobalt 58.933	28 Ni Nickel 58.693	29 Cu Copper 63.546	30 Zn Zinc 65.38	31 Ga Gallium 69.723	32 Ge Germanium 72.631	33 As Arsenic 74.922	34 Se Selenium 78.971	35 Br Bromine 79.904	36 Kr Krypton 83.798
37 Rb Rubidium 85.468	38 Sr Strontium 87.62	39 Y Yttrium 88.906	40 Zr Zirconium 91.224	41 Nb Niobium 92.906	42 Mo Molybdenum 95.95	43 Tc Technetium 98.907	44 Ru Ruthenium 101.07	45 Rh Rhodium 102.906	46 Pd Palladium 106.42	47 Ag Silver 107.868	48 Cd Cadmium 112.414	49 In Indium 114.818	50 Sn Tin 118.711	51 Sb Antimony 121.760	52 Te Tellurium 127.6	53 I Iodine 126.904	54 Xe Xenon 131.294
55 Cs Cesium 132.905	56 Ba Barium 137.328	57-71	72 Hf Hafnium 178.49	73 Ta Tantalum 180.948	74 W Tungsten 183.84	75 Re Rhenium 186.207	76 Os Osmium 190.23	77 Ir Iridium 192.217	78 Pt Platinum 195.085	79 Au Gold 196.967	80 Hg Mercury 200.592	81 Tl Thallium 204.383	82 Pb Lead 207.2	83 Bi Bismuth 208.980	84 Po Polonium [208.982]	85 At Astatine 209.987	86 Rn Radon 222.018
87 Fr Francium 223.020	88 Ra Radium 226.025	89-103	104 Rf Rutherfordium [261]	105 Db Dubnium [262]	106 Sg Seaborgium [266]	107 Bh Bohrium [264]	108 Hs Hassium [269]	109 Mt Meitnerium [278]	110 Ds Darmstadtium [281]	111 Rg Roentgenium [280]	112 Cn Copernicium [285]	113 Nh Nihonium [286]	114 Fl Flerovium [289]	115 Mc Moscovium [289]	116 Lv Livermorium [293]	117 Ts Tennessine [294]	118 Og Oganesson [294]

Lanthanide Series	57 La Lanthanum 138.905	58 Ce Cerium 140.116	59 Pr Praseodymium 140.908	60 Nd Neodymium 144.243	61 Pm Promethium 144.913	62 Sm Samarium 150.36	63 Eu Europium 151.964	64 Gd Gadolinium 157.25	65 Tb Terbium 158.925	66 Dy Dysprosium 162.500	67 Ho Holmium 164.930	68 Er Erbium 167.259	69 Tm Thulium 168.934	70 Yb Ytterbium 173.055	71 Lu Lutetium 174.967
	89 Ac Actinium 227.028	90 Th Thorium 232.038	91 Pa Protactinium 231.036	92 U Uranium 238.029	93 Np Neptunium 237.048	94 Pu Plutonium 244.064	95 Am Americium 243.061	96 Cm Curium 247.070	97 Bk Berkelium 247.070	98 Cf Californium 251.080	99 Es Einsteinium [254]	100 Fm Fermium 257.095	101 Md Mendelevium 258.1	102 No Nobelium 259.101	103 Lr Lawrencium [262]

K e l l y J o h n s o n

-“K-I-S-S” – “Keep It Simple, Stupid.” - Kelly Johnson
“That damned Swede can actually see air.” –Hall Hibbard, Lockheed chief engineer, Johnson’s boss

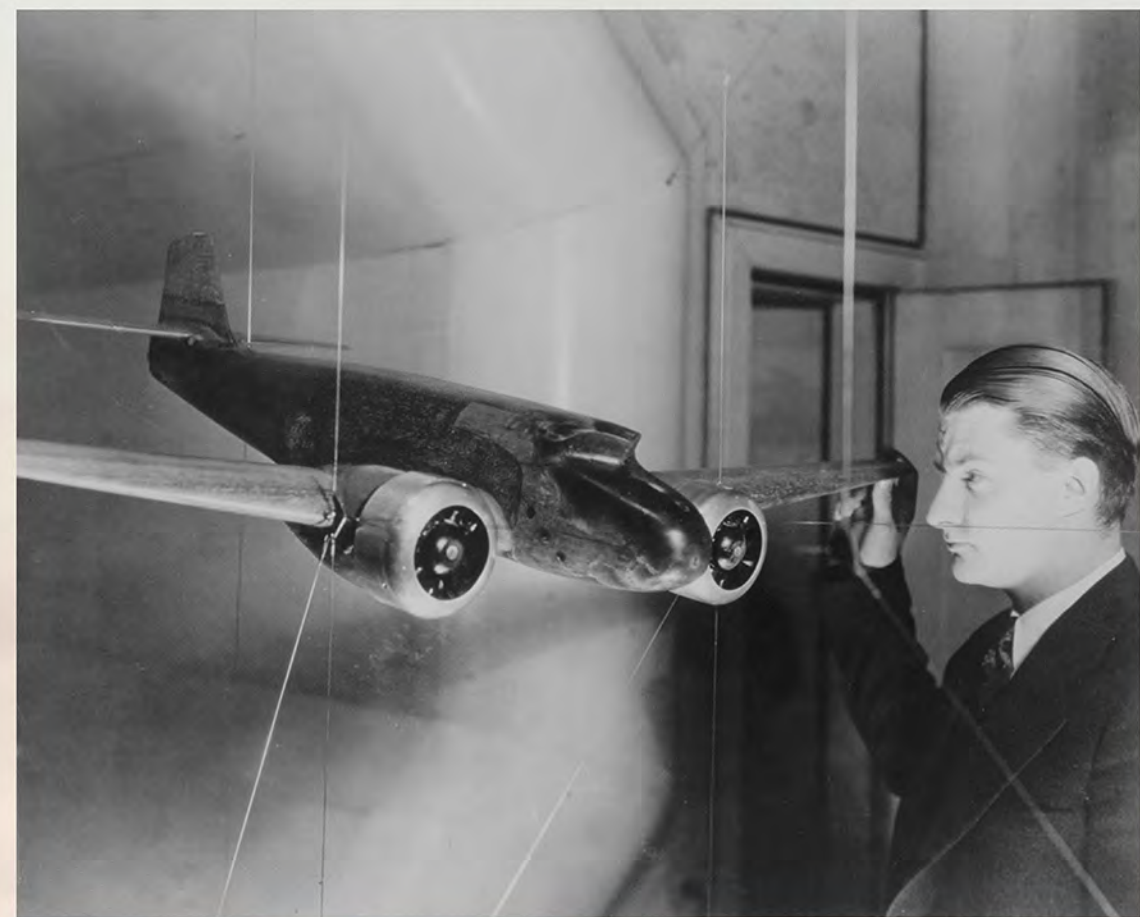


Clarence “Kelly” Johnson, with the U-2 spy plane.
Image courtesy of United States Air Force.

Clarence Leonard “Kelly” Johnson was a leading American aeronautical and systems engineer. Born in Ishpeming, Michigan, Kelly was one of nine children. Like many of Kenny’s generation in the Upper Peninsula, his parents were Swedish immigrants. His father worked construction while his mother was a laundress. The family of eleven lived poor. Born as Clarence Leonard Johnson, he gained the nickname “Kelly” while attending grade school in Ishpeming. A local bully had begun the usual tormenting of Johnson by calling him “Clara.” Johnson resorted to tripping the bully, ultimately breaking his leg. His classmates stopped calling him “Clara” and gave him the Irish nickname “Kelly,” based on the song “Kelly with the Green Neck Tie.” He has been referred to as “Kelly” ever since.

During the Cold War, “Kelly” contributed to the designs of military aircrafts used by the United States government. His most notable aircraft designs included the Lockheed U-2 Plane and the Lockheed SR-71 Blackbird. The University of Michigan alumnus began working for Lockheed, an aerospace company, in 1933. Johnson’s well-known motto “Keep It Simple, Stupid” and his diligent work ethic warranted a long career in aeronautical engineering.

He soon managed one of the most innovative and secret projects in the United States at that time, known as the Skunks Work Project. With “Kelly” as first-team leader, the high security program produced imperative aircraft designs used by the military and C.I.A. Some of the designs involved the first to exceed Mach 2 and Mach 3 as well as the first U.S. operational jet fighter. Ultimately, “Kelly” Johnson played a vital role in strengthening the U.S. military’s defense against Cold War enemies for over 40 years. His contributions have laid the groundwork for contemporary defense designs in aeronautical engineering for the United States government.



Clarence “Kelly” Johnson, working on a design during WWII.
Image courtesy of Lockheed-Martin.



Francis Gary Powers (right) with U-2 designer Kelly Johnson in 1966. Powers was a USAF fighter pilot recruited by the CIA in 1956 to fly civilian U-2 missions deep into Russia. Powers and other USAF Reserve pilots resigned their commissions to become civilians. In 1960, Powers was shot down over the USSR while photographing missile sites at Sverdlovsk and Plesetsk. The Soviets reportedly fired fourteen newly developed SA-2 surface-to-air missiles at his U-2. Powers bailed out of his stricken U-2 and was captured. The Soviets conducted a show trial and sentenced Powers to 10 years in prison for espionage, but exchanged him for a Soviet intelligence agent in 1962. After the Powers incident, the U.S. suspended U-2 flights over the USSR.



Image courtesy of Lockheed Martin.

