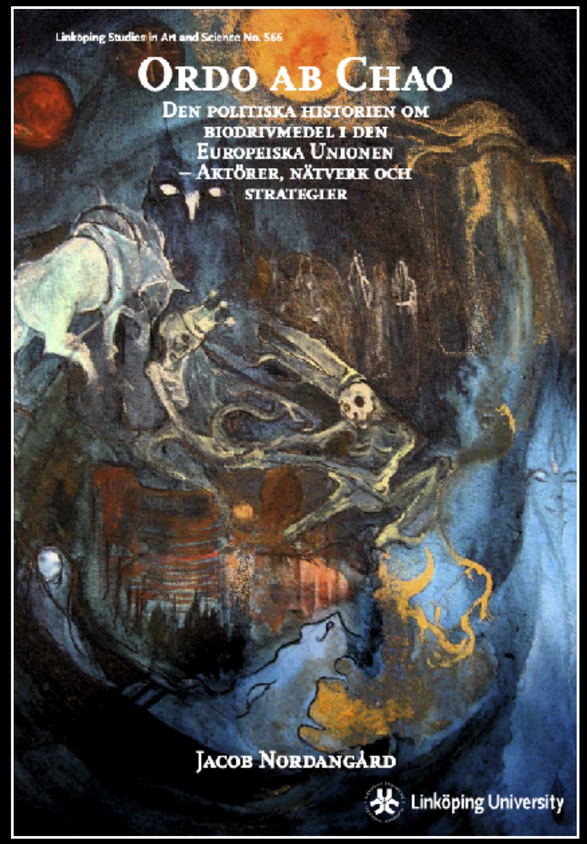
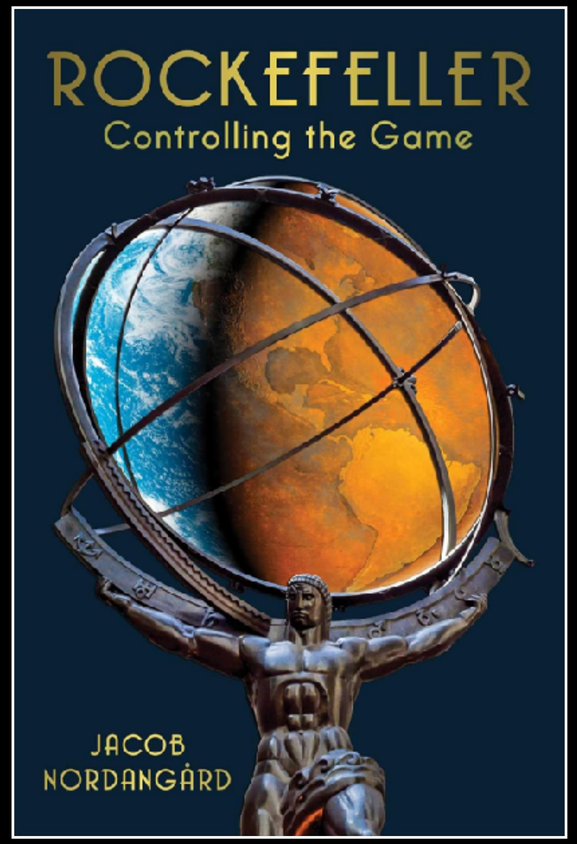


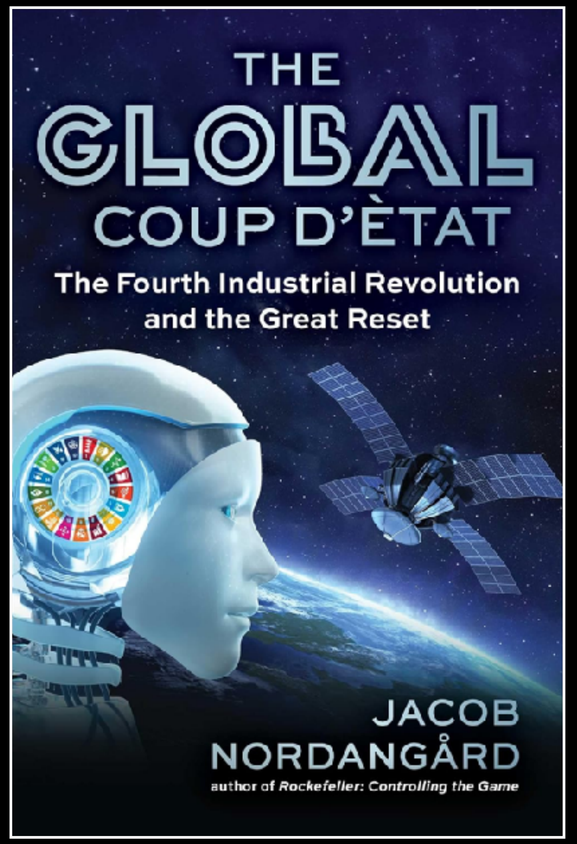
The Capture of Academia
– The Case of Climate Change

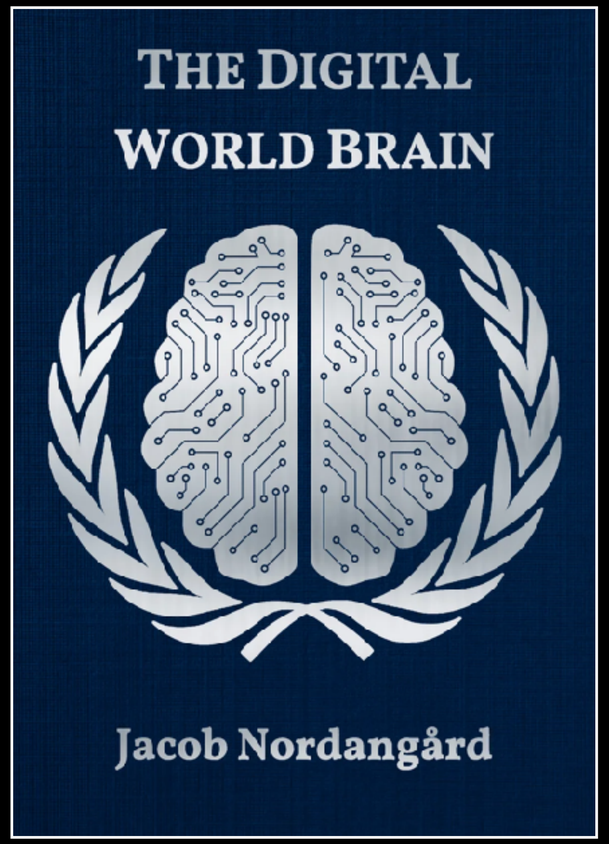
Jacob Nordangård, PhD

Litterature for this presentation

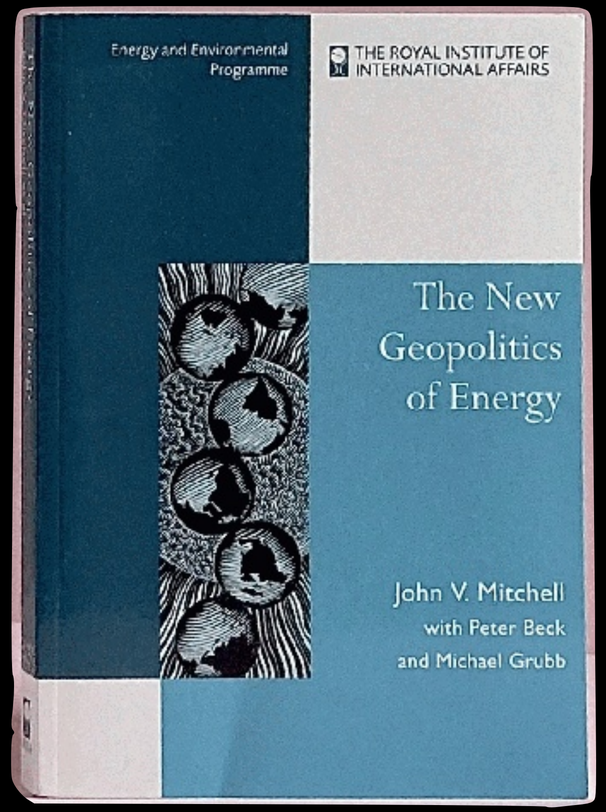








History of Anthropogenic Global Warming



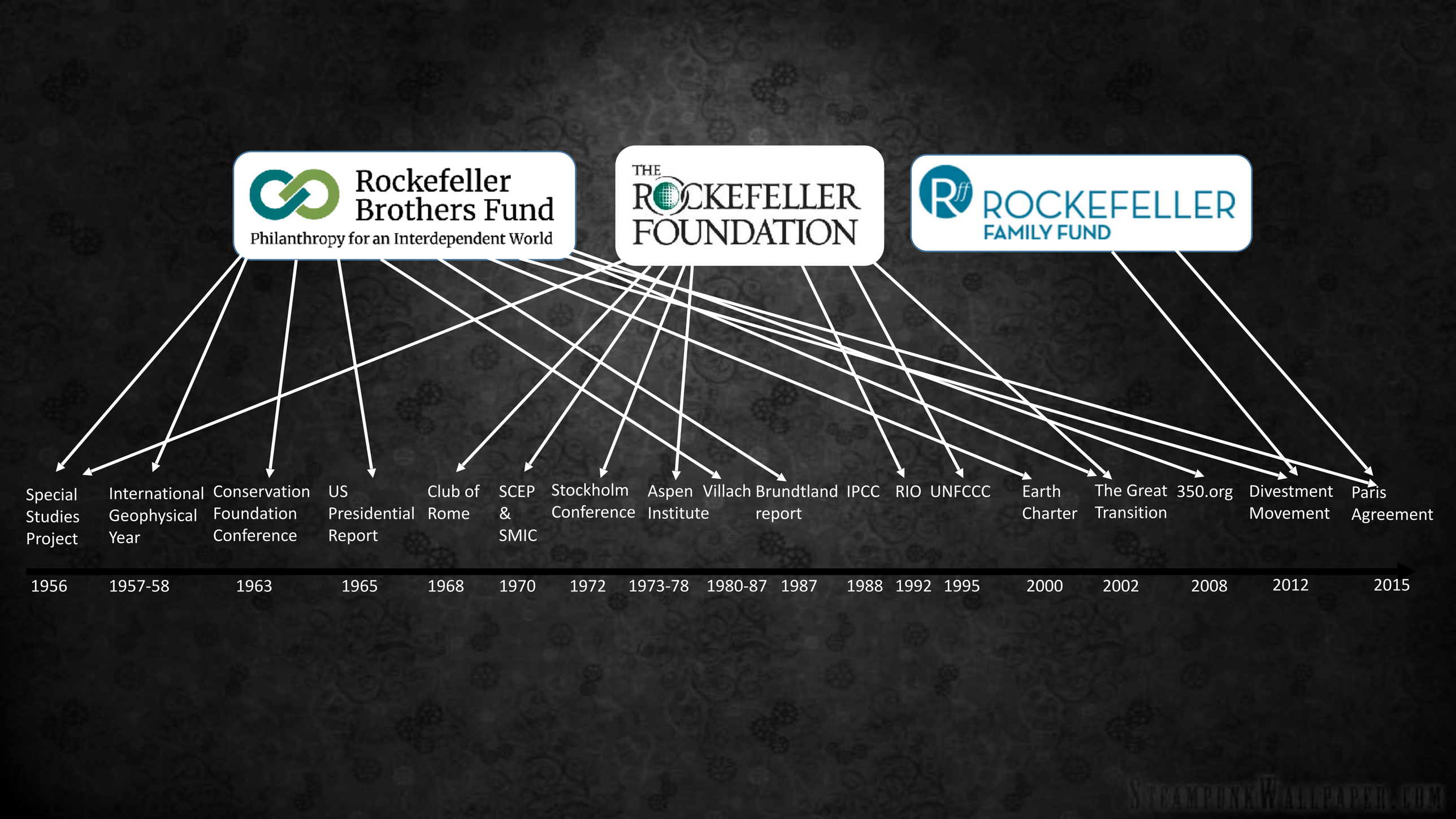
- 1957-58 International Geophysical Year
- 1963 Conservation Foundation: “Carbon Dioxide Content of the Atmosphere”
- 1965 Report to US president Lyndon Johnson
- 1971 Study of Man’s Impact on the Climate
- 1972 UN Conference on the Human Environment
- 1979 World Climate Conference
- 1980-87 Climate conferences in Villach and Bellagio

Questions

1. How was the theory of anthropogenic global warming established?

2. Who have been the key actors and networks involved in this process?

3. Which kind of solutions have they prescribed to the problem?


Rockefeller Brothers Fund
Philanthropy for an Interdependent World
THE ROCKEFELLER FOUNDATION
ROCKEFELLER FAMILY FUND
Special Studies Project
1956
International Geophysical Year
1957-58
Conservation Foundation Conference
1963
US Presidential Report
1965
Club of Rome
1968
SCEP & SMIC
1970
Stockholm Conference
1972
Aspen Institute
1973-78
Villach
1980-87
Brundtland report
1987
IPCC
1988
RIO
1992
UNFCCC
1995
Earth Charter
2000
The Great Transition
2002
350.org
2008
Divestment Movement
2012
Paris Agreement
2015

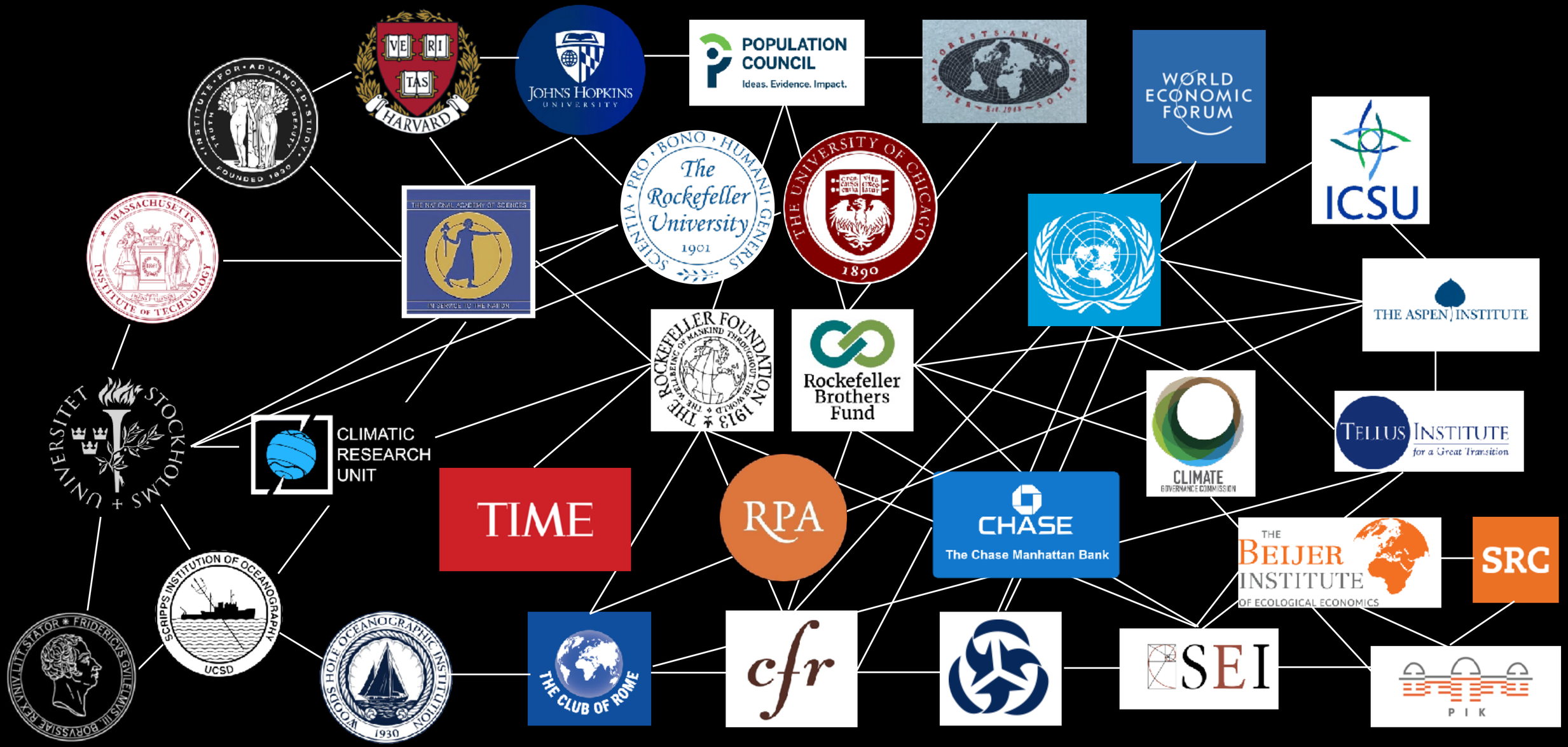
Standard Oil





John D. Rockefeller (1839–1937)

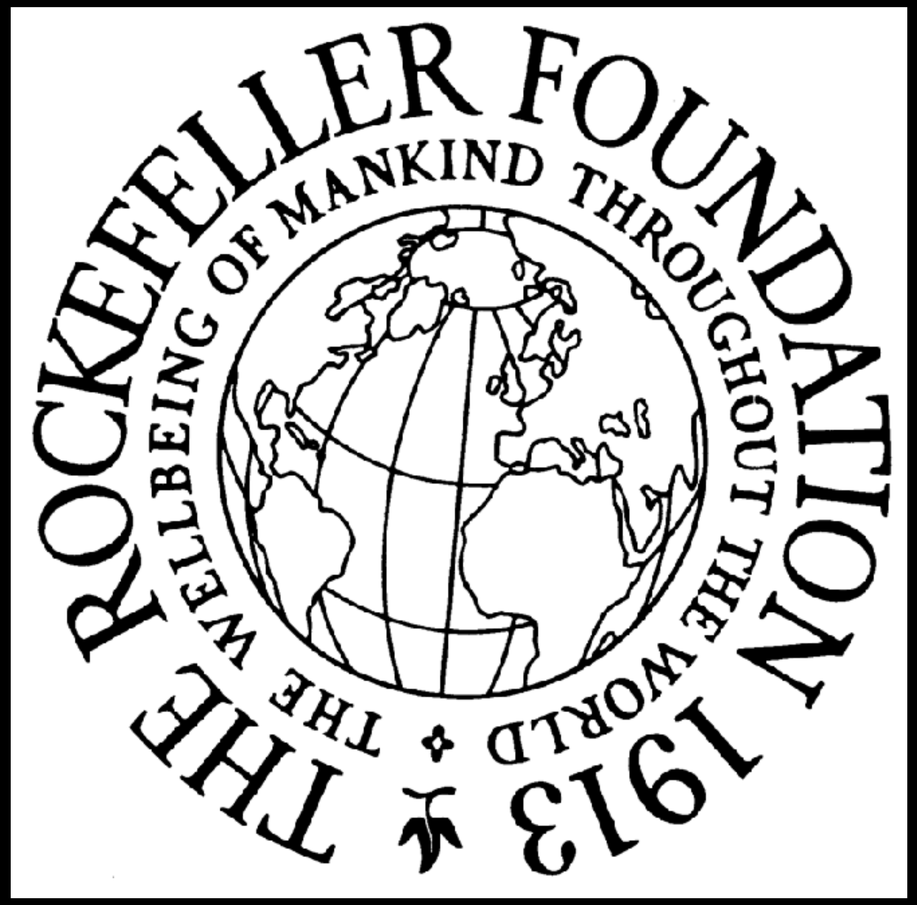
The Network


VE RI TAS
HARVARD
JOHNS HOPKINS UNIVERSITY
POPULATION COUNCIL
Ideas. Evidence. Impact.
WORLD ECONOMIC FORUM
ICSU
THE ASPEN INSTITUTE
TELLUS INSTITUTE
for a Great Transition
CLIMATE GOVERNANCE COMMISSION
THE BEIJER INSTITUTE OF ECOLOGICAL ECONOMICS
SRC
SEI
PIK
THE CLUB OF ROME
cfr
CHASE
The Chase Manhattan Bank
RPA
TIME
CLIMATIC RESEARCH UNIT
UNIVERSITET STOCKHOLMS
SCRIPPS INSTITUTION OF OCEANOGRAPHY
UCSD
WOODS HOLE OCEANOGRAPHIC INSTITUTION
1930
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
INSTITUTE FOR ADVANCED STUDY
FOUNDED 1930
The Rockefeller University
1901
SCIENTIA PRO BONO HUMANI GENERIS
THE UNIVERSITY OF CHICAGO
1890
THE ROCKEFELLER FOUNDATION
1913
Rockefeller Brothers Fund

Rockefeller Foundation



John D. Rockefeller Jr. (1874–1960)
RF president 1913–17
RF chairman 1917–40





John D. Rockefeller III (1906–1978)
RF chairman 1952–71

Rockefeller Brothers Fund

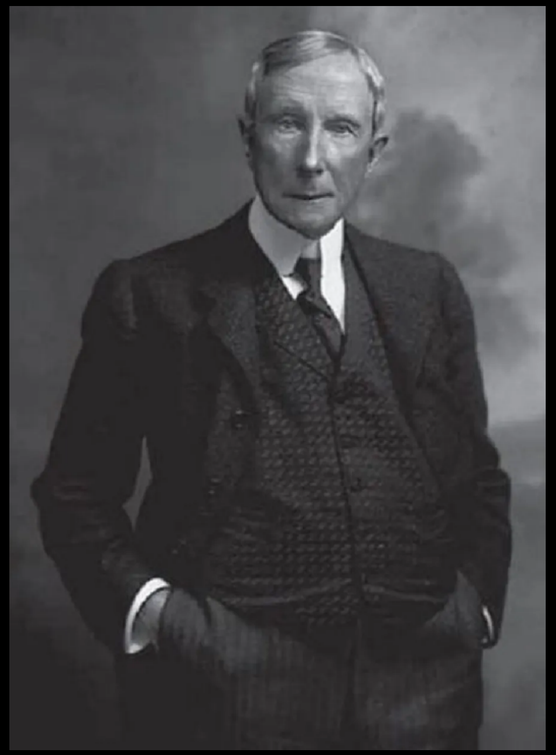


John D. Rockefeller III
RBF chairman 1940–56



David, Nelson, Winthrop, Laurance
John III, and John Rockefeller Jr. in 1949

Rockefeller Institute of Medical Research



John D. Rockefeller
Founder



Rockefeller Institute of Medical Research (founded 1901)
renamed Rockefeller University 1965



Control of Resources



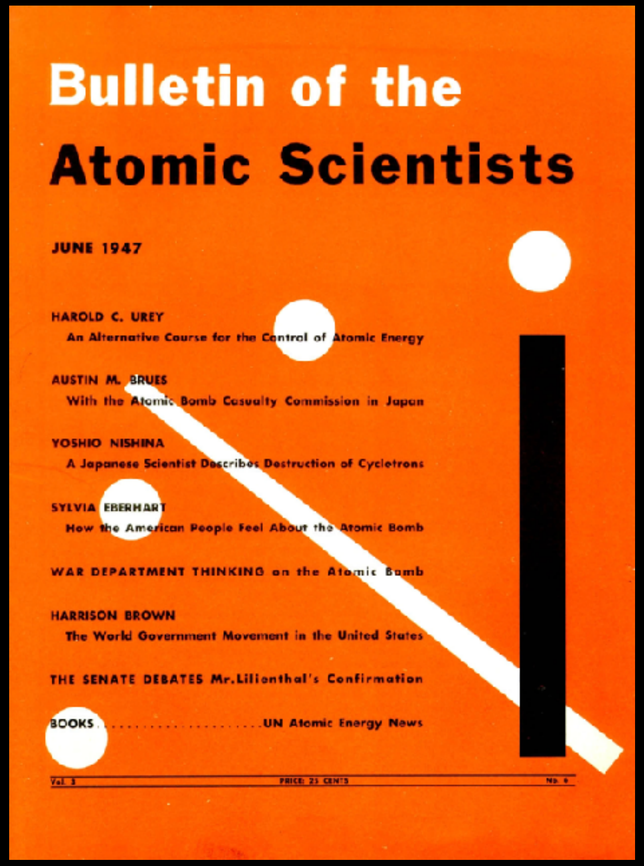


Global Stewardship of the Planet



Eugene Rabinovich
editor of the
Bulletin of the Atomic Scientists

If the *world government cause* is to triumph it will need more than sympathetic endorsement by the majority. People must be made to feel that their own *security*, *freedom*, and *prosperity*, yes their very own *survival*, depend on the creation in our time of a *world rule of law*.



