



GLOBALIZATION

c.1900 to the present



GEOGRAPHY

GLOBALIZATION c.1900 to the present



TECH EXCHANGES

RADIO 1896

INTERNET 1990

FLIGHT 1903

CELL 1973

SHIPPING CONTAINERS

NUCLEAR

GREEN REV.

OIL

POVERTY DISEASES:

MALARIA TUBERCULOSIS CHOLERA

NEW EPIDEMICS:

SPANISH FLU EBOLA HIV/AIDS

LONGEVITY DISEASES:

HEART DISEASE ALZHEIMER'S

ENVIRONMENT

DEFORESTATION DESERTIFICATION

TEMPERATURE CHANGE

SEA-LEVEL RISE

GLOBAL ECONOMIES

FREE MARKET POLICIES

KNOWLEDGE ECONOMIES:

MANUFACTURING ECONOMIES:

ECONOMIC INSTITUTIONS:

WTO NAFTA ASEAN

MULTI-NATIONAL CORPORATIONS:

NESTLE NISSAN MAHINDRA

CALLS FOR REPAIR

NEGRITUDE

UNIVERSAL DECLARATION HUMAN RIGHTS

GREEN BELT MOVEMENT

VOTES FOR WOMEN

ABOLISH APARTHEID

CIVIL RIGHTS ACT '64

MUSIC: REGGAE

MOVIES: BOLLYWOOD

SOCIAL MEDIA: facebook twitter

TV: BBC

COMMERCE: ebay Alibaba

GLOBAL BRANDS: TOYOTA Coca-Cola

LOCAL SOCIAL MEDIA: WEIBO

ANTI-IMF & ANTI-WTO TEND TO FOLLOW THE MEETINGS OF THESE ORGANIZATIONS IN YEARLY MEETINGS.

GLOBAL INSTITUTIONS

United Nations

193 NATIONS ARE IN THE UNITED NATIONS THAT'S ALL OF EARTH MINUS VATICAN CITY.

THE WORLD

THE WORLD

CONTEMPORARY (1900 CE- PRESENT)

ACCELERATING GLOBAL CHANGE & REALIGNMENTS



MIDDLE EAST	1900 CE FIRST OIL RIG PERSIA, 1908	1914 OTTOMAN EMPIRE ARMENIAN GENOCIDE 1914-1923	1930 LEAGUE OF NATIONS MANDATES REPUBLIC OF TURKEY	1945 EGYPT	1960	1975 USSR USSR AFGHAN	1989 ISLAMIC REPUBLIC OF IRAN AL QAEDA FOUNDED	TODAY
EAST ASIA	QING	1911 REPUBLIC OF CHINA	1949 CHINESE CIVIL WAR	1945 HIROSHIMA 8/45 NAGASAKI 8/45	1949 PEOPLE'S REPUBLIC OF CHINA	1966 GREAT LEAP FORWARD	1978 CULTURAL REVOLUTION	1979-2015 DENG XIAOPING ONE CHILD POLICY TIANANMEN SQUARE
EUROPE	RUSSO-JAPANESE WAR	1914-1918 ATOMIC MODEL WAR	1933 NAZI GERMANY	1941-1945 HOLOCAUST	1945 PEARL HARBOR '41	1945 KOREAN WAR	1955 PERESTROIKA	1991 USSR
AFRICA	1912 ANC	1912 6/28/14	1936 LEAGUE OF NATIONS MANDATES MUSSOLINI ANNEXES ETHIOPIA	1945 RUSSIAN REVOLUTION	1945 NATO	1945 BERLIN WALL '61	1974 LUCY FOUND	1994 RWANDA GENOCIDE EBOLA ALERT
SOUTH ASIA	MUSLIM LEAGUE FORMS IN 1906	1913 BOLLYWOOD BALPUTS FIGHT FOR BRITAIN	1930 SALT MARCH	1936 NEPALESE GURKHA RIFLES FIGHT FOR BRITAIN	1947 INDIA MEHRU INDEPENDENCE	1974 GREEN REVOLUTION	1974 IDI AMIN UGANDA '71-79	1991 APARTHEID ENDS
LATIN AMER.	CUBA MACHU PICCHU FOUND 1911	PANAMA CANAL	1917 ZIMMERMAN TELEGRAM	1917 FIRST WORLD CUP URUGUAY	1953-59 CUBAN REVOLUTION	1973-1990 PINOCHET IN CHILE	MERCOSUR	
NRTH AMER.	1 st FLIGHT 1903 MODEL T 1908	REVOLUCIÓN MEXICANA	1929 STOCK MARKET CRASH	1941 PEARL HARBOR '41	1952 CUBAN MISSILE CRISIS '63	1963 MLK	1969 STAR WARS	9.11.01
OCEANIA	ANZAC	ANZAC	ANZAC	ANZAC	1952 BIRINI	GREENPEACE	GREENPEACE	
S. E. ASIA	LEAGUE OF NATIONS MANDATES	VIETNAM WAR	1945 PHILIPPINES INDEPENDENCE	1945 INDONESIAN INDEPENDENCE	1965 ASEAN	1975 KHMER ROUGE		

POPULATION IN BILLIONS

2 3 4 5 6 7

FREEMAN-PEDIA

TECH. ADVANCES & EXCHANGES

GLOBALIZATION
c. 1900 to the present



c. 1900-NOW



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Human adaptation and innovation have resulted in increased efficiency, comfort, and security, and technological advances have shaped human development and interactions with both intended and unintended consequences.

HISTORICAL DEVELOPMENTS

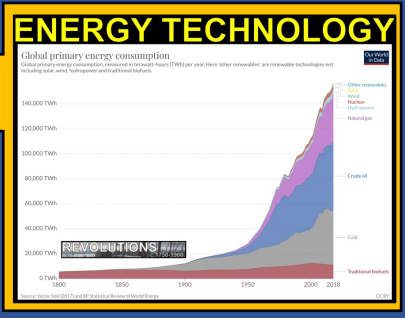
KC-6.1.I.A

New modes of communication—including radio communication, cellular communication, and the internet—as well as transportation, including air travel and shipping containers, reduced the problem of geographic distance.



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Energy technologies, including the use of petroleum and nuclear power, raised productivity and increased the production of material goods.



