

The Cold War

INST 154

Apollo at 50

[Duck and Cover](#)



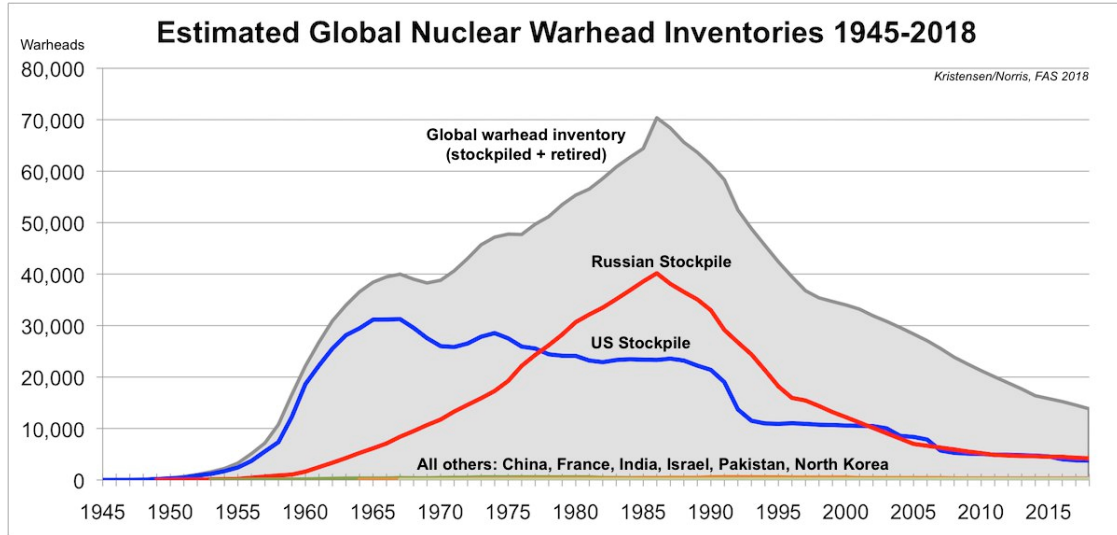
Origins of the Cold War

- Truman (April 1945-January 1953)
 - Potsdam Conference (July 1945)
 - Atomic bombing of Hiroshima and Nagasaki (August 1945)
 - United Nations (October 1945)
 - **Strategy: Containment** (February 1946)
 - Truman Doctrine (March-May 1947)
 - Marshall Plan (April 1948)
 - Berlin Airlift (June 1948)
 - NATO (April, 1949)
 - Soviet atomic test (August 1949)
 - “Loss of China” (October 1949 to May 1950)
 - Korean War (June 1950)
 - Chinese entry into the Korean War (October 1950)
 - MacArthur relieved for insubordination (April 1951)

Early Cold War

- Eisenhower (January 1953-January 1961)
 - **Strategy: Massive Retaliation**
 - 15 megaton US hydrogen bomb test (March 1954)
 - Warsaw Pact (May 1955)
 - “Airborne alert” bombers (September 1958)
 - U-2 shootdown (May 1960)
- Kennedy (January 1961-November 1963)
 - **Strategy: Flexible Response**
 - Bay of Pigs invasion (April 1961)
 - Berlin Wall (August 1961)
 - Cuban Missile Crisis (October 1962)
- Johnson (November 1963-January 1969)
 - **Strategy: Mutually Assured Destruction**
 - Vietnam War (August 1964)