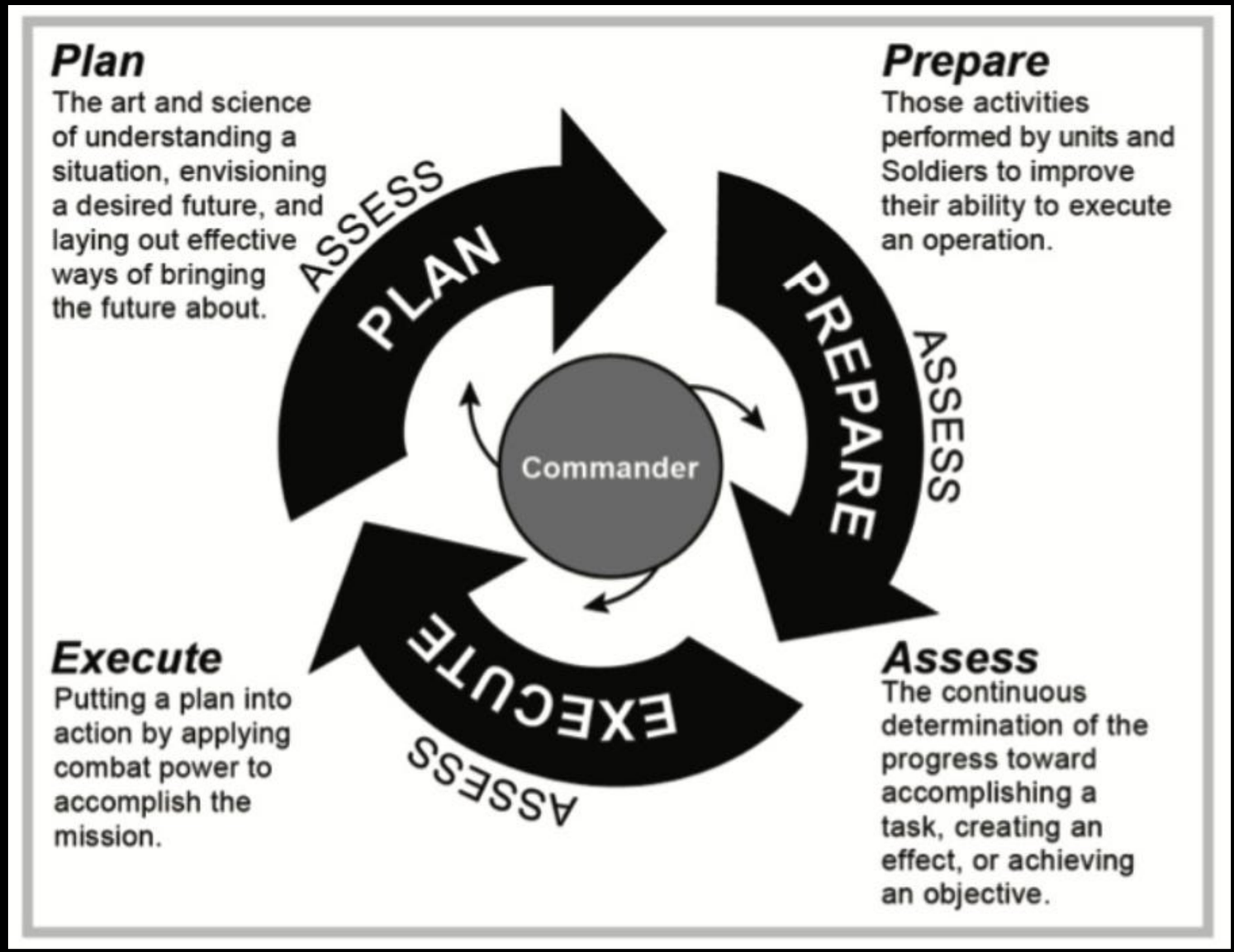
2005 – RBF Annual Report

The warming of the climate is no longer merely, or primarily, an environmental issue. It is a global issue that touches every conceivable facet of human existence.



Steven Rockefeller (1936–)
RBF chairman 1998–2006

Military Operation

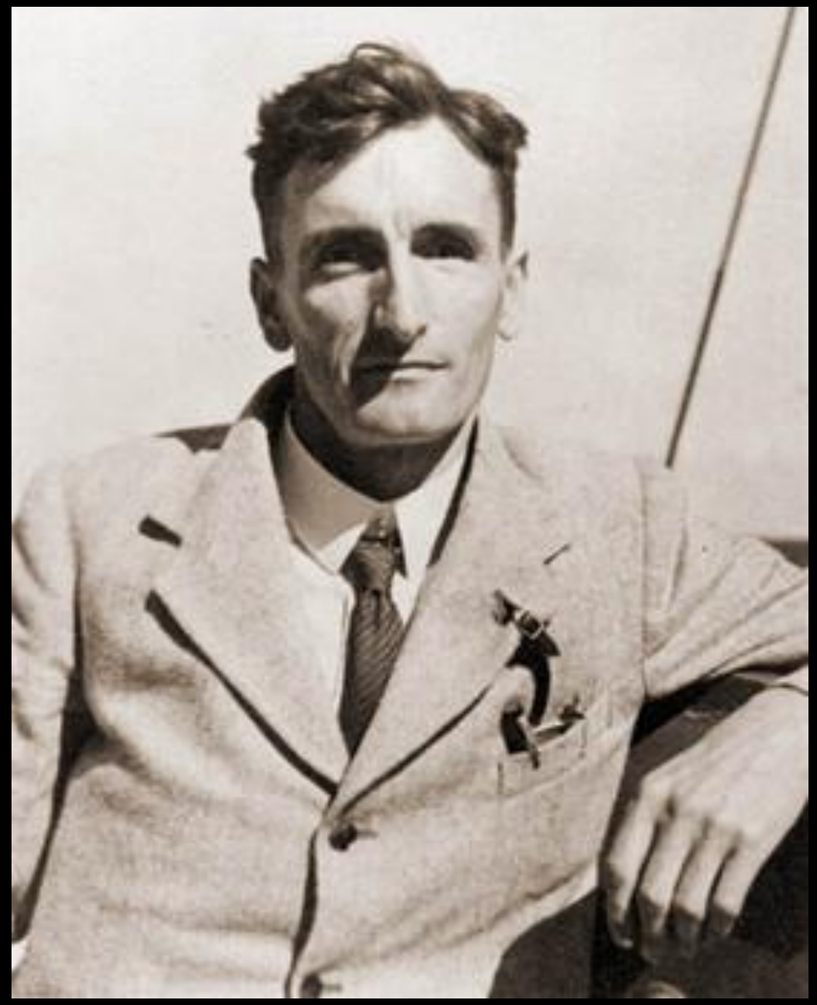


1896 – “The Greenhouse Effect”



Svante Arrhenius (1859–1927)
Swedish physicist

1938 – "Industrial CO_2 Contributes to Warming"



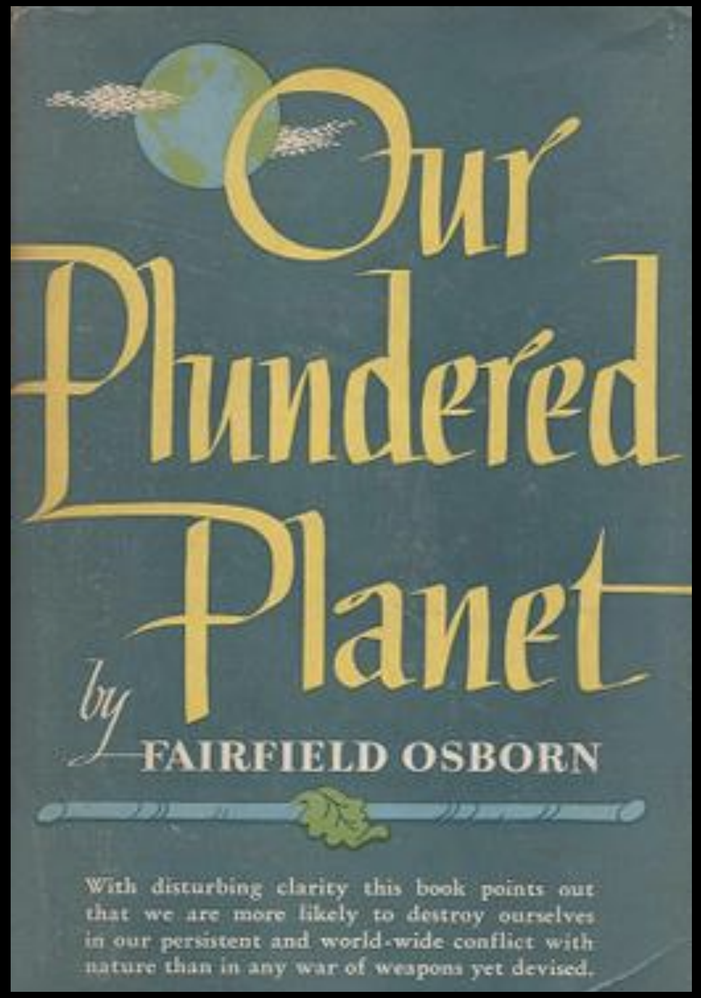
Guy Callender (1898-1964)
British inventor

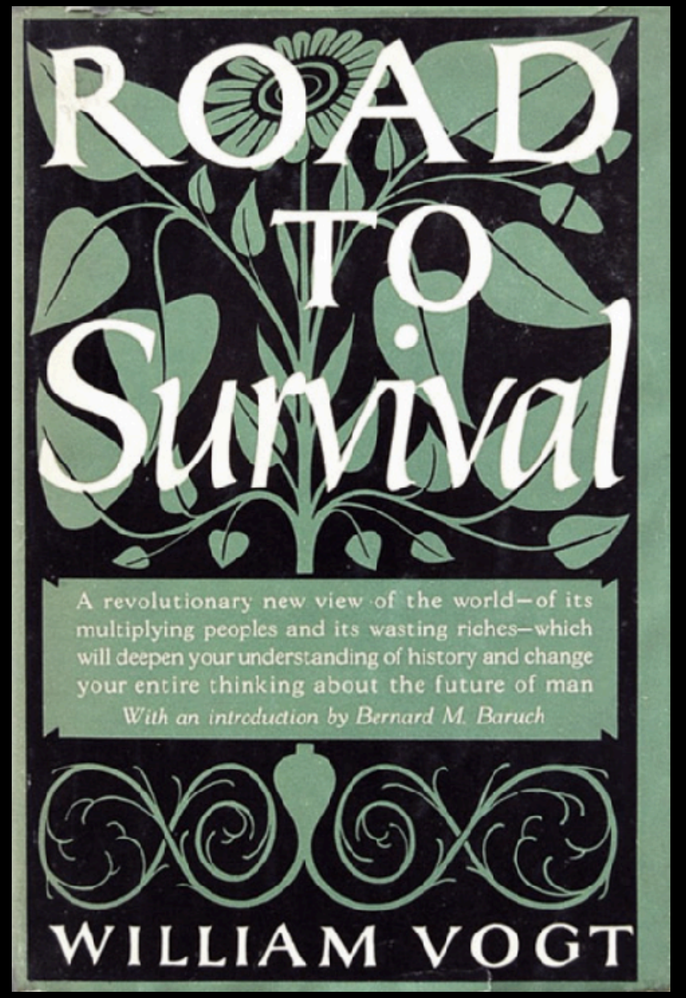
1941 – “Human Activity as a Climate Factor”



Hermann Flohn (1912–1997)
German meteorologist

1948 – Apocalyptic Environmentalism



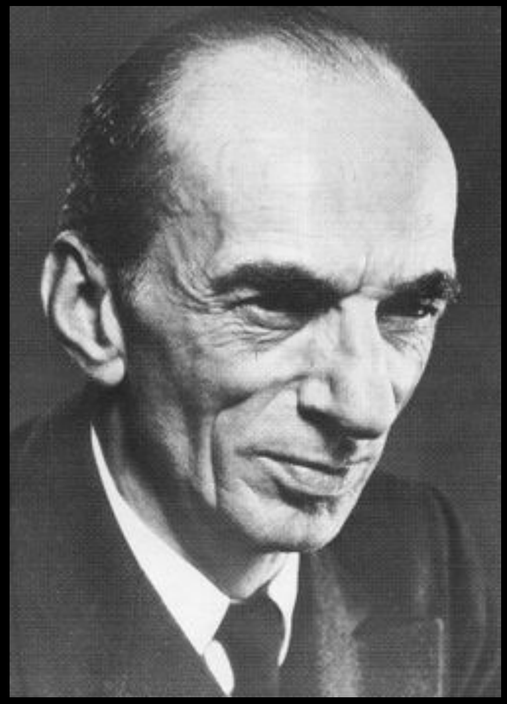


1948 – Conservation Foundation

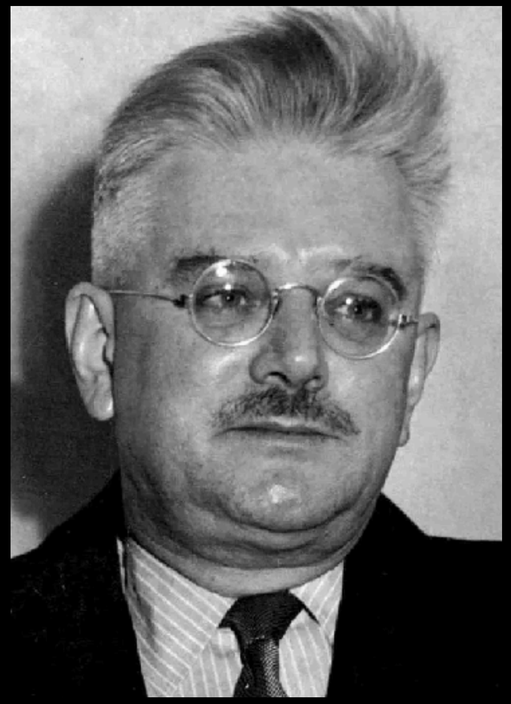




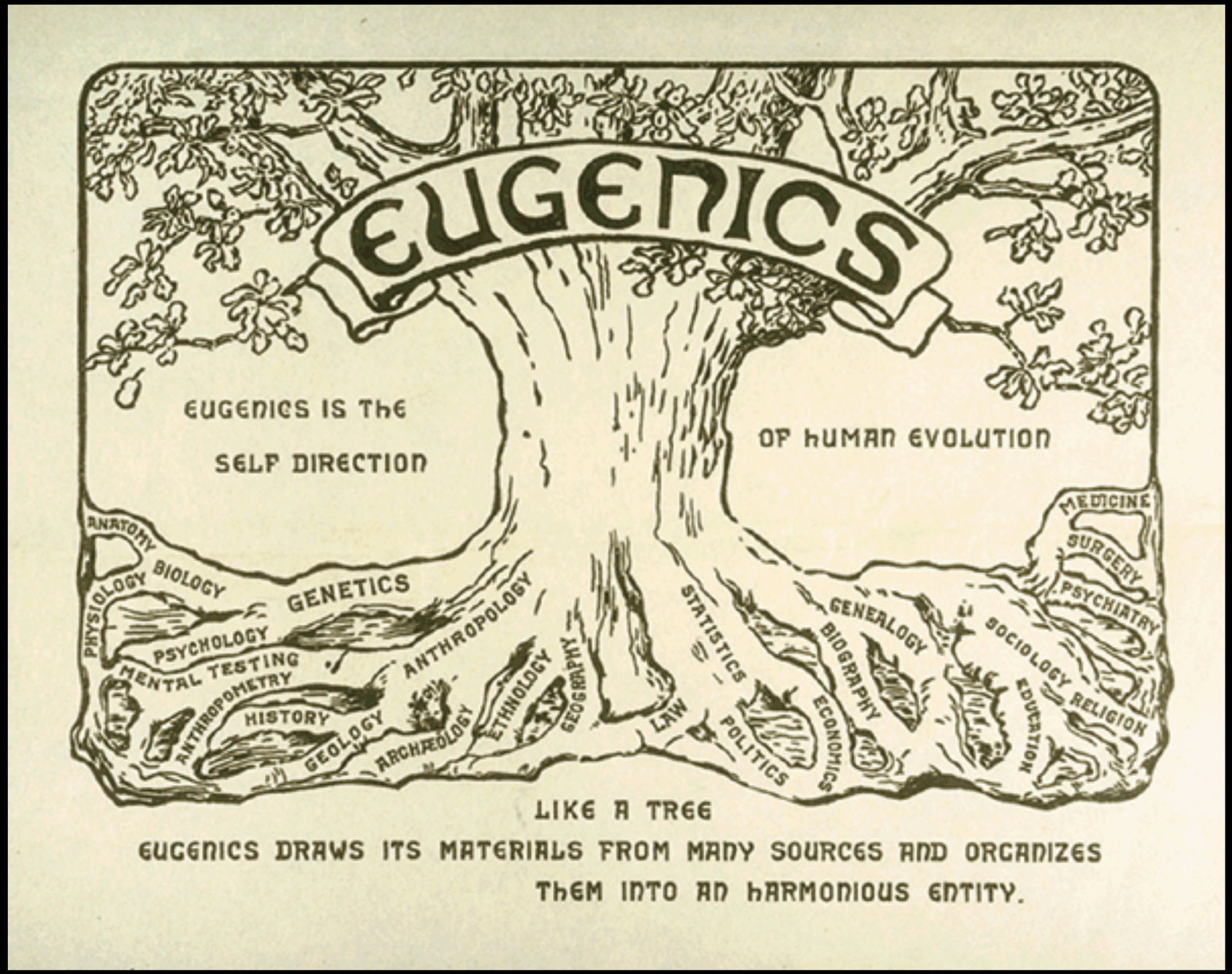
Laurance Rockefeller
(1910–2004)
Rockefeller Brothers
Fund

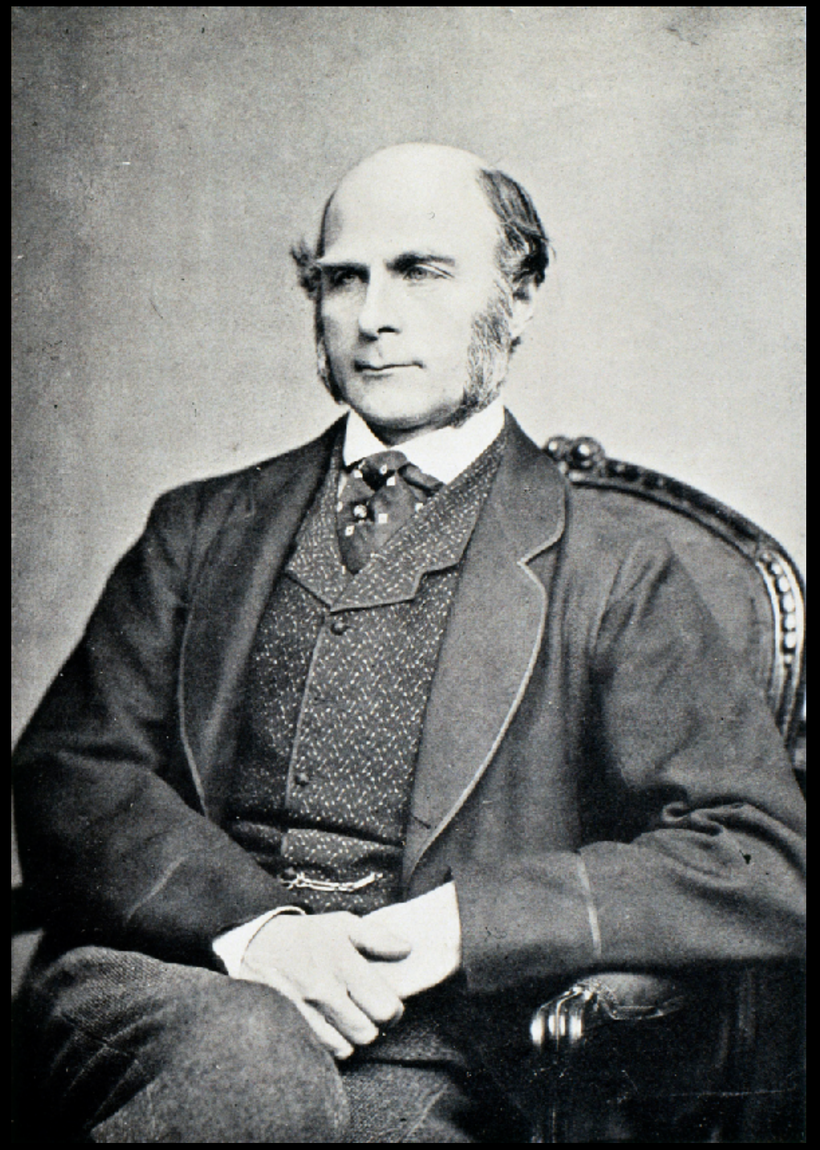


Fairfield Osborne Jr.
(1887–1969)
President of
Conservation
Foundation



William Vogt
(1902–1968)
National Director of
Planned Parenthood





Francis Galton (1822–1911)
the originator of eugenics

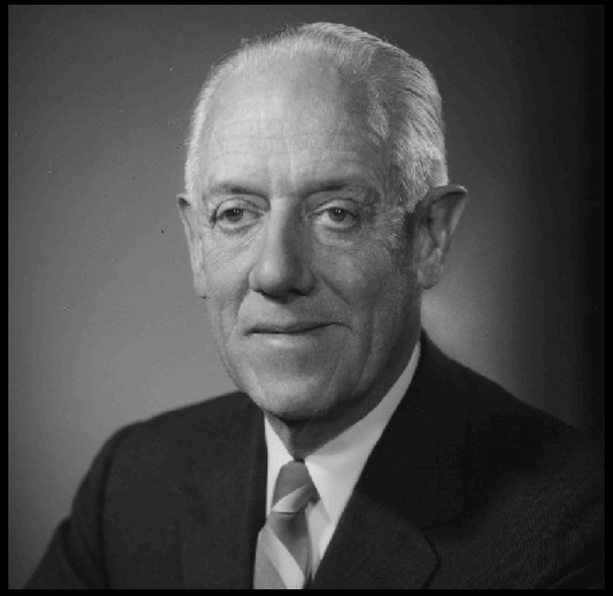
1952 – Conference on Population Problems



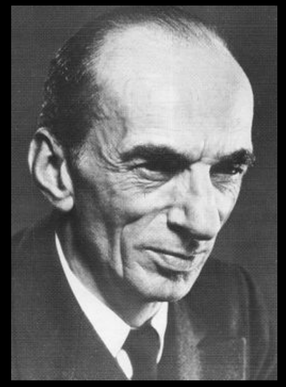
John D. Rockefeller III
Rockefeller
Brothers Fund



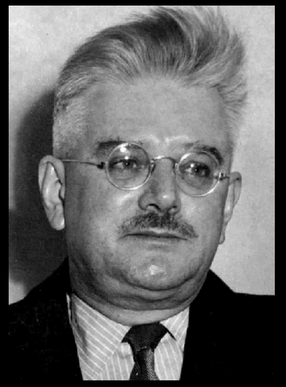
Colonial Williamsburg, Virginia



Detlev Bronk
National Academy
of Sciences



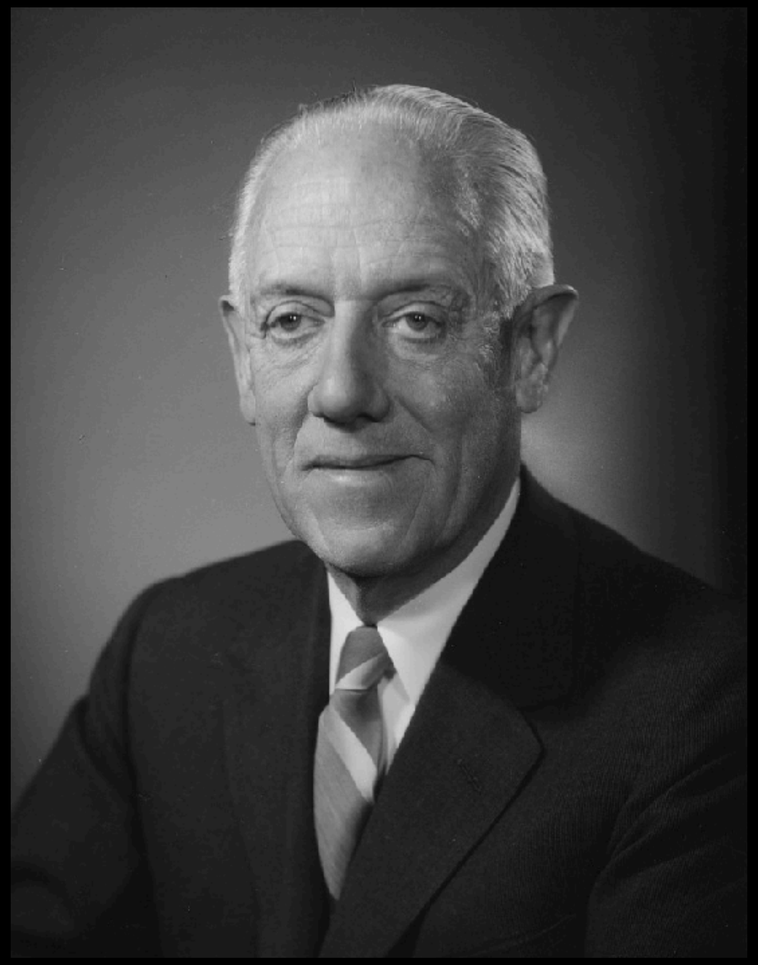
Fairfield Osborne Jr.



William Vogt

President 1953-68
Board trustee 1946-53

Board trustee 1953-63



Detlev Bronk (1897–1975)
President of the National
Academy of Sciences 1950–62

President 1949-53

Board trustee 1951-75

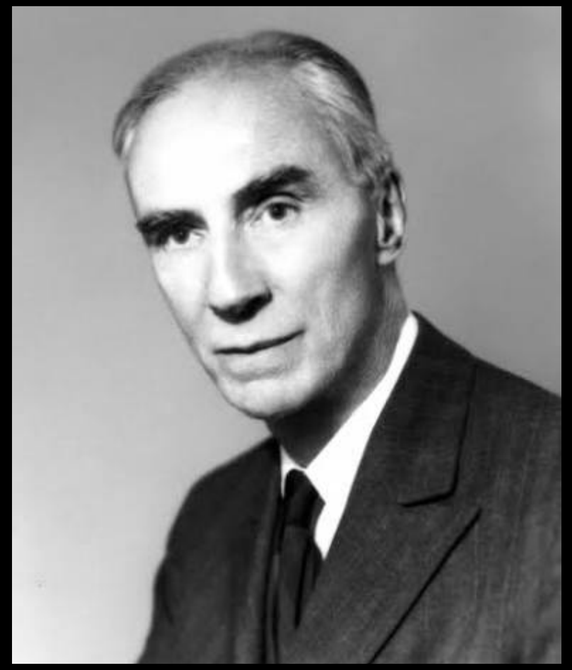
“The Father of Global Warming”



I was kind of a pet of Det Bronk’s.