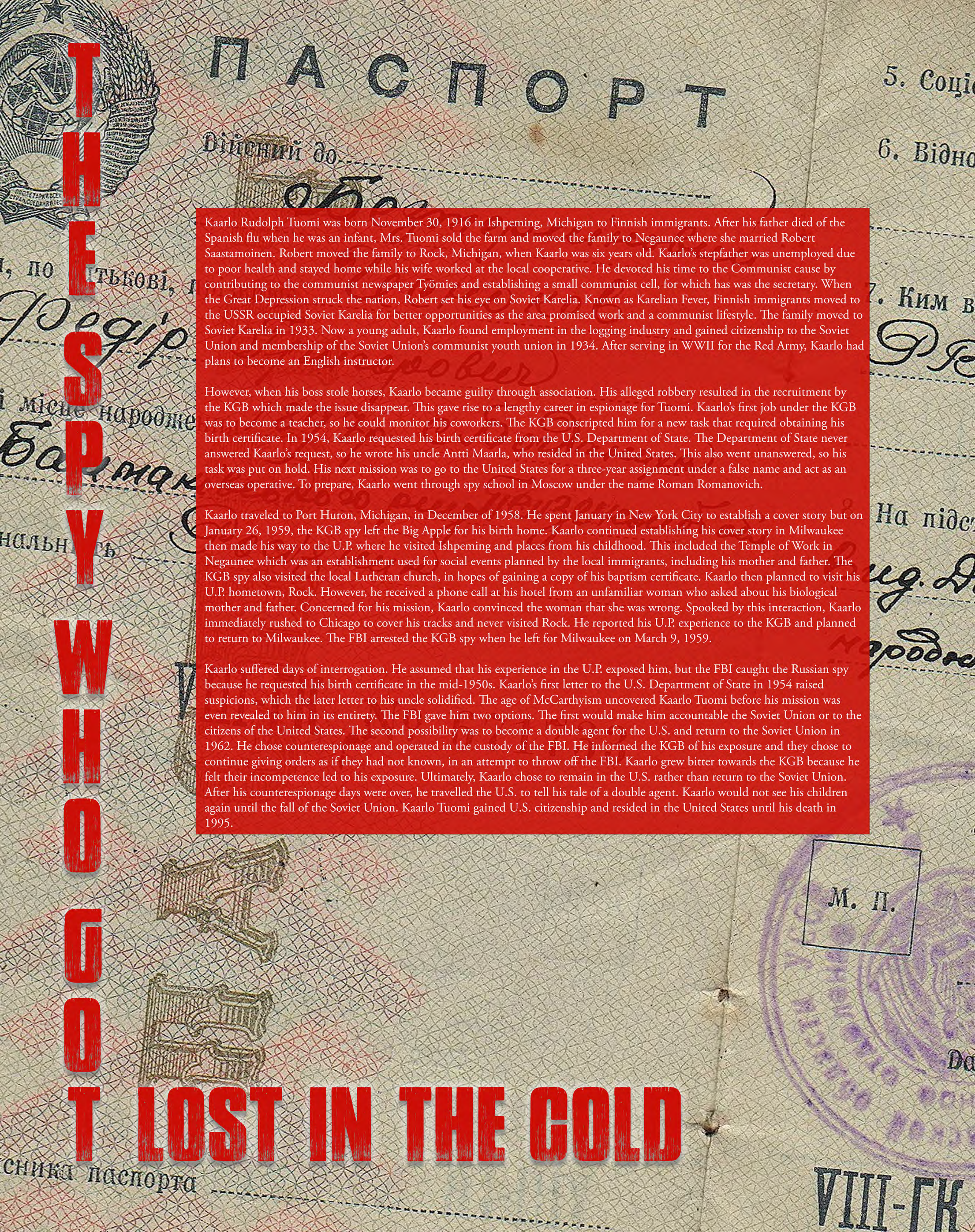
Text courtesy of the National Museum of the U.S. Air Force.



Lockheed SR-71 Blackbird

Clarence “Kelly” Johnson’s most essential contribution to the United States air defense is arguably the Lockheed SR-71 Blackbird. This project was pivotal for air defense, and a series of innovations and “Kelly’s” merited knowledge led to it. The Lockheed AQM-60 Kingfisher was the beginning of the future SR-71 Blackbird clan of spy planes. The Kingfisher was a single engine Mach 4.3 made primarily of steel which the United States Air Force used to evaluate American air defenses against invading nuclear missiles. The combination of the Kingfisher and the Lockheed A-12 plane, a spy jet used by the C.I.A., ultimately led to the birth of the SR-71 Blackbird. Due to its speed and high altitude capabilities, enemy forces were unable to intercept or shoot down the pioneering Blackbird. Setting a record in 1976, the Lockheed SR-71 Blackbird survives as the world’s fastest and highest-flying piloted jet.

Image courtesy of the National Museum of the U.S. Air Force.



Kaarlo Rudolph Tuomi was born November 30, 1916 in Ishpeming, Michigan to Finnish immigrants. After his father died of the Spanish flu when he was an infant, Mrs. Tuomi sold the farm and moved the family to Negaunee where she married Robert Saastamoinen. Robert moved the family to Rock, Michigan, when Kaarlo was six years old. Kaarlo's stepfather was unemployed due to poor health and stayed home while his wife worked at the local cooperative. He devoted his time to the Communist cause by contributing to the communist newspaper Työmies and establishing a small communist cell, for which he was the secretary. When the Great Depression struck the nation, Robert set his eye on Soviet Karelia. Known as Karelian Fever, Finnish immigrants moved to the USSR occupied Soviet Karelia for better opportunities as the area promised work and a communist lifestyle. The family moved to Soviet Karelia in 1933. Now a young adult, Kaarlo found employment in the logging industry and gained citizenship to the Soviet Union and membership of the Soviet Union's communist youth union in 1934. After serving in WWII for the Red Army, Kaarlo had plans to become an English instructor.

However, when his boss stole horses, Kaarlo became guilty through association. His alleged robbery resulted in the recruitment by the KGB which made the issue disappear. This gave rise to a lengthy career in espionage for Tuomi. Kaarlo's first job under the KGB was to become a teacher, so he could monitor his coworkers. The KGB conscripted him for a new task that required obtaining his birth certificate. In 1954, Kaarlo requested his birth certificate from the U.S. Department of State. The Department of State never answered Kaarlo's request, so he wrote his uncle Antti Maarla, who resided in the United States. This also went unanswered, so his task was put on hold. His next mission was to go to the United States for a three-year assignment under a false name and act as an overseas operative. To prepare, Kaarlo went through spy school in Moscow under the name Roman Romanovich.

Kaarlo traveled to Port Huron, Michigan, in December of 1958. He spent January in New York City to establish a cover story but on January 26, 1959, the KGB spy left the Big Apple for his birth home. Kaarlo continued establishing his cover story in Milwaukee then made his way to the U.P. where he visited Ishpeming and places from his childhood. This included the Temple of Work in Negaunee which was an establishment used for social events planned by the local immigrants, including his mother and father. The KGB spy also visited the local Lutheran church, in hopes of gaining a copy of his baptism certificate. Kaarlo then planned to visit his U.P. hometown, Rock. However, he received a phone call at his hotel from an unfamiliar woman who asked about his biological mother and father. Concerned for his mission, Kaarlo convinced the woman that she was wrong. Spooked by this interaction, Kaarlo immediately rushed to Chicago to cover his tracks and never visited Rock. He reported his U.P. experience to the KGB and planned to return to Milwaukee. The FBI arrested the KGB spy when he left for Milwaukee on March 9, 1959.

Kaarlo suffered days of interrogation. He assumed that his experience in the U.P. exposed him, but the FBI caught the Russian spy because he requested his birth certificate in the mid-1950s. Kaarlo's first letter to the U.S. Department of State in 1954 raised suspicions, which the later letter to his uncle solidified. The age of McCarthyism uncovered Kaarlo Tuomi before his mission was even revealed to him in its entirety. The FBI gave him two options. The first would make him accountable to the Soviet Union or to the citizens of the United States. The second possibility was to become a double agent for the U.S. and return to the Soviet Union in 1962. He chose counterespionage and operated in the custody of the FBI. He informed the KGB of his exposure and they chose to continue giving orders as if they had not known, in an attempt to throw off the FBI. Kaarlo grew bitter towards the KGB because he felt their incompetence led to his exposure. Ultimately, Kaarlo chose to remain in the U.S. rather than return to the Soviet Union. After his counterespionage days were over, he travelled the U.S. to tell his tale of a double agent. Kaarlo would not see his children again until the fall of the Soviet Union. Kaarlo Tuomi gained U.S. citizenship and resided in the United States until his death in 1995.

LOST IN THE COLD



Kaarlo Tuomi



C.J. WALKER/Staff Photographer

Kaarlo Tuomi and his children were reunited after more than 30 years apart.

To ex-spy, death is just a piece of paper

By **RON HAYES**
Palm Beach Post Staff Writer

LAKE WORTH — When Kaarlo Tuomi's children left the Soviet Union on April 10, they brought along a present most people, Soviet or American, rich or poor, never see — his official death certificate.

"Americans talk about keeping up with the Joneses," joked Tuomi, who is 72 and very much alive. "Well, here's something even the Joneses don't have."

The wrinkled, fading document, nearly 23 years old itself, was issued in August 1966, seven years after Tuomi left his wife and children in Kirov to monitor U.S. ship movements in the New York City area as a spy for Soviet military intelligence.

And when his now-grown children — Viktor, 41; Irina, 37; and Nadejda, 35 — arrived at Miami International Airport April 10, the four met for the first time in 30 years.

"Thirty years and five months," Tuomi said Tuesday morning, as they sat in his Lake Worth home poring over an impeccably kept scrapbook of pho-

tographs from the Cold War days.

Born in a Finnish community in Michigan, Tuomi moved to the Soviet Union when he was 16 and became a soldier in the Soviet army during World War II. In the 1950s, he returned to the U.S. as a spy, only to be caught by the FBI.

For the next four years, he served as a double agent, he said, "walking the tightrope" between the superpowers and trying to make a small contribution to easing nuclear tensions.

"My intelligence work truly started when I was caught," he says now.

In 1963, he left the espionage business and started a Christmas tree business in Cook, Minn.

Meanwhile, the Soviet government had provided a death certificate so Tuomi's wife could receive his pension benefits. But his efforts to contact his family went nowhere until the new president of the International Red Cross — a Finn — took an interest in his case, and last September he received a four-page letter from Irina, now an

English teacher in Kirov.

Since the children arrived for a monthlong visit in the U.S. — their first — the reunited family has been to Thomas Edison's winter home in Fort Myers, to Disney World and Cypress Gardens. Last week, they left for Minnesota. They will return to the Soviet Union May 7.

"People here are very friendly, very communicative," said Irina, in nearly flawless English. "And they have a good sense of humor. This is what we expected, actually, but now we really feel it."

