

# About OMICS Group

OMICS Group International is an amalgamation of Open Access publications and worldwide international science conferences and events. Established in the year 2007 with the sole aim of making the information on Sciences and technology 'Open Access', OMICS Group publishes 400 online open access scholarly journals in all aspects of Science, Engineering, Management and Technology journals. OMICS Group has been instrumental in taking the knowledge on Science & technology to the doorsteps of ordinary men and women. Research Scholars, Students, Libraries, Educational Institutions, Research centers and the industry are main stakeholders that benefitted greatly from this knowledge dissemination. OMICS Group also organizes 300 International conferences annually across the globe, where knowledge transfer takes place through debates, round table discussions, poster presentations, workshops, symposia and exhibitions.

# About OMICS Group Conferences

OMICS Group International is a pioneer and leading science event organizer, which publishes around 400 open access journals and conducts over 300 Medical, Clinical, Engineering, Life Sciences, Pharma scientific conferences all over the globe annually with the support of more than 1000 scientific associations and 30,000 editorial board members and 3.5 million followers to its credit.

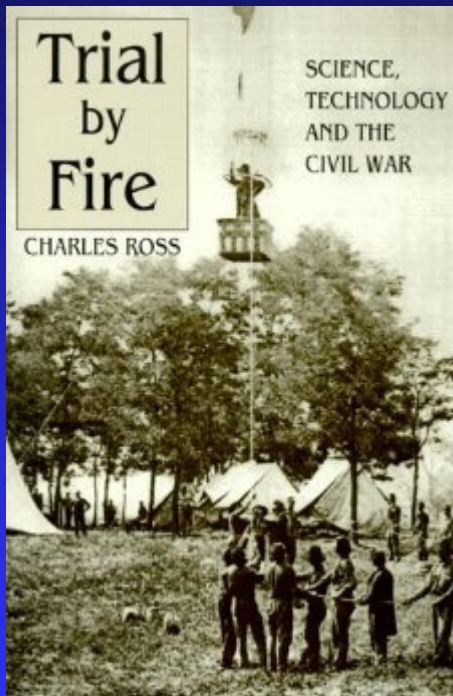
OMICS Group has organized 500 conferences, workshops and national symposiums across the major cities including San Francisco, Las Vegas, San Antonio, Omaha, Orlando, Raleigh, Santa Clara, Chicago, Philadelphia, Baltimore, United Kingdom, Valencia, Dubai, Beijing, Hyderabad, Bengaluru and Mumbai.

# United States Strategic Metals during World War II

Dr. Charles D. Ross  
Longwood University

# U.S. Strategic Metals during World War II

- Introduction
- Strategic Metals: 2013 vs. 1941
- Other Strategic Materials During the War
- Aluminum
- Uranium and Plutonium
- Summary