Roger Revelle (1909–1991)
American cceanographer

1952 – Population Council



Frederick Osborn (1889–1991)
Executive Committee of
Population Council and
Founder of the American
Eugenics Society

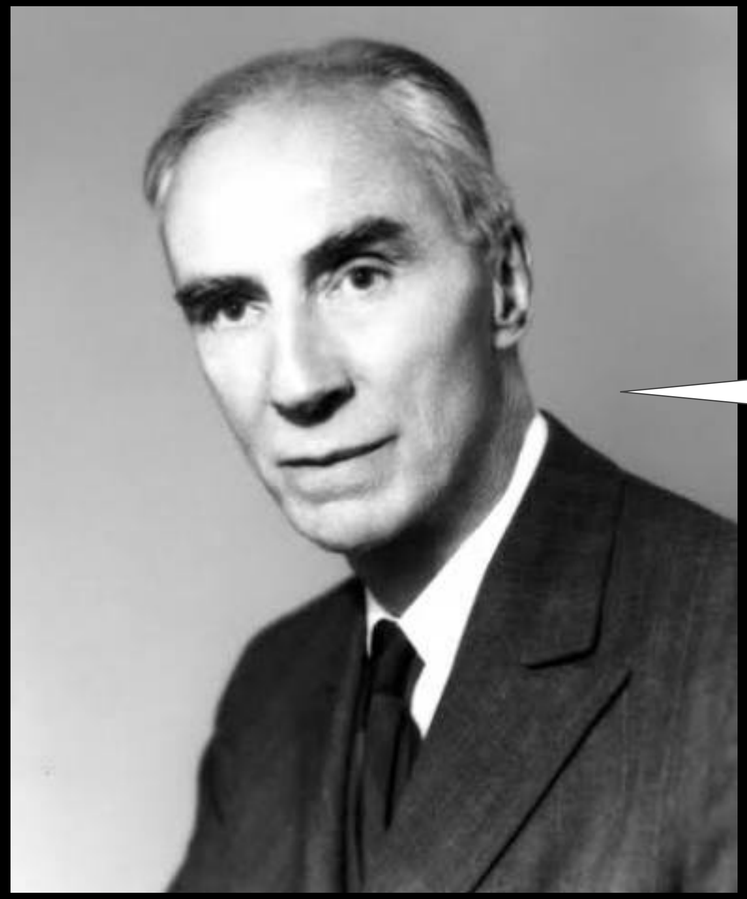
POPULATION COUNCIL

Ideas. Evidence. Impact.

Founded 1952 by John D. Rockefeller III



John D. Rockefeller III
Chairman of the
Population Council



Frederick Osborn 1937

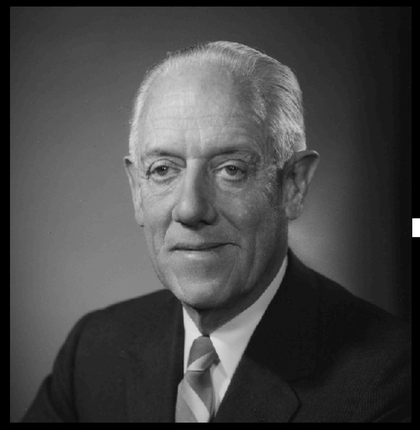
Recent developments in Germany is perhaps the most important experiment which has ever been tried.

Kaiser Wilhelm Institute



Kaiser Wilhelm Institute of Anthropology, Human Heredity, and Eugenics

March 1953 – US National Committee of IGY



Detlev Bronk
National Academy
of Sciences
Rockefeller Institute of
Medical Research

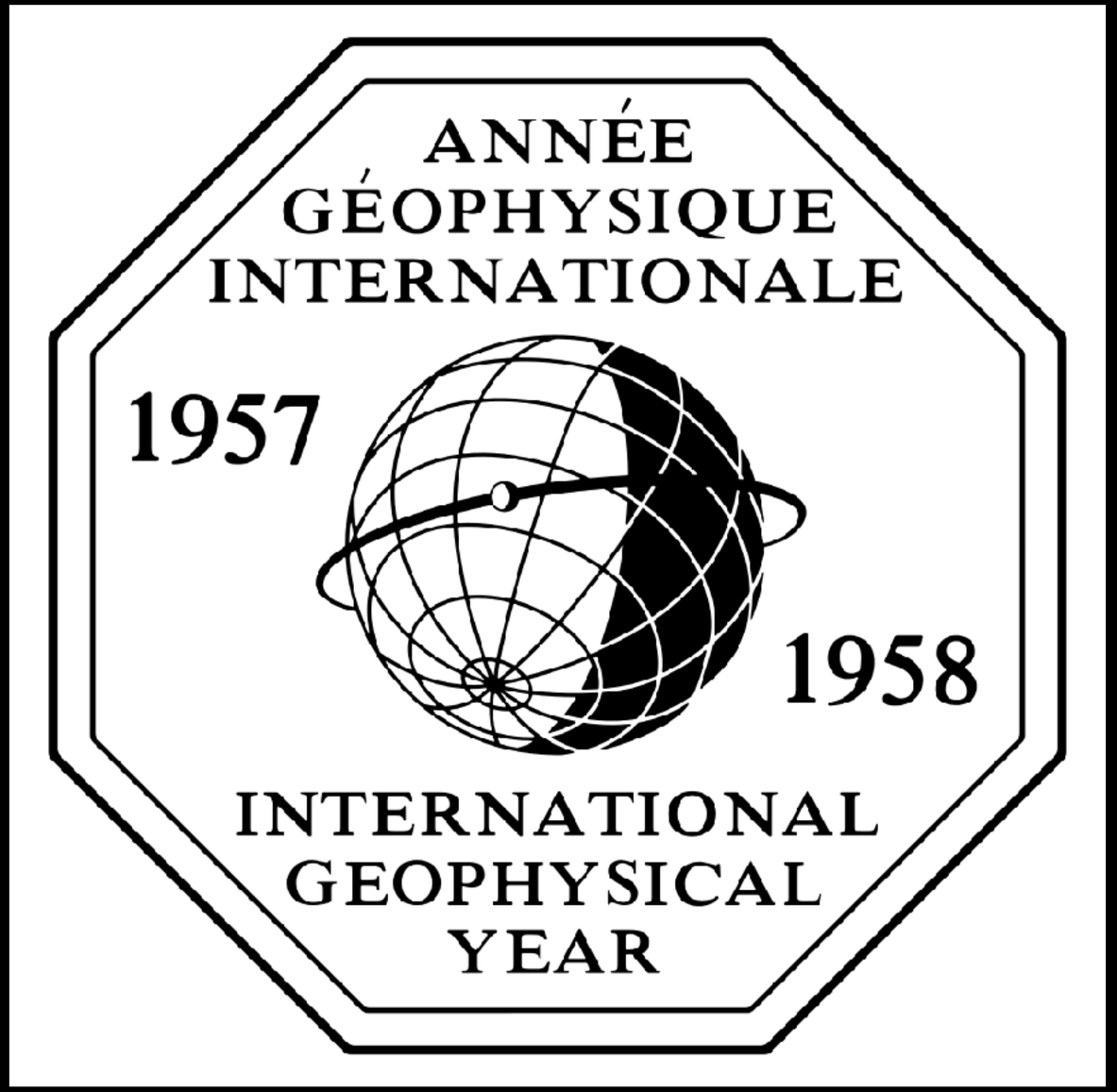


Lloyd Berkner (1905–1967)
President of International
Council of Scientific
Unions



Roger Revelle
Director of Scripps Institution
1950–64

International Geophysical Year



IMMEDIATE RELEASE July 29, 1955

James C. Hagerty, Press Secretary to the President

THE WHITE HOUSE

Statement by James C. Hagerty

On behalf of the President, I am now announcing that the President has approved plans by this country for going ahead with the launching of small unmanned earth-circling satellites as part of the United States participation in the International Geophysical Year which takes place between July 1957 and December 1958. This program will for the first time in history enable scientists throughout the world to make sustained observations in the regions beyond the earth's atmosphere.

The President expressed personal gratification that the American program will provide scientists of all nations this important and unique opportunity for the advancement of science.

# # # #

May 1953 – Gilbert Plass' early warning



Gilbert Plass (1909–1991)
Canadian physicist
Johns Hopkins University
Ford Motor Company

Invisible Blanket

In the hungry fires of industry, modern man burns nearly 2 billion tons of coal and oil each year. Along with the smoke and soot of commerce, his furnaces belch some 6 billion tons of unseen carbon dioxide into the already tainted air. By conservative estimate, the earth's atmosphere, in the next 127 years, will contain 50% more CO_2.

This spreading envelope of gas around the earth, says Johns Hopkins Physicist Gilbert N. Plass, serves as a great greenhouse. Transparent to the radiant heat from the sun, it blocks the longer wave lengths of heat that bounce back from the earth. At its present rate of increase, says Plass, the CO_2 in the atmosphere will raise the earth's average temperature 1.5° Fahrenheit every 100 years.

As the blanket of CO_2 gets thicker, it also prevents the tops of clouds from losing heat as rapidly as before. The smaller temperature difference between cloud base and top cuts down the air currents which must circulate through the cloud before rain or snow can form. Lowered rainfall will make a drier climate. Less cloud cover will be formed, more sunlight will reach the earth, and the average temperature will rise still higher.

After thousands of years, says Professor Plass, plants and the slow-moving seas will absorb most of the excess CO_2. But for centuries to come, if man's industrial growth continues, the earth's climate will continue to grow warmer.

TIME, MAY 25, 1953



Plass in *Time Magazine*
May 25, 1953

March 1956 – Congressional Hearing

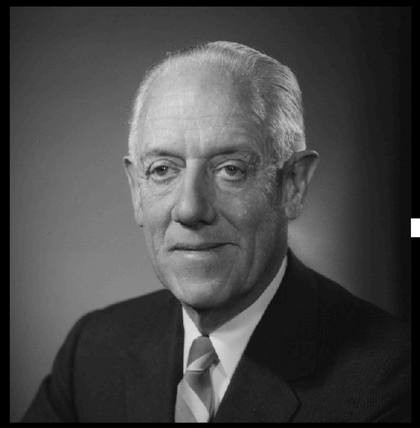
Human beings during the next few decades may, almost in spite of themselves, be doing something that will have a major effect on the climate of the Earth.

I refer to *the combustion of coal*, *oil*, and *natural gas* by our worldwide civilization, which adds carbon dioxide to the atmosphere.



Roger Revelle

April 1956 – National Meteorological Committee



Detlev Bronk
National Academy
of Sciences



Lloyd Berkner
Co-chair



Carl-Gustaf Rossby
Co-chair



Roger Revelle
Advisor

May 1956 – Plass: The Carbon Dioxide Theory

The Carbon Dioxide Theory of Climatic Change

By GILBERT N. PLASS

The Johns Hopkins University, Baltimore, Md.[1]

(Manuscript received August 9 1955)

Abstract

The most recent calculations of the infrared flux in the region of the 15 micron CO_2 bar show that the average surface temperature of the earth increases 3.6° C if the CO_2 concentra in the atmosphere is doubled and decreases 3.8° C if the CO_2 amount is halved, provided th no other factors change which influence the radiation balance. Variations in CO_2 amount this magnitude must have occurred during geological history; the resulting temperature chan were sufficiently large to influence the climate. The CO_2 balance is discussed. The CO_2 equil rium between atmosphere and oceans is calculated with and without $CaCO_3$ equilibrium, assuming that the average temperature changes with the CO_2 concentration by the amou predicted by the CO_2 theory. When the total CO_2 is reduced below a critical value, it is found that the climate continuously oscillates between a glacial and an inter-glacial stage with a period of tens of thousands of years; there is no possible stable state for the climate. Simple explanation are provided by the CO_2 theory for the increased precipitation at the onset of a glacial period, the time lag of millions of years between periods of mountain building and the ensuing glaciation, and the severe glaciation at the end of the Carboniferous. The extra CO_2 released into the atmosphere by industrial processes and other human activities may have caused the temperature rise during the present century. In contrast with other theories of climate, the CO_2 theory predicts that this warming trend will continue, at least for several centuries.

1. Introduction

In 1861, TYNDALL wrote that "if, as the above experiments indicated, the chief influence be exercised by the aqueous vapour, every variation of this constituent must produce a change of climate. Similar remarks would apply to the carbonic acid diffused through the air . . . It is not, therefore, necessary to assume alterations in the density and height of the atmosphere to account for different amounts of heat being preserved to the earth at different times; a slight change in its variable constituents would suffice for this. Such changes in fact may have produced all the ... climate which the researches of ... reveal. However this may be, the ... cited remain: they constitute the ... *extent* alone of the operation ... ful." A century of scientific work ... necessary in order to calculate ... certainty the extent of the influence ... dioxide.

Although Tyndall was the first ... calculation of the infrared flux in the ... sphere, FOURIER (1827) had ... influence of the atmosphere to the ... closed space beneath a pane of ... calculation by ARRHENIUS (1896) ... fluence of carbon dioxide on the ... was the most extensive made ... nineteenth century. In a series of ...

[1] This work was sponsored by the U.S. Office of Naval Research. This article was completed while the author was on leave of absence at Michigan State University, East Lansing, Michigan. Present address: Systems Research Corporation, Van Nuys, California.

CHAMBERLIN (1897, 1898, 1899) presented in detail the geological implications of the carbon dioxide theory. As a result of these early articles, during that period the carbon dioxide theory was probably the most widely held explanation of climatic change.

In recent years the carbon dioxide theory has had relatively few adherents. Most authors have dismissed this theory with a remark similar to the following quotation from C. E. P. BROOKS (1951): the carbon dioxide theory was "abandoned when it was found that all the long-wave radiation absorbed by CO_2 is also absorbed by water vapour." This often quoted conclusion is based on early, approximate calculations of the radiation flux in the atmosphere. The results of more accurate calculations of the radiation flux have recently become available. Thus it seems worthwhile to reappraise the CO_2 theory of climatic change. A preliminary report of these results has been given by PLASS (1953).

Many authors believe that most of the world-wide climatic changes are caused primarily by variations of a single factor. In this article simple explanations are given in terms of the carbon dioxide content of the atmosphere for many of the known facts about climatic change. Although it seems significant that so many facts can be explained by the carbon dioxide theory, the possibility remains that variations in solar energy, volcanic dust in the atmosphere and the heights of the continents may have had an important influence on the climate at particular places and periods in the earth's history.

2. Calculation of the radiation flux

An extensive calculation of the radiation flux in the region of the 15 micron CO_2 band has recently been made by PLASS (1956 b). Recent accurate laboratory measurements of the absorption in the CO_2 band by CLOUD (1952) were used to calculate the radiation flux in the atmosphere with the aid of the MIDAC high speed digital computer. None of the many approximations were used that had necessarily been made in earlier attempts to solve this complex problem. Accurate laboratory absorption data, recent theoretical work and the availability of an electronic computer made it possible to obtain an accurate solution of this problem.

Tellus VIII (1956), 2

The method of calculation took into account the many properties of the line spectrum. In particular it was valid for: (1) any arbitrary variation from one spectral line to another of the spacing between lines and of the line intensity; (2) any degree of overlapping of the spectral lines; (3) the actual variation in the atmosphere of the half-width of the spectral lines with pressure. At the highest altitudes a correction for the Doppler line shape was introduced. Another correction took account of the variation of the line intensity and half-width with temperature. The reduction from beam to hemisphere radiation was made by a new, more accurate method. Certain restrictions on the path-length for this method of calculation were checked against the experimental data.

The accuracy of the results were checked at each stage of the calculation. The upward and downward flux in the atmosphere could be computed with the same accuracy as the original laboratory measurements. It is estimated that the calculated upward and downward atmospheric radiation flux is accurate to within 4 per cent; this figure includes an allowance for the additional corrections that must be introduced into the atmospheric calculation. Further details are given by PLASS (1956 b).

3. Temperature variations caused by changes in CO_2 concentration

The upward and downward radiation flux was calculated by PLASS (1956 b) for intervals of 1 km from the surface of the earth to 75 km and for three different CO_2 concentrations. From these results the change in temperature at any level can be calculated for a given change in the CO_2 concentration. It is assumed that nothing else changes that affects the radiation balance when the CO_2 amount varies. In order to obtain the temperature change it was assumed that an additional amount of heat energy equal to 0.0033 cal/cm² min would be radiated to space from the surface of the earth, if the average temperature increased by 1° C. Unfortunately this number cannot be calculated accurately until a detailed study of the H_2O spectrum has been made. When a more accurate value for this number is obtained in the future, all the temperature

Oct 1956 – CO_2 Warning in New York Times

SCIENCE IN REVIEW

Warmer Climate on the Earth May Be Due To More Carbon Dioxide in the Air

By WALDEMAR KAEMPFFERT

The general warming of the climate that has occurred in the last sixty years has been variously explained. Among the explanations are fluctuations in the amount of energy received from the sun, changes in the amount of volcanic

starches) causes a large loss of carbon dioxide, but the balance is restored by processes of respiration and decay of plants and animals.

Despite nature's way of maintaining the balance of gases the amount of carbon dioxide in the

The article in The Times on Oct. 28, 1956.

The New York Times

Feb 1957 – Revelle's CO_2 Article

Carbon Dioxide Exchange Between Atmosphere and Ocean and the Question of an Increase of Atmospheric CO_2 during the Past Decades

By ROGER REVELLE and HANS E. SUESS, Scripps Institution of Oceanography, University of California, La Jolla, California

(Manuscript received September 4, 1956)

Abstract

From a comparison of C^{14}/C^{12} and C^{13}/C^{12} ratios in wood and in marine material and from a slight decrease of the C^{14} concentration in terrestrial plants over the past 50 years it can be concluded that the average lifetime of a CO_2 molecule in the atmosphere before it is dissolved into the sea is of the order of 10 years. This means that most of the CO_2 released by artificial fuel combustion since the beginning of the industrial revolution must have been absorbed by the oceans. The increase of atmospheric CO_2 from this cause is at present small but may become significant during future decades if industrial fuel combustion continues to rise exponentially.

Present data on the total amount of CO_2 in the atmosphere, on the rates and mechanisms of exchange, and on possible fluctuations in terrestrial and marine organic carbon, are inadequate for accurate measurement of future changes in atmospheric CO_2. An opportunity exists during the International Geophysical Year to obtain much of the necessary information.



Roger Revelle

SCRIPPS INSTITUTION OF OCEANOGRAPHY
UCSD



Roger Revelle
Head of ONR Department
of Geophysics 1946–48

Published in Swedish Tellus Journal



The Meteorologist

Founder Department of Meteorology 1928–39

Research Fellow 1931–57



Carl-Gustaf Rossby (1898–1957) Swedish–American meteorologist

Founder Department of Meteorology 1940–47

Founder The Department of Meteorology 1947–57

1956 – Weatherman Carl-Gustaf Rossby



"Another atmospheric variable is carbon dioxide. CO_2 is comparatively plentiful downwind from industrial areas such as the Ruhr, and there is a good possibility that man's fires and engines are adding so much of it to the atmosphere that the world's climate may be changed drastically by the solar heat that it traps. Rossby wants to find out about this little matter too."

Time Magazine, Monday, Dec 17, 1956

The Apprentice – Bert Bolin



Bert Bolin (1925–2007)
(with C-G Rossby)

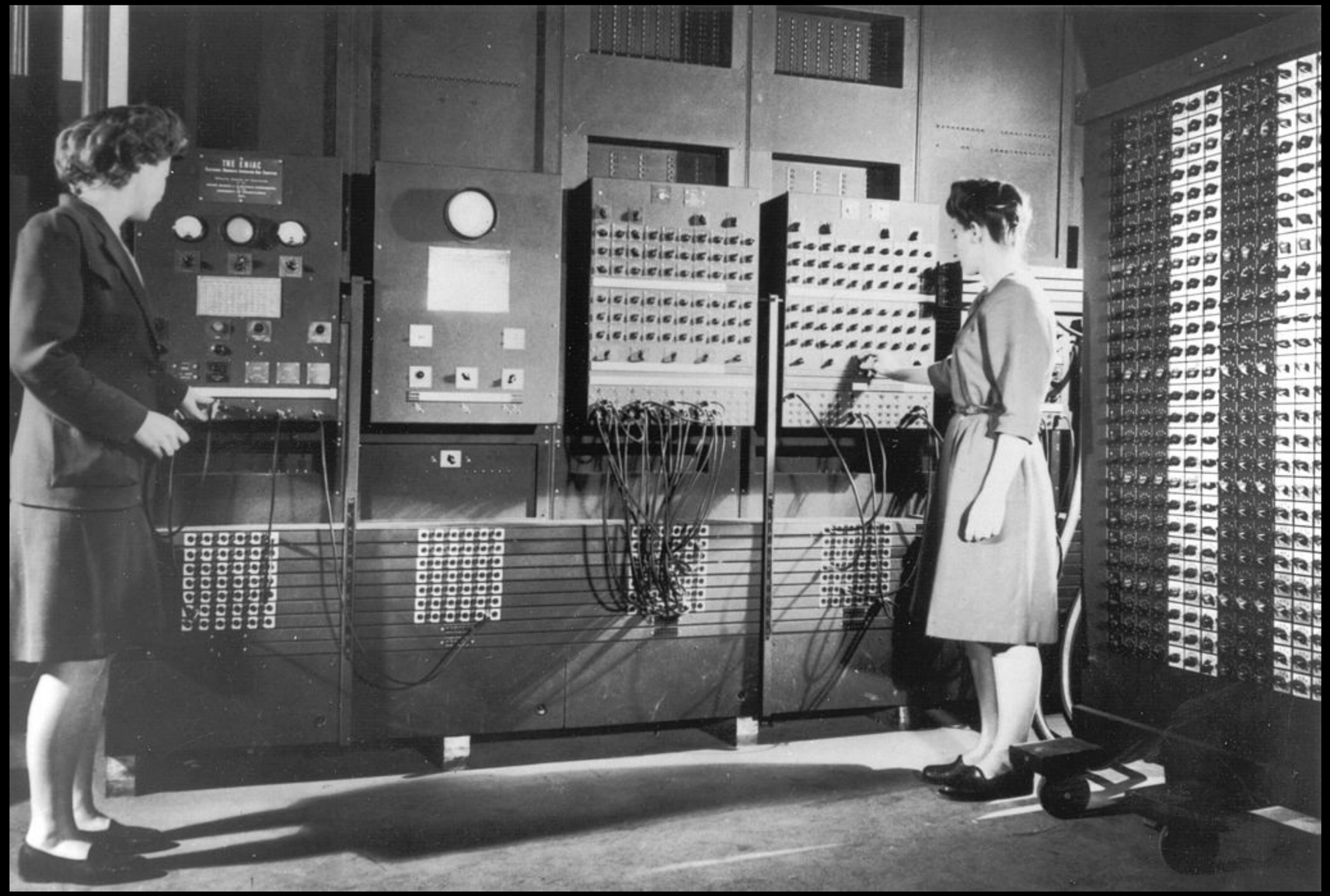


John von Neumann (1903–1957)
Atomic Energy Commission
Institute for Advanced Study



Institute for Advanced Study in Princeton

EINAC – Computer Modelling



BESK – The Swedish Model



Bert Bolin



BESK (Binary Electronic Sequence Calculator) 1953–1966

1959 – The Rossby Memorial



Bert Bolin

THE ATMOSPHERE AND
THE SEA IN MOTION

SCIENTIFIC CONTRIBUTIONS TO
THE ROSSBY MEMORIAL VOLUME

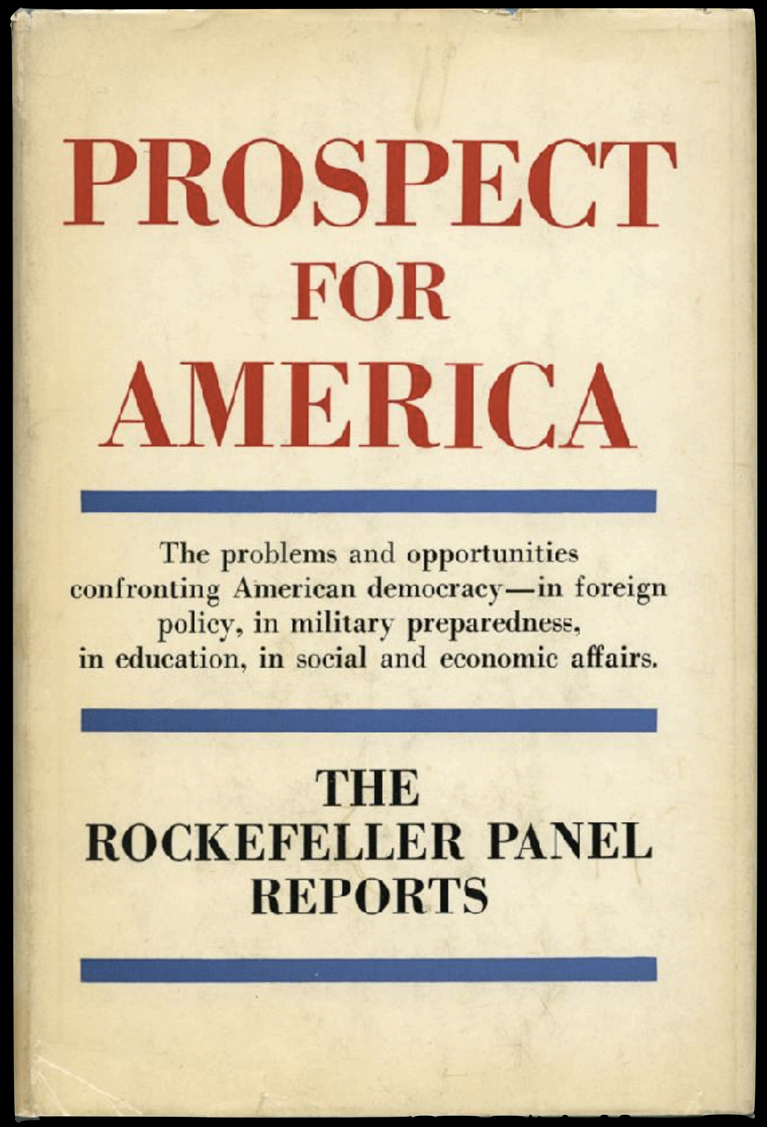
Edited by BERT BOLIN
THE UNIVERSITY OF STOCKHOLM