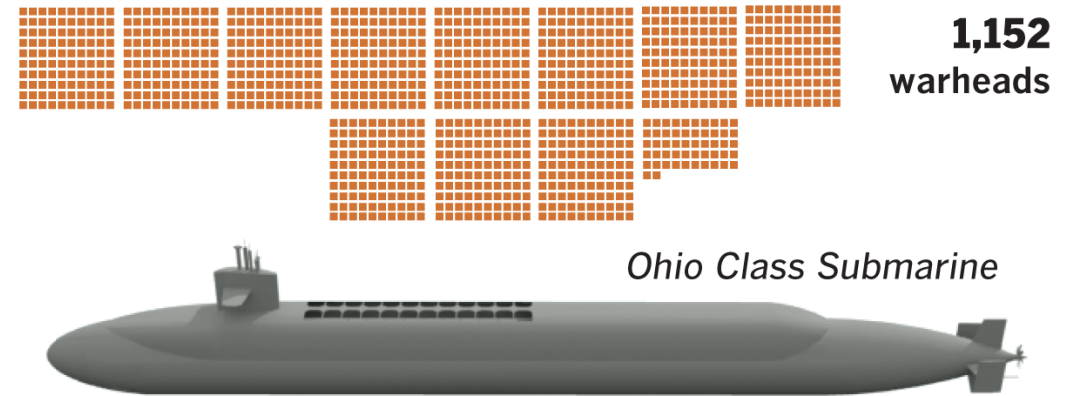
Nuclear Weapons



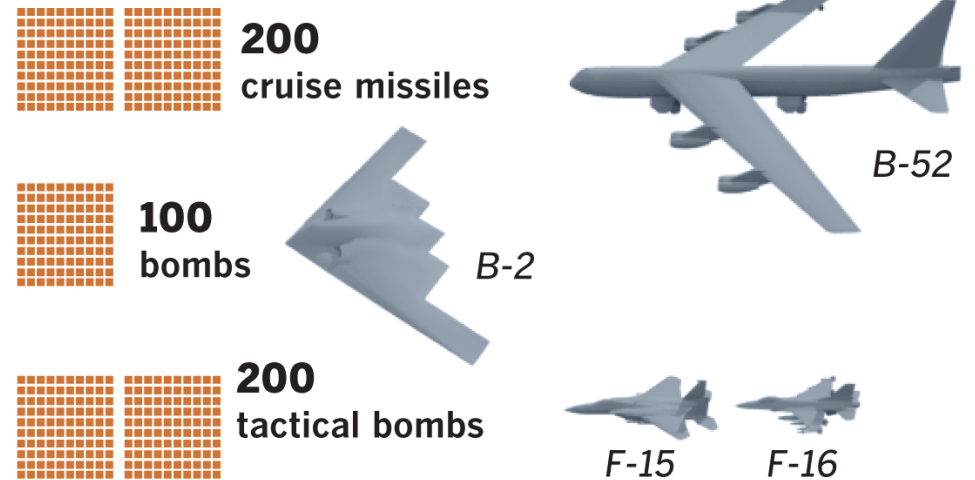
Land: Intercontinental ballistic missiles