As the family prepared to leave for another day of sight-seeing, they expressed gratitude both to their "new found friends" in America, and to Mikhail Gorbachev, whose policy of glasnost they feel made the visit possible.

"Please stress Gorbachev's openness," Irina said. "We want people to know we have more openness now, more freedom and a greater opportunity to travel."

And they were off for a typical American shopping trip.

"Looking for bargains," Tuomi said with a laugh.

F B I

Date: March 2, 1959

Transmit the following in _____

(Type in plain text or code)

Via Airtel _____

(Priority or Method of Mailing)

TO: SAC, Minneapolis
-2- Detroit

✓ FROM: Director, FBI (105-76241)

KAARLO RUDOLPH TUOMI, aka
IS - FINLAND - RUSSIA

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED
DATE 5-12-86 BY SP6 BJA/R

Evaluation of investigation to date has failed to resolve significance of subject's activities. Nevertheless, possibility still exists that he is an illegal agent. In view thereof, it is likely that in the near future he will either make a contact or visit a drop to receive instructions or to transmit information. Prior to making such contact, it is assumed that he would "dry-clean" himself and make other checks to determine if he is under surveillance. This may take several hours prior to his making an espionage meet. All Agents on surveillance in this case should be instructed to be alert to such activity on subject's part to insure that surveillances of him do not fall into a routine pattern. Also be alert for countersurveillance. Also if opportunity presents itself additional surveillance photographs should be obtained of subject which would clearly show his facial characteristics.

Detroit should be alert to developing evidence of a type that would uncontrovertibly resolve the identity of Tuomi such as locating fingerprints or footprints of Tuomi taken prior to his departure for Russia in 1932.

- 1 - Milwaukee
- 1 - Chicago
- 1 - New York
- 1 - Washington Field
- 1 - Miami

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FALLOUT SHELTER

CIVIL DEFENSE



These images are courtesy of the National Archives.

The United States government encouraged civil defense in preparation of nuclear attacks. Americans across the country built fallout shelters and carried out safety drills. While large urban centers, such as New York City and Washington D.C., were central targets of any nuclear attack, the remote Upper Peninsula similarly organized civil defense practices. The Upper Peninsula was home to both K.I. Sawyer and Kincheloe Air Force Base, along with many other military sites. As expected, these places were equipped for any possible eminent threat. However, the United States also expected its civilians to prepare for any attack.

Local residents requested civil defense resources from the Civil Defense Administration. These resources included instructions on how to build a proper fallout shelter and what materials civilians should store there. The Civil Defense Administration also developed booklets that educated civilians on safety procedures. Schools across the Upper Peninsula practiced “duck and cover” drills, where students and teachers would hide and protect themselves. Local newspapers also listed public fallout shelters and printed cartoons advocating civil defense practices.

The Cuban Missile Crisis tested the United States’ general civil protection strategies. Not only did schools in the Upper Peninsula perfect practice alerts, but also local teachers discussed potential hysteria among students and deliberated ways of keeping pupils calm and collected. The Marquette Dioceses offered comfort to its members by having special prayers during the crisis. The Cloverland Electric Cooperative intended to act as a field hospital for the Eastern Upper Peninsula, if the Soo Locks and surrounding area was bombed. President Harden discussed the matter with worried Northern Michigan College (NMU) students and revealed that the college was staying on top of the national prospect. If Lower Michigan industrial centers were attacked, Upper Peninsula civil defense workers were also primed to welcome downstate refugees.

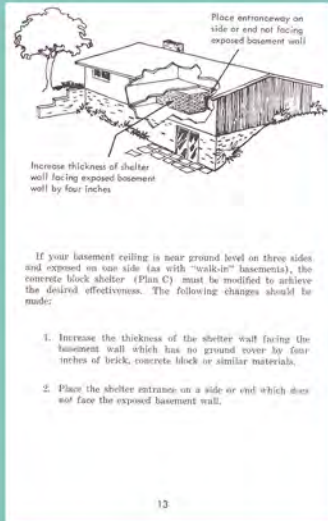
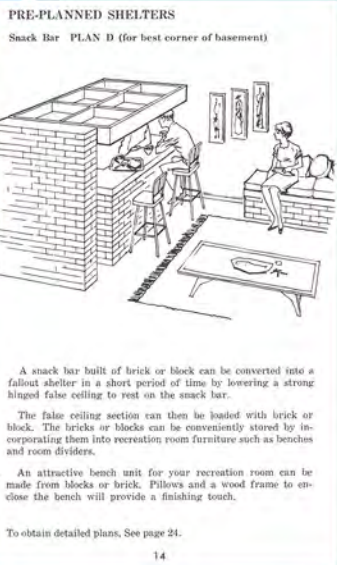


How To Prepare a Home Shelter

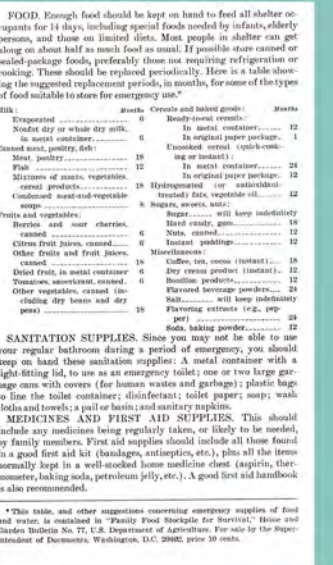
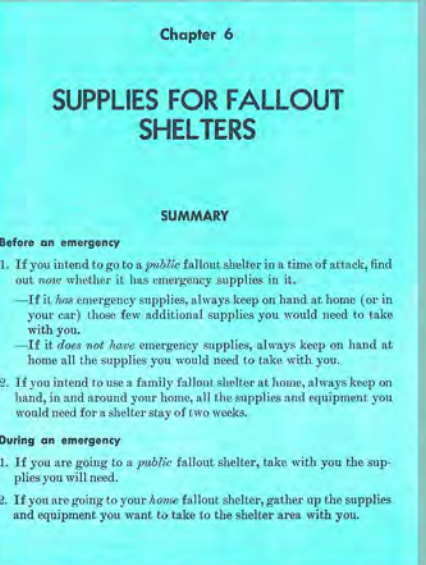
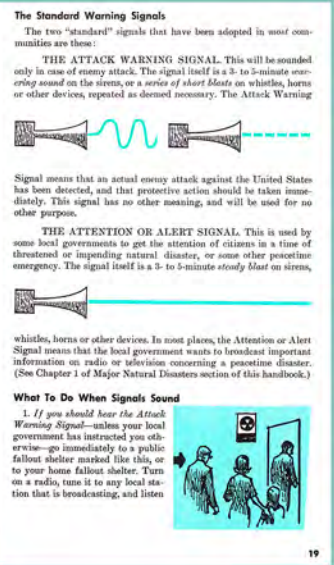
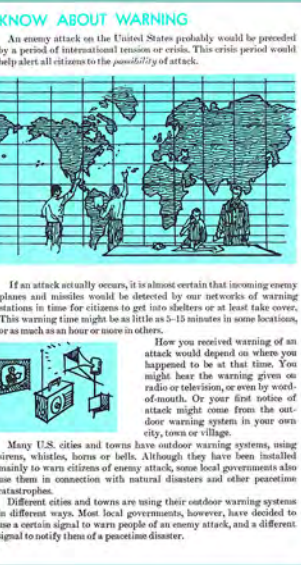
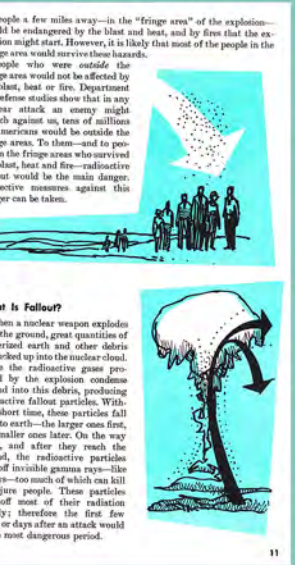
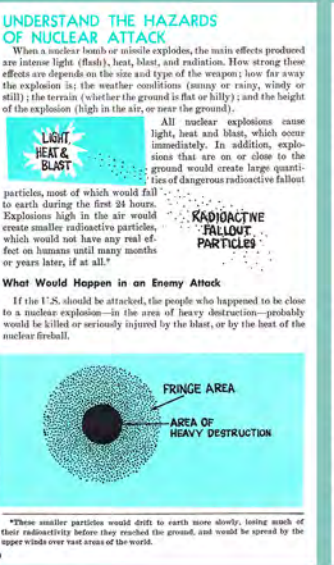
If there is no public fallout shelter near your home, or if you would prefer to use a family-type shelter in a time of attack, you should prepare a home fallout shelter. Here is how to do it:

• **A PERMANENT BASEMENT SHELTER.** If your home has a basement—or one corner of it—is below ground level, your best and easiest action would be to prepare a permanent-type family shelter there. The required shielding material would cost perhaps \$200-\$300, and if you have basic carpentry or masonry skills, you probably could do the work yourself in a short time.

There are three methods of providing a permanent family shelter in the “best” corner of your home basement—that is, the corner which is most below ground level. If you decide to set up one of these shelters, first get the *free plan for it* by writing to Civil Defense, Army Public-Relations Center, 2800 Eastern Blvd. (Middle River), Baltimore, Md. 21220. In ordering a plan, use the full name shown for it.



Images from Civil Defense pamphlets courtesy of Ron Michaelson, Marquette.



GROUND OBSERVER CORPS

IL-28
USSR TWIN-JET BOMBER

FEATURES:
Two centrifugal-flow turbojet engines. Probably two heavy guns in nose and two in tail.

Artist's conception

Salient features

Silhouette

INTEREST:
This attack bomber is approximately the same size as the Canberra with comparable speed.

ALL TAIL SURFACES ARE SWEEP

TRAILING EDGE OF WING SWEEP FORWARD, STRAIGHT LEADING EDGE

NACELLES FAR FORWARD

Scans from the "Aircraft Recognition for the Ground Observer," published by the Department of the Air Force. Booklet courtesy of Jim Webber, Manistique.

