

Timelines

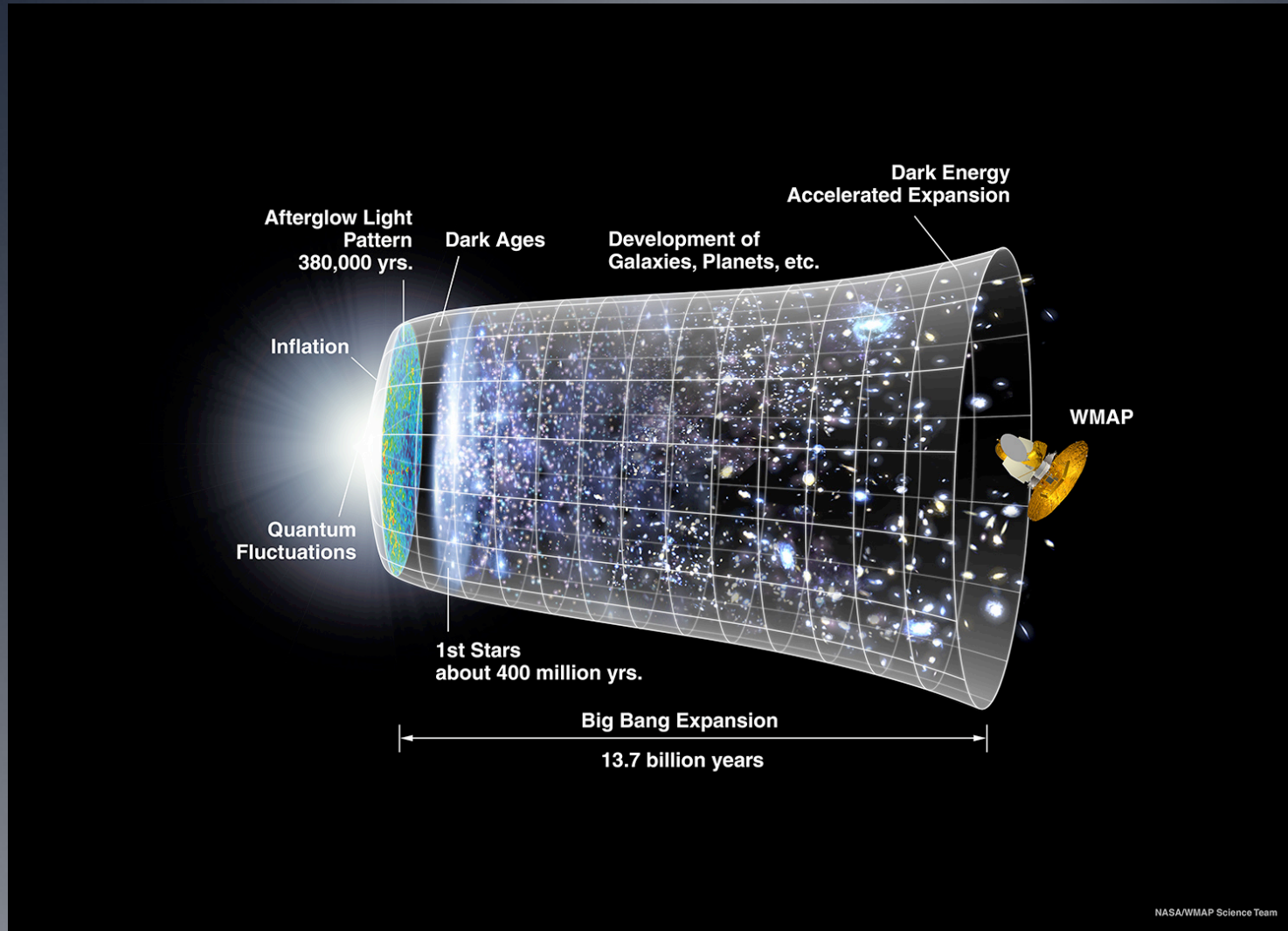
Timelines



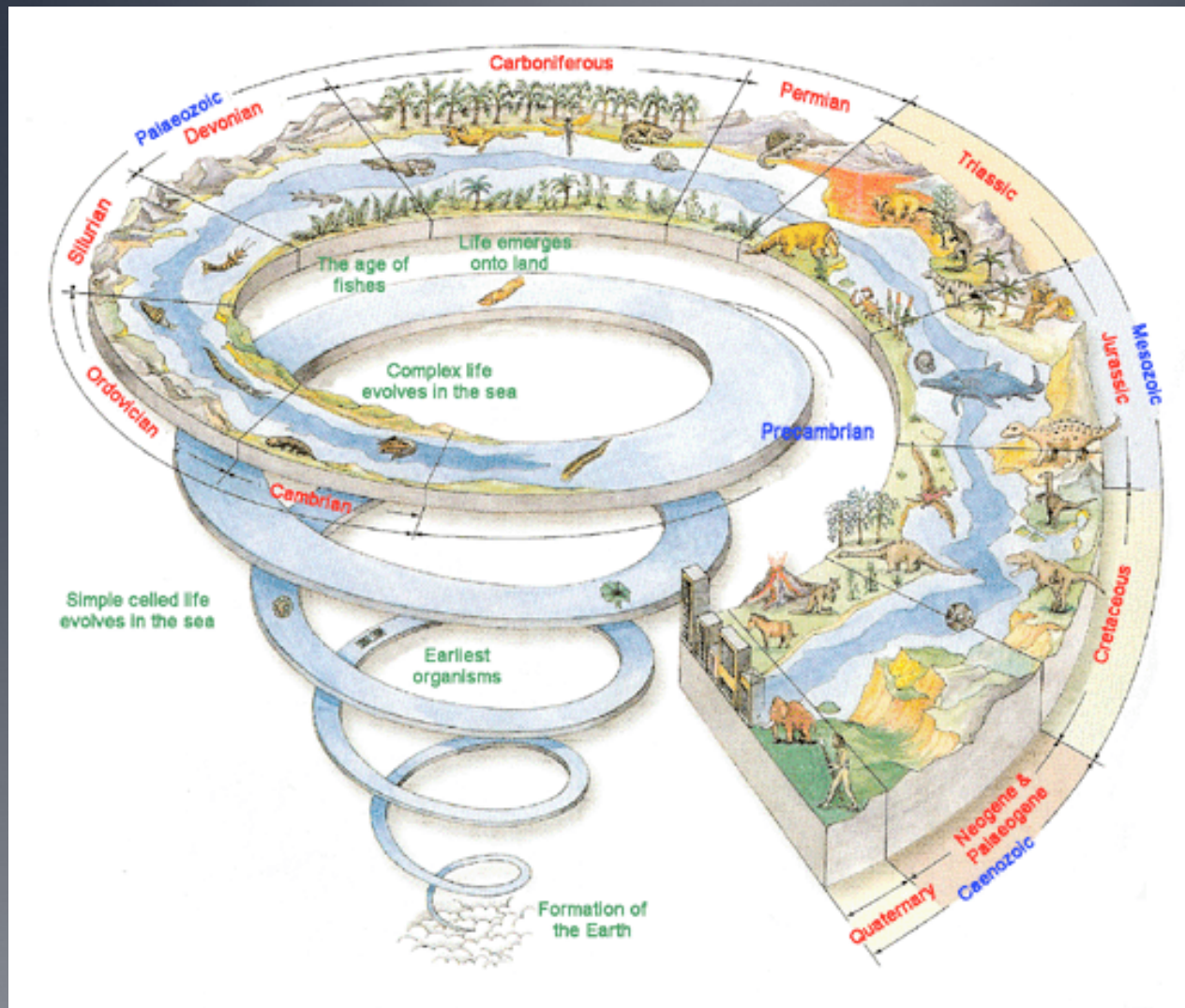
Timelines

The Good, the Bad and the Ugly

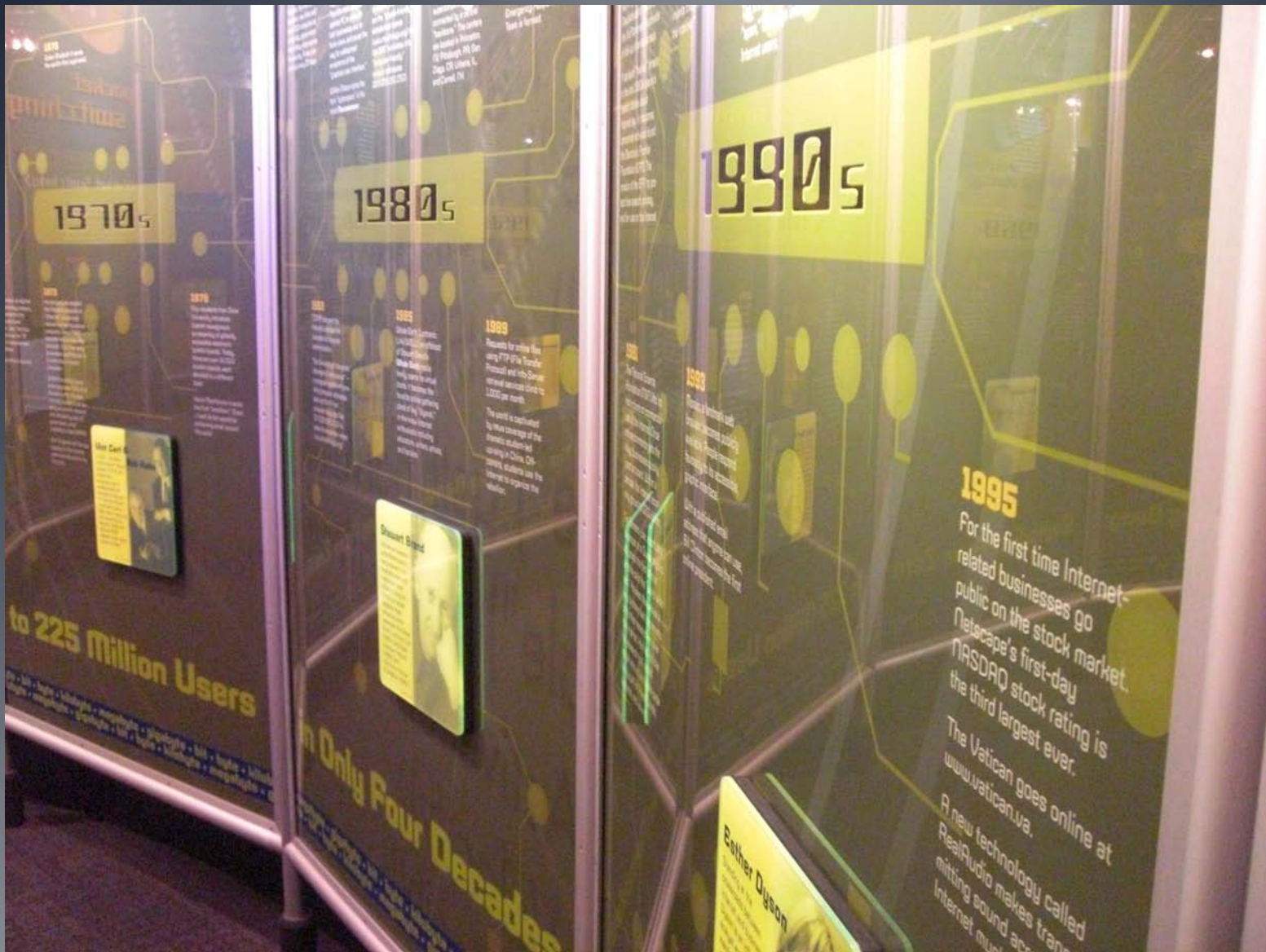




History of the Observable Universe



Earth History from Dinosaur Isle



epic_FAIL

Torpedoed

SEEKING FREEDOM IN AN AGE OF WOOD AND SAILS

1775: Privateers from Maine seize a British cargo ship and a war sloop. It is the first engagement at sea during the Revolutionary War.

1776: The first Continental Navy squadron attacks the British at Nassau in the Bahamas. American marines stage their first amphibious landing.

1776: The first American submersible, Turtle, unsuccessfully attacks a British warship.

1776: The American flag, flying from a Continental Navy ship, is saluted by a foreign power for the first time. The recognition came from a Dutch governor in the West Indies.

1781: A French fleet blockades a British army at Yorktown, Virginia, forcing its surrender to George Washington's Continental troops a month later and the virtual end of the Revolutionary War fighting.

1794: President Washington authorizes the building of six frigates for the new United States Navy.