Sea: Submarine ballistic missiles



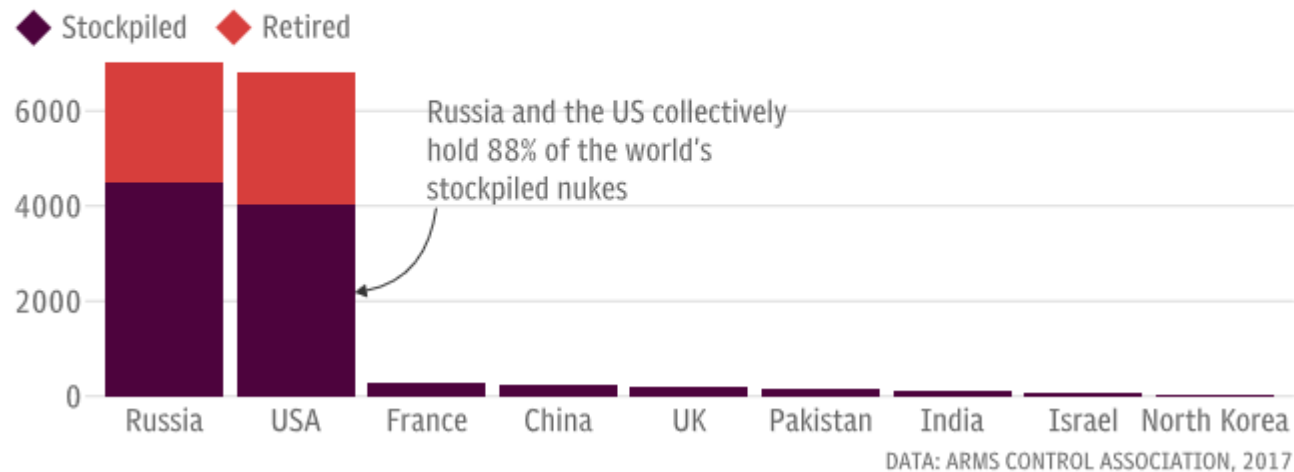
Air



* The U.S. holds an inactive stockpile of 2,548 to 2,700 tactical warheads

How the world's 15,000 nukes are divided

Estimated number of retired and stockpiled nuclear warheads per country



Peenemunde



Operation Paperclip (1945-1952)



Operation Osoaviakhim (Oct 1946)

Gorodomlya Settlement - described by German Scientist

POINT 1 MAIN SUPPLY STORAGE AREA: MEASURING 50 X 100 M AND ENCLOSED BY A FENCE MADE OF BOARDS AND WIRE (AND RATHER UNTIDY IN APPEARANCE). – TWO GUARD DOGS WERE KEPT IN THIS AREA AT NIGHT. THREE BUILDINGS WERE LOCATED WITHIN THE ENCLOSURE: A SHOP, 10 X TO M, PARTITIONED INTO SECTIONS FOR STORING CONSTRUCTION AND ELECTRICAL EQUIPMENT AND SUCH ITEMS AS ASBESTOS SUITS ETC; A SMALL STORAGE SHED FOR MISCELLANEOUS MATERIALS; AND A SMALL HOUSE AND OFFICE WHERE A SUPPLY CLERK WAS ON DUTY ALL DAY AND A GUARD ALL NIGHT. ALL REQUISITIONS HAD TO BE SIGNED BY THE SOVIET CHIEF ENGINEER AND THE CHIEF ACCOUNTANT.

POINT 3 OBJECT NO 1: TEST AREA FOR ROCKET PROPULSION UNITS. THIS AREA, ABOUT 200 X 150 METERS, WAS ENCLOSED BY A FENCE, AND A GUARD WAS ON DUTY AT ALL TIMES. TWO WATCH DOGS WERE CHAINED WITHIN THE ENCLOSURE DURING THE NIGHT.

POINT 5 SEWAGE TREATMENT PLANT

POINT 7 FIRE STATION: EQUIPPED WITH 2 HOSE TRUCKS AND STAFFED BY A PERMANENT DETAIL OF 24 SOVIETS.

POINT 9 CARPENTER SHOP

POINT 11 SHOP: GENERAL SHEET METAL WORK WAS DONE HERE.

POINT 13 POTATO STORAGE SHED (UNDERGROUND)

POINT 15 INSTITUTE BUILDING: A TWO-STORY STONE STRUCTURE WITH A FINISHED BASEMENT AND CENTRAL HEATING. THE INSTITUTE WAS SURROUNDED BY A FENCE, BUT THE GUARD POST WAS LOCATED INSIDE THE BUILDING AT THE ENTRANCE WHERE ALL PERSONS WERE CHECKED. [DELETED].

POINT 17 WOOD SHED

POINT 19 NURSERY (SOVIET CHILDREN ONLY): A WOODEN ONE-STORY STRUCTURE.