B-52
USAF MULTI-JET BOMBER

FEATURES:
Eight Pratt and Whitney turbojet engines.
Span: 185 ft. Length: 153 ft. Height: 48 ft.

Under view showing straight tail

Salient features

Silhouette


INTEREST:
The B-52 is a long-range bomber capable of carrying heavy loads at speeds over 600 miles per hour.

EXTREMELY TALL STABILIZER


FOUR DOUBLE PODS
SWEEP WINGS
DELTA TAIL

Radar was still in its infancy in the early 1950s and while it was useful in spotting planes entering our airspace, it did have its limitations. "Because of the fact that radar beams travel in a straight line, cannot pick up objects hidden by hills, mountains or the curvature of the earth, there are several blanks spots which radar cannot cover," stated a *Mining Journal* article on September 6, 1951. With the Korean War and the Soviet Union's advancing nuclear capabilities, there was concern by the government and military that the US was vulnerable to attack. "With world conditions as they are today," said Lieutenant Louis Bushmaker, "the next plane spotted could very well be an enemy bomber. We can afford to take no chances on allowing it to get through to its target undetected." Bushmaker, who was in charge of the Green Bay filter center, was in Marquette County to help set up the Ground Observer Corps. He spoke at a meeting on September 5, 1951 held at the National Guard Armory in Ishpeming. Similar in scope to the plane spotters of World War II, the Ground Observer Corps provided a low tech solution to the need for additional coverage. A network of observation posts was set up across the US, with many posts in the Upper Peninsula. "The Upper Peninsula lies directly in the path which would be used by Russian bombers striking at Detroit or Chicago," stated the article. In the early 50s, the Upper Peninsula had no strategic assets of its own, with the exception of the Soo Locks. In Marquette County alone, there were observation posts in Big Bay, Champion, Eagle Mills, Ishpeming, Little Lake, Marquette, Michigamme, Princeton, Republic, Sands, Watson and Witbeck. Several posts were without supervisors including Blueberry Mine, Carlshend, Huron Mountain and Palmer. In August of 1954, the 691st Air Force band presented a concert at Presque Isle Park. During the program, Colonel W. E. High presented GOC 'wings' to volunteers who had spent 10 or more hours at the watch tower atop the Graveraet school. Those honored were: Dolores Zweifel, Patricia Burke, Mrs. John Seppanen, Marie Fontaine, Truman Hagbloom, James Peterson, Richard Seppanen, Maureen Molloy and Elva Robarge. By the late 1950's, advances in radar technology rendered the Ground Observer Corps obsolete and by 1959, all posts had been disbanded.

ONE CALL

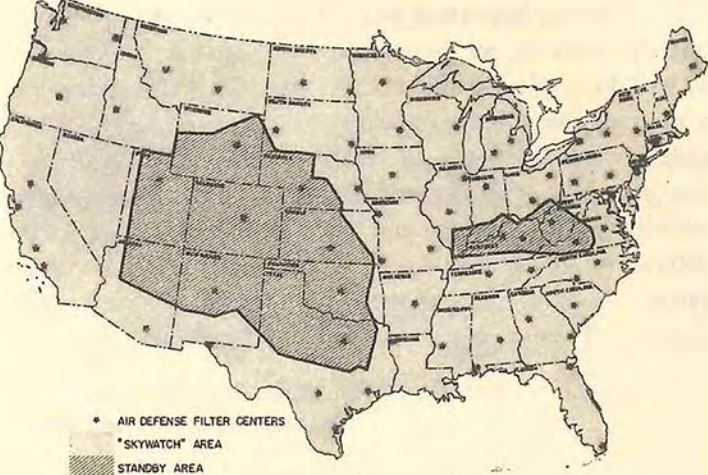


THE GROUND OBSERVER CORPS



WHERE ARE PLANE SPOTTERS NEEDED?


In over 25,000 observation posts located every 8 miles in the United States, and in 73 air-defense filter centers indicated by dots. Over a million civilian volunteers are needed NOW!



The *threat* and the *facts* make it necessary that our radar net, our fighter-interceptors, our antiaircraft guns and missiles, and our retaliatory striking forces be alert around the clock. As a vital part of this system, the Ground Observer Corps also must be organized and operating.

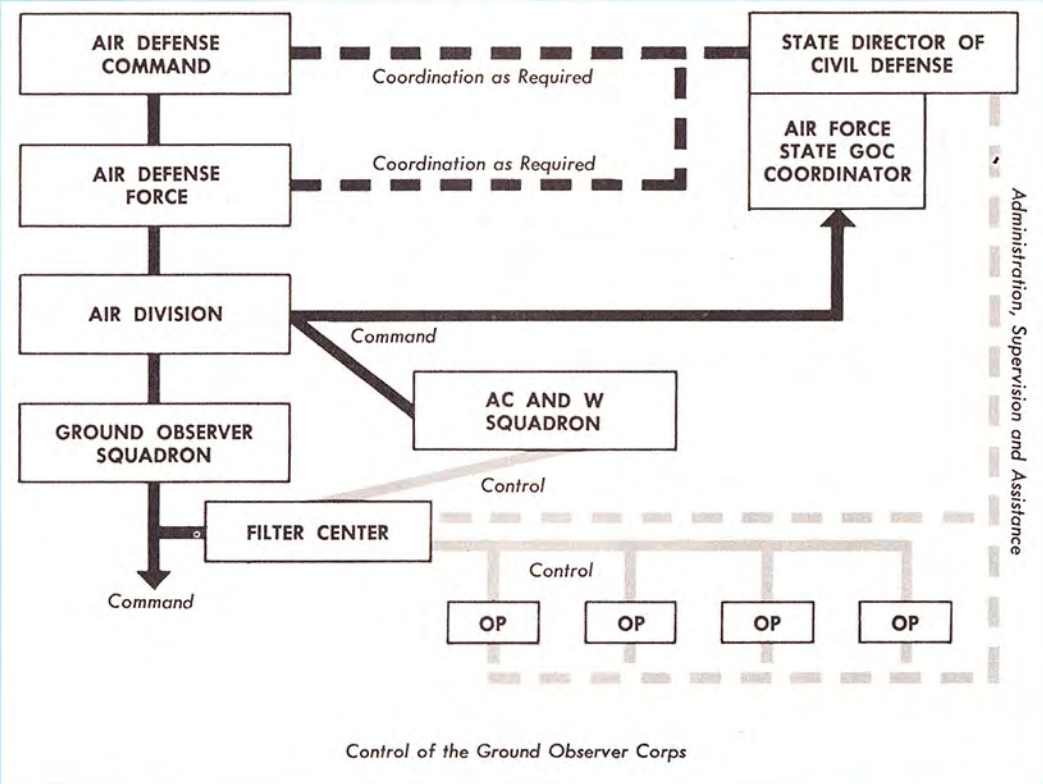
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CALL CIVIL DEFENSE
WHERE TO APPLY?

JOIN THE GROUND OBSERVERS
ONLY TWO HOURS DUTY PER WEEK
CALL CARL COOPER
PHONE 3-8308
U. S. GOVERNMENT PRINTING OFFICE: 1955-O-345967





Ground observer station on the roof of the University of Michigan Union, 1952. Image courtesy of the Ann Arbor News.



Kincheloe AFB



Captain Ivan Kincheloe was a decorated Korean War pilot who in was the first person to fly a plane over 100,000 feet above the ground. In 1958, he was killed during a test flight at Edwards Air Force Base. Kinross Air Force Base was renamed for him in 1959. Image courtesy of the National Museum of the US Air Force.

Previously originally intended to protect the Soo Locks during World War II, Kincheloe Air Force Base operated once again to provide air defense for Sault Ste. Marie, Michigan. Kinross Air Force Base reopened July 1, 1952 under the jurisdiction of the United States Air Force. The military renamed it Kincheloe Air Force base in 1959 after the deceased Captain Ivan Kincheloe. The military expanded the site by obtaining surrounding land for the addition of new facilities on the base. Kincheloe Air Force Base was vital to protecting the surrounding airways in the larger Great Lakes region during the Cold War.

Similar to K.I. Sawyer Air Force Base, Kincheloe was under the authority of the Air Defense Command (ADC). Its sole purpose was to intercept enemy fighters and functioned on 24-hour alert-status. Many B-52 bombers landed at Kincheloe in its time. Mechanics were responsible for fixing the bombers and were liable to return bombers to the runway in record time. Kincheloe's B-52s were of special importance after the assassination of President John F. Kennedy. The base went into immediate lockdown mode and military personnel were put on high alert. B-52s were lined up on the runway and their engines were kept running in order to ensure abrupt take off. Each bomber was equipped with at least ten nuclear warheads. Although the military never called on the B-52s for combat, Kincheloe's bombers were imperative to the nuclear defense during this time.

Kincheloe Air Force Base was deactivated in September of 1977. The government debated its closure for years due to military expenses with the Vietnam War. Though the government decided to close the air force base, it considered the economic impacts that could impair the area. The Office of Economic Adjustment and other federal agencies held meetings that discussed the transition and the future of the area following the base's closure. While there was state and federal incentive to help the Eastern Upper Peninsula transition with the closure of the air force base, the economic impact devastated the area. Today, Kincheloe is now home of the Chippewa County International Airport. Some of the former base is used for a medium-security prison. There is still a small community that has developed in the former base housing.

(Right) This image is courtesy of Jenny Schuder Kilen, who lived at Kincheloe from 1956-59 with her family. Her father was piloting the front F-102 Delta Dagger in the photo.



(Below) F-102 Delta Dagger Pilots of 438th FIS, Kincheloe AFB, 1959. Image courtesy of Julio Arrospeide.



Capt. Philip Fry, F-106 at Kincheloe AFB. Image courtesy of Mindy Fry-Metcalf.



Dan Edwards operating a 4000 pound capacity Baker forklift at Kincheloe AFB, winter of 1973. Image courtesy of Dan Edwards.



Kincheloe AFB, ca. 1972. Image courtesy of Sherry Thomas-Salyers.