1800: The frigate Essex becomes the first American warship to cross the equator.

1804: A U.S. Navy squadron defeats pirates off the coast of North Africa.

1812: During the War of 1812, the Constitution defeats a British frigate. This is the first time an American frigate bests a British one. After this battle the Constitution is nicknamed "Old Ironsides."

1813: The Essex becomes the first American warship to enter the Pacific Ocean.

1813: Oliver Hazard Perry's U.S. Navy squadron defeats the British

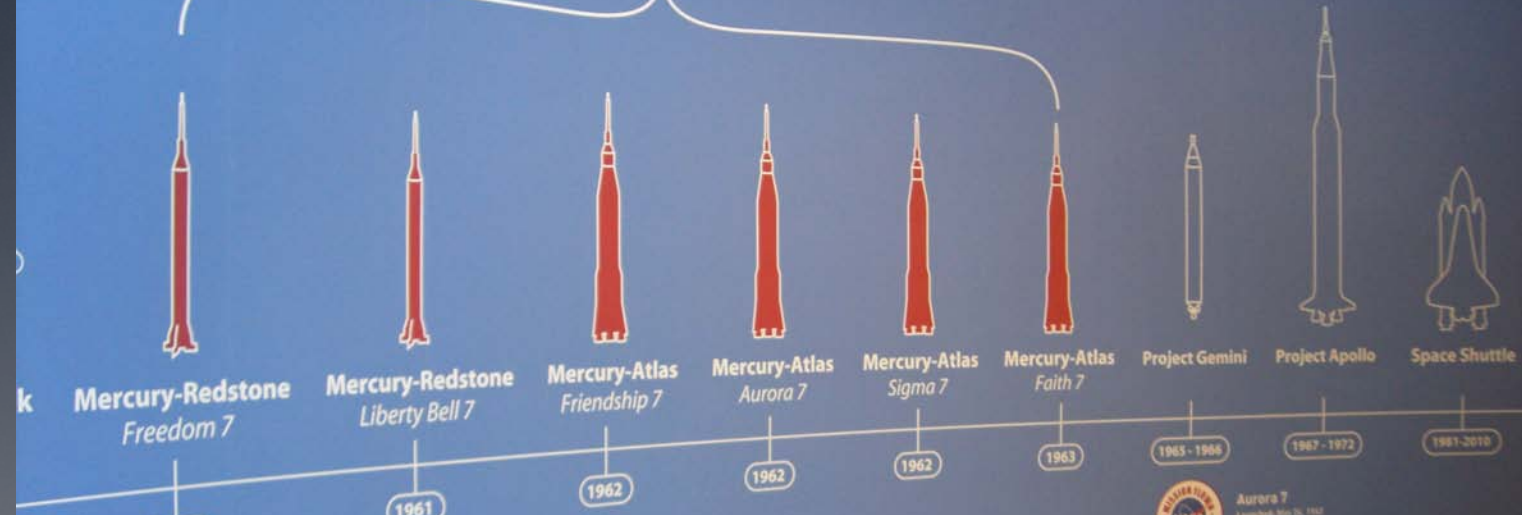


Space Program Chronology

Impossible, for the dream of yesterday is the hope of today and the reality

—Rob

manned **MERCURY** missions



The Mercury Spacecraft

Each spacecraft in the Mercury fleet carried one astronaut into space and back. The first Mercury mission could only reenter Earth's atmosphere, not orbit. The third Mercury mission, Friendship 7, became the first United States spacecraft to orbit Earth. While the astronauts were skilled pilots, the ground crew had complete control over the craft in the event that an unforeseen circumstance limited the pilot's abilities. These cramped vehicles were so small, astronauts joked that they did not ride in the Mercury spacecraft—they wore it!

Aurora 7:
The Second Manned United States Spacecraft to Orbit Earth

Aurora 7 was named for the Aurora Borealis ("the Northern Lights") and numbered for the seven astronauts of the Mercury program.