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More effective forms of birth control gave women greater control over fertility, transformed reproductive practices, and contributed to declining rates of fertility in much of the world.



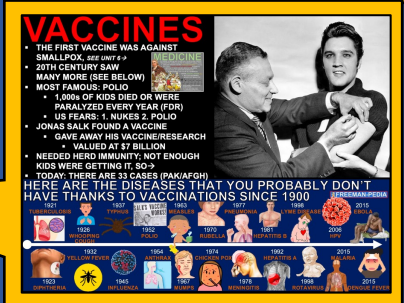
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The Green Revolution and commercial agriculture increased productivity and sustained the earth's growing population as it spread chemically and genetically modified forms of agriculture.



KC-6.1.I.C

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TECH. ADVANCES & EXCHANGES

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c. 1900-NOW

NEW MODES OF COMMUNICATION & TRANSPORTATION:



RADIO

IN 1896, MARCONI PATENTED THE FIRST 'WIRELESS TELEGRAPHY'. 1ST USES WERE MARITIME (TITANIC) BUT RADIO CAME INTO ITS OWN DURING WWI.



TELEPHONE

IN 1876, BELL SENT THE 1ST MESSAGE OF CLEAR SPEECH. TELEPHONES WERE THE 1ST WAY PEOPLE COULD SPEAK TO ONE ANOTHER ACROSS LONG DISTANCES.



CELLULAR

IN 1973, MITCHELL & COOPER (MOTOROLA) MADE THE 1ST CELL PHONE (4 LBS). INITIALLY USING RADIO NETWORKS, NOW WE USE CELL TOWERS/TRANCEIV



INTERNET

IN THE LATE 70s, ARPANET (USED TO LINK SCIENCE RESEARCH) WAS DEVELOPED TO TRANSFER INFO. BY LATE 1980s, ISPs EMERGED FOR PUBLIC USE.



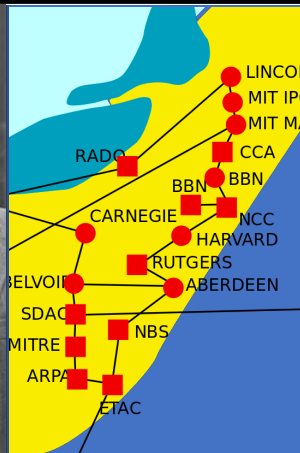
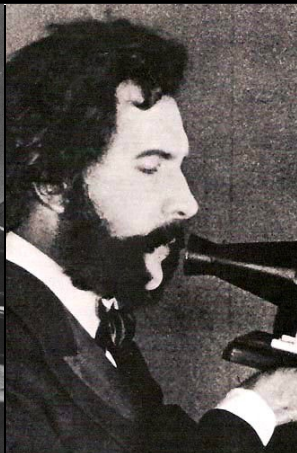
AUTOMOBILE

IN 1885, KARL BENZ BUILT THE 1ST CAR (MOTORWAGON). BY 1924, HENRY FORD IS PRODUCING A NEW MODEL T EVERY 24 SECONDS...
[FREEMAN-PEDIA](#)



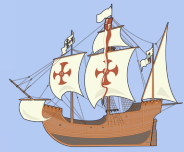
AIRPLANE

IN 1903, THE WRIGHT BROS. FLEW IN THE OBX, NORTH CAROLINA. JET TECHNOLOGY TOOK OFF IN THE 1940s LEADING TO COMMERCIAL FLIGHT.

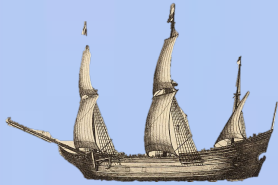


SHIPPING CONTAINERS

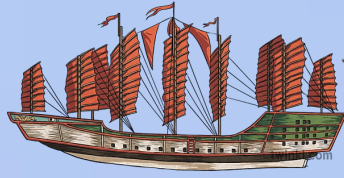
TONNAGE OF HISTORICAL SHIPS:



SANTA MARIA: 108



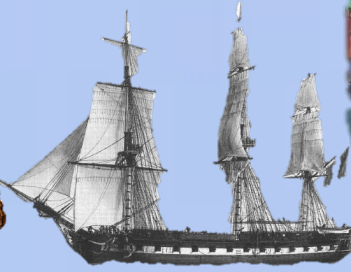
DUTCH FLUYT: 200



ZHENGHE: 500



GALLEON: 600



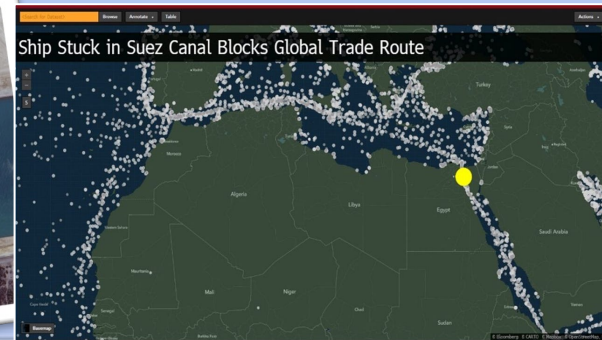
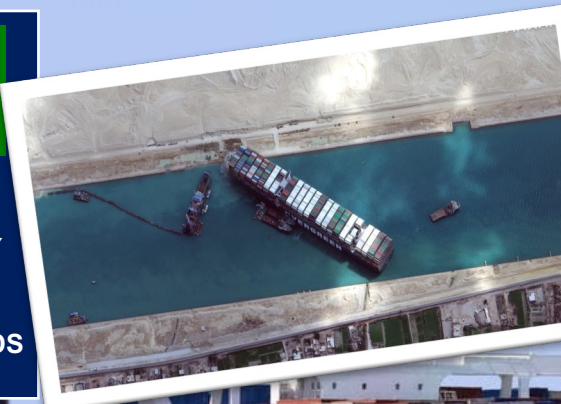
FRIGATE: 1,100



EVER GIVEN: 219,076

EVER GIVEN

- 14TH LARGEST SHIP ON EARTH
- JAPANESE SHIP
- CHARTERED BY TAIWANESE SHIPPING COMPANY
- REGISTERED IN PANAMA
- OPERATED BY GERMAN SHIPPING COMPANY
- 3/23/21: GOING FROM MALAYSIA TO NETHERLANDS
 - RAN AGROUND IN THE SUEZ CANAL →