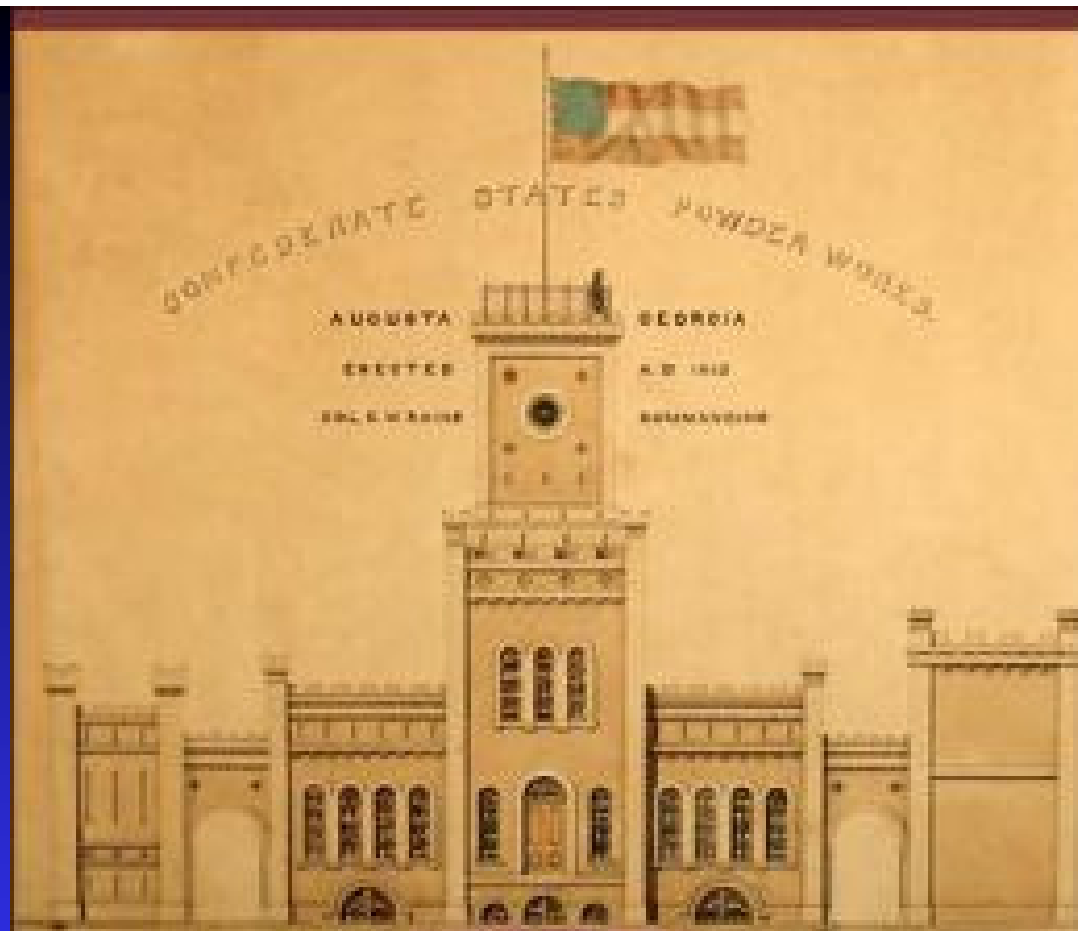
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# CIVIL WAR Acoustic Shadows

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*Charles D. Ross*





WEST TOWER  
EAST TOWER

# NEVER FOR WANT OF POWDER

THE CONFEDERATE POWDER WORKS IN AUGUSTA, GEORGIA

C. L. Bragg, Charles D. Ross, Gordon A. Baker, Stephanie A. T. Jacobs, and Theodore P. Savas

# Some Modern Strategic Metals

- Cobalt
- Gallium
- Indium
- Germanium
- Lithium
- Magnesium
- Niobium
- Platinum Group Metals (Platinum, Paladium)
- Rare Earths
- Tantalum
- Tungsten
- Vanadium



# Some WWII Strategic Metals

- Copper
- Lead
- Iron
- Nickel
- **Aluminum\***
- **Uranium\***
- **Plutonium\***