Aurora 7
Launched: May 28, 1962
Length: 15 ft
Diameter: 4.2 ft
Height: 1,000 mi
Spacecraft Prime Contractor: McDonnell Aircraft Co., Saint Louis, Missouri

Imagine spending five hours (or more) in the tiny Aurora 7 Mercury

Sequence, Vehicle, Context

BATTLE OF THE ATLANTIC

U-Boats Attack Merchant Ships



Hitler was intent on starving the British into surrender by sinking the supply ships they so desperately needed — and he had the perfect weapon to do it, the *Unterseeboot* (“undersea boat”), or U-boat. U-boats could slip underwater, sneak up on unsuspecting merchant ships and destroy them with explosive torpedoes. They nearly brought Germany to victory in WWI, and they were back with a vengeance in WWII.

Targeting Americans

After declaring war on the United States, Hitler wasted no time in turning his U-boats on American ships. In January 1942, he launched Operation *Paukenschlag* (“Drumbeat”) — a series of surprise U-boat attacks within 100 miles of America’s eastern seaboard. In the first two weeks, 25 ships totaling 200,000 tons, were sent to the bottom of the sea. Between January and July 1942, more than 2 million tons of Allied shipping were sunk by successive waves of German U-boats deployed from the St. Lawrence Seaway to the Gulf of Mexico. On June 19, 1942, Army Chief of Staff, General George C. Marshall wrote, “The losses by submarines off our Atlantic seaboard and in the Caribbean now threaten the entire war effort.”

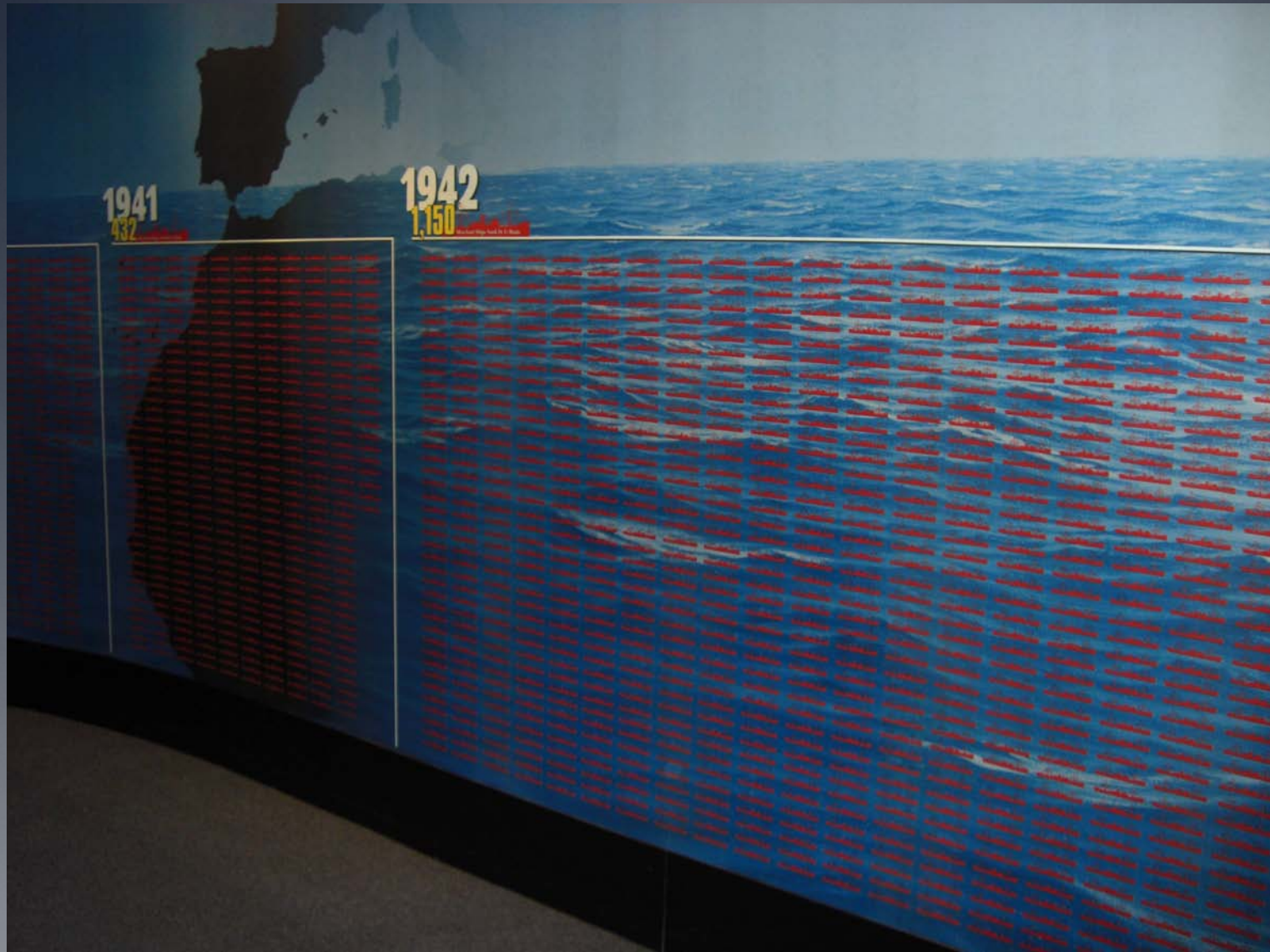
By late summer 1942, the German U-boat assault began to falter as escorted convoys grew more numerous and Allied anti-submarine patrols were mobilized in greater numbers. Still, the U-boats continued to inflict heavy losses on Allied merchant shipping. British Prime Minister Winston Churchill feared that the U-boats’ successes in U.S. waters would lead to an acute shortage in merchant ships and cut off vital supply lines between the United States and Great Britain. As Churchill would later record: “The Battle of the Atlantic was the dominating factor all through the war. Never for a moment could we forget that everything happening elsewhere on land, at sea and in the air, ultimately depended on its outcome.”