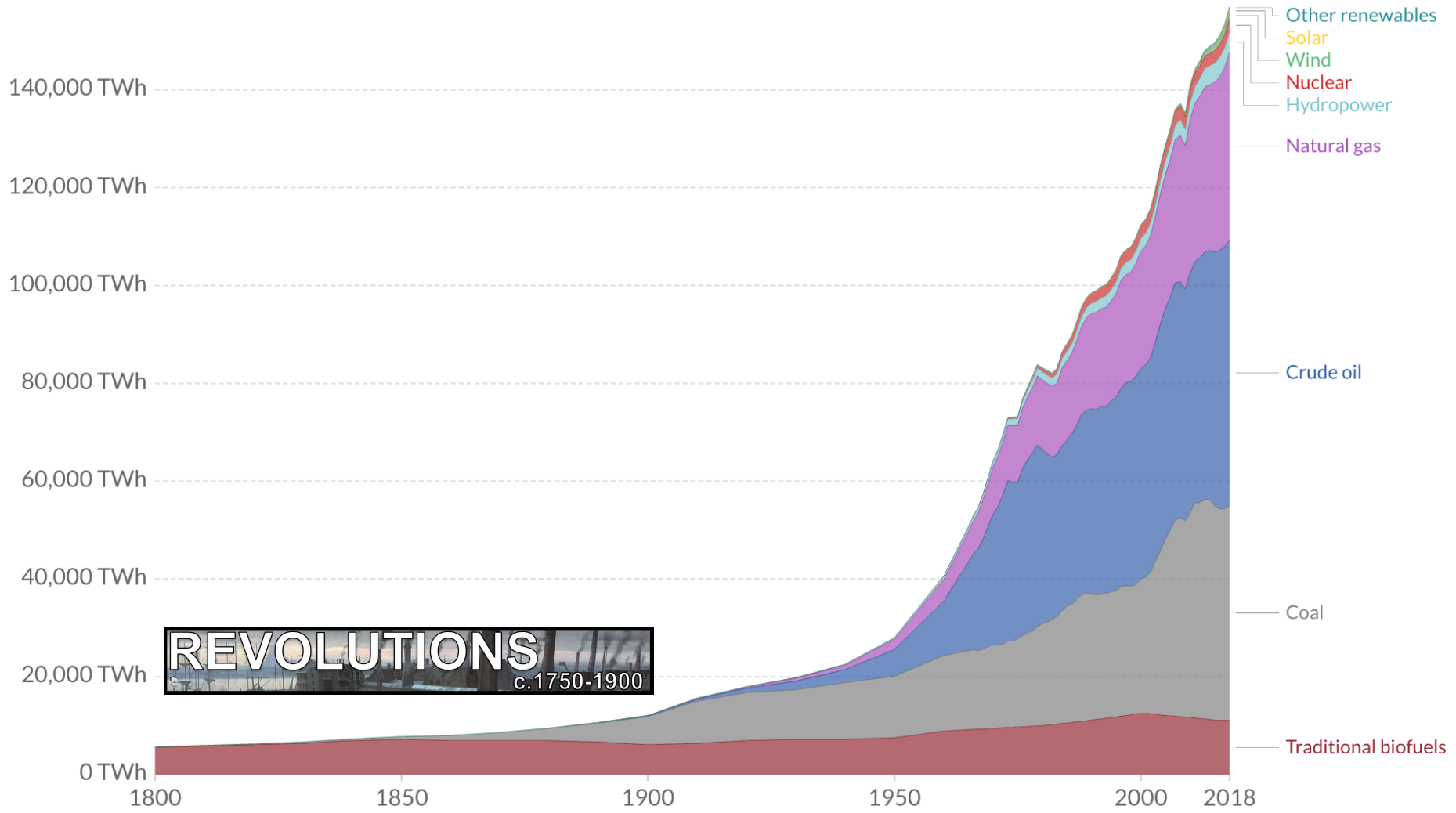
- 90% OF NON-BULK CARGO IS TRANSPORTED BY CONTAINER
- 21 MILLION SHIPPING CONTAINERS WORLDWIDE
- ACCOUNT FOR 60% OF ALL SEABORNE TRADE

ENERGY TECHNOLOGY

Global primary energy consumption

Global primary energy consumption, measured in terawatt-hours (TWh) per year. Here 'other renewables' are renewable technologies not including solar, wind, hydropower and traditional biofuels.