POINT 21 DISPENSARY: A ONE-STORY WOODEN STRUCTURE, 25 X 12 M, WITHOUT CENTRAL HEAT. IT INCLUDED A TEN-BED WARD AND WAS STAFFED BY 2 WOMEN DOCTORS, 1 WOMAN DENTIST, AND 4 OR 5 NURSES.

POINT 23 HOUSES FOR GERMAN SPECIALISTS: TWO-STORY WOODEN BUILDINGS, 24 X 12 M, EACH ACCOMMODATED TEN FAMILIES. MOST FAMILIES WERE ALLOTTED TWO ROOMS AND A KITCHEN, ALTHOUGH IN SOME CASES TWO FAMILIES HAD TO SHARE ONE KITCHEN. THE BUILDINGS WERE HEATED BY WOOD STOVES AND WERE EQUIPPED WITH COLD RUNNING WATER, BUT THERE WERE NO BATHS. THE RENT WAS LAW (AS WAS THE PRICE FOR UTILITIES) AND WAS CALCULATED ON A BASIS OF SQUARE METERS OF SPACE USED. WE BOUGHT OUR OWN WOOD, WHICH WAS QUITE EXPENSIVE. ELECTRICITY WAS INSTALLED IN 1949. GENERALLY, WE USED OUR OWN FURNITURE, BUT FURNITURE COULD ALSO BE RENTED FROM THE SOVIETS.

POINT 25 TWO-STORY STONE HOUSES: THESE HOUSES, 25 X 12 M EACH, ACCOMMODATED ABOUT 14 GERMAN FAMILIES IN 3-ROOM APARTMENTS.

POINT 27 SCHOOL: A ONE-STORY WOODEN BUILDING, CENTRAL HEATED. IT INCLUDED 8 ROOMS AND HAD A TOTAL CAPACITY OF 100 PUPILS. MOST OF THE TEACHERS WERE RUSSIAN, AND FROM THE 5TH GRADE ON ALL INSTRUCTION WAS CONDUCTED IN THE RUSSIAN LANGUAGE.

POINT 29 WOOD AND TOOL SHED

POINT 2 ALCOHOL (B-STOFF) STORAGE: THE ENTIRE AREA MEASURED 20X20 M, AND IT WAS ENCLOSED BY A BARBED WIRE FENCE AND WAS UNDER ARMED GUARD 24 HOURS A DAY. SIX CONTAINERS OF 400 LITERS CAPACITY EACH WERE LOCATED HERE; THEY WERE UNDER A ROOF AND WERE PROTECTED BY EARTHEN WALLS (ERDBUNKER). THE AREA WAS EQUIPPED WITH A PIPE, WHICH LED TO THE SIDE OF THE LAKE, WHERE SHIPS CARRYING ROCKET FUEL WERE ANCHORED. FUEL WAS PUMPED INTO THE CONTAINERS FROM THESE SHIPS. THE ROCKET FUEL WAS THEN TRANSPORTED TO THE TEST AREA (OBJECT NO 1 POINT 28) BY TANK TRUCK. ISSUE WAS MADE BY THE SUPPLY CLERK AT THE MAIN SUPPLY STORAGE AREA (POINT 25).

POINT 4 SAW MILL: THIS SAW MILL OPERATED ALMOST CONTINUOUSLY, PRODUCING BOARDS AND LUMBER FOR THE ENTIRE ISLAND. MOST OF THE TIMBER WAS CUT ON THE ISLAND, BUT SOME LOGS WERE ALSO BROUGHT IN FROM OUTSIDE.

POINT 6 DIESEL FUEL CONTAINERS: TWO OR THREE CONTAINERS OF TEN TONS CAPACITY EACH.

POINT 8 SUPPLY AND STORAGE SHED: OLD V-2 PARTS WHICH HAD BEEN CANNIBALIZED FROM MISSILES WERE STORED HERE AND ISSUED FOR RE-USE.