New York
THE ROCKEFELLER INSTITUTE PRESS
1959



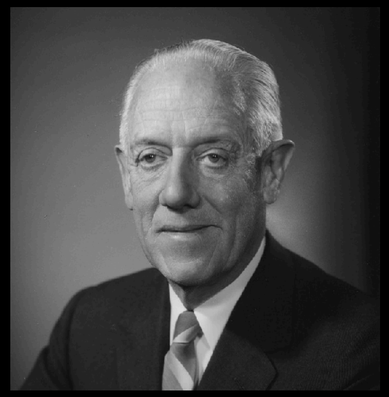
THE ROCKEFELLER INSTITUTE
FOR MEDICAL RESEARCH
NEW YORK

1956-60 – RBF Special Studies Project





John D. Rockefeller III
Rockefeller Foundation



Detlev Bronk
Rockefeller Institute



Laurance Rockefeller
Conservation
Foundation

1956-60 – RBF Special Studies Project



Nelson Rockefeller (1908–1979)
Governor of New York
President Rockefeller Brothers Fund

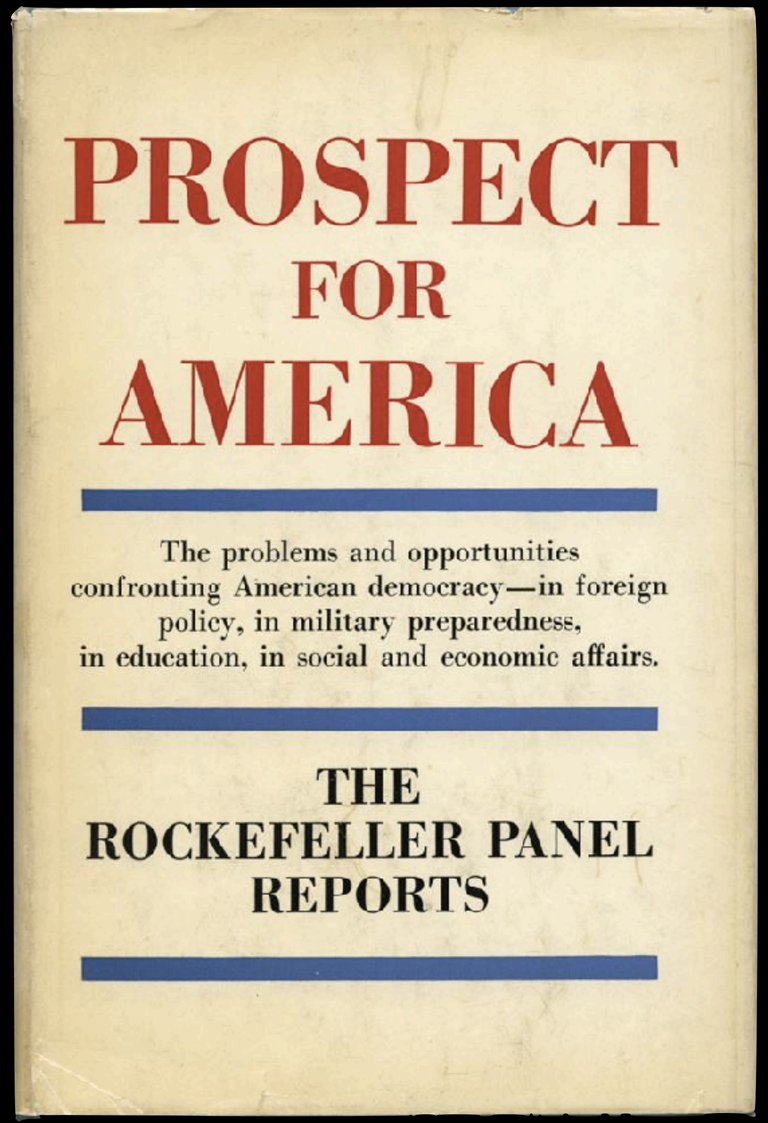


Henry Kissinger (1923–)
Director of Harvard University



David Rockefeller (1915–2017)
Chase Manhattan Bank
Rockefeller Brothers Fund
Rockefeller Institute

1956-60 – RBF Special Studies Project

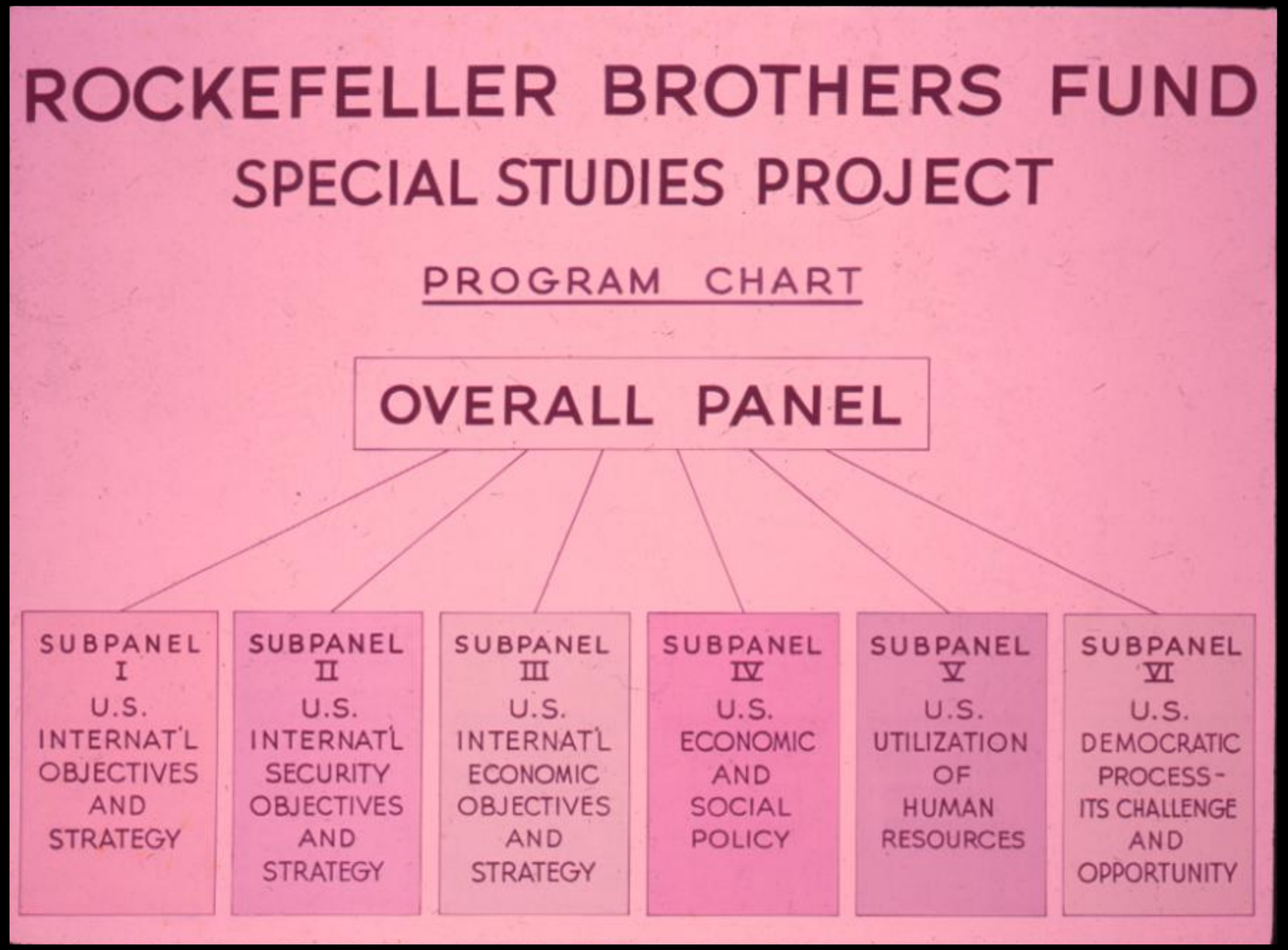


Mission of the Special Studies Project:

- Define the major problems and opportunities facing the U.S.
- Clarify national purposes and objectives.
- Develop principles which could serve as the basis of future national policy.

Preface by Laurance Rockefeller on behalf of the Rockefeller Brothers Fund trustees

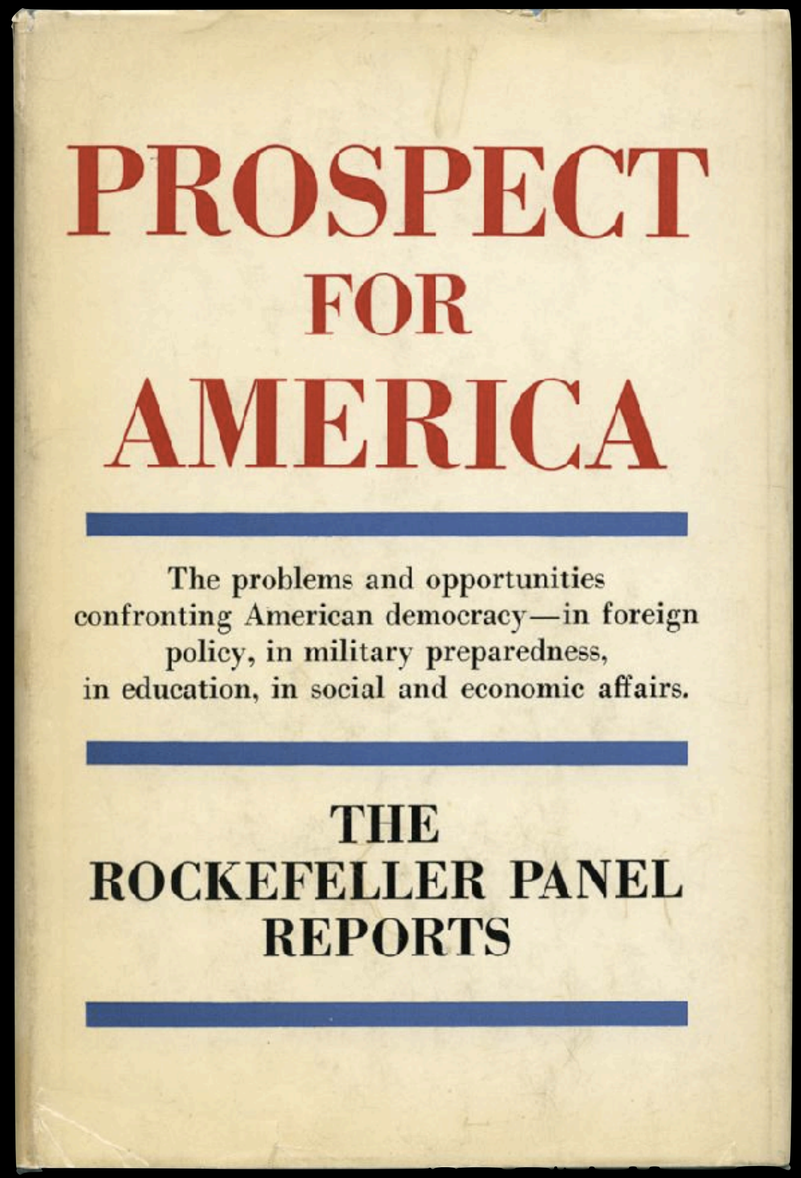
1956-60 – RBF Special Studies Project





Dean Rusk
Chairman, Panel I
President of Rockefeller Foundation 1952–61

1956-60 – RBF Special Studies Project



"We can not escape, and indeed should welcome, the task which history has imposed on us. This is the task of helping to shape a new world order in all its dimensions – spiritual, economic, political, social."

"The Mid-Century Challenge to U.S. Foreign Policy,"

Special Studies Project, Dec 1959



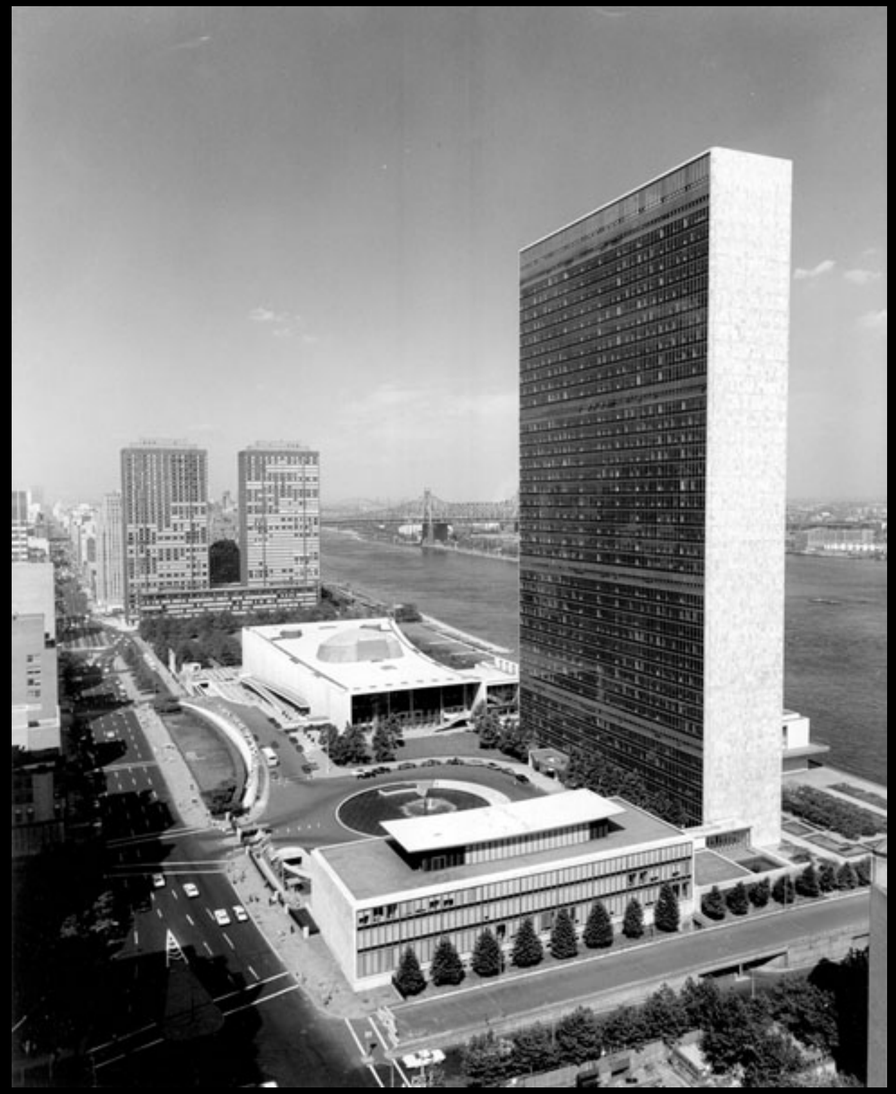
Dean Rusk
Chairman, Panel I
RF President (1952-1961)

THE ROCKEFELLER FOUNDATION 1913
WELLBEING OF MANKIND THROUGHOUT THE WORLD



John D. Rockefeller III
Panelist, Panel I
RF Chairman

United Nations



"The UN stands, finally, as a symbol of the world order that one day will be built"

"The Mid-Century Challenge to U.S. Foreign Policy," Special Studies Project, Dec 1959



Milton Katz
Chairman, Panel III
Director of International Legal Studies of the Harvard Law School
Former ambassador and chief in Europe of the Marshall Plan

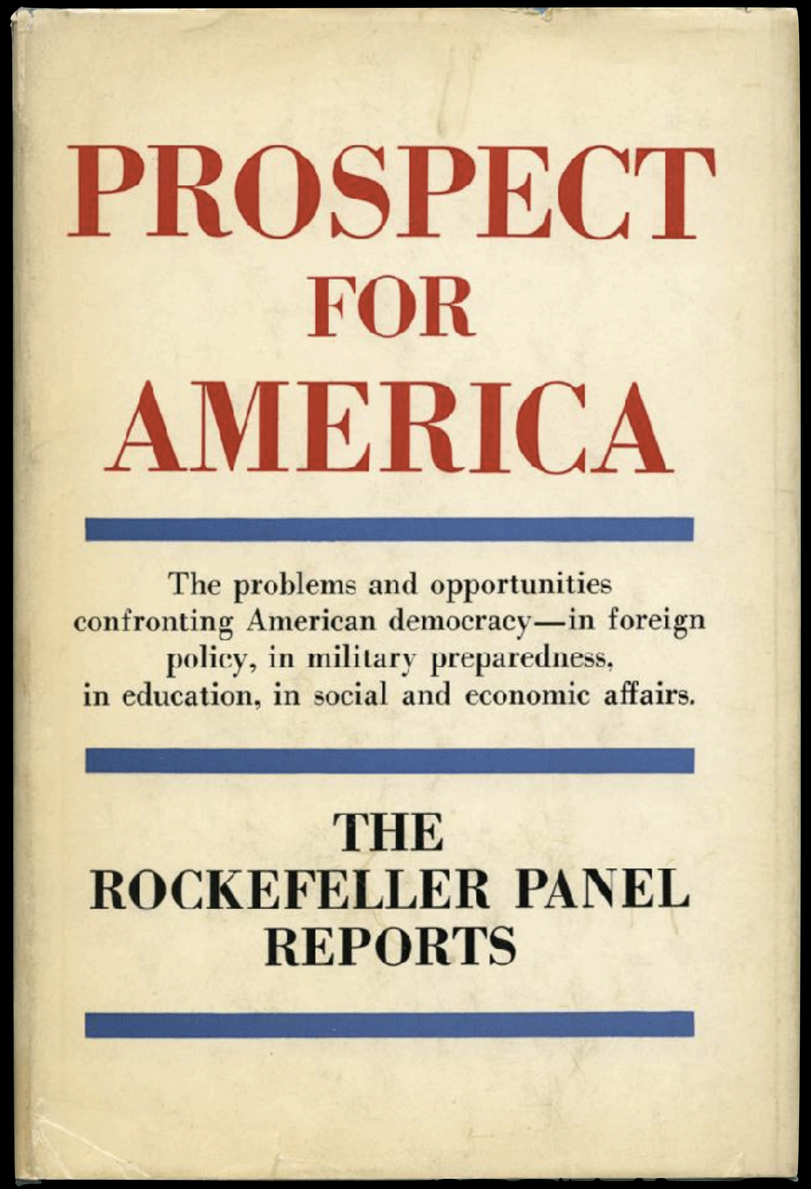
"No field requires international co-operation more and makes its benefits more generally available than that of science...

The United States should, therefore, seek to develop a series of agreements, looking toward the fostering of scientific progress on a world scale such as the International Geophysical Year."

Special Studies Project, Foreign Economic Policy for the Twetieth Century, Jun 1958



David Rockefeller
Member, Panel III
Chase Manhattan Bank
Rockefeller Institute
Trustee



"...the natural agency for meteorological work is an international one.

If it becomes possible to interfere actively in the big processes with the atmosphere, the results are likely to transcend national boundaries. The problems that will then arise must be handled on an international basis."

Special Studies Project, Foreign Economic Policy for the Twetieth Century, Jun 1958

1955 – Neumann's Climate Prophecy



John von Neumann (1903–1957)
Atomic Energy Commission
Institute for Advanced Study

Probably intervention in atmospheric and climatic matters will come in a few decades, and will unfold on a scale difficult to imagine at present...

All this will merge each nation's affairs with those of every other, more thoroughly than the threat of a nuclear or any other war may already have done.