Our World
in Data



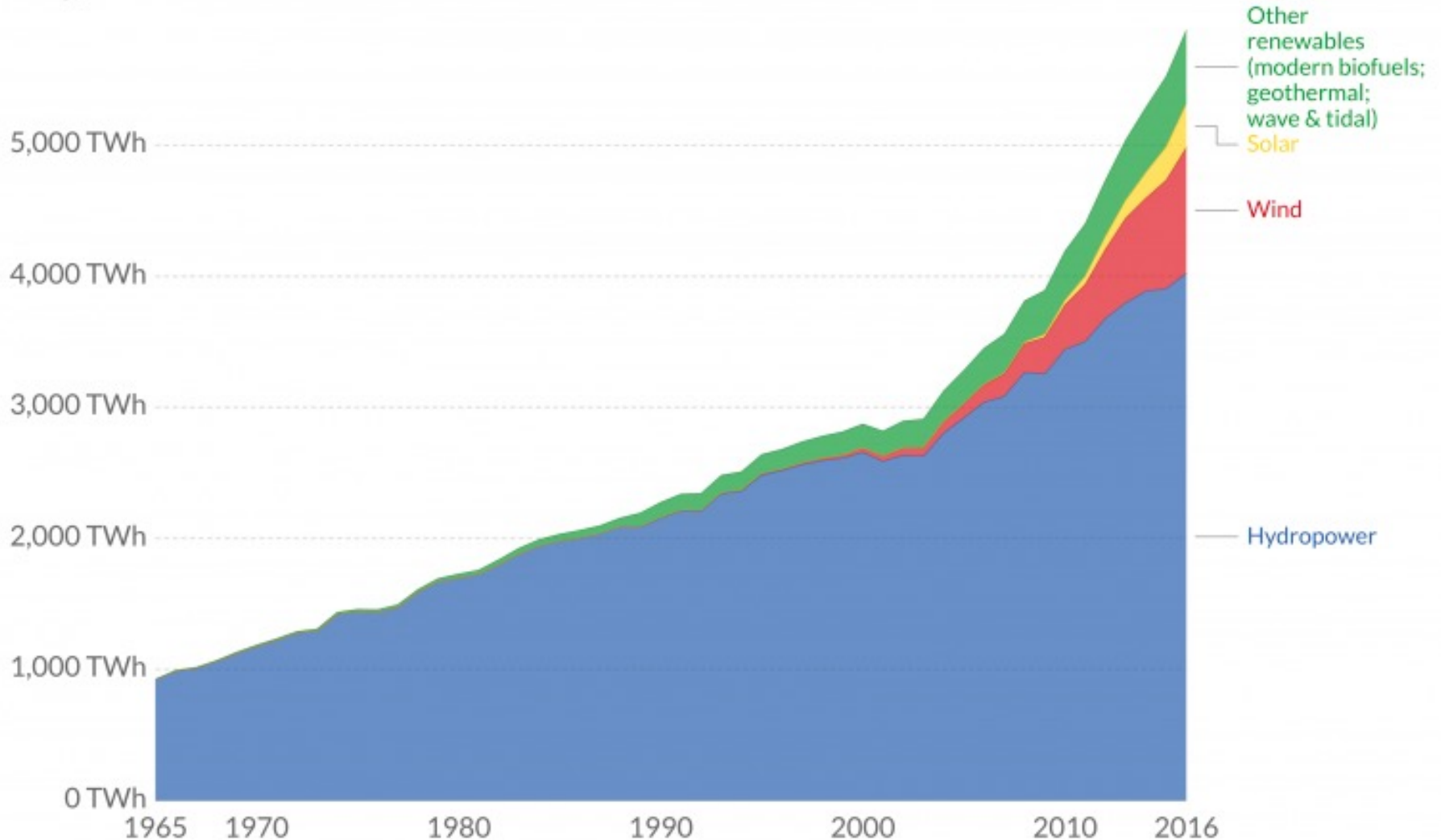
Source: Vaclav Smil (2017) and BP Statistical Review of World Energy

ENERGY TECHNOLOGY

Modern renewable energy consumption, World

Total renewable energy consumption, measured in terawatt-hours (TWh) per year. This data includes all renewable energy sources with the exclusion of traditional biomass.

Our World
in Data

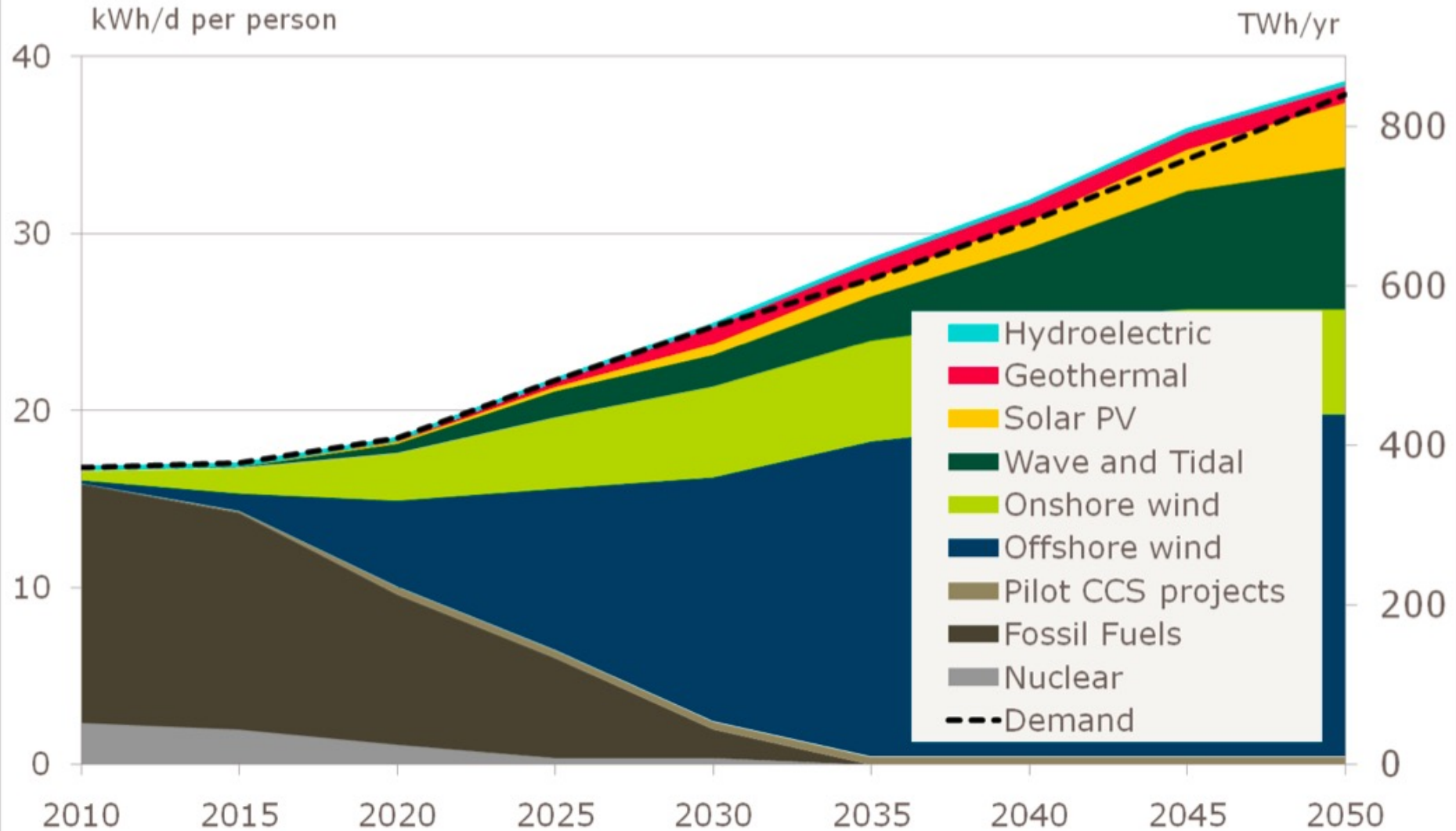


Source: BP Statistical Review of Global Energy

CC BY

ENERGY TECHNOLOGY

Good Energy Pathway to 100% 2050



Source: Good Energy calculations using DECC 2050 pathway analysis calculator (October 2010)