2017 satellite image of the former Kincheloe Air Force Base, courtesy of Google. The inset on the left shows a close-up of the "Christmas Tree" staging areas for the B-52 bombers and their crew. Image courtesy of the Aircrew Life Support & Aircrew Flight Equipment Veterans and Retirees.

K.I. Sawyer AFB



Images courtesy of the K.I. Sawyer Museum.



The United States government signed a 99-year lease with the Marquette City Commission on January 24, 1955 to use the K.I. Sawyer Airport in order to build an air force base with the airport used for both civilian and military use. The Air Force constructed a civilian runway near Negaunee and officially turned K.I. Sawyer Airport into K.I. Sawyer Air Force Base on May 8, 1959. Once it became an Air Force Base, the Air Defense Command controlled the site. The task of the base was to intercept and fight enemy attackers. Based on its strategic location on the outskirts of the Great Lakes region, K.I. Sawyer Air Force Base was crucial to the United States' nuclear defense. It was home to the 410th Bomb Wing. The base was vital to the country's air defense under the Air Defense Command (ADC) but the military activated the Strategic Air Command (SAC) at the base in March of 1946. Once it was operating under SAC, the Base was home to many bomber planes, especially B-52s. The strategy of SAC was to scatter U.S. bombers at various air force bases in order to prevent the Soviet Union from potentially destroying them.

While the base functioned on a 24-hour alert structure for nuclear defense, it also acted as a home to thousands of military personnel and their families. The base was equipped with a movie theater, bowling alley, roller rink, restaurants and other establishments. The community hosted many events and the people there were involved in different social clubs. Often called "K.I. Siberia," the community grew to love this unique place and military personnel sought out the base.

The military officially closed K.I. Sawyer Air Force Base on September 30, 1995. Considered the fourth largest city in the Upper Peninsula, the closure of the base was a blow to the area. The air force had employed military personnel, their family members, and outside civilians in the Upper Peninsula. The base's termination resulted in an economic problem for the region due to the thousands of jobs that disappeared, which has lasting impacts on the area today. Ultimately, K.I. Sawyer Air Force Base was an important asset to the region's economy and acted as important element to the thousands of people that grew to know the air force base in the Upper Peninsula.



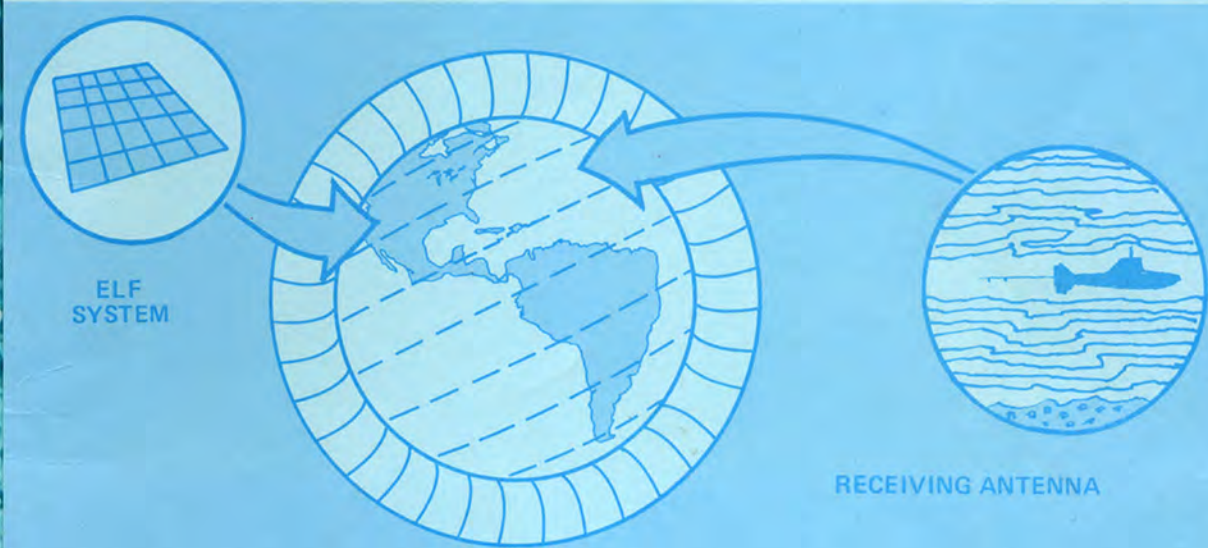
Left, Opening of the Capehart Housing project at K.I. Sawyer, May 28, 1959.

Right, civilian housing is near complete on K.I. Sawyer AFB, ca. 1958.



PROJECT ELF/SANGUINE/ SEAFARER

ELF COMMUNICATIONS



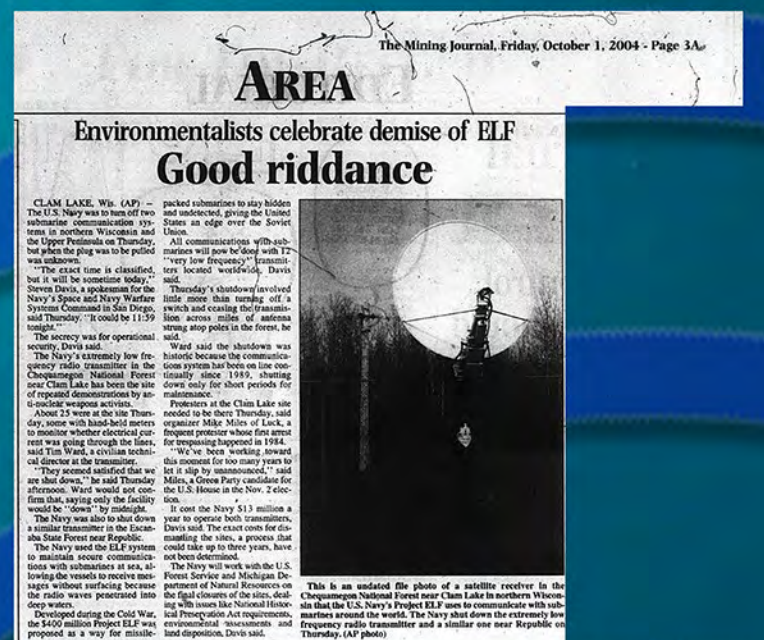
Submarine communications were of high importance for the United States military during the period of the Cold War. Originally, the United States Navy proposed a program, Project Sanguine, which would allow very short communication to oceanic submarines. Project Sanguine would have occupied too much land and would have been a costly development. For these reasons, the U.S. Navy recommended Project Seafarer, which was also rejected. Eventually, the Navy suggested Project ELF (extremely low frequency) and this program was accepted. As the name suggests, Project ELF uses extremely low frequency waves to send very short messages to submarines by piercing seawater through the magnetic field. Although there are benefits to ELF's long range, the transfer time of 3-letter code messages take anywhere from 10 to 15 minutes and lack efficiency and speed. Nevertheless, Naval communication to submarines improved drastically due to the program.

Although this project was crucial in the arms race against the Soviet Union, there was general apprehension and negative feedback from people in the Upper Peninsula. These Anti-ELF citizens held conferences and even protested the project. The major concerns that U.P. citizens held were the danger of being a high-profile target and, more importantly, the environmental impacts SEAFARER would have on the region. On September 8, 1977, the Marquette County Board of Commissioners came to the consensus of rejecting Project SEAFARER, which reflected the public's position on the issue. During this time, U.P. native and State Representative Dominic Jacobetti pursued legislation that would ultimately halt the system's implementation in the Upper Peninsula. The Marquette County Board of Commissioners encouraged Representative Jacobetti by sending letters of support. However, the Navy still intended to follow through with Project SEAFARER.

The United States Navy began the construction for Project ELF (extremely low frequency) first near Clam Lake, Wisconsin and, shortly after, in Republic, Michigan. Acting as sister sites, transmitters in Republic and near Clam Lake were connect by 165-mile underground cables. Operational in October of 1989, the Michigan Transmitter Facility (MTF) in Republic used roughly six acres of land. The MTF antenna consists of three lines. Two lines are 14 miles long and the last line is nearly 28 miles in length. Initially, the Navy intended for the site to have an underground antenna system. Protests and sabotage of the original eradication of the program led to a new approach to establishing the system. The ultimate decision was to create the antennas on wooden poles, making the antennas look like power lines to the ordinary eye. Republic, Michigan acted as the correct location for a transmitter to be constructed and was used until September of 2004.



Newspaper scans courtesy of
the Central U.P. and NMU
Archives.



Photographs of the Project ELF site, taken in June 2017. Top photo shows the entrance and guard station of the facility. The bottom photograph is of the main antenna operations building. Images taken by Daniel Truckey, Beaumier U.P. Heritage Center.

Other Military Sites

Grand Marais Air Force Station

The Air Defense Command (ADC) established an air force station in Grand Marais, Michigan, in December of 1954. The 906th Aircraft Control and Warning Squadron was relocated to Grand Marais from Willow Runs Air Force Station in the Lower Peninsula of Michigan. The station in Grand Marais was a part of the ADC Radar network, which was strategically placed on the edges of the country. Operating with an AN/TPS-10 radar, the squadron's mission was to direct “interceptor aircraft toward invaders seen on the unit's radarscopes.” Deactivated in November of 1957 due to lack of funds, Grand Marais Air Force Station operated for only a short time and eventually became an unmanned “Gap Filler” site until 1968. A sawmill functioned on the property in the 1960s. Now private property, the owners rent out the remaining buildings of the old air force station as storage facilities.



Historic images of the Norway Gap Filler Radar Station courtesy of Joseph Ash, Janesville, Wisconsin.