John von Neumann,
"Can We Survive Technology?"
Fortune Magazine , June 1955

Champions of the Climate Agenda



John D. Rockefeller III
Rockefeller Foundation



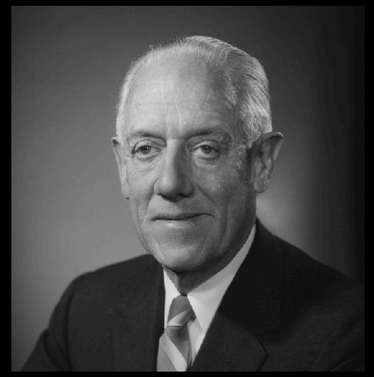
Nelson Rockefeller
Governor of New York



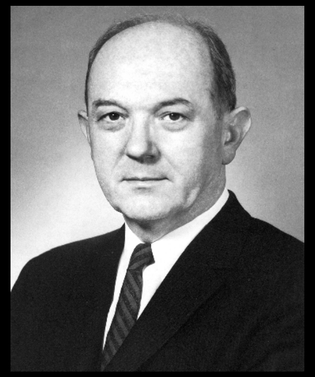
Laurance Rockefeller
RBF



David Rockefeller
Chase Manhattan



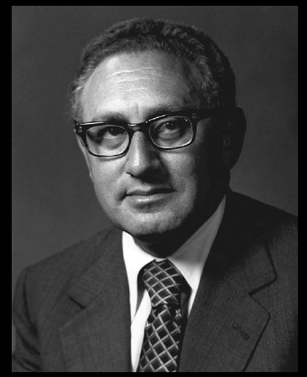
Detlev Bronk
Rockefeller Institute



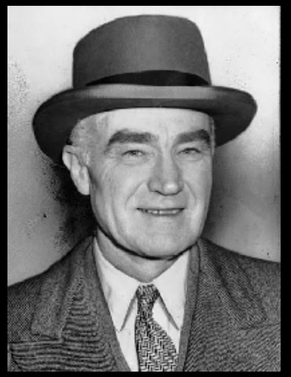
Dean Rusk
Rockefeller Foundation



Carroll L. Wilson
MIT

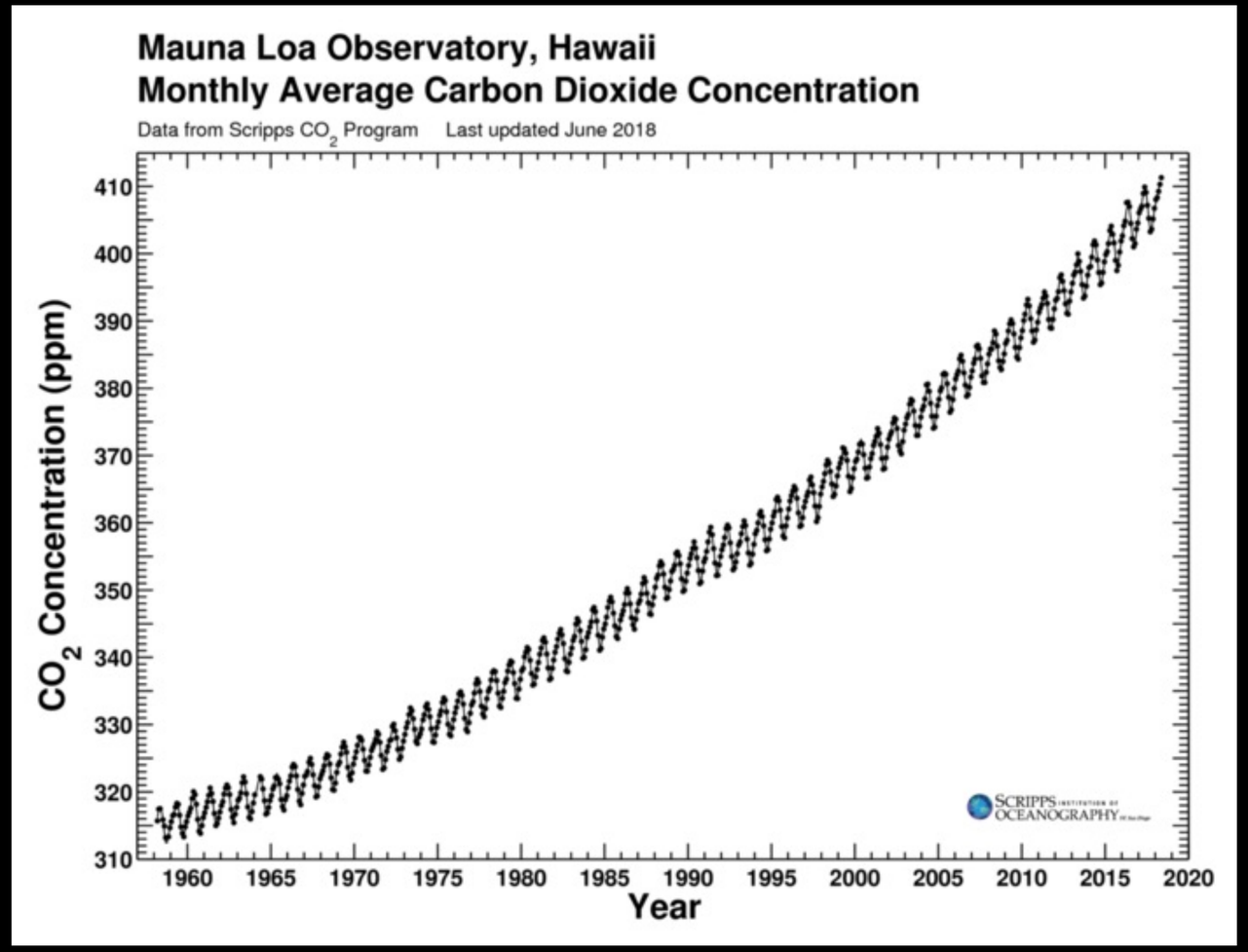


Henry Kissinger
Harvard University

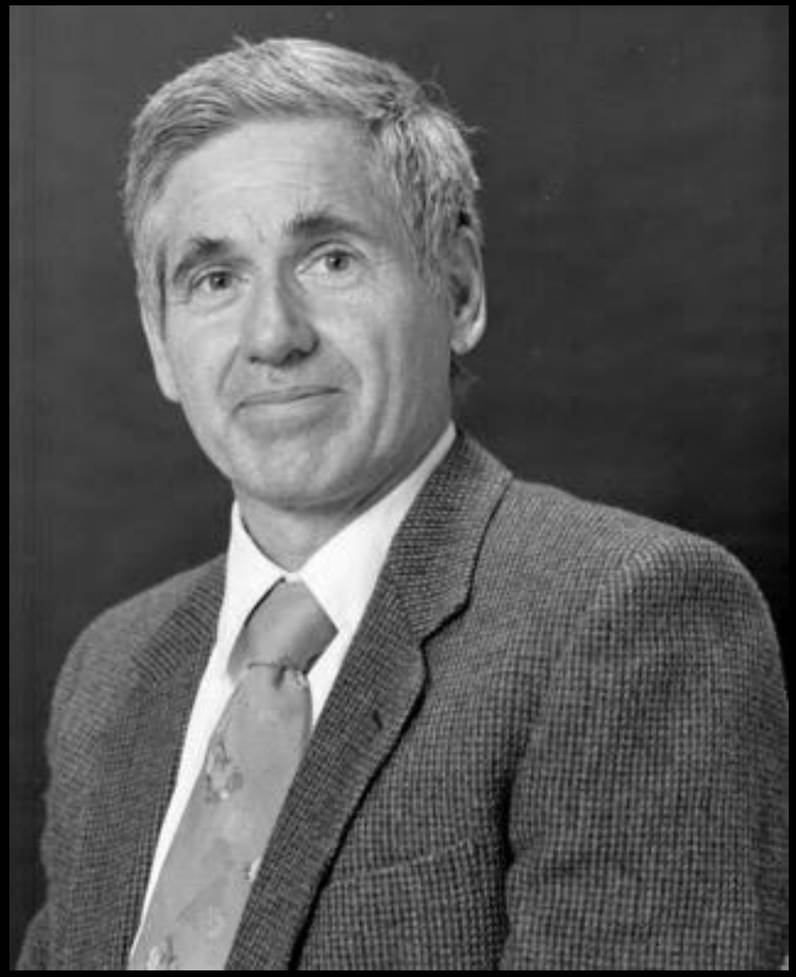


Henry Luce
Time

1958 – CO_2 Measuring Initiated



The Keeling Curve



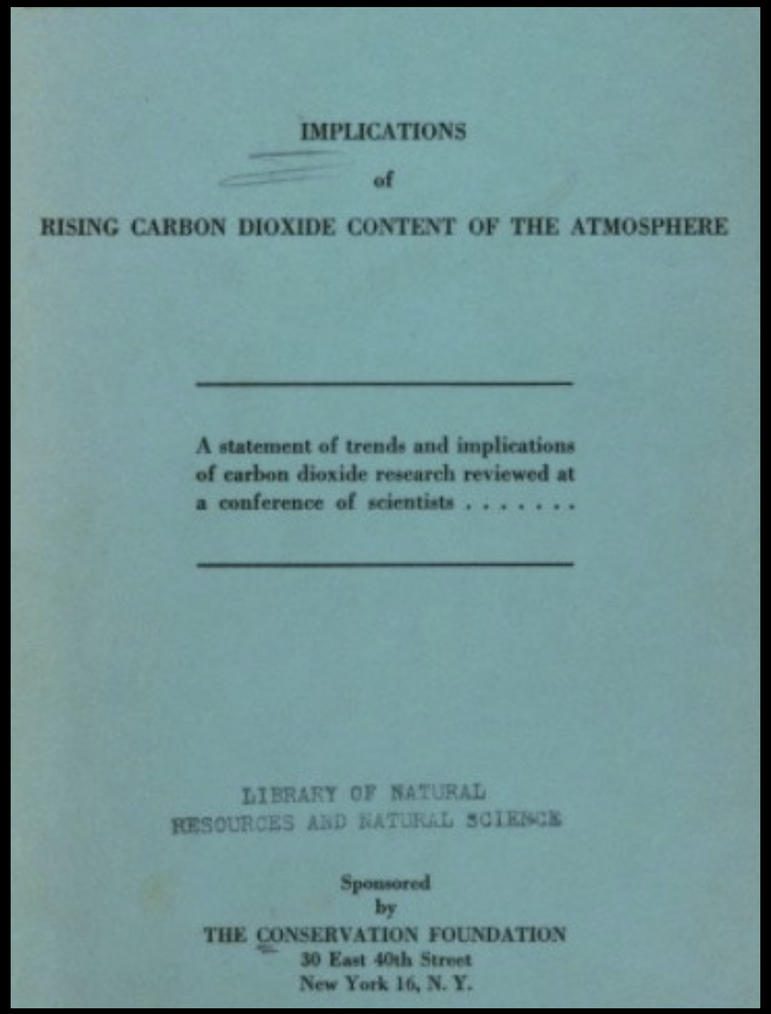
Charles Keeling
Scripps Institution of Oceanography



Roger Revelle

SCRIPPS INSTITUTION OF OCEANOGRAPHY
UC SAN DIEGO

1963 – First International Symposium on CO_2


IMPLICATIONS

of

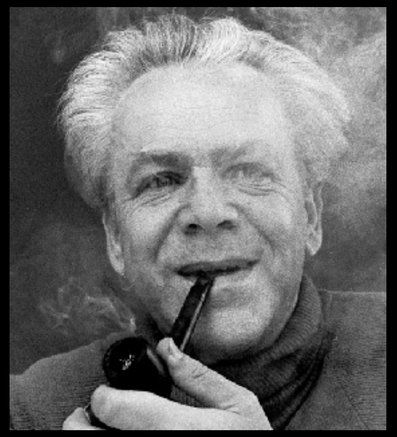
RISING CARBON DIOXIDE CONTENT OF THE ATMOSPHERE

A statement of trends and implications of carbon dioxide research reviewed at a conference of scientists . . . . . .

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Implications of rising carbon dioxide content of the atmosphere


Erik Eriksson
MISU Stockholm


Charles Keeling
Scripps San Diego


Gilbert Plass
Ford Motor Company

UNIVERSITET STOCKHOLMS

SCRIPPS INSTITUTION OF OCEANOGRAPHY
UC SAN DIEGO

Ford

Held at the Rockefeller Institute

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March 1, 1963

Dr. Charles D. Keeling
Scripps Institution of Oceanography
La Jolla, California

We are looking forward with very real pleasure to having you with us for our informal carbon dioxide conference which will take place on March 12 and 13.

We are enclosing a copy of a statement prepared by Dr. Eriksson, and summary statements by Drs. Plass and Keeling. We hope to be able to send you one or more additional summaries prior to the conference if such are forthcoming in time. Otherwise, we shall hold additional material for presentation at the morning session on the first day.

Dr. Bronk has kindly made available for our meetings Room L-B at the ROCKEFELLER INSTITUTE, 66th Street at York Avenue, and the Institute will also provide luncheon facilities on the two days. Accordingly we will be meeting at the Institute instead of at the University Club as originally planned.



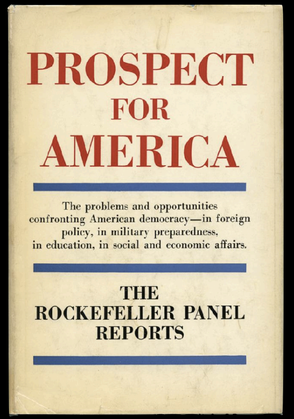
Detlev Bronk



Laurance Rockefeller



The Rockefeller Institute
for Medical Research
New York

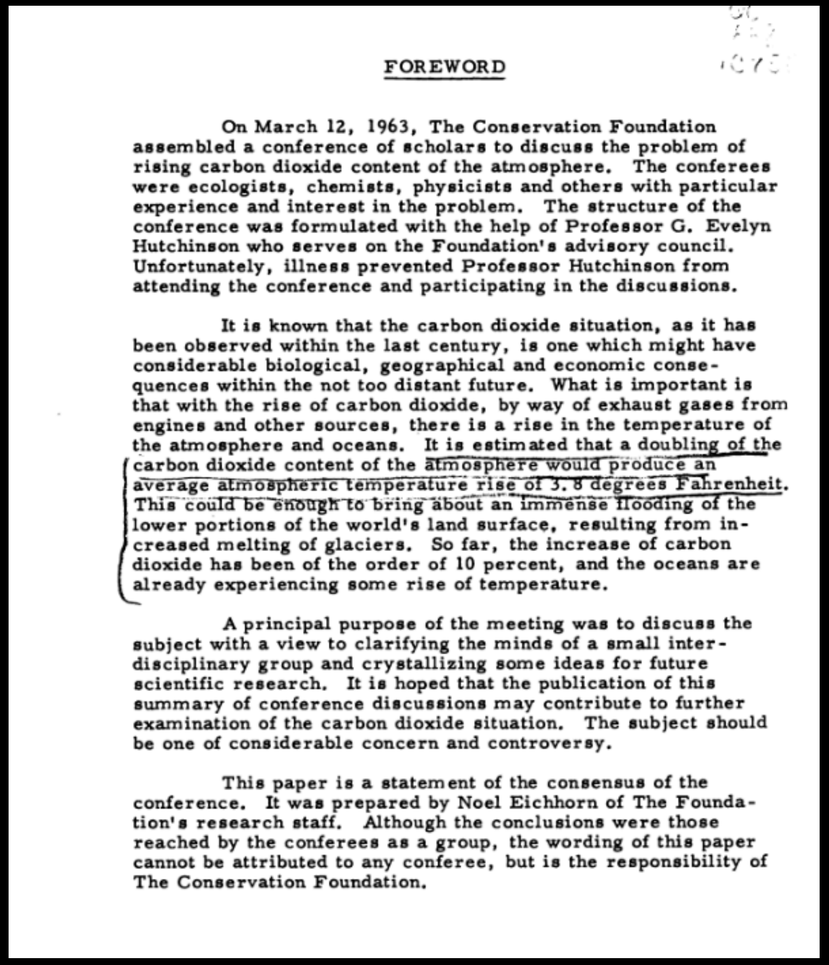


“Immense flooding” Expected

“It is estimated that a doubling of the carbon dioxide content in the atmosphere would produce and average atmospheric temperature rise of 3.8 degrees Fahrenheit. This could be enough to bring about immense flooding of the lower proportions of the world’s land surface, resulting from increased melting of glaciers.”

Foreword, Implications of rising carbon dioxide content of the atmosphere,

The Conservation Foundation, March 1963



FOREWORD

On March 12, 1963, The Conservation Foundation assembled a conference of scholars to discuss the problem of rising carbon dioxide content of the atmosphere. The conferees were ecologists, chemists, physicists and others with particular experience and interest in the problem. The structure of the conference was formulated with the help of Professor G. Evelyn Hutchinson who serves on the Foundation's advisory council. Unfortunately, illness prevented Professor Hutchinson from attending the conference and participating in the discussions.

It is known that the carbon dioxide situation, as it has been observed within the last century, is one which might have considerable biological, geographical and economic consequences within the not too distant future. What is important is that with the rise of carbon dioxide, by way of exhaust gases from engines and other sources, there is a rise in the temperature of the atmosphere and oceans. It is estimated that a doubling of the carbon dioxide content of the atmosphere would produce an average atmospheric temperature rise of 3.8 degrees Fahrenheit. This could be enough to bring about an immense flooding of the lower portions of the world's land surface, resulting from increased melting of glaciers. So far, the increase of carbon dioxide has been of the order of 10 percent, and the oceans are already experiencing some rise of temperature.

A principal purpose of the meeting was to discuss the subject with a view to clarifying the minds of a small interdisciplinary group and crystallizing some ideas for future scientific research. It is hoped that the publication of this summary of conference discussions may contribute to further examination of the carbon dioxide situation. The subject should be one of considerable concern and controversy.

This paper is a statement of the consensus of the conference. It was prepared by Noel Eichhorn of The Foundation's research staff. Although the conclusions were those reached by the conferees as a group, the wording of this paper cannot be attributed to any conferee, but is the responsibility of The Conservation Foundation.

1965 – Restoring the Quality of the Environment

RESTORING THE QUALITY

OF

OUR ENVIRONMENT

Report of The

Environmental Pollution Panel

President's Science Advisory Committee

THE WHITE HOUSE

NOVEMBER 1965

APPENDIX Y4

Atmospheric Carbon Dioxide

ROGER REVELLE, *Chairman*

WALLACE BROECKER
HARMON CRAIG
C. D. KEELING
J. SMAGORINSKY

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Section I. Carbon Dioxide From Fossil Fuels—The Invisible Pollutant	112



Roger Revelle
Director, Harvard Center
for Population Studies
1964-1976

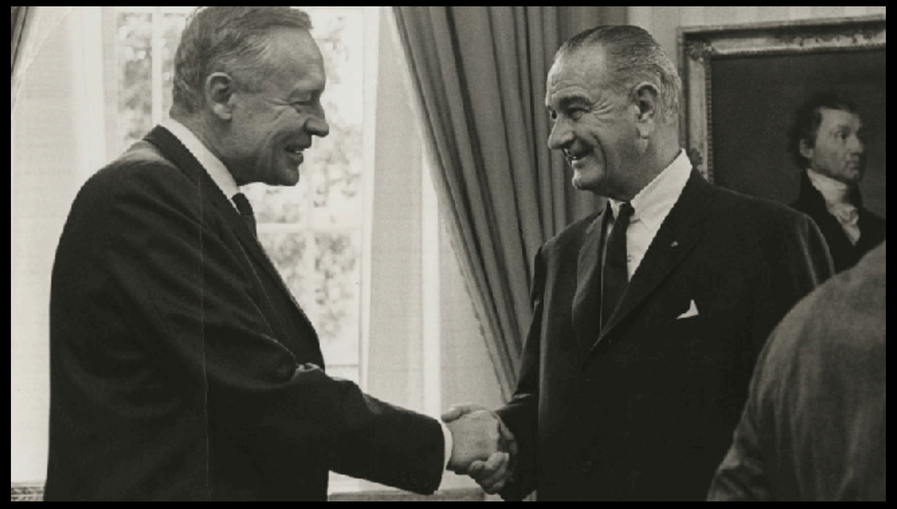
THE ROCKEFELLER FOUNDATION 1913 ✱ THE WELLBEING OF MANKIND THROUGHOUT THE WORLD ✱

1965 – President Johnson's CO_2 warning



US President Lyndon Johnson (1908–1973)

This generation has altered the composition of the atmosphere on a global scale through radioactive materials and a steady increase in carbon dioxide from the burning of fossil fuels.

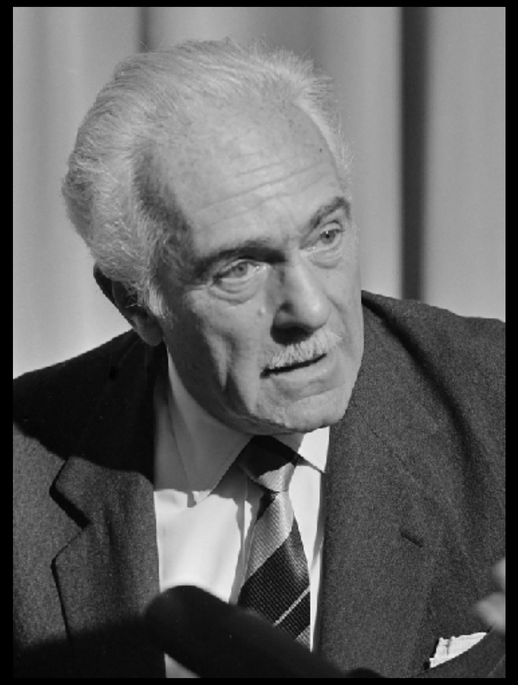


Roger Revelle and Lyndon Johnson

1968 – The Club of Rome

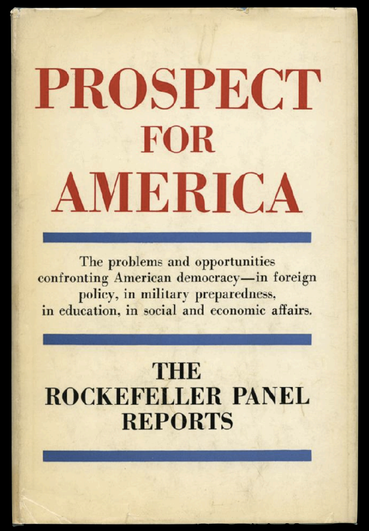
THE CLUB OF ROME

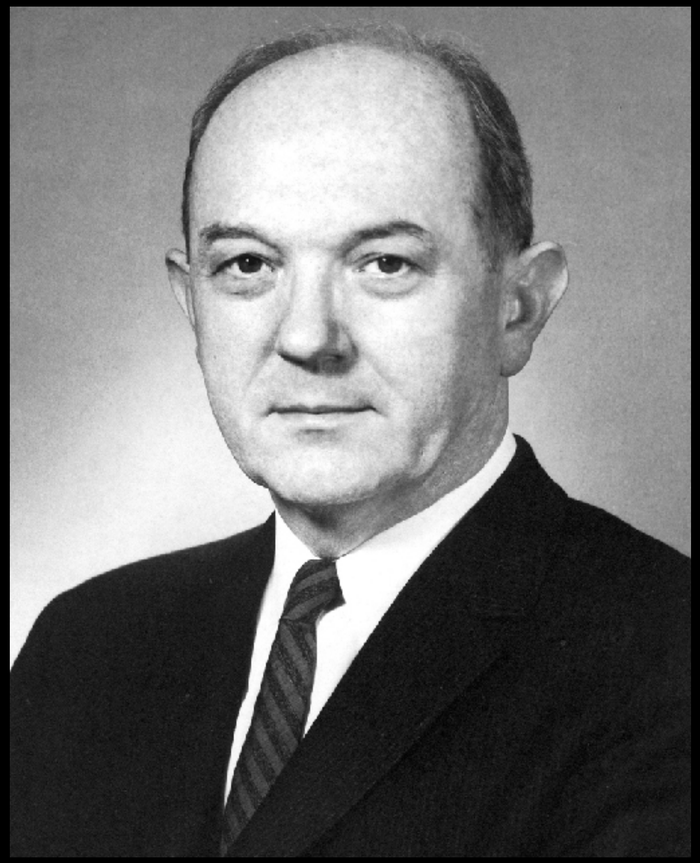
"... to promote an understanding of the global challenges facing humanity and to propose long-term, systemic solutions through scientific analysis, communication, and advocacy."



Aurelio Peccei
(1908–1984)

The US Secretary of State





Dean Rusk

US Secretary of State

1961-1969

Chairman, Panel I Special Studies Project

Funding



Gianni Agnelli

1921-2003



David Rockefeller

$

System-wide planning

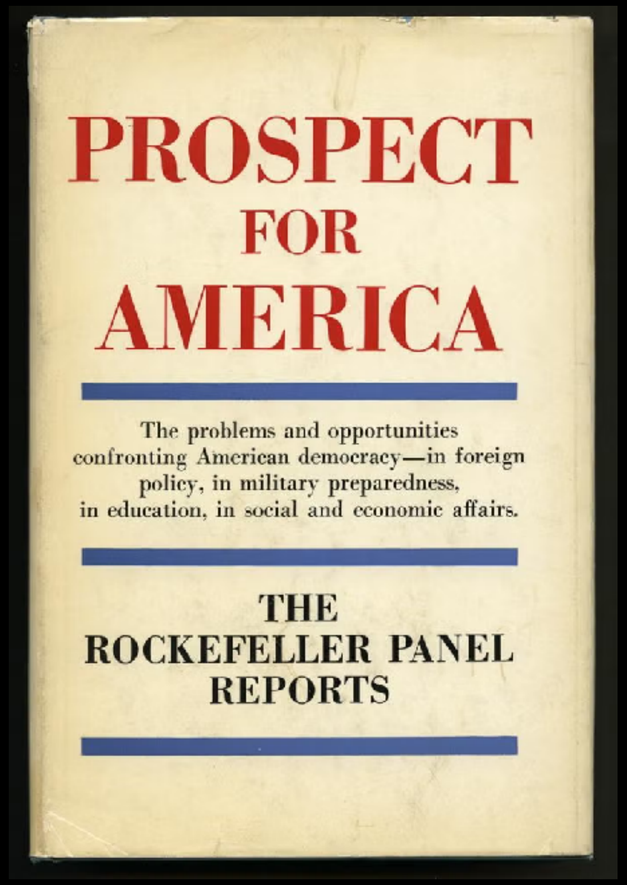
The Rockefeller Foundation
BELLAGIO CENTER



Bellagio Center, Italy

Initiation of system-wide planning on a global scale

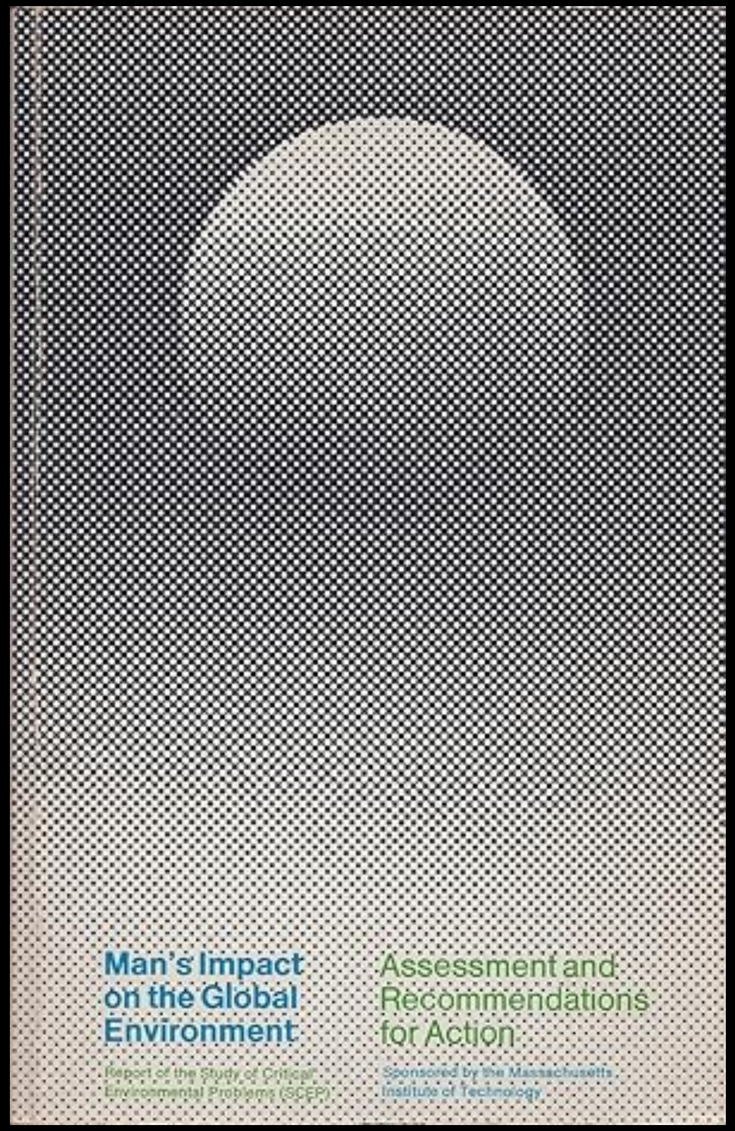
International Anchoring of Climate Science





Professor Carroll L. Wilson,
1910-1983
Panelist, Special Studies Project
Panel II

1970 – Study of Critical Environmental Problems



"Unlike many environmental problems of more immediate or local concern **global problems such as changes in climate** and in ocean and terrestrial ecosystems had not been subjected to intensive study and examination. **SCEP was developed to fill that gap.**"

Man's Impact On The Global Environment

Assessment and Recommendations for Action, MIT Press

1971 – Study of Man's Impact on the Climate

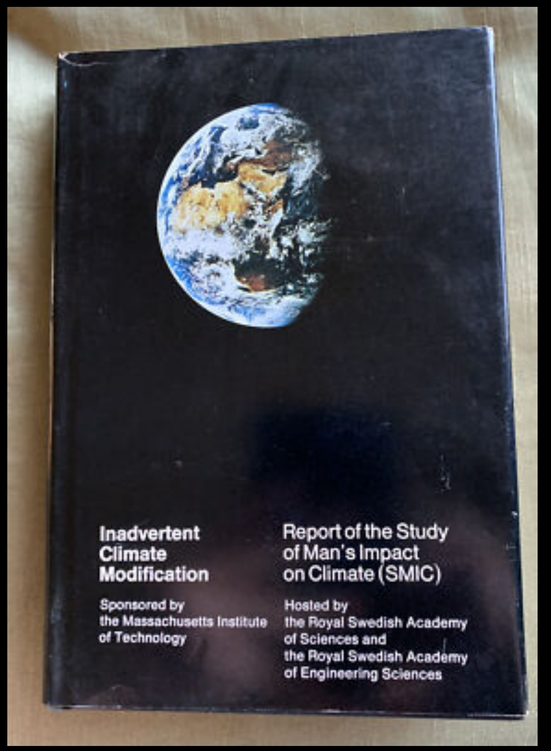


Svante Arrhenius

KUNGL. VETENSKAPS-AKADEMIEN
THE ROYAL SWEDISH ACADEMY OF SCIENCES



Wijks Castle, Uppsala, Sweden



MASSACHUSETTS INSTITUTE OF TECHNOLOGY
1861
MENS ET MANUS

1972 – The Stockholm Conference



United Nations Conference on the Human Environment



Maurice Strong
(1929-2015)
Secretary-General
Trustee, Rockefeller
Foundation 1971-77

United Nations Environment Program



Maurice Strong
Executive Director
1972-1975

UNEP
United Nations Environment Programme

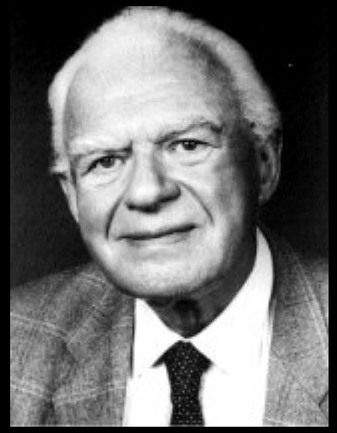


Mostafa Tolba
Executive Director
1975-1992

1973 – Aspen Climate Consultation



Aspen Institute for Humanistic Studies, founded 1949



Hermann Flohn
University of Bonn



Carroll L. Wilson
MIT



Maurice Strong



Mostafa Tolba

1973 – The Trilateral Commission



Carroll L. Wilson



Gianni Agnelli



David Rockefeller

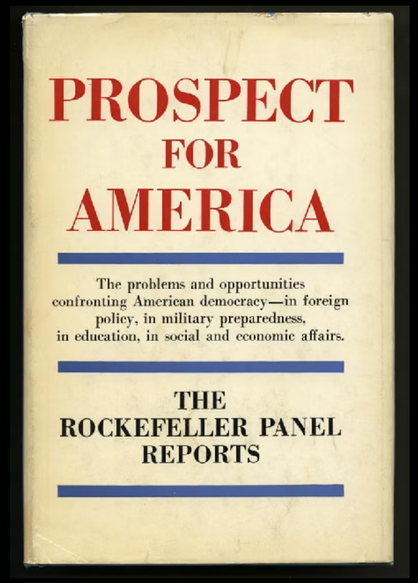


Zbigniew Brzezinski



Henry Kissinger

1974 – Kissinger Calls for Climate Reseach





US Secretary of State 1973-1977
Director of RBFs Special Studies Project 1956-1958

The United States proposes that the International Council of Scientific Unions and the World Meteorological Organization urgently investigate this problem and offer guidelines for immediate international action.