POPULATION GROWTH BECAME A SOCIAL ISSUE IN THE 20TH CENTURY WITH MANY REFORMERS & SCIENTISTS TAKING UP THE CAUSE:

BIRTH CONTROL

- UNITED STATES OUTLAWED CONTRACEPTION IN 1873
- ENTER: MARGARET SANGER (1879-1966)→
 - NURSE WHO WORKED WITH THE POOR IN NYC
 - SAW HOW LACK OF KNOWLEDGE OF CONTRACEPTION LED TO SELF INDUCED ABORTIONS, AND FREQUENT CHILDBIRTH

BIRTH CONTROL REVIEW

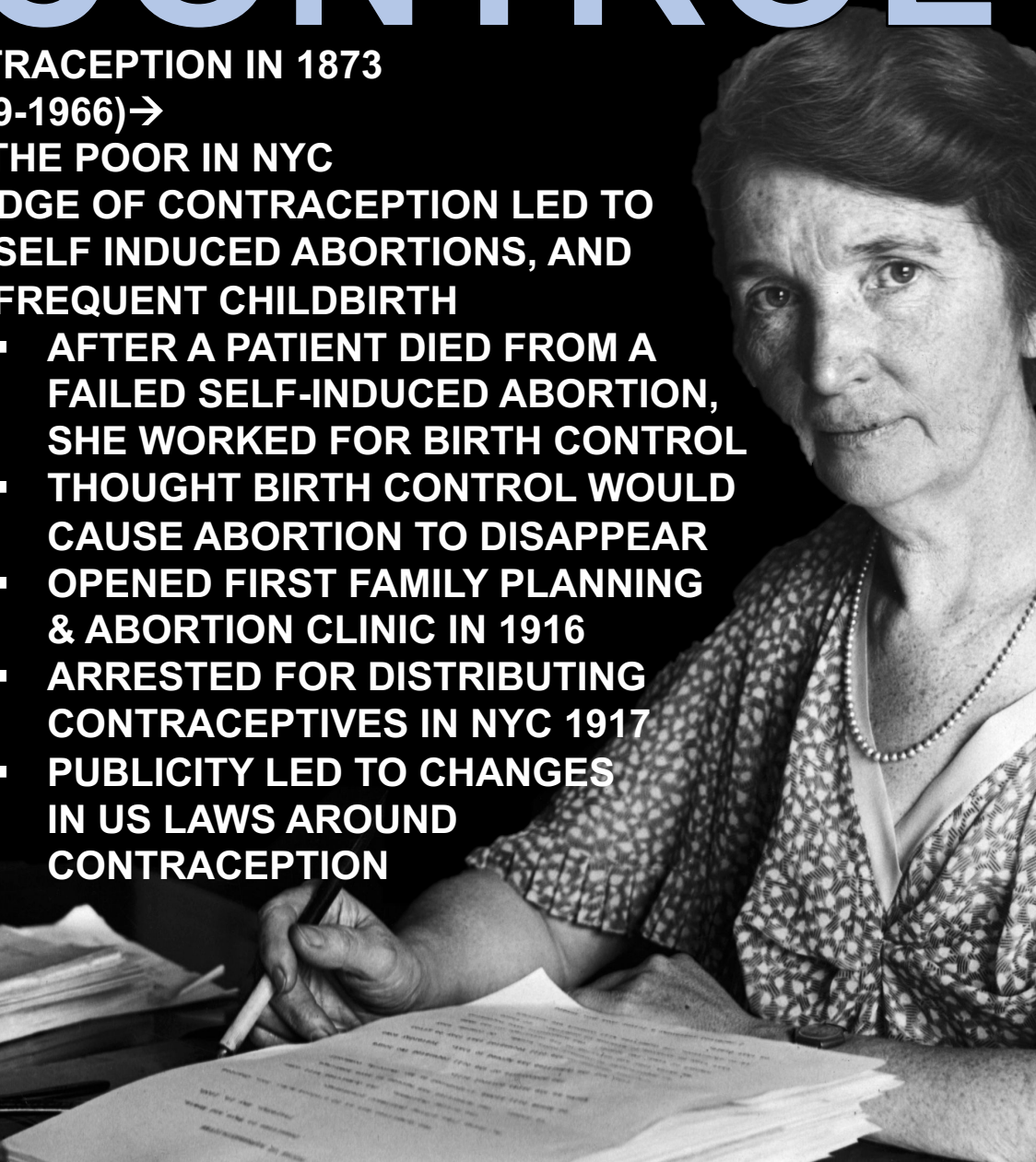
Edited by Margaret Sanger

TWENTY CENTS A COPY NOVEMBER, 1923 TWO DOLLARS A YEAR



Official Organ of
THE AMERICAN BIRTH CONTROL LEAGUE, INC., 104 FIFTH AVENUE, NEW YORK CITY

- AFTER A PATIENT DIED FROM A FAILED SELF-INDUCED ABORTION, SHE WORKED FOR BIRTH CONTROL
- THOUGHT BIRTH CONTROL WOULD CAUSE ABORTION TO DISAPPEAR
- OPENED FIRST FAMILY PLANNING & ABORTION CLINIC IN 1916
- ARRESTED FOR DISTRIBUTING CONTRACEPTIVES IN NYC 1917
- PUBLICITY LED TO CHANGES IN US LAWS AROUND CONTRACEPTION