POINT 20 NEW WOODEN HOUSES: FOR SOVIETS ONLY (WITH ONE EXCEPTION—A GERMAN FAMILY WHICH COLLABORATED WITH THE SOVIETS A GREAT DEAL); EQUIPPED WITH CENTRAL HEATING [BLANK]. ONE OF THESE BUILDINGS (POINT 13) WAS NOT YET COMPLETED.

POINT 12 ADMINISTRATION BUILDING: A ONE-STORY STONE STRUCTURE, 15 X 12 M, WHICH HOUSED THE DIRECTOR'S OFFICE, THE ACCOUNTING DEPARTMENT, A GENERAL ADMINISTRATION SECTION, AND THE CASHIER'S OFFICE, WHERE RENT AND UTILITIES WERE PAID.

POINT 14 BUILDING: A CANTEEN, RESTAURANT, AND BAKERY WERE LOCATED IN THIS BUILDING.

POINT 16 BUILDINGS: CONSTRUCTED OF STONE, ONE STORY HIGH, 20 X 12 M; THE FINISHED BASEMENT CONTAINED THE HEATING PLANT FOR THE INSTITUTE BUILDING. A STEAM BATH (SAUNA), A LAUNDRY, AND A SMALL ELECTRICAL SHOP WERE ALSO LOCATED HERE. A SMALL, TWO-STORIED, USED ONLY BY THE SOVIETS. A SMALL MAINTENANCE SHOP, A SUPPLY ROOM, A TOOL STORAGE ROOM AND SOME SMALL OFFICES WERE LOCATED IN THIS BUILDING. A BLACKSMITH SHOP EQUIPPED WITH FORGING TOOLS. A WATER TOWER, TEN M HIGH, THIS TOWER HAD A CAPACITY OF 8 TON.

POINT 18 GENERATOR PLANT: EQUIPPED WITH THREE GENERATORS OF 200, 250 AND 1000 KW. THESE GENERATORS WERE LOCATED IN A STONE HOUSE ABOUT 20 X 20 M AND WERE POWERED BY DIESEL ENGINES. THE REAR OF THE PLANT FACED A SMALL LAKE; THE OTHER THREE SIDES WERE SURROUNDED BY A FENCE AT WHICH A GUARD WAS STATIONED AT ALL TIMES. UPON OUR ARRIVAL ON THE ISLAND, THE GENERATOR PLANT DID NOT FUNCTION PROPERLY AND WE SELDOM HAD SUFFICIENT ELECTRICITY. LATER ITS OPERATION IMPROVED. ALSO VOLLEYBALL COURT WAS HERE.