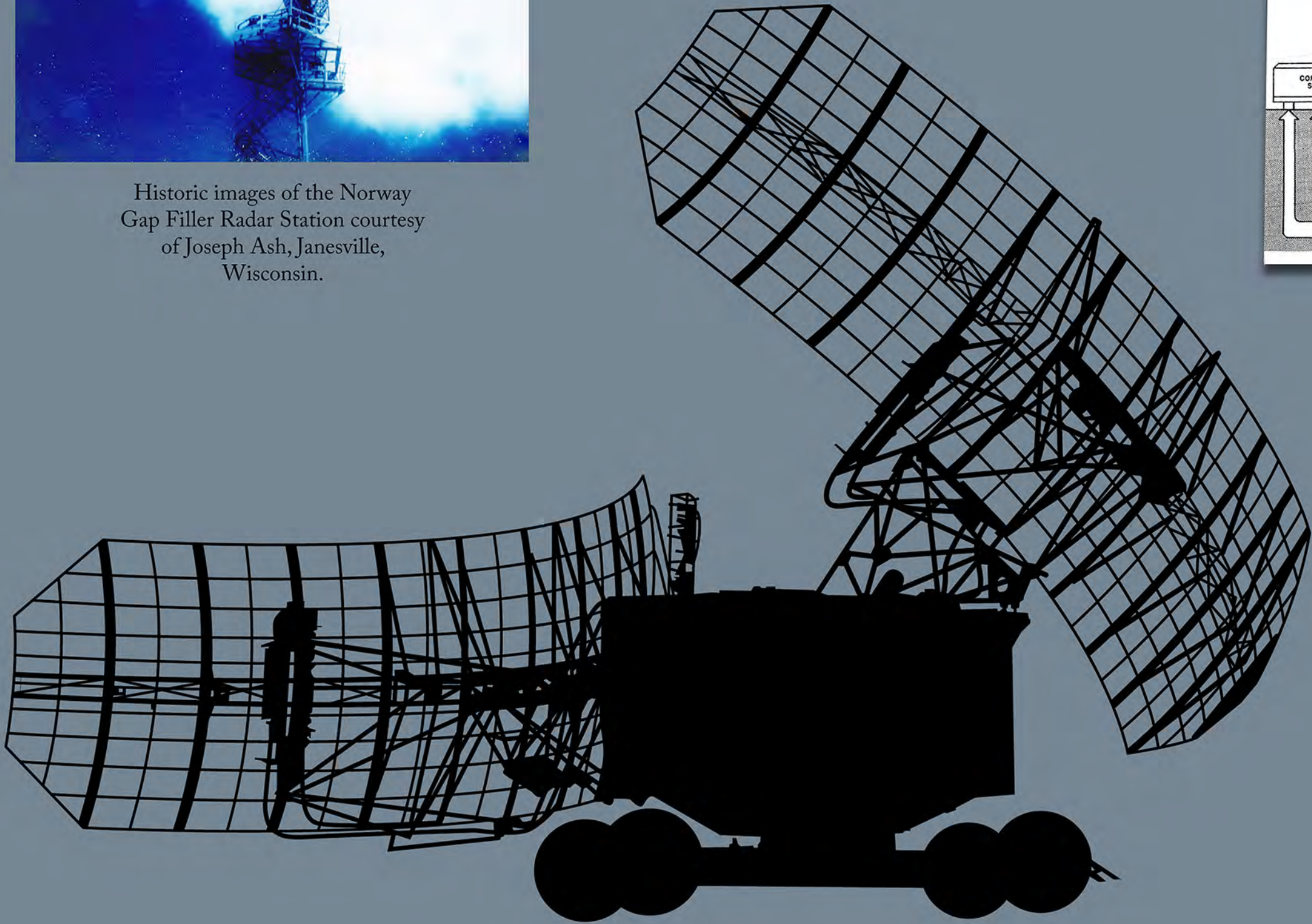
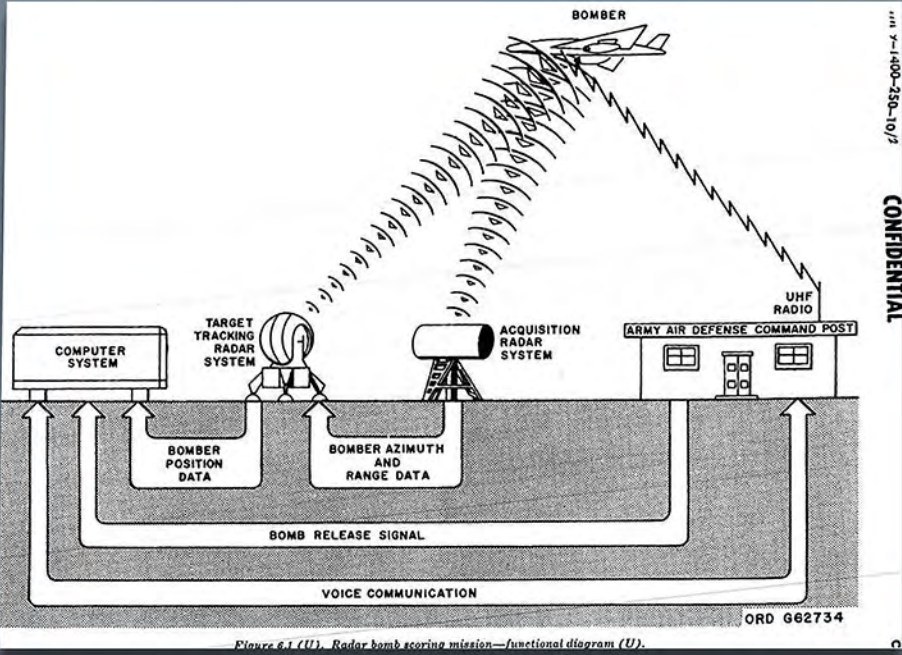
Gap Filler Radar

One of the technological advances leading to the end of the Ground Observer Corps was the development and deployment of AN/FPS-14 and AN/FPS 18 gap filler radar. The gap fillers had a range of about 65 miles and were able to detect low flying aircraft. Most were unmanned, consisting of an L-shaped building and a tower with radar mounted on the top. Three sites in the Upper Peninsula had active Gap Filler Radar: Painesdale, Norway and Grand Marais. A site at Fibre (in the eastern part of the UP) was started, but never finished and a site at Copper Harbor was planned, but never built. The Grand Marais site was originally a manned site in the late 1950s, but transitioned to an unmanned site in 1960 and was deactivated in June of 1968. Both the building and radar tower were left standing for a number of years, but were eventually torn down. Norway was operational from October of 1958 through June of 1968. The building and tower were torn down and all that remains is a concrete slab that supports a vehicle maintenance site at the Pine Mountain Lodge. The Painesdale site operated from June of 1960 through June of 1968. After decommissioning the site, the USAF donated the building and tower to Michigan Technological University, although the land still belongs to Mead Paper Company. The building and tower are still in use today, although neither are owned by MTU.

Strategic Air Command (SAC) // Radar Bomb Scoring

A crucial element to the intricate defense system included the “Nuclear Triad.” The “Triad” was the strategic nuclear strike forces of the United States military during the Cold War. The entire goal of the “Nuclear Triad” was to decrease nuclear attacks and increase the nation’s nuclear deterrence. The Strategic Air Command (SAC) controlled two of three elements of the “Triad,” which included land-based intercontinental ballistic missiles (ICBMs) and strategic bombers. SAC was a part of the United States Air Force Major Command, making it a crucial division to the organization of the Air Force during the Cold War.

The Strategic Air Command extended into the Upper Peninsula. Norrie Hill in Ironwood, Michigan became the location of a SAC Radar Bomb Scoring site in the early 1960s. The military used the site to “track high altitude and treetop level bomb runs by B-52s and B-47s on targets.” K.I. Sawyer Air Force Base and Kincheloe Air Force Base were also locations that SAC acquired. The United States military demobilized the Strategic Air Command in 1992, but it was reactivated as the Air Force Global Strike Command in 2009.



Other Military Sites

Calumet Air Force Station

The Calumet Air Force Station was opened in 1950 as a long range radar station for the Semi-Automatic Ground Environment (SAGE). The station was influential in transferring aerial intelligence to chief command centers. The site's radar was responsible for calculating the altitude of invading aircrafts and assaulting missiles. The Calumet Air Force Station was later upgraded in the 1960s with the latest technology, which shifted its role to have more significance in national defense. This caused an increase in military personnel to nearly 225 stationed at the site. However, the United States ultimately closed the station in 1988.



Images of Calumet Air Force Station taken in 2015 by Thomas Tetzloff. Images courtesy of the photographer and the website, Military History of the Upper Great Lakes (<http://ss.sites.mtu.edu/mhugl/>).



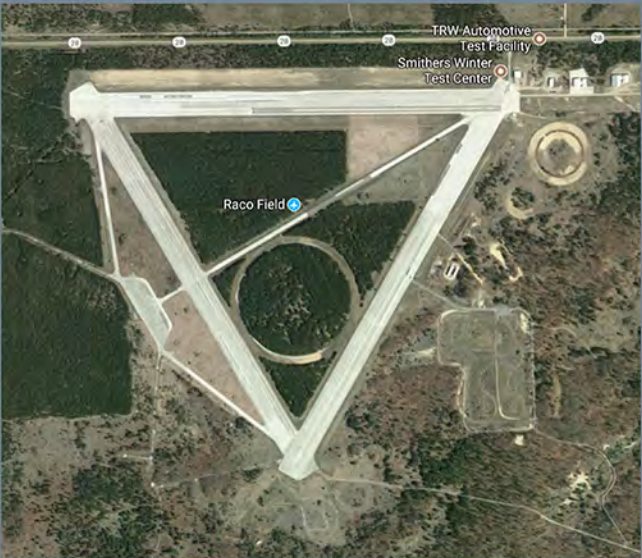
Thomas Wilson was stationed at the Calumet Air Force Station from January 1963 until April 1964. The Calumet Air Force Station was part of NORAD (North American Air Defense Command). The base's tools were a radar scope, teamed with Century Series aircraft (F-101 Voodoos, stationed at K.I. Sawyer AFB , and F-106 Delta Darts,(or Daggers: it is still under discussion) stationed at Kincheloe Air Force Base), Michigan, armed with cutting edge air to air missiles. Wilson says, it “Could get pretty exciting, especially when they wake you up at 1, or 2, or 3 A.M., tell you there's a mission, and you need to get your tail to your duty station in 5 minutes, and it's a 10 minute walk up that hill (and 30 below zero). But, that's what they pay you 222 dollars a month to do! (in 1963).”

Image courtesy of Thomas Wilson.