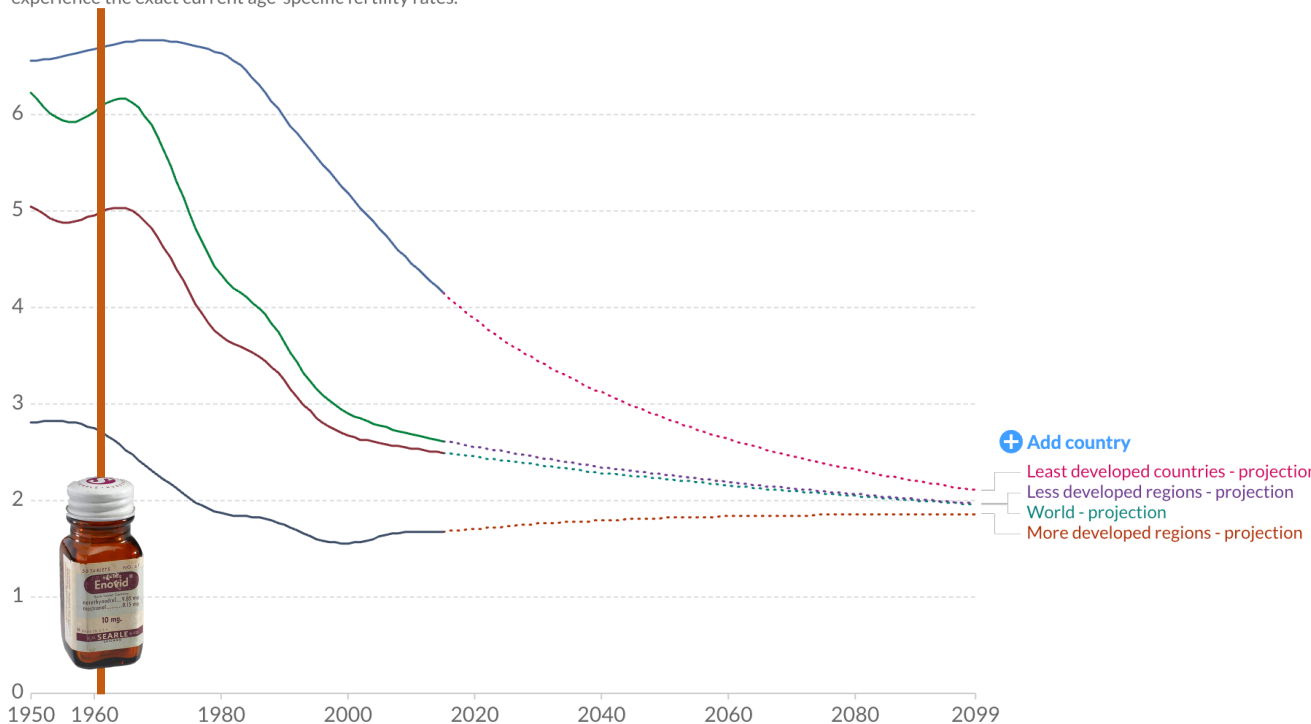
BIRTH CONTROL

- DR. GREGORY PINCUS STUDIED HORMONES IN MAMMALS
- MET MARGARET SANGER AT A DINNER IN 1951
 - OBTAINED A GRANT TO STUDY CONTRACEPTIVES
 - FOUND HORMONE PROGESTERONE INHIBITED OVULATION
 - WORKED 100% IN TRIALS
- “THE PILL” (ENOVID→) WAS APPROVED BY THE FDA IN 1960

Children per woman, 1950 to 2099

Shown is the Total Fertility Rate – the average number of children that would be born to a woman over her lifetime if the woman were to experience the exact current age-specific fertility rates.

Our World
in Data



Source: UN Population Division (2017 Revision)

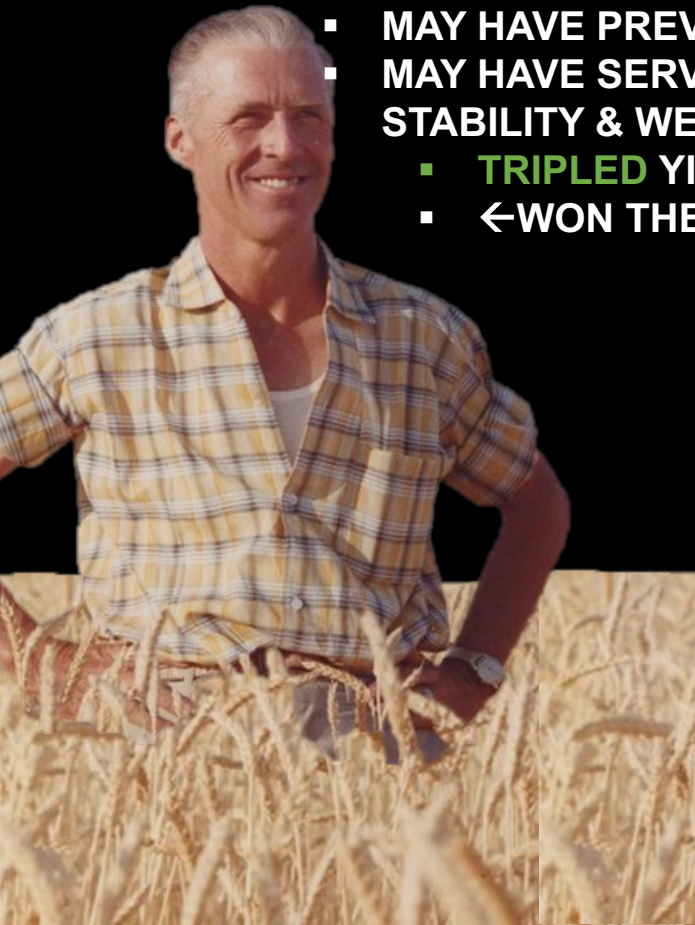
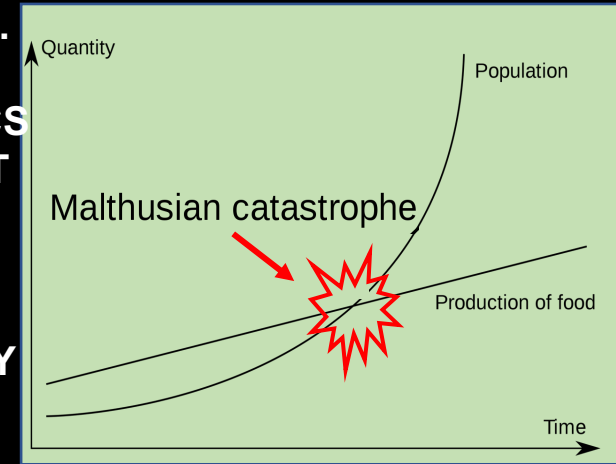
OurWorldInData.org/future-population-growth • CC BY