1939
114

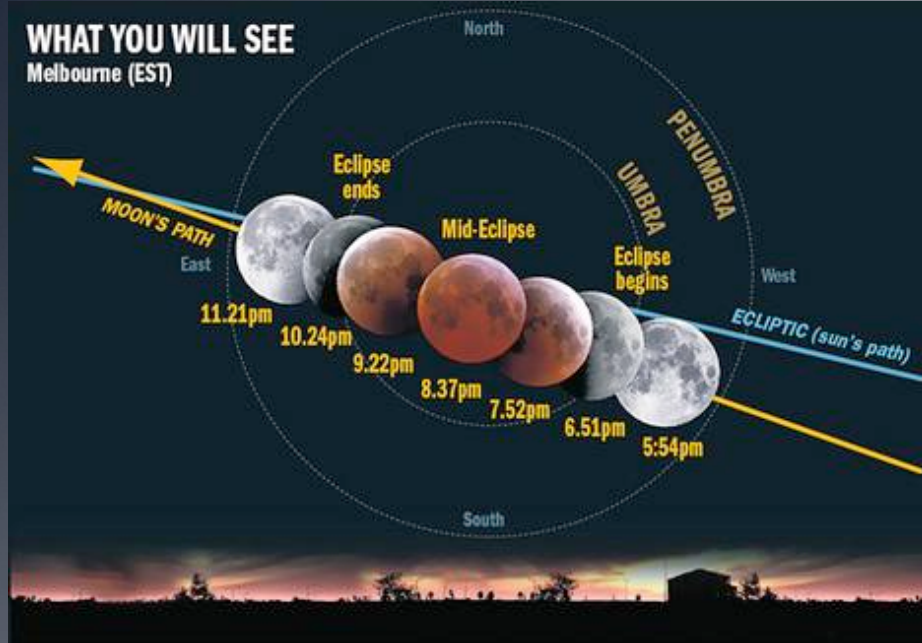
1940
471

| Year | U-Boat Attacks |
|------|----------------|
| 1939 | 114 |
| 1940 | 471 |
| 1941 | 1,042 |
| 1942 | 1,765 |
| 1943 | 1,156 |
| 1944 | 651 |
| 1945 | 243 |
| 1946 | 100 |
| 1947 | 50 |
| 1948 | 25 |
| 1949 | 12 |
| 1950 | 6 |
| 1951 | 3 |
| 1952 | 1 |
| 1953 | 0 |
| 1954 | 0 |
| 1955 | 0 |
| 1956 | 0 |
| 1957 | 0 |
| 1958 | 0 |
| 1959 | 0 |
| 1960 | 0 |
| 1961 | 0 |
| 1962 | 0 |
| 1963 | 0 |
| 1964 | 0 |
| 1965 | 0 |
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| 2014 | 0 |
| 2015 | 0 |
| 2016 | 0 |
| 2017 | 0 |
| 2018 | 0 |
| 2019 | 0 |
| 2020 | 0 |
| 2021 | 0 |
| 2022 | 0 |
| 2023 | 0 |
| 2024 | 0 |