POINT 20 WOOD SHEDS & POINT 22 VOLLEYBALL COURT

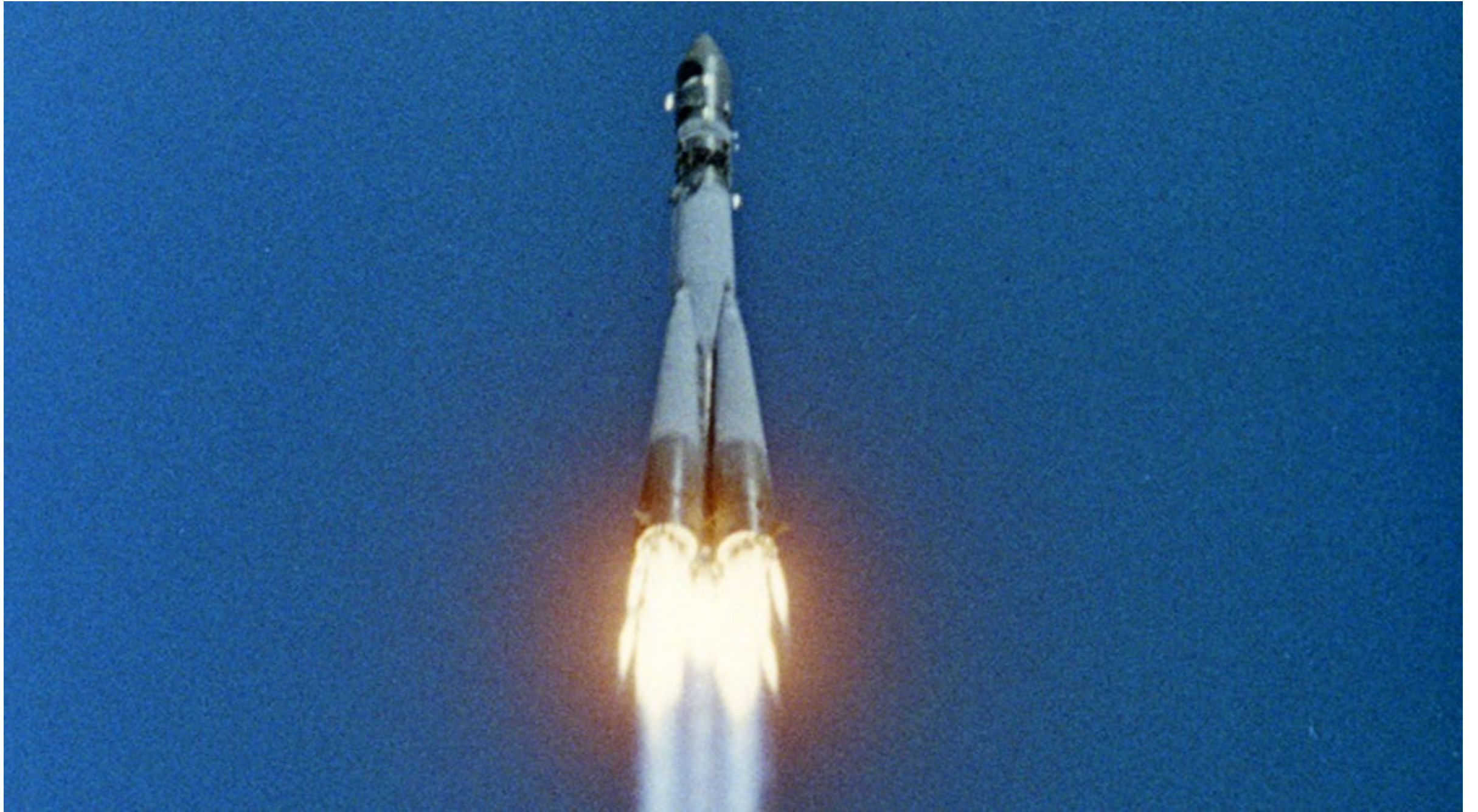
POINT 24 CLUB BUILDING: THIS BUILDING CONTAINED A RECREATIONAL AREA FOR THE GERMANS AND AN AUDITORIUM WHICH HAD A SEATING CAPACITY OF 300 AND WHICH WAS USED FOR POLITICAL INDOCTRINATION LECTURES, MOVIES, ETC. THERE WAS ALSO A RECREATION ROOM WITH PING-PONG TABLES, ETC, AND A LIBRARY WHICH CONTAINED BOOKS IN BOTH GERMAN AND RUSSIAN. MOST OF THE READING MATERIAL WAS OF A POLITICAL NATURE. THREE STORES WERE LOCATED IN THIS BUILDING—TWO FOOD STORES (ONE FOR GERMANS AND ANOTHER FOR SOVIET CLIENTELE) AND A DRYGOODS STORE. THIS STRUCTURE WAS EQUIPPED WITH CENTRAL HEATING. TENNIS COURT NO 1

POINT 26 APARTMENT BUILDING: A STONE STRUCTURE, EQUIPPED WITH A BATHROOM BUT NOT WITH CENTRAL HEATING. GERMAN FAMILIES LIVED IN HALF OF THE BUILDING AND THE SOVIET DIRECTOR OF GORODOMLYA AS WELL AS TRANSIENT SOVIET VIPS WERE BILLETED IN THE OTHER HALF.