WITH POPULATIONS GROWING WORLDWIDE, HUMANS WERE RUNNING OUT OF FOOD...UNTIL:

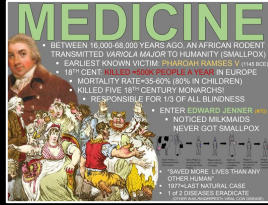
GREEN REVOLUTION

- IN THE 1950s & 60s; WE WERE CLOSE TO THE MALTHUSIAN PRINCIPLE OF POPULATION:
- ENTER **NORMAN BORLAUG**: FATHER OF THE GREEN REVOL.
 - A MILD MANNERED, MID-WESTERN AGRONOMIST
 - USING HIS POWERS OF PLANT PATHOLOGY & GENETICS
 - INTRODUCED HIGH-YIELD, DISEASE RESISTANT WHEAT
 - WITH FIRM STEMS; TO HOLD UP THE LARGE EAR
 - MAY HAVE PREVENTED 1 BILLION DEATHS
 - MAY HAVE SERVED TO PROVIDE SOCIAL STABILITY & WEAKEN COMMUNIST IDEOLOGY
 - **TRIPLED** YIELDS IN MEXICO, INDIA, PAK
 - ←WON THE 1970 NOBEL PEACE PRIZE



VACCINES

- THE FIRST VACCINE WAS AGAINST SMALLPOX, SEE UNIT 6 →
- 20TH CENTURY SAW MANY MORE (SEE BELOW)
- MOST FAMOUS: POLIO
 - 1,000s OF KIDS DIED OR WERE PARALYZED EVERY YEAR (FDR)
 - US FEARS: 1. NUKES 2. POLIO
- JONAS SALK FOUND A VACCINE
 - GAVE AWAY HIS VACCINE/RESEARCH
 - VALUED AT \$7 BILLION
- NEEDED HERD IMMUNITY; NOT ENOUGH KIDS WERE GETTING IT, SO →
- TODAY: THERE ARE 33 CASES (PAK/AFGH)



HERE ARE THE DISEASES THAT YOU PROBABLY DON'T HAVE THANKS TO VACCINATIONS SINCE 1900

FREEMAN-PEDIA

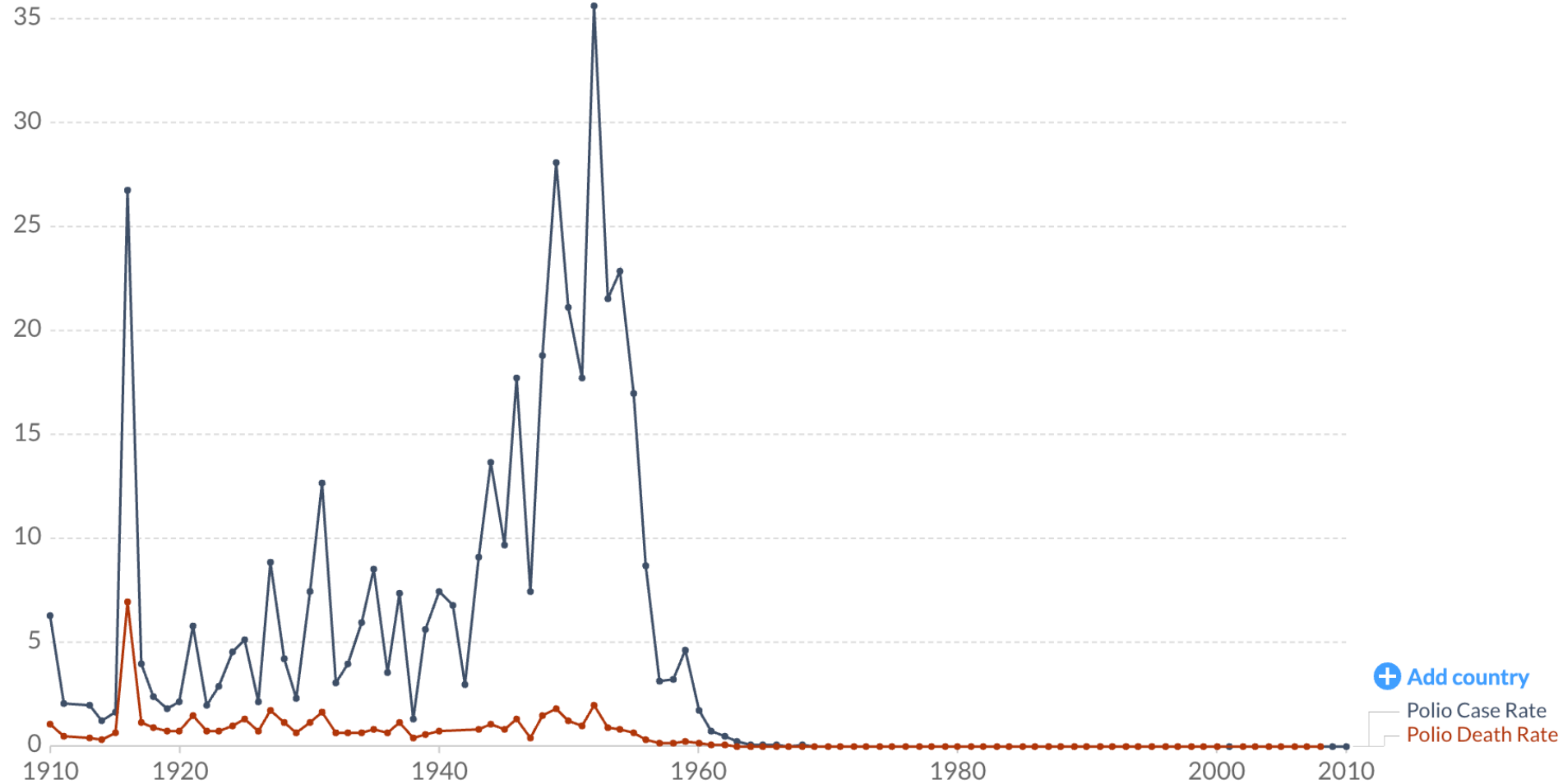
<p>1921 TUBERCULOSIS</p>	<p>1926 WHOOPIING COUGH</p>	<p>1937 TYPHUS</p>	<p>1952 POLIO</p>	<p>1963 MEASLES</p>	<p>1970 RUBELLA</p>	<p>1977 PNEUMONIA</p>	<p>1981 HEPATITIS B</p>	<p>1998 LYME DISEASE</p>	<p>2006 HPV</p>	<p>2015 EBOLA</p>
<p>1923 DIPHTHERIA</p>	<p>1932 YELLOW FEVER</p>	<p>1945 INFLUENZA</p>	<p>1954 ANTHRAX</p>	<p>1967 MUMPS</p>	<p>1974 CHICKEN POX</p>	<p>1978 MENINGITIS</p>	<p>1992 HEPATITIS A</p>	<p>1998 ROTAVIRUS</p>	<p>2015 MALARIA</p>	<p>2015 DENGUE FEVER</p>