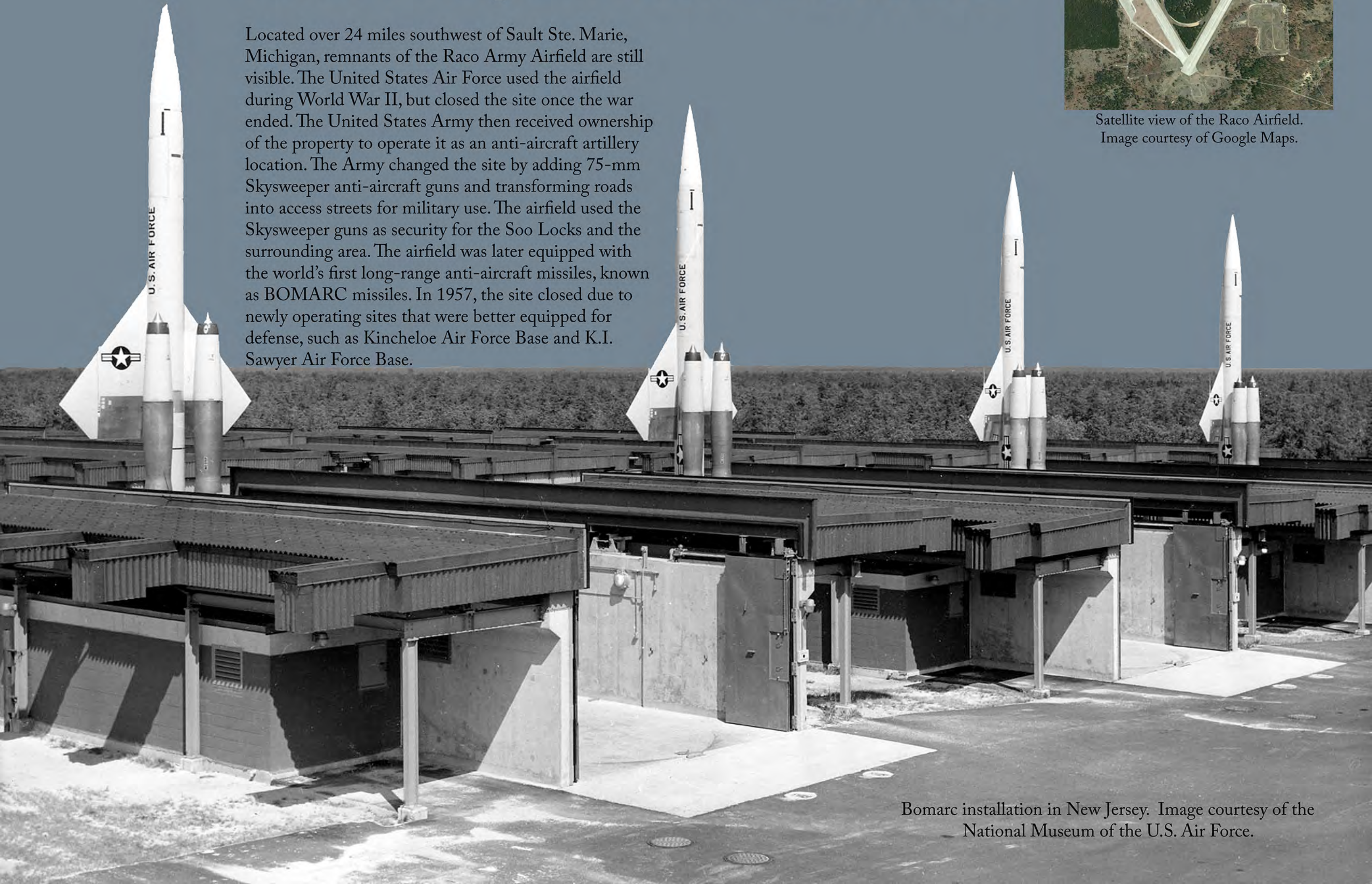


Raco Army Airfield - BOMARC

Located over 24 miles southwest of Sault Ste. Marie, Michigan, remnants of the Raco Army Airfield are still visible. The United States Air Force used the airfield during World War II, but closed the site once the war ended. The United States Army then received ownership of the property to operate it as an anti-aircraft artillery location. The Army changed the site by adding 75-mm Skysweeper anti-aircraft guns and transforming roads into access streets for military use. The airfield used the Skysweeper guns as security for the Soo Locks and the surrounding area. The airfield was later equipped with the world's first long-range anti-aircraft missiles, known as BOMARC missiles. In 1957, the site closed due to newly operating sites that were better equipped for defense, such as Kincheloe Air Force Base and K.I. Sawyer Air Force Base.



Satellite view of the Raco Airfield. Image courtesy of Google Maps.



Bomarc installation in New Jersey. Image courtesy of the National Museum of the U.S. Air Force.

UFO OVER LAKE SUPERIOR



On the evening of November 23, 1953, a US Air Force Scorpion F-89 jet was scrambled from Kinross Air Force Base in Kinross, Michigan. Air



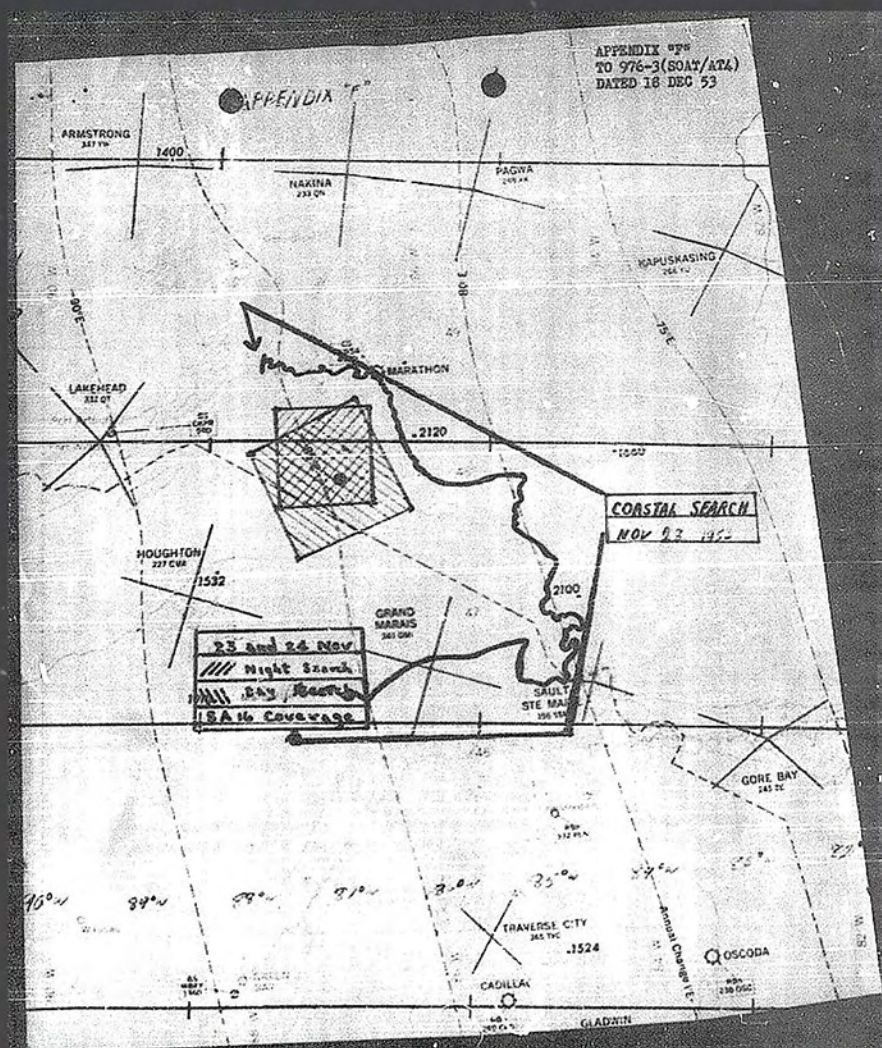
Lt. Felix Moncla, pilot of the missing F-89 Scorpion
Courtesy of the United States Air Force

Defense Command radar had picked up an unidentified flying object over Lake Superior and the crew and jet on loan from Truax Air Force base in Wisconsin were sent to find out the origin of the “blip.” On board were pilot Lt. Felix Moncla and radar observer 2nd Lt. Robert Wilson.



Kinross Air Force Base, where F-89 Scorpion left to find the UFO
Image courtesy of the United States Air Force

The jet was ordered to fly at 30,000 feet until it arrived at where the blip was being signaled about 70 miles from the tip of the Keweenaw Peninsula. At that time, they were instructed to fly sharply down at the object and rendezvous with it at around 7,000. However, when this moment arrived, both the UFO and the Scorpion F-89 disappeared from the radar screen. Search flights and boats were sent to the location but they never found any wreckage or the bodies of the missing airmen.



Search map for the missing F-89 over Lake Superior
Courtesy of the United States Air Force

another twist, an identical F-89 from Truax had exploded in mid-air and crashed in Madison. Some believed that maybe the same fate led to the disappearance of the Lake Superior F-89. However, to this day, there has yet to be any wreckage spotted of the plane and it remains a true unsolved mystery.