POINT 28 WOODEN HOUSE FOR GERMAN FAMILIES.



Vostok-R7



Mercury- Redstone



Mercury- Atlas

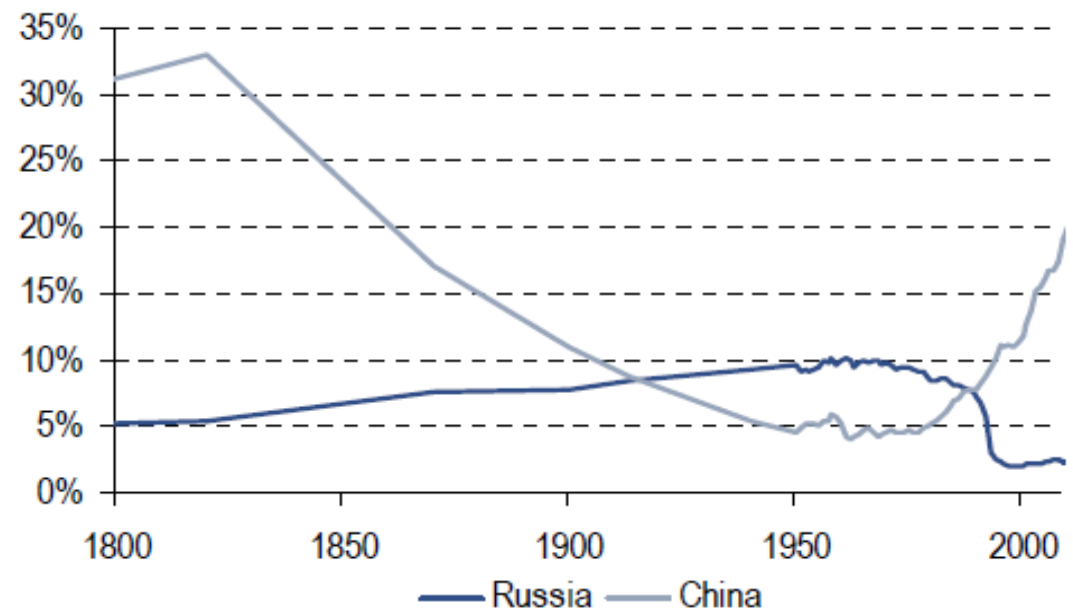


Gemini- Titan II





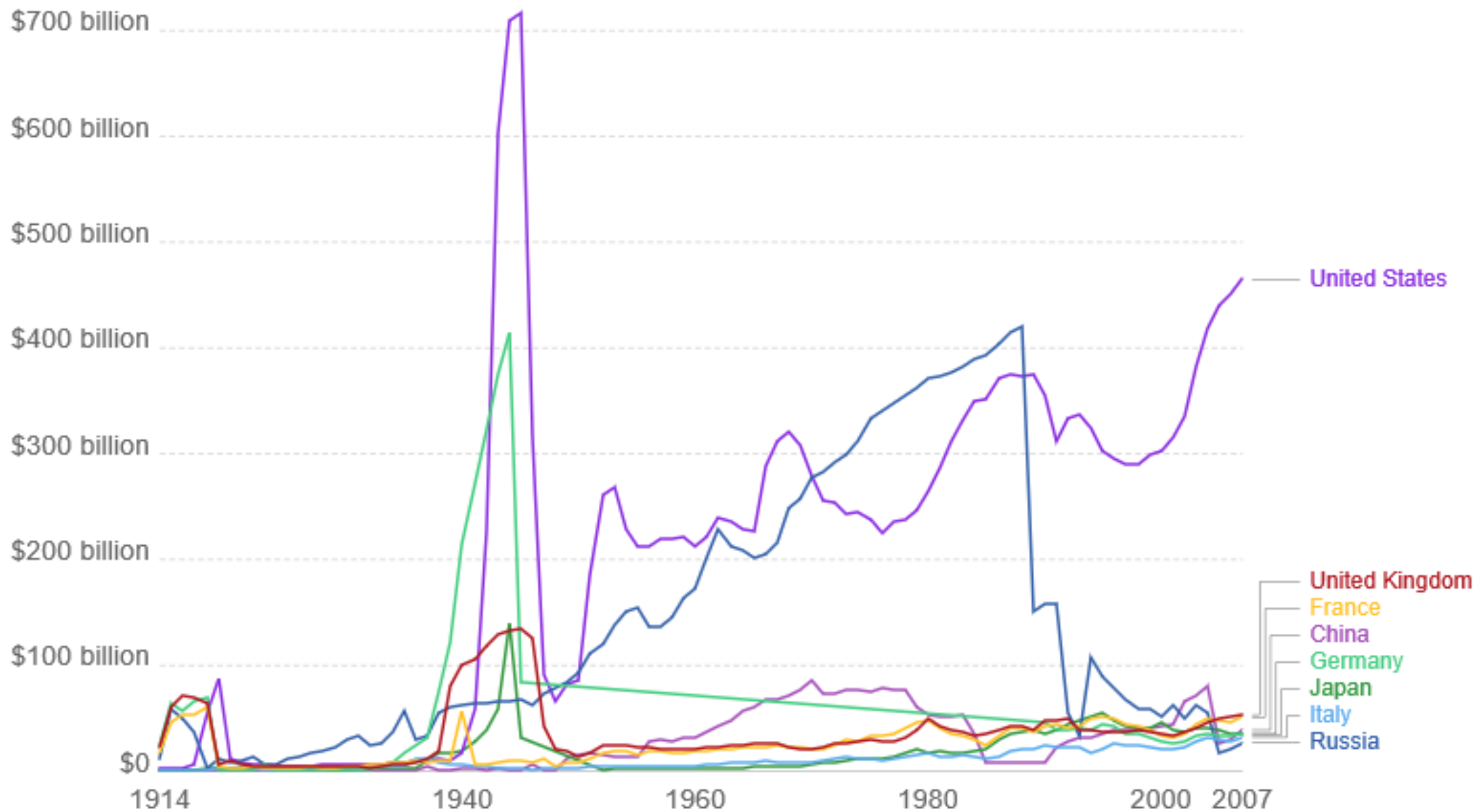
Figure 3. Russia and China, % of global GDP



Source: Angus Maddison

Military expenditure by country

Adjusted for inflation and expressed in US dollars in prices of 2000.



The “Readings”

- Gaddis Chapter 2 (“Deathboats and Lifeboats”)
 - Learning to manage nuclear weapons
- McDougall Chapter 12 (“The Missile Bluff”)
 - Development of ICBM’s and international law on use of outer space
- Fail Safe (motion picture)
 - Shaping public thinking about nuclear weapons after the Cuban Missile Crisis

Case Study Process

- Selections due before class on February 11 on ELMS
 - At least five from different categories, in preference order
 - We will select from these and make assignments
- Read the initial reading (usually an oral history)
 - May need to use the Internet Archive if the JSC Oral History site remains down
- Find at least four additional primary and secondary sources
 - Internet text/video/audio, books (allow time for interlibrary loan!), journals
- Select a vignette and write about it
 - Background, role(s), **one vignette**, post-Apollo career
 - 2-3 pages, single-spaced, standard margins, 12-point font (plus references)

Readings for NASA Before Apollo

- McDougall Chapter 7 (“The Birth of NASA”)
 - “Inside baseball” from the American political system
- Cox Chapter 1 (“The Famous Space Task Group is akin to the Mayflower”)
 - A vivid picture of the beginning of human space flight at NASA
- The Right Stuff (motion picture)
 - An interpretation of the test pilot culture at the founding of NASA