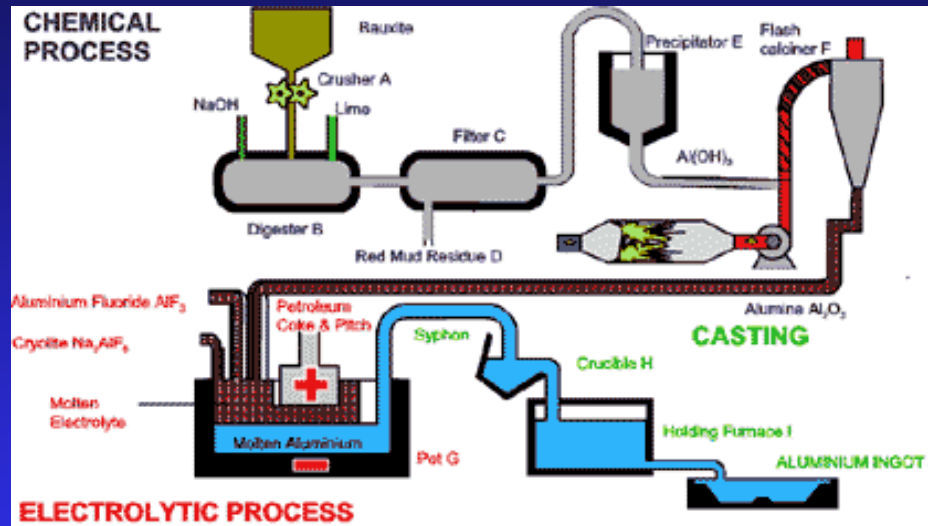
\*New to WWII

# Some Other Critical World War II Materials

- Food
- Coal
- Oil
- Rubber

# Aluminum in WWII





<http://www.world-aluminium.org/production/>



Grand Coulee Dam

# Uranium and Plutonium in WWII



Trinity Test, July 16, 1945