VACCINES

Prevalence of Polio Rates in the United States, 1910-2010

The reported rates are per 100,000 US population and include both wild- and vaccine-derived type polio infections that occurred indigenously and as imported cases.

LINEAR LOG



[+ Add country](#)

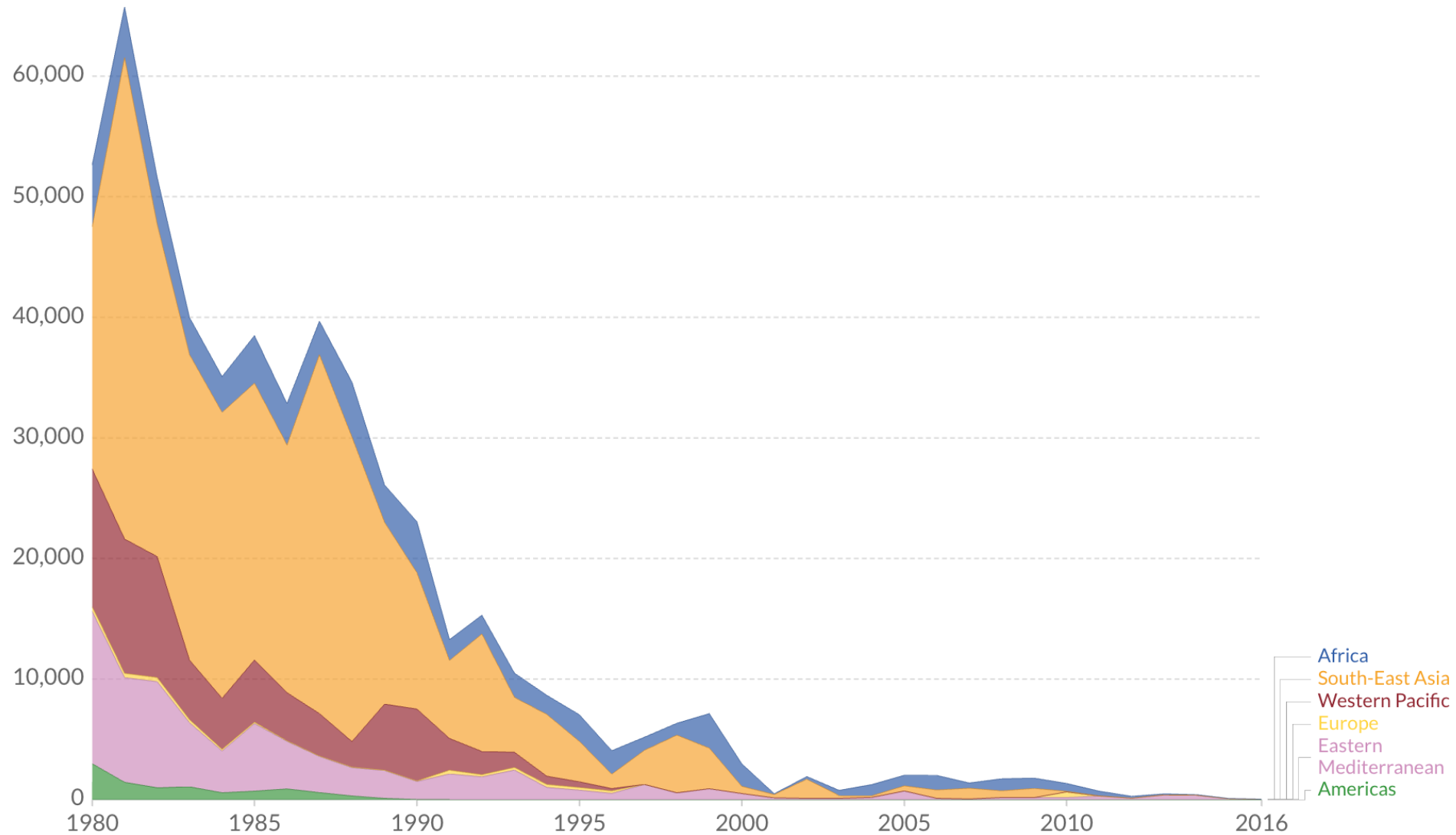
Polio Case Rate
Polio Death Rate

VACCINES

The number of reported paralytic polio cases by world region, 1980 to 2016

This includes the wild and vaccine (VAPP) type poliovirus (occurring indigenously and imported)

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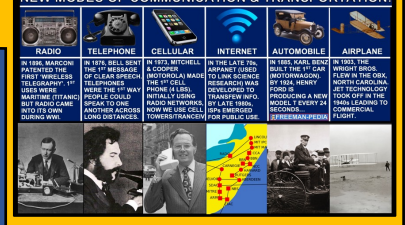
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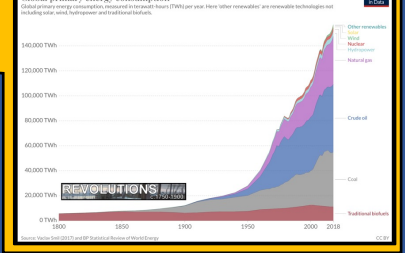
TECH. ADVANCES & EXCHANGES GLOBALIZATION c. 1900-NOW



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