The Challenge of Interdependence

Address by U.S. Secretary of State Henry Kissinger at United Nations

New York, April 15, 1974.

Bert Bolin takes the lead



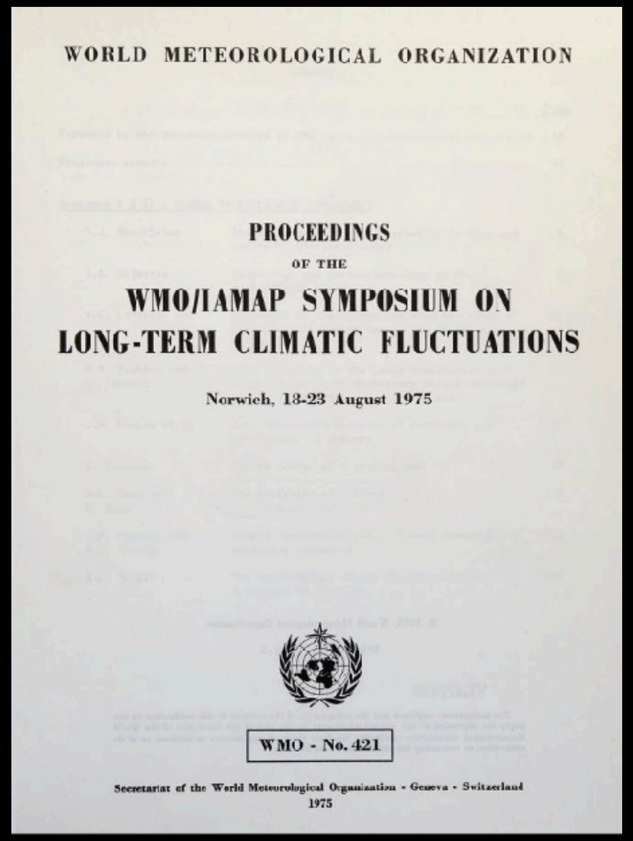
Bert Bolin

- Professor in Meteorology, Stockholm University
- Editor, Tellus Journal
- Director, European Space Research Organization
- Chair, Global Atmospheric Research Programme (GARP)
- Editor, ICSU's Scientific Committee on Problems of the Environment (SCOPE)

WMO

ICSU

1975 – CO_2 as Primary Cause of Warming



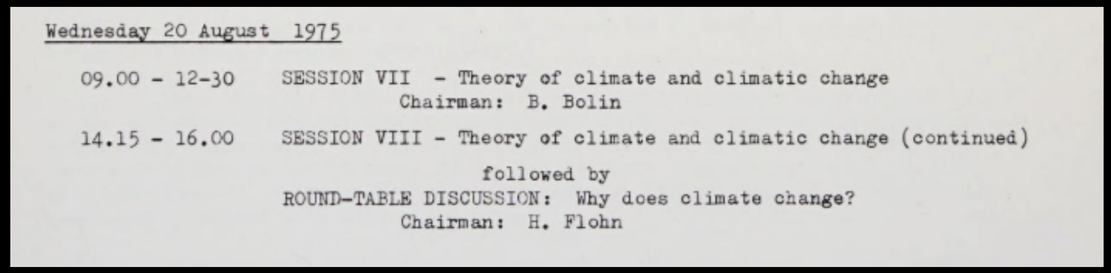
WORLD METEOROLOGICAL ORGANIZATION

PROCEEDINGS
OF THE
WMO/IAMAP SYMPOSIUM ON
LONG-TERM CLIMATIC FLUCTUATIONS

Norwich, 13-23 August 1975

WMO - No. 421

Secretariat of the World Meteorological Organization - Geneva - Switzerland
1975



Wednesday 20 August 1975

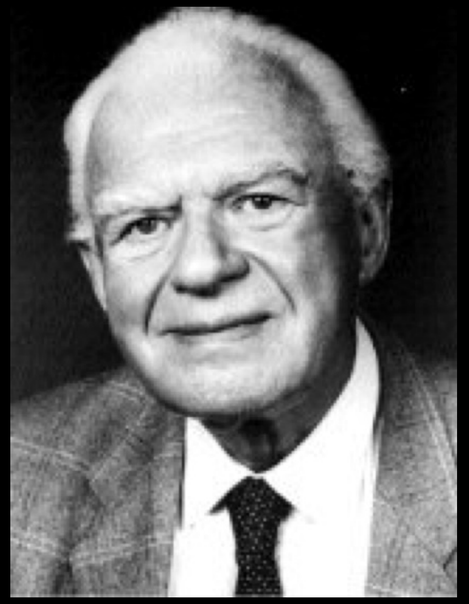
09.00 - 12-30 SESSION VII - Theory of climate and climatic change
Chairman: B. Bolin

14.15 - 16.00 SESSION VIII - Theory of climate and climatic change (continued)

followed by
ROUND-TABLE DISCUSSION: Why does climate change?
Chairman: H. Flohn



Bert Bolin
Global Atmospheric
Research Programme



Hermann Flohn
University of Bonn



Climatic Research Unit in Norwich

CLIMATIC
RESEARCH
UNIT

Skepticism



E.P. Borisenkov

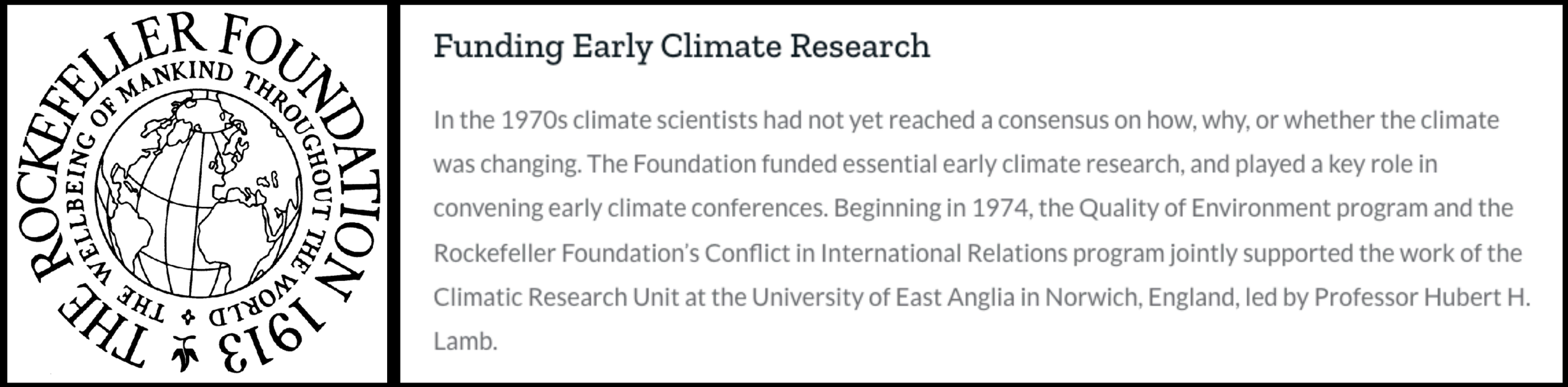
ENERGETICS ESTIMATION OF CLIMATIC TRENDS

IN THE PRESENT CENTURY

E.P. Borisenkov

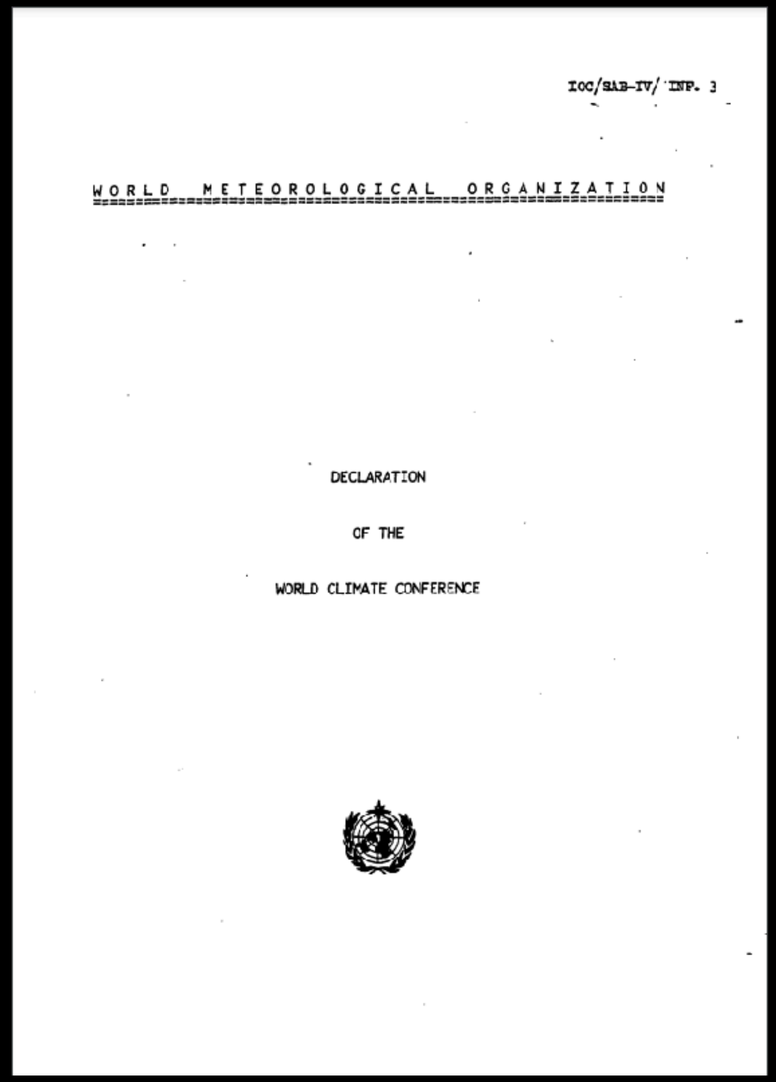
Voeikov Main Geophysical Observatory, Leningrad,
Hydrometeorological Service of the U.S.S.R.

The distinct tendency for L' to decrease at present indicates that we should not overestimate the role of increasing CO_2 concentration and the associated greenhouse effect or the role of aerosols of anthropogenic origin in changes in present climatic conditions and even less in respect of past climate changes. There is every reason to consider natural factors to be responsible for past and present climate changes, one of which is probably solar activity.



Screenshot from The Rockefeller Foundation

1979 – World Climate Conference



IOC/SAB-IV/ INF. 3

WORLD METEOROLOGICAL ORGANIZATION

DECLARATION

OF THE

WORLD CLIMATE CONFERENCE

An Appeal to Nations

The Conference finds that it is now urgently necessary for the nations of the world:

(a) to take full advantage of man's present knowledge of the climate

(b) to take steps to improve significantly that knowledge to foresee and to prevent potential man-made changes in climate that might be adverse to the well-being of humanity

1983 – RBF One World Program

RBF Institutional Milestones

THE ONE WORLD PROGRAM

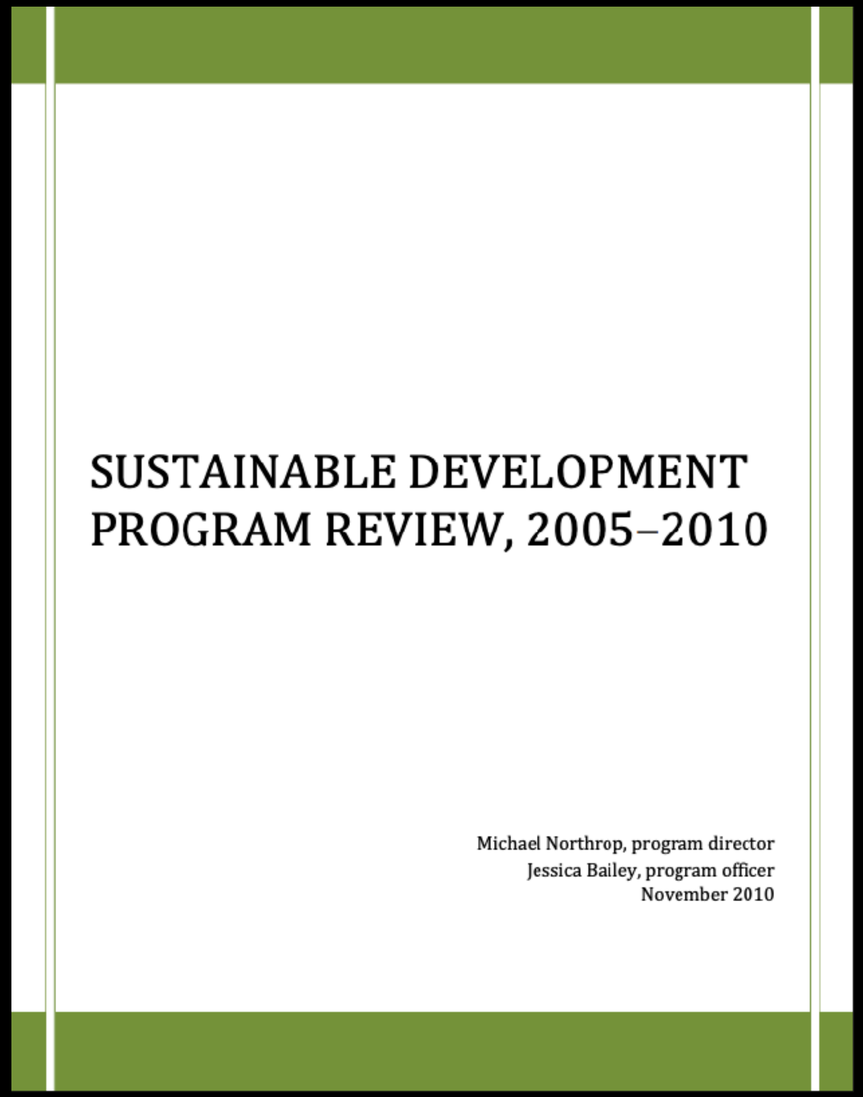
1983



'The Blue Marble,' taken in 1972 by the crew of the Apollo 17 spacecraft, inspired new thinking about global interdependence. At the RBF, it was often used to represent the Fund's One World program architecture. Photo courtesy of NASA Visible Earth.



David Rockefeller
Chairman 1980-1987
Rockefeller Brothers Fund



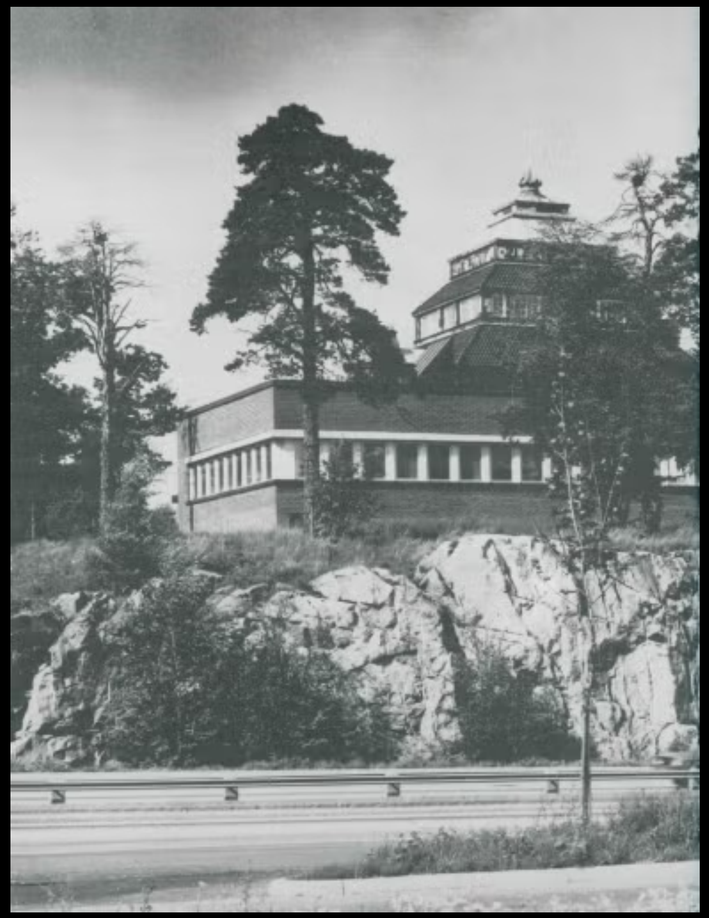
1) Distilling consensus on climate science and

2) Moving the discussion of climate change from the scientific community into the policy

Rockefeller Brothers Fund

Philanthropy for an Interdependent World

1984 – The Beijer Institute

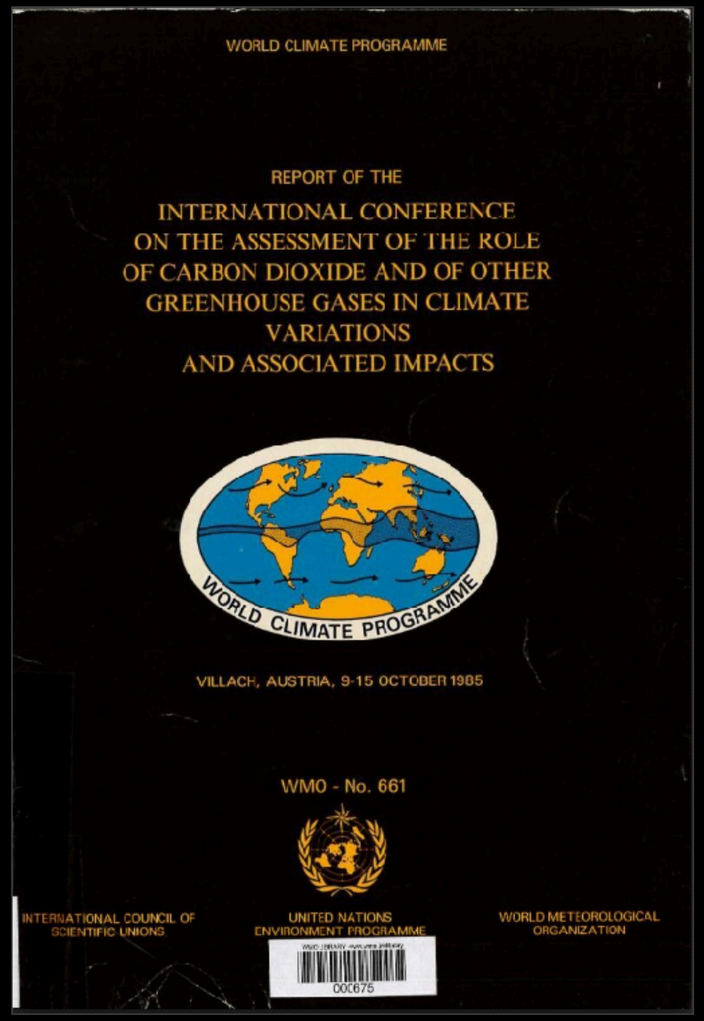


The Beijer Institute
Royal Academy of Sciences
Stockholm

"The Fund's grants to the Beijer Institute (the International Institute for Energy, Related Resources and the Human Environment) in Sweden were its first in climate change… The project aimed to stimulate broader scientific participation in global warming issues and to create a five-year action agenda of policy options."

Rockefeller Brothers Fund
Philanthropy for an Interdependent World

1985 – The Villach Conference



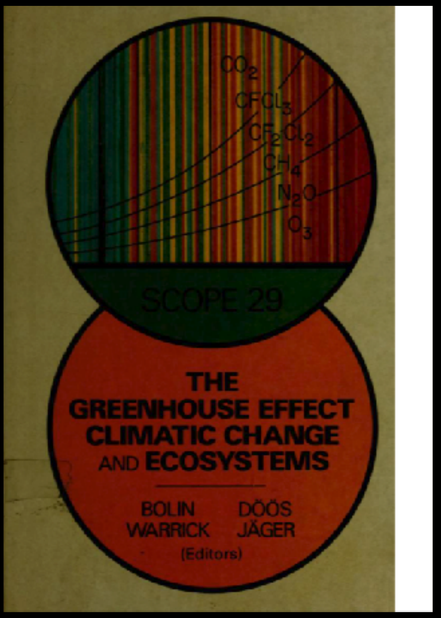
(a) Encourage the formation of a coordinating committee to promote and coordinate research relevant to the greenhouse issue,

(b) Set up mechanisms for contingency planning (Crisis Action)

(c) Begin exploring the potential for a global convention on greenhouse gases.