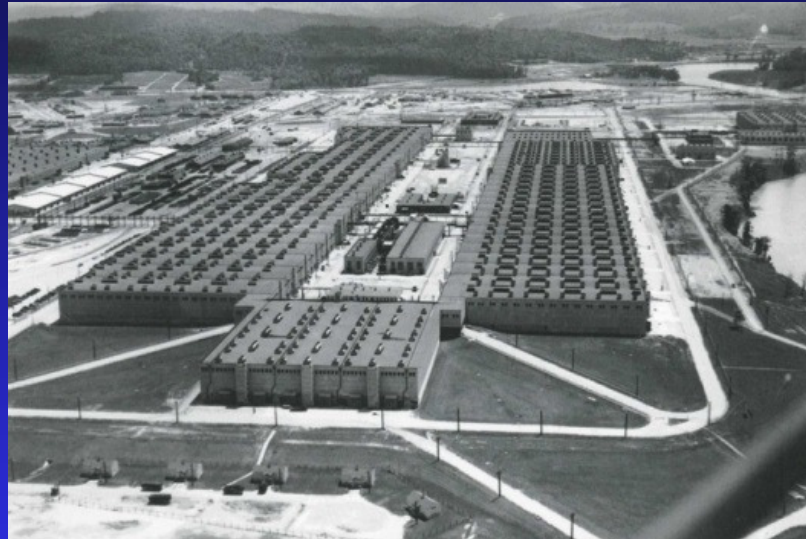
# Manhattan Project



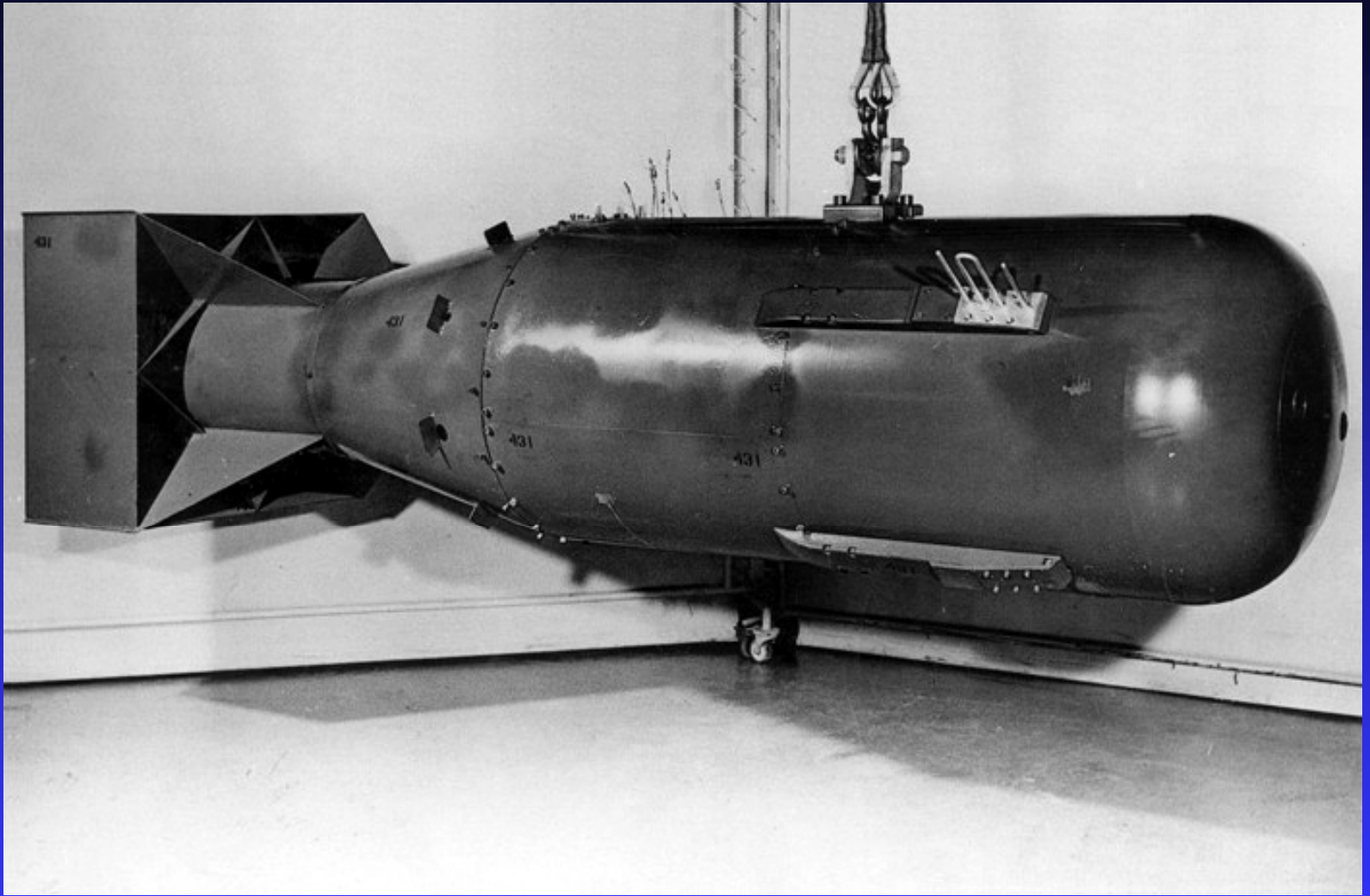


Dr. Robert Oppenheimer, Gen. Leslie Groves

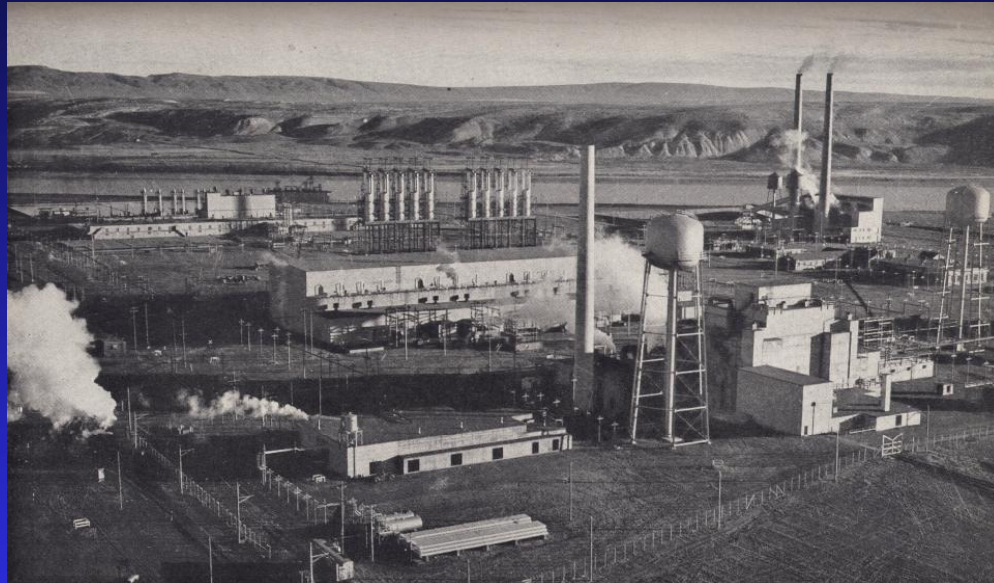




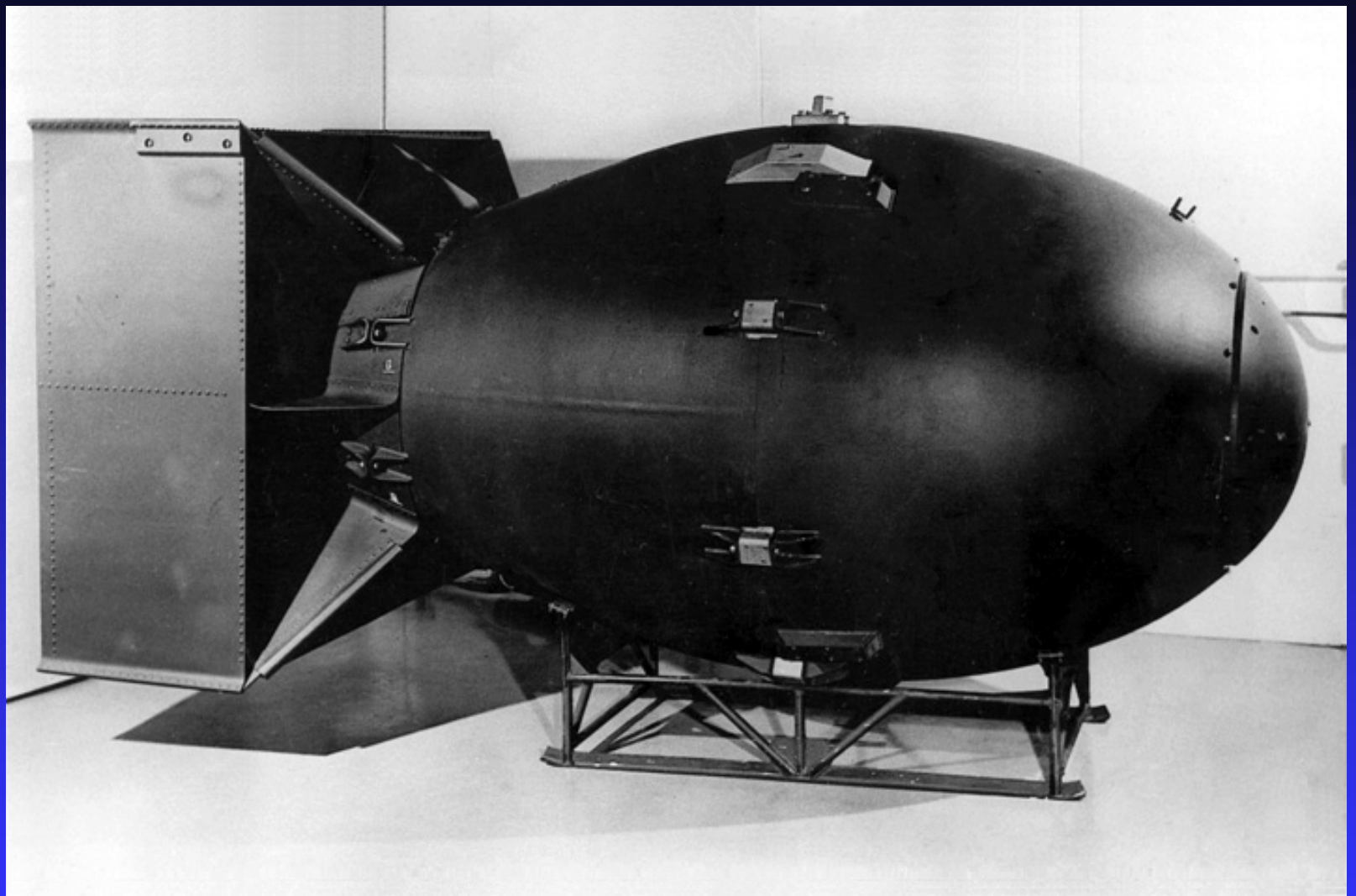
Oak Ridge, K-25 Plant



“Little Boy”



Hanford, Washington Plutonium Plant



“Fat Man”

# Let Us Meet Again

We welcome you all to our future conferences  
of OMICS Group International

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