

This document is  
**PUBLICLY RELEASABLE**

Barry Steel  
Authorizing Official  
Date: 10/25/66

Conf - 750973--1

THE AGE OF SUBSTITUTABILITY\*<sup>1</sup> ↗

or

What Do We Do When The Mercury Runs Out?

H. E. Goeller\*  
Oak Ridge National Laboratory  
Oak Ridge, Tennessee

and

Alvin M. Weinberg  
Institute for Energy Analysis  
Oak Ridge, Tennessee

**NOTICE**  
This report was prepared as an account of work sponsored by the United States Government. Neither the United States nor the United States Energy Research and Development Administration, nor any of their employees, nor any of their contractors, subcontractors, or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness or usefulness of any information, apparatus, product or process disclosed, or represents that its use would not infringe privately owned rights.

Two conflicting views dominate our perception of man's long-term future. The "catastrophists" believe the earth's resources will soon be exhausted, and that this will lead to a collapse of society. The "cornucopians" argue that most of the essential raw materials are infinite: that as the society exhausts one raw material, it will turn to lower grade, inexhaustible substitutes. Eventually the society will subsist on renewable resources, and on those elements that are practically infinite, such as iron and aluminum. According to this view the society will settle into a steady-state of substitution and recycle. This asymptotic society we call the Age of Substitutability.

**MASTER**

\*Eleventh Annual Foundation Lecture for presentation before the United Kingdom Science Policy Foundation Fifth International Symposium - "A Strategy for Resources" - Eindhoven, The Netherlands, September 18, 1975.

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

\* Research sponsored by the U. S. Energy Research and Development Administration under contract with Union Carbide Corp.

By acceptance of this article, the publisher or recipient acknowledges the U.S. Government's right to retain a nonexclusive, royalty-free license in and to any copyright covering the article. EB