Bert Bolin



1986 – Advisory Group on Greenhouse Gases



Bert Bolin
Department of Meteorology, Stockhlm University



Gordon Goodman
(1926-2008)
Director, The Beijer Institute

Rockefeller Brothers Fund

THE ROCKEFELLER FOUNDATION 1913
WELLBEING OF MANKIND THROUGHOUT THE WORLD

UNEP calls for US Leadership

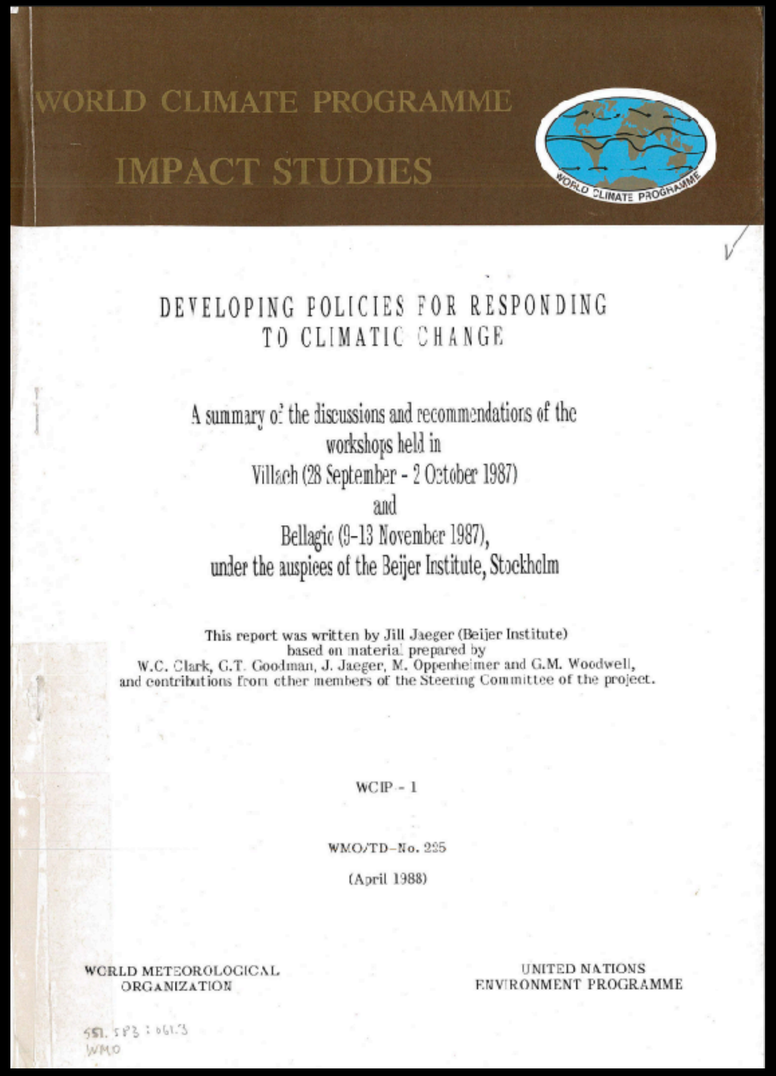


Mostafa Tolba
Executive Director
1975-1992



George Schultz
US Secretary of State
1982-1989

Climate Workshop in Bellagio



WORLD CLIMATE PROGRAMME

IMPACT STUDIES

DEVELOPING POLICIES FOR RESPONDING TO CLIMATIC CHANGE

A summary of the discussions and recommendations of the workshops held in Villach (28 September - 2 October 1987) and Bellagio (9-13 November 1987), under the auspices of the Beijer Institute, Stockholm

This report was written by Jill Jaeger (Beijer Institute) based on material prepared by W.C. Clark, G.T. Goodman, J. Jaeger, M. Oppenheimer and G.M. Woodwell, and contributions from other members of the Steering Committee of the project.

WCIP - 1

WMO/TD-No. 225

(April 1988)

WORLD METEOROLOGICAL ORGANIZATION

UNITED NATIONS ENVIRONMENT PROGRAMME

551.583 : 061.3
WMO

(ii)

The workshops were sponsored by

United Nations Environment Programme
Rockefeller Brothers Fund, U.S.A.
The German Marshall Fund of the U.S., U.S.A.
Rockefeller Foundation, U.S.A.
Ministry for Environment, Youth and Family, Austria
Energy Research Commission, Sweden
Beijer Institute, Sweden
W.Alton Jones Foundation, U.S.A.

THE ROCKEFELLER FOUNDATION

Rockefeller Brothers Fund
Philanthropy for an Interdependent World

BEIJERSTIFTELSEN



Anders Wall
Kol & Koks AB



Alton Jones
Cities Service

1987 – The Brundtland Commission



Gro Harlem Brundtland
(1939–)





Gordon Goodman
Director, The Beijer Institute

1988 – Hearing in the Senate



James Hansen (1941–)
Goddard Institute for Space Studies

This global warming can be attributed, with 99% certainty, to a man-made increase in the greenhouse effect, primarily from the burning of fossil fuels and changes in the way we use land.

Senate Hearing of James E. Hansen,

June 23, 1988

Triggering Event



Timothy Wirth (1939–)
US Senator

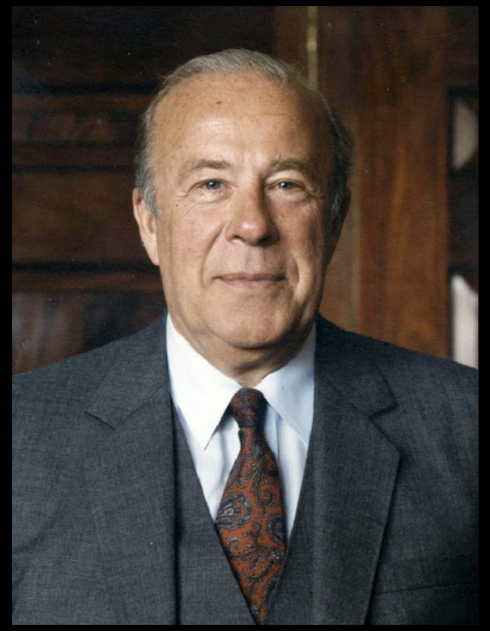
Believe it or not, we called the Weather Bureau and found out what historically was the hottest day of the summer...

What we did was [we] went in night and openened all windows, I will admit right? So that the air conditioning wasn't working inside the room.

Interview with Timothy Wirth

Jan. 17, 2007.

1988 – IPCC



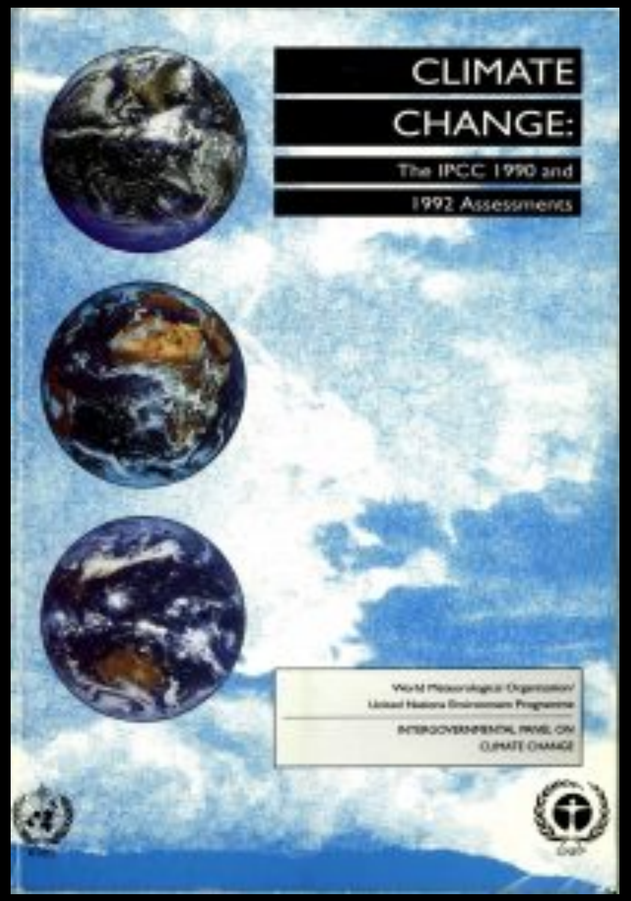
George Schultz
US Secretary of State
1982-1989

ipcc
INTERGOVERNMENTAL PANEL ON
climate change
WMO
UNEP



Bert Bolin
IPCC Chairman
1988-1997

Mission



IPCC First Assessment Report
1990

"The role of the IPCC is to assess on a comprehensive, objective, open and transparent basis the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation."

1988 – A Common Concern for Mankind



UNITED NATIONS

43/53. Protection of global climate for present and future generations of mankind

The General Assembly,

Welcoming with appreciation the initiative taken by the Government of Malta in proposing for consideration by the Assembly the item entitled "Conservation of climate as part of the common heritage of mankind",

Concerned that certain human activities could change global climate patterns, threatening present and future generations with potentially severe economic and social consequences,

Noting with concern that the emerging evidence indicates that continued growth in atmospheric concentrations of "greenhouse" gases could produce global warming with an eventual rise in sea levels, the effects of which could be disastrous for mankind if timely steps are not taken at all levels,

1989 – Stockholm Environment Institute



Gordon Goodman
Director, SEI

SEI STOCKHOLM ENVIRONMENT INSTITUTE

SWEDEN

THE ROCKEFELLER FOUNDATION 1913 – THE WELLBEING OF MANKIND THROUGHOUT THE WORLD



Maurice Strong

Rockefeller Brothers Fund



Bert Bolin
IPCC

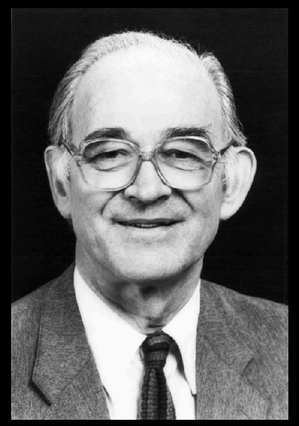
1991 – The Polestar Project



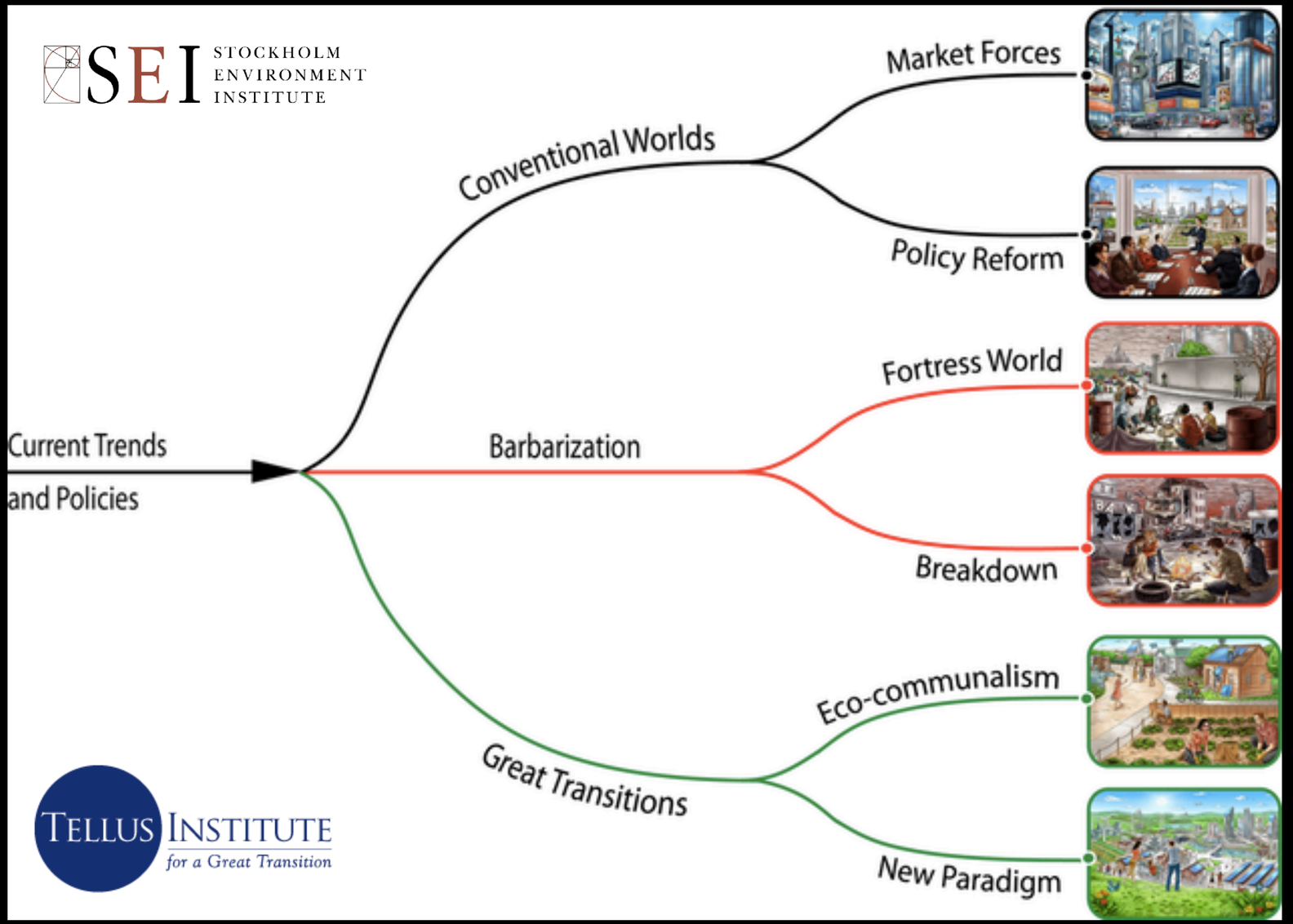
Paul Raskin (1942–)
Director



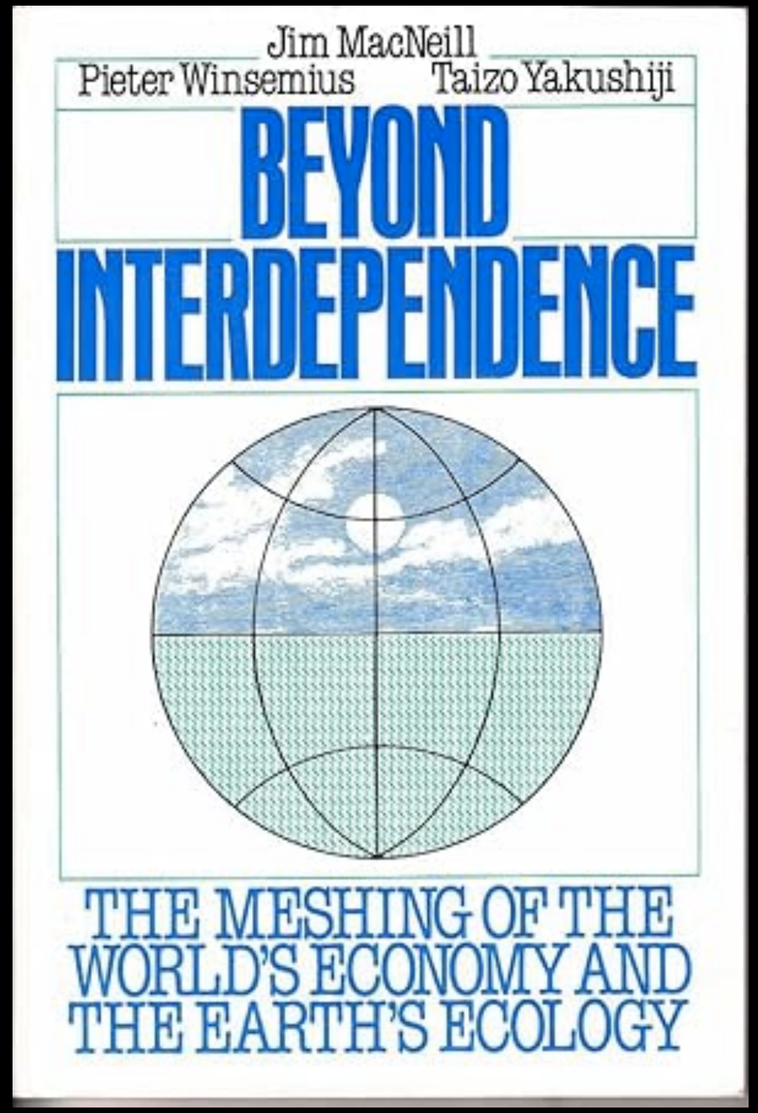
Gordon Goodman



Bert Bolin
Reviewer



1991 – Beyond Interdependence



"An effective global convention on climate change is, of course, essential.

No group of countries can expect to limit global warming on its own…

For the first time in history the nations of the world **must cooperate**. Economic and ecological **interdependence** has its imperatives."

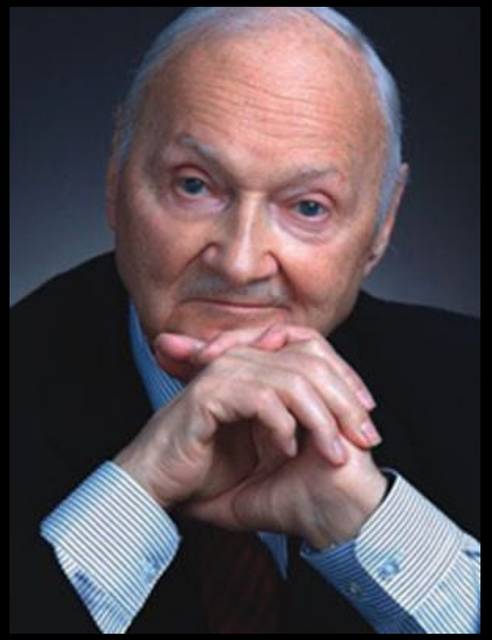
Beyond Interdependence: The Meshing of the World's Economy and the Earth's Ecology

THE TRILATERAL COMMISSION

1992 – Rio Earth Summit



Logo and slogan of the
UN Conference
on Environment and Development
1992



Maurice Strong



Agenda for the 21st Century

1992 – UNFCCC

United Nations
Climate Change

“The ultimate objective of the Convention is to stabilize greenhouse gas concentrations ‘at a level that would prevent dangerous anthropogenic (human induced) interference with the climate system’.”

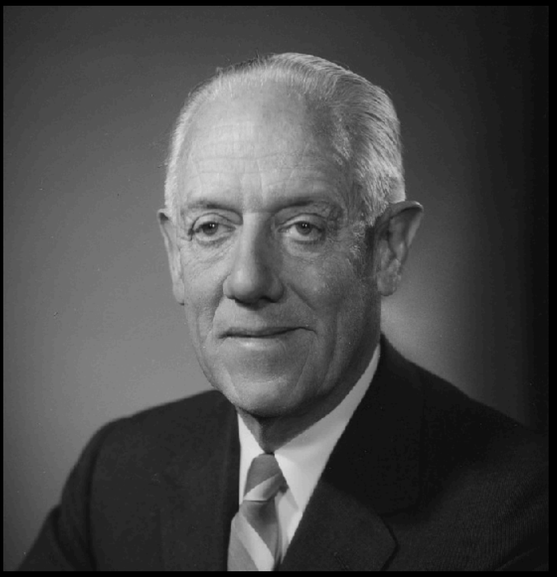
1952 – Conference on Population Problems



John D. Rockefeller III
(1906–1978)



Colonial Williamsburg, Virginia



Detlev Bronk (1897–1975)
President, National
Academy of Sciences



"A little money, some perserverance, some strategic thinking and planning coupled with a perception of the probable could get some things done on the world stage."

Thomas Wahman, Rockefeller Brothers Fund

2006 – "Science is Settled"

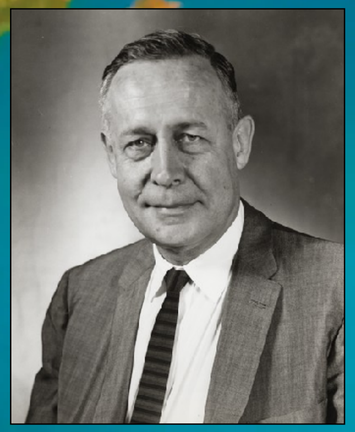


From our vantage point it is clear to us that the scientific certainty of global warming is no longer worth debating.

2006 – An Inconvenient Truth







Roger Revelle

Al Gore

2007 – The Nobel Peace Prize





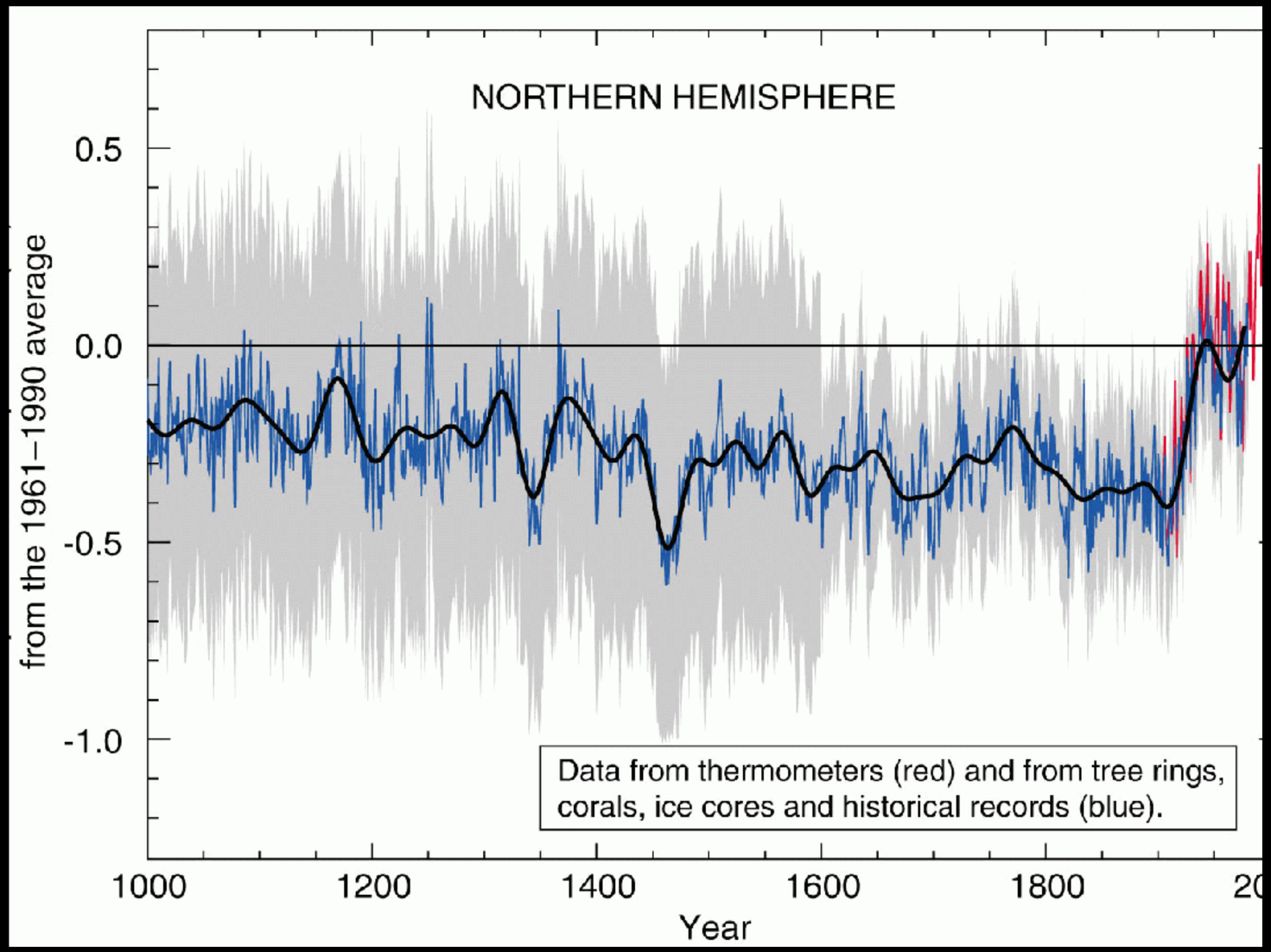
Al Gore and Rajendra Pauchauri (IPCC) receives the Nobel Peace Price in December 2007

2009 – The Climategate Scandal



Michael Mann, the creator of the hockey stick graph

CLIMATIC RESEARCH UNIT



2009 – The Copenhagen Failure



Barack Obama with the Nobel Peace Prize





Sep 2015 – Agenda 2030



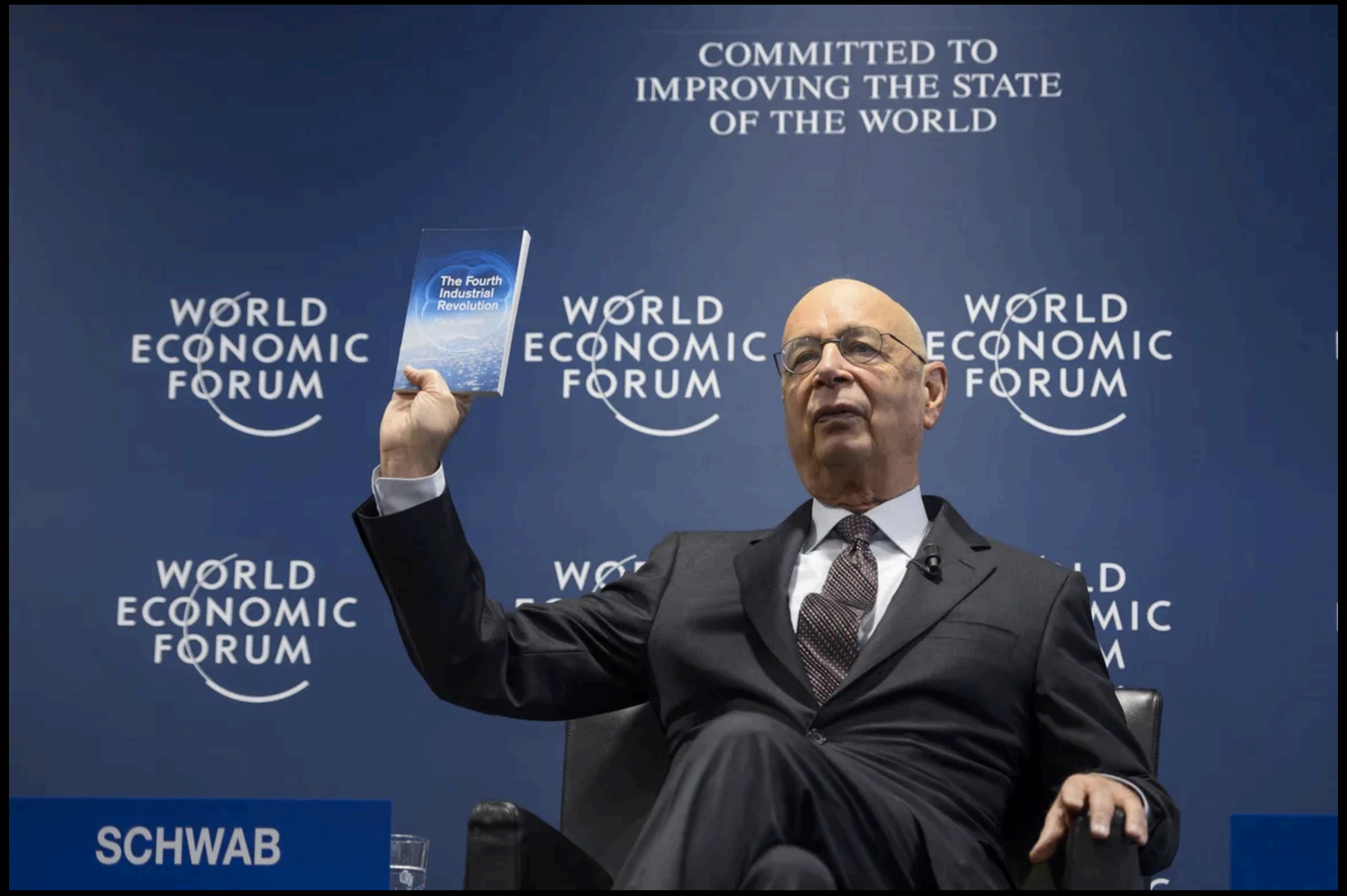
Dec 2015 – The Paris Agreement



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

Laurence Tubiana, Christiana Figueres, Ban Ki-Moon, Laurent Fabius and Francois Hollande

Jan 2016 – Fourth Industrial Revolution



Klaus Schwab, WEF founding chairman 1970–2025

13 June 2019 – The Partnership

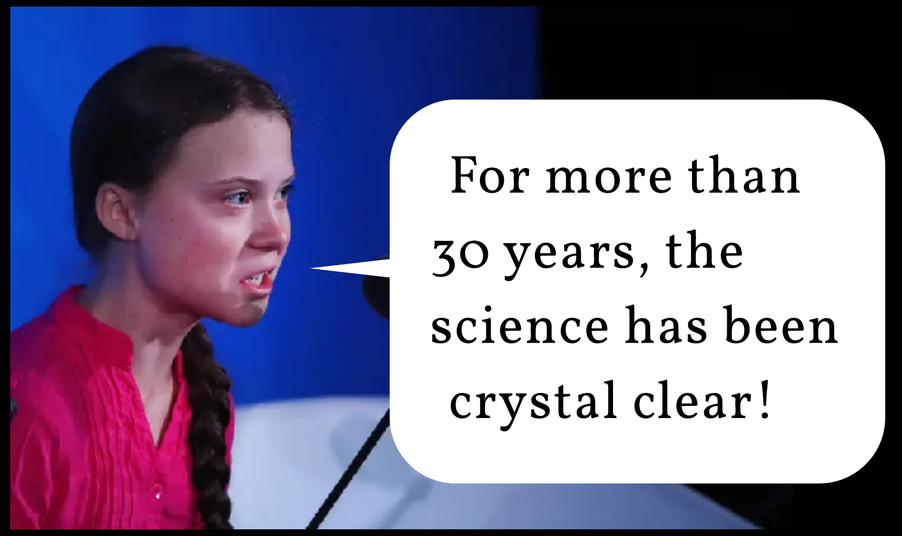


Börge Brende (WEF), Klaus Schwab (WEF),
António Guterres (UN) and Amina J. Mohammed (UN & WEF)

Unite Behind the Science: Climate Action Now!