Showing Relative Importance



U-Boat Death Tolls by Year

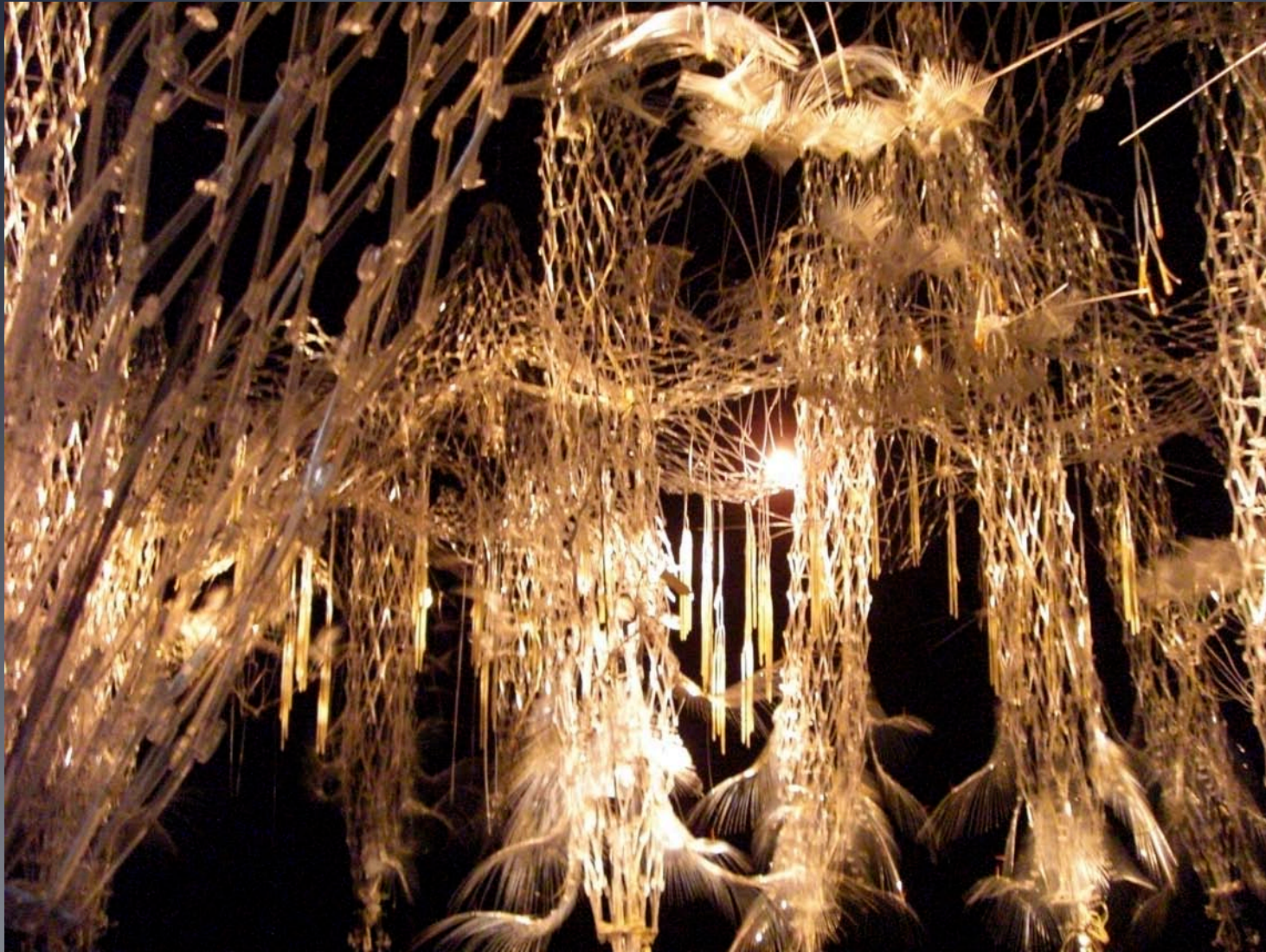


Civil War Map: Lincoln Museum

Sci Fi History (Thanks, Joe)