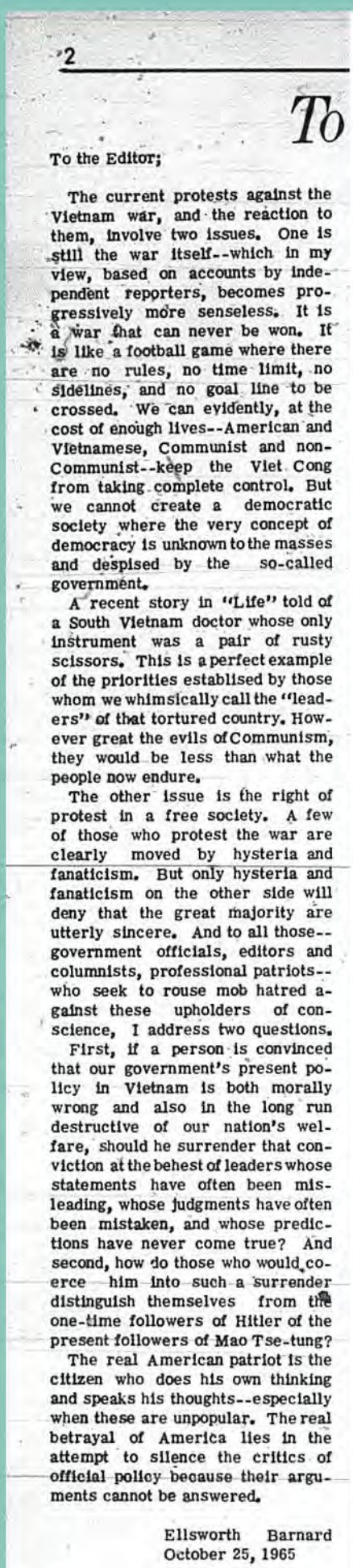
Headline about the disappearance of the F-89 Scorpion
Image courtesy of the Mining Journal and Central U.P. and NMU Archives

The USAF’s report on the incident claimed that the “blip” was actually a Canadian Air Force cargo plane but the Royal Canadian Air Force denies that it was anywhere near that spot on Lake Superior. Because it was in November, the weather was a bit blustery with snow, but there was no reported turbulence at the time of the flight. In



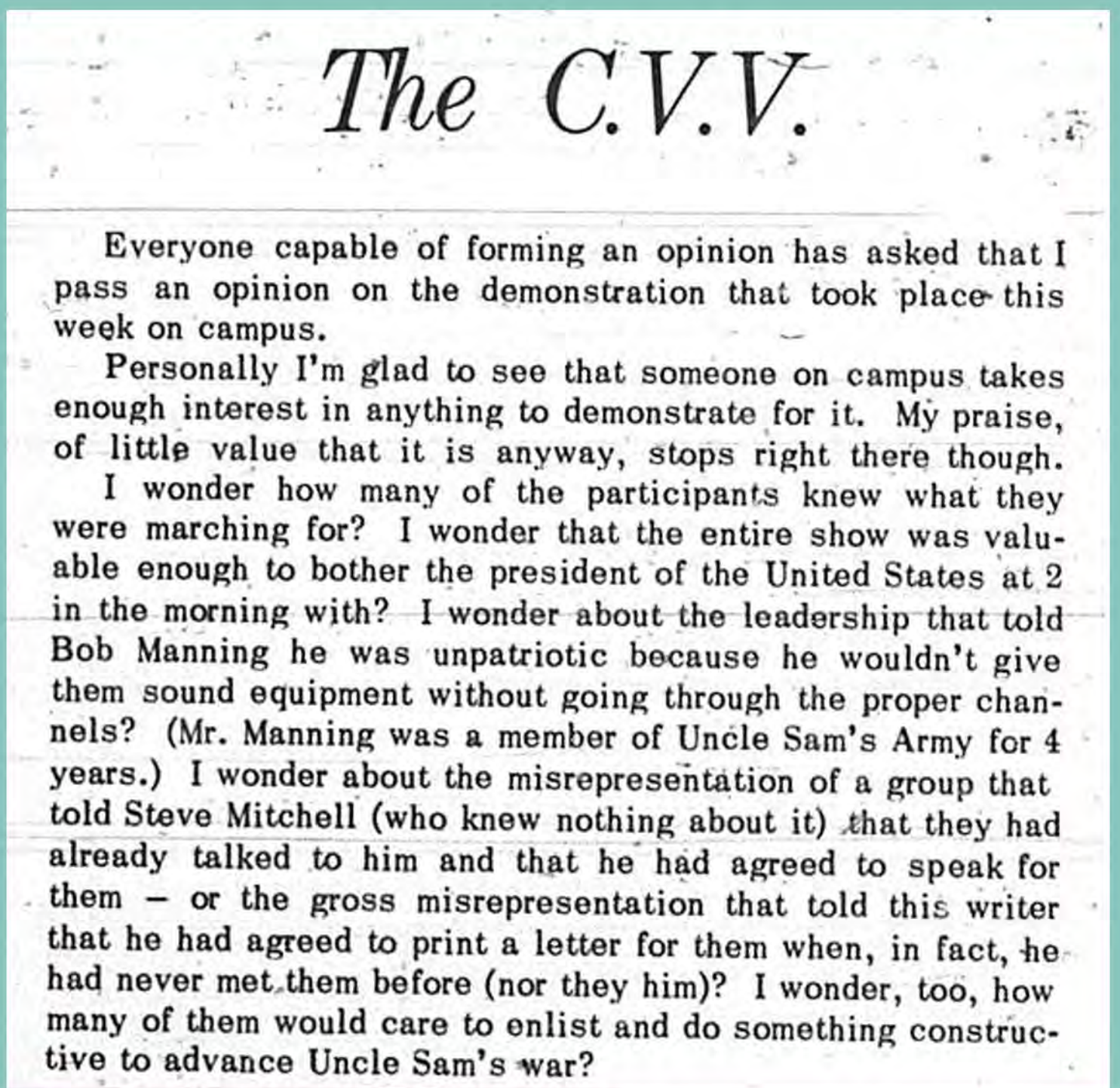
F-89 Scorpion Fighter, similar to the one flown by Lt. Felix Moncla
Image courtesy of the United States Air Force

DEMONSTRATION IN SUPPORT OF THE VIETNAM WAR, 1965



(Above) a copy of Dr. Ellsworth Barnard's letter to the editor regarding Vietnam. (Right) Northern News editorial about the C.V.V. rally in support of the war.

In the 1960s, NMU saw quite a bit of on campus activism in the form of protests. Student's held a demonstration in support of the Vietnam War in 1965. This caused a stir on campus as shown in letters to the school's paper, the *Northern News*. The pro-Vietnam demonstration was held in November of 1965, sparked by a letter written to the *Northern News* in October by Dr. Ellsworth Bernard. Dr. Bernard's letter was voicing support for the anti-war protests that were happening around the country at that time. A group of students called the "Committee for Victory in Vietnam" (CCV) organized the pro-war demonstration. According to the November 5 issue of *Northern News* over 200 students attended the demonstration in support of President Johnson's policy. The students even made a call to the president to alert him of their support, however, the president was sleeping at the time of the call.





SAM

(SILENT AMERICAN MAJORITY)

NOW SPEAKS OUT

The President of the United States is committed to lead this great Nation out of Vietnam in a manner that will insure a just and lasting peace.

Look at the events in our Nation's history that made us the greatest Nation in the world. They have a common theme — Unity.

The North Vietnamese are trying to divide us in an effort to weaken the President's negotiating position.

If we leave the North Vietnamese with the impression we are divided, it will —

- Lengthen the war
- Increase American losses
- Result in a weak peace that could lead to later, larger wars
- Encourage future harassment by other nations

We call on all red-blooded Americans to join us in letting the world know that we strongly condemn the program of the Vietnam Moratorium Committee, which is aiding the cause of Hanoi, and stand firmly beside our President in his efforts to secure a just and lasting peace.

ACT NOW — Provide Evidence Of Your Support.

Every American Can —

1. Sign and mail this coupon . . . your personal message to the President.
2. Duplicate extra coupons for distribution to your friends.
3. Send voluntary donations to assist in defraying the expenses of SAM.

SAM

Box S.A.M.
Gwinn, Mich. 49841

Enclosed is my voluntary contribution to help defray expenses of the Silent American Majority movement.

Name _____

Address _____

City _____

State _____

Zip Code _____

SAM

Box S.A.M.
Gwinn, Mich. 49841

Mr. President:

You have my support in your efforts to bring a just and lasting peace.

Name _____

Address _____

City _____

State _____

Zip Code _____

DEMONSTRATIONS AGAINST THE VIETNAM WAR, 1969

NMU had its fair share of anti-war protests on campus during the 1960s and 1970s. It was announced in February of 1969 that NMU would begin a ROTC program in the coming Fall semester. This angered some students and on February 18 an anti-ROTC protest was held. The issue was the fact that academic credit was being awarded to ROTC participants. The anger towards ROTC continued into March, the editorial in the March 5th issue of Northern News questions if ROTC should be giving academic credits saying, “If the individual finds ROTC appealing, well and good. It has as much of a right to exist on our campus as fraternities, sororities, and other EXTRA-CURRICULAR organizations. And that’s just the point.” A letter to the Northern News in the March 14th issue defends the protest and suggests, “either the University should eliminate ROTC as an accredited activity or ROTC should change to merit accreditation.”

In the fall of 1969 NMU students held anti-war protests. The protests were held by the National Vietnam Moratorium Committee. It was reported in the November 8th issue of the Mining Journal that anti-war protesters had a week of events planned. Protesters went door-to-door handing out informational pamphlets on the war, candlelight marches, and showed films throughout the week of Veterans Day. The demonstrations were part of a national movement held that Fall.



Image courtesy of the Central U.P. and NMU Archives.



A group of students, representing no particular organization, set up a table in the student center on Saturday, May 14, to pass out pamphlets and other literature, such as "Make Love Not War." These leaflets, mainly from the Detroit Committee to End the War in Viet Nam, and the Student Peace Union, were passed out "simply to present the other side." NMU students in general were not too receptive to the 'other side' and this group left shortly after this photo was taken.

Summer Jobs

\$ Over...



Supporters of the November Vietnam moratorium gathered in front of the University Center Tuesday afternoon to pray, sing and plant crosses in the ground commemorating U.P. Vietnam war dead. This was part of a week of activities surrounding the call of the National Moratorium Committee for protest against the Vietnam war. Young Americans for Freedom (YAF), a conservative student group, also staged activities during the week, including a debate on the war among four NMU faculty members. (Complete story on page two.)

NORTHERN MICHIGAN UNIVERSITY

Established by the Legislature in 1899 as a normal school to provide teachers for the Upper Peninsula. Northern opened with thirty-two students, six faculty members, and Dwight B. Waldo as principal. A four-year collegiate program was introduced in 1918, and the first bachelor of arts degree was conferred two years later. In the 1950's Northern became a multi-purpose institution placing emphasis on instruction, service, and research. In 1960 it established its own graduate program leading to the master of arts degree. Serving an ever-increasing student body, Northern in 1963 achieved university status through an act of the Legislature.



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