The sailing boat Malizia in New York



Greta Thunberg at the United Nations



Greta Thunberg in Davos


TIME
NEXT GENERATION LEADERS
THE TEENAGER ON STRIKE FOR THE PLANET
GRETA THUNBERG
PLUS
9 MORE TRAILBLAZERS SHAPING OUR WORLD


DOUBLE ISSUE
DEC. 23 / DEC. 30, 2019
PERSON of the YEAR
TIME
GRETA THUNBERG
THE POWER OF YOUTH
time.com

11 March 2020 – Triggering Event



2021 – Our Common Agenda



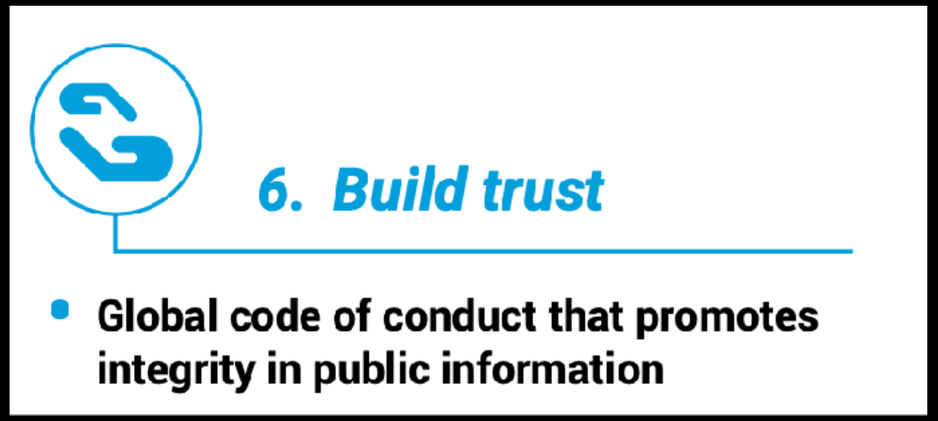
2. Protect our planet

- Commit to the 1.5-degree Celsius goal and **net zero emissions by 2050 or sooner**
- Declarations of **climate emergency** and **right to a healthy environment**

12. Be prepared

- **Emergency Platform** to be convened in response to complex global crises

“Trust the Science”



“The goal of giving equal balance to competing points of view can come at the expense of impartiality and evidence, distorting the public debate. The ability to cause large-scale disinformation and undermine scientifically established facts is an existential risk to humanity.”

2022 – "We Own the Science"



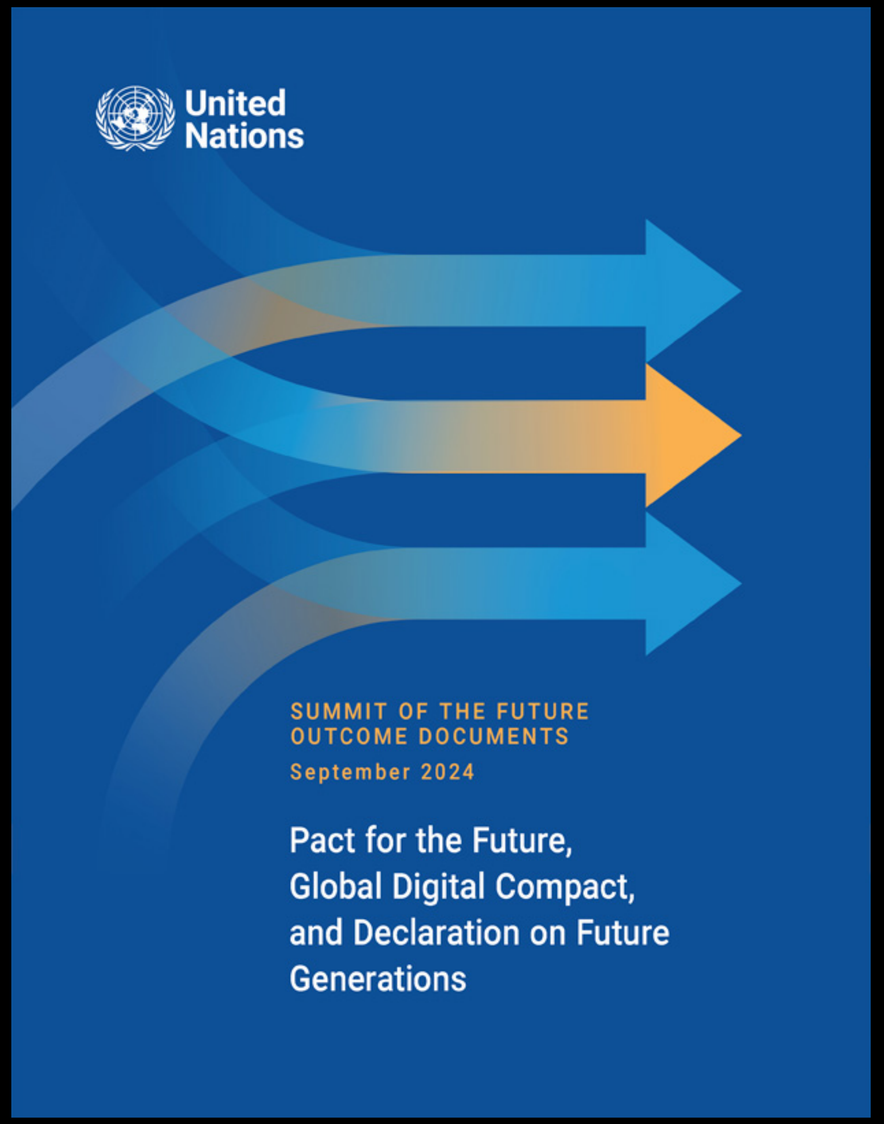
You know, we own the science and we think that the world should know it...

Melissa Flemming at a World Economic Forum
Sustainable Development Impact Meeting, September 20, 2022



Google teams up with UN for verified climate information

2024 – Pact for the Future

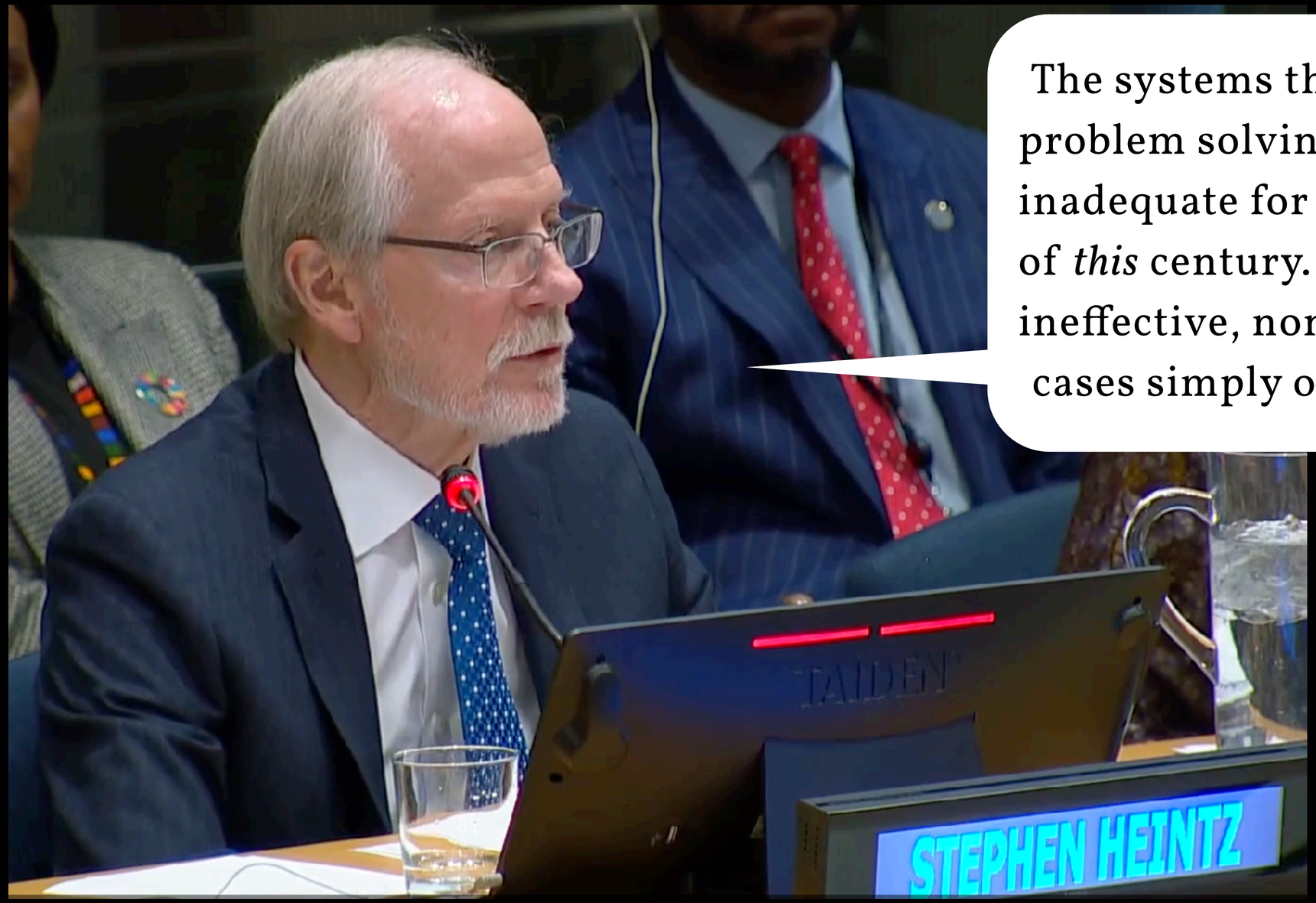


2025 – Pact for the Future follow-up



Stephen Heintz from Rockefeller Brothers Fund with UN leaders Amina J. Mohammed and António Guterres

2025 – Pact for the Future follow-up

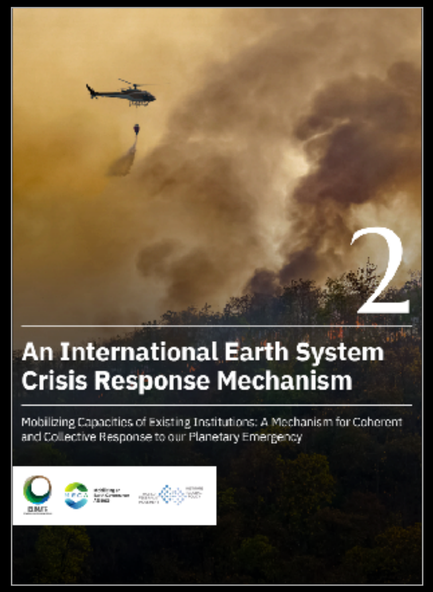


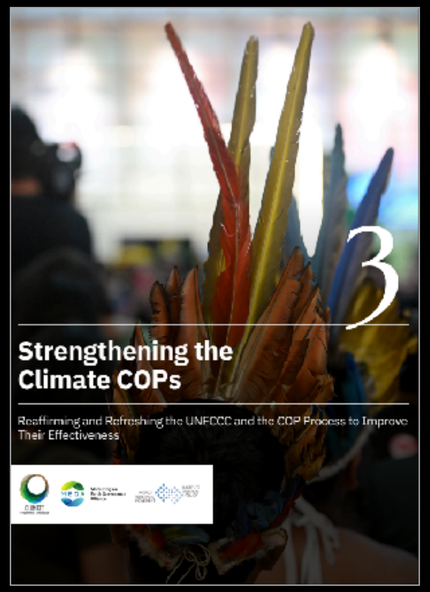
The systems that have guided global problem solving since 1945 are clearly inadequate for addressing the challenges of *this* century. They are inefficient, ineffective, non-adaptive, and in some cases simply obsolete…

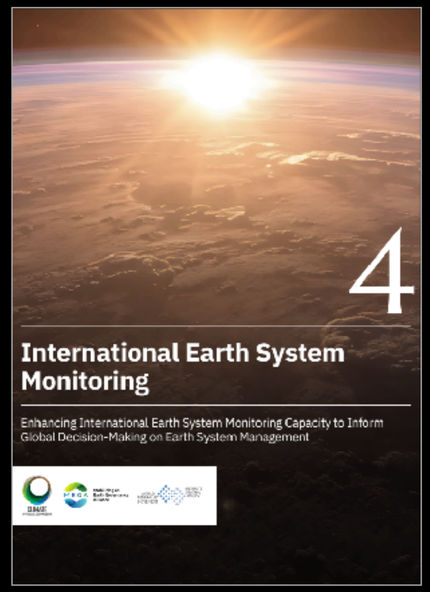
Rockefeller Brothers Fund

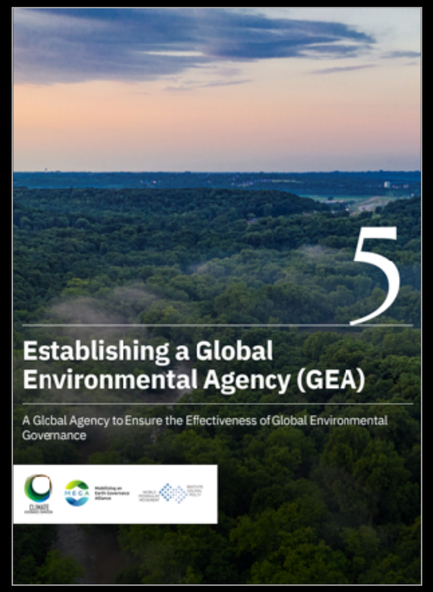
2026 – Climate Governance Commission

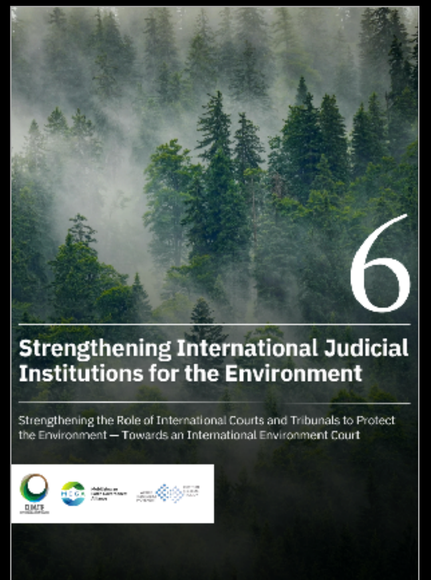


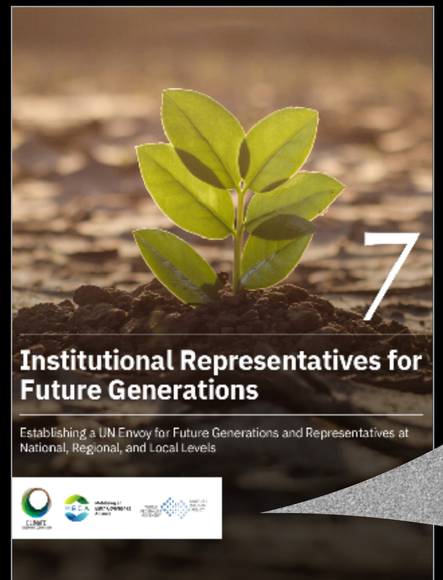












The Rockefeller Foundation



CLIMATE GOVERNANCE COMMISSION

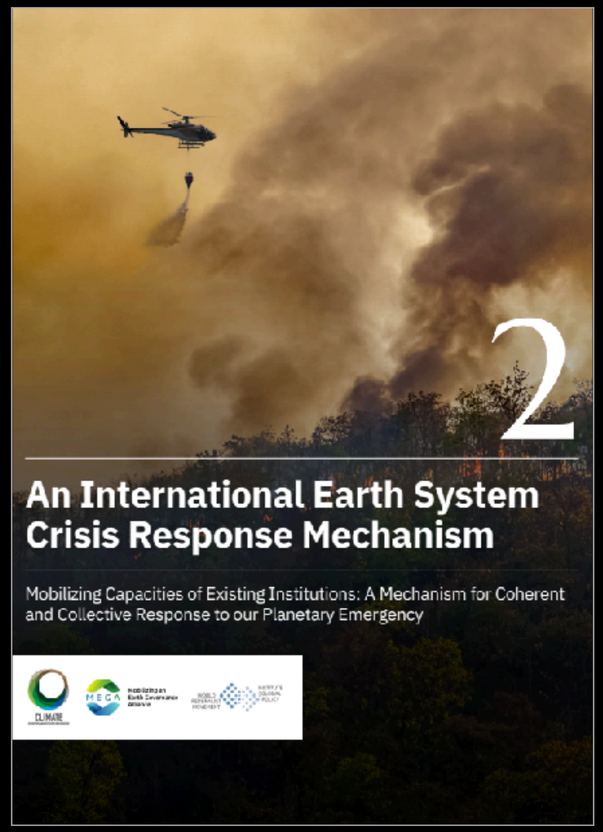
MEGA Mobilizing an Earth Governance Alliance

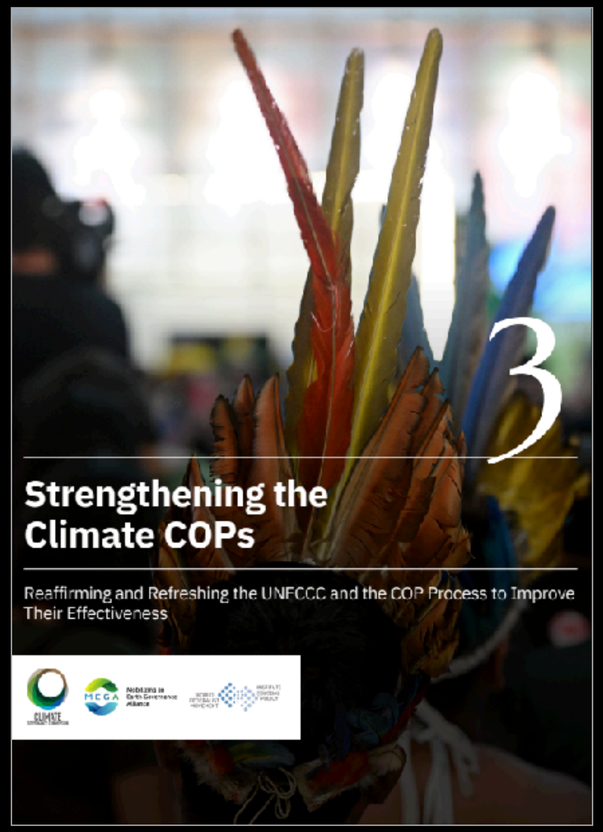
WORLD FEDERALIST MOVEMENT

INSTITUTE FOR GLOBAL POLICY

Earth System Monitoring









Planetary Commons Governance



Practically, this could be accomplished by repurposing the all-but-defunct **United Nations Trusteeship Council** that could exercise an **overarching stewardship** role for the **planetary commons.**



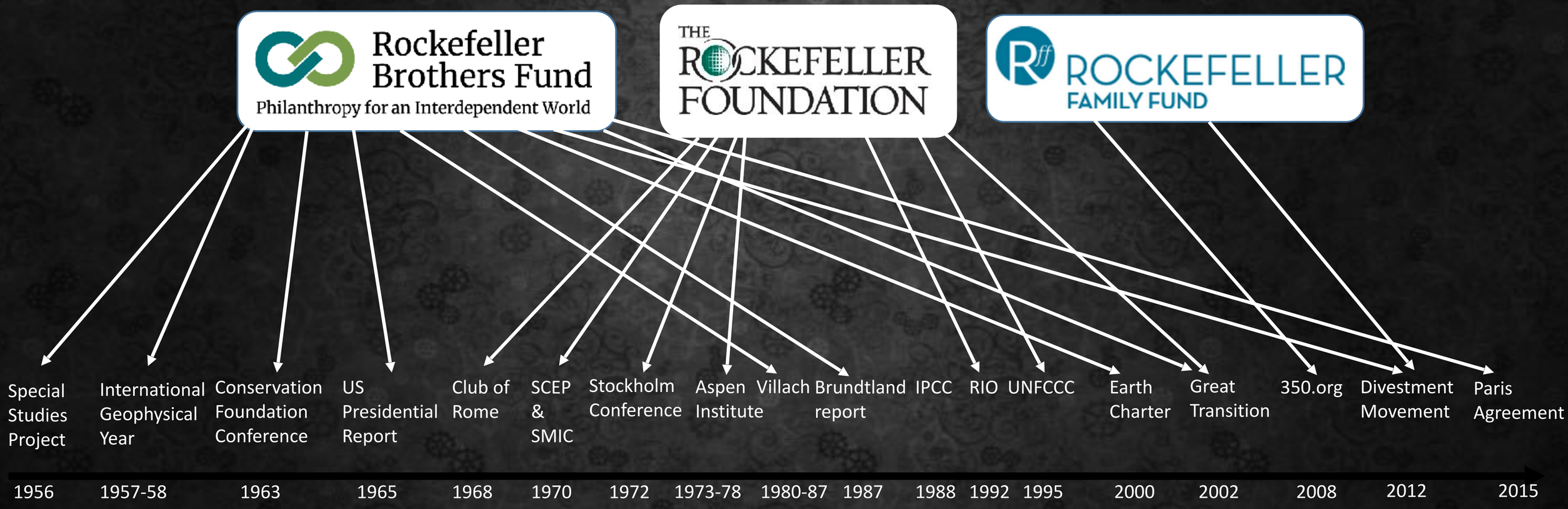
The UN Trusteeship Council

Johan Rockström,
co-director of the Potsdam Institute for Climate Impact Research and co-chair of the Climate Governance Commission



"Universities have a special role in addressing climate challenges, in particular through their core missions of generating new knowledge via research, imparting knowledge via education, and interacting with the wider community."

Astrid Söderbergh Widding
president of Stockholm University 2013-2025
trustee of Stockholm Environment Institute
chair of The Nobel Foundation



"The RBF organized and funded some of the earliest meetings of advocates addressing climate change."

RBF Sustainable Development Program Review

stiftelsen-pharos.org



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