Nokia Mobile Tech Progress

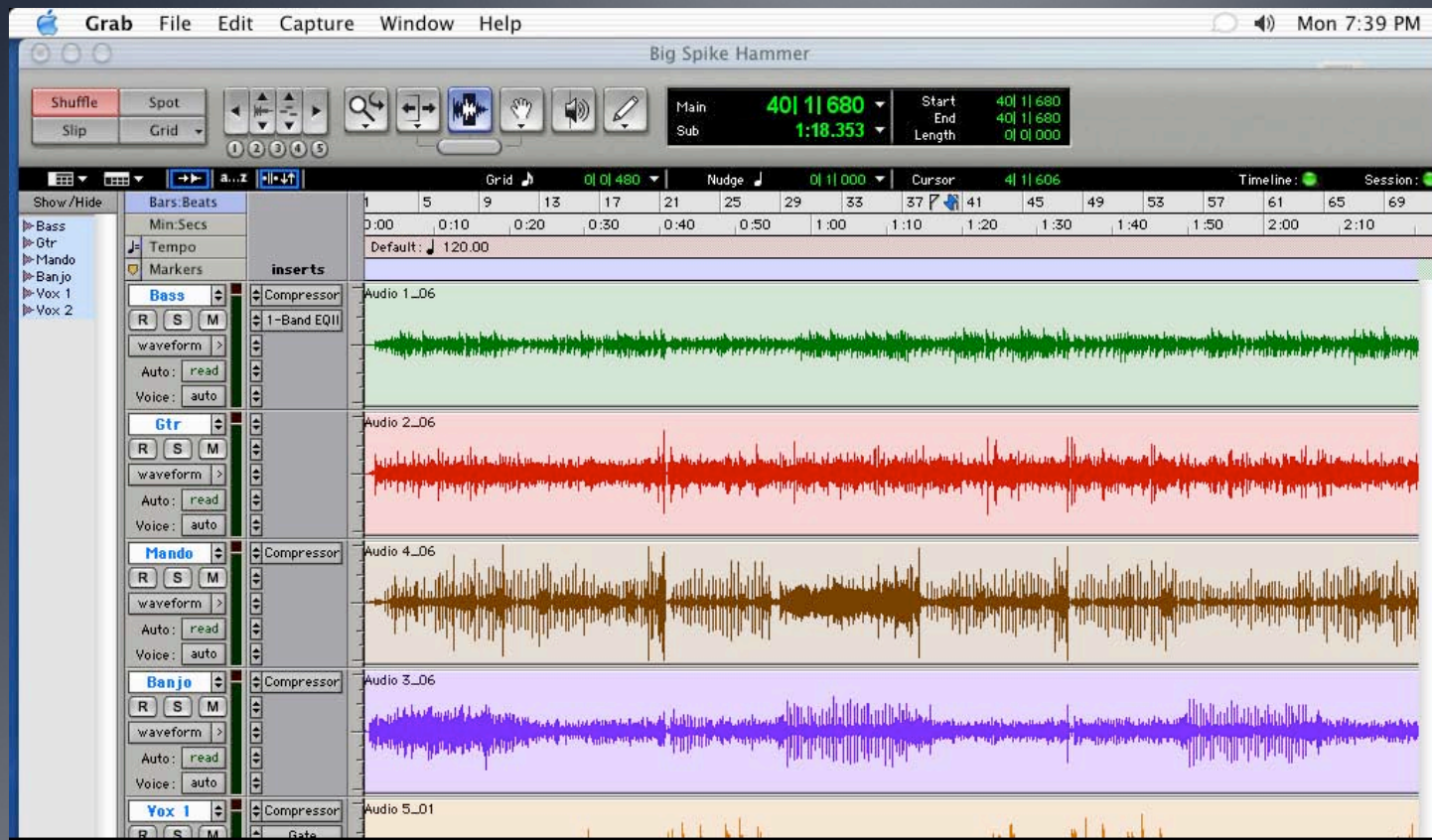
Hybrids



How do we show interconnections?



How does time feel?



How does time sound?



Thank You!