

Modernization Theory and Technology/Media Diffusion



The “**Soft REVOLUTIONS**” of
Neo-Colonialism
1950s-Present Day

World Population Explosion

1950--2.5 billion

1960--3.0 billion

1970--3.7 billion

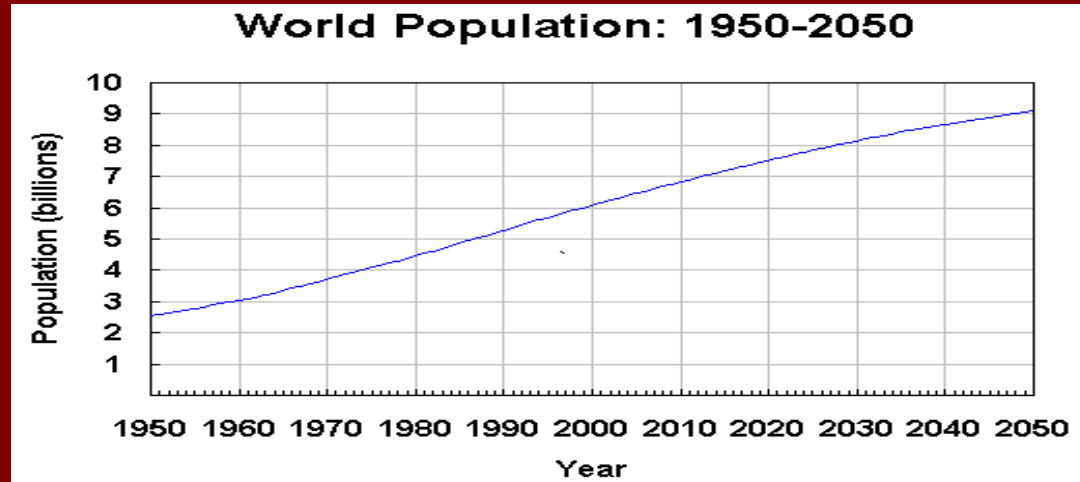
1980--4.5 billion

1990--5.3 billion

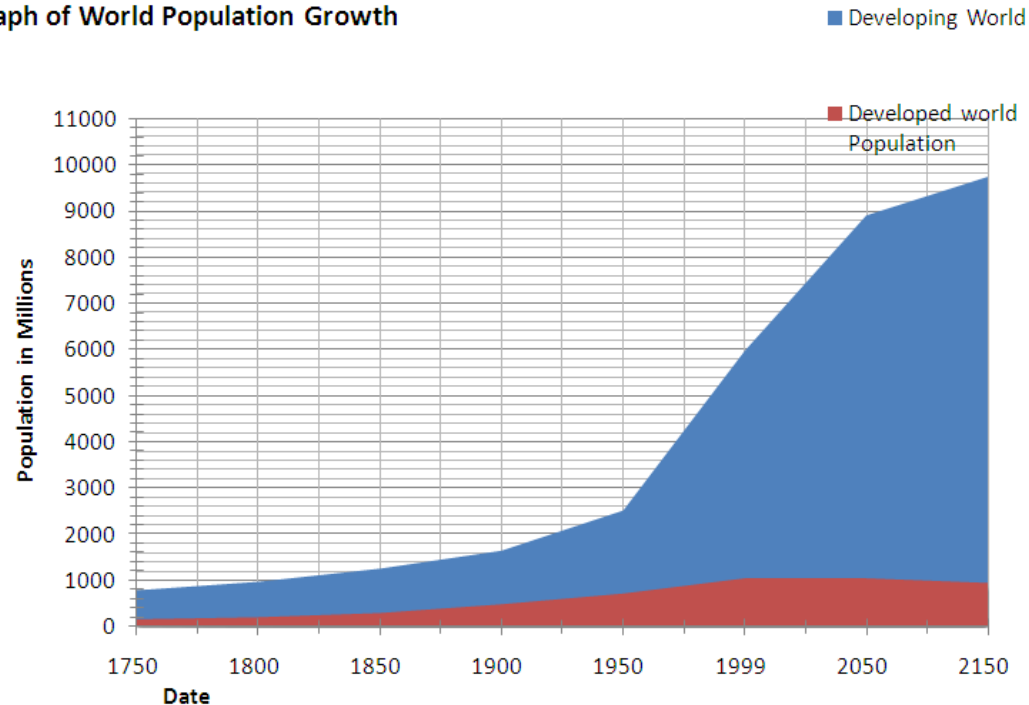
2000-- 6.0 billion

2010—7.0 billion

2018—7.6 billion



A Graph of World Population Growth



2050 ~9-10 Billion?

Day-by-Day World Population Growth

Day-by-Day World Population Growth (U.S. Census Bureau)

	<u>Births</u>	<u>Deaths</u>	<u>~Increase</u>
Year	~131 mill	~54 mill	+76 mill
Day	359,002	148,654	+210,348
Hour	14,958	6,194	+8,764
Minute	249	103	+146
Second	4.2	1.7	+2.4

World Population Meter/Clock : <http://www.worldometers.info/world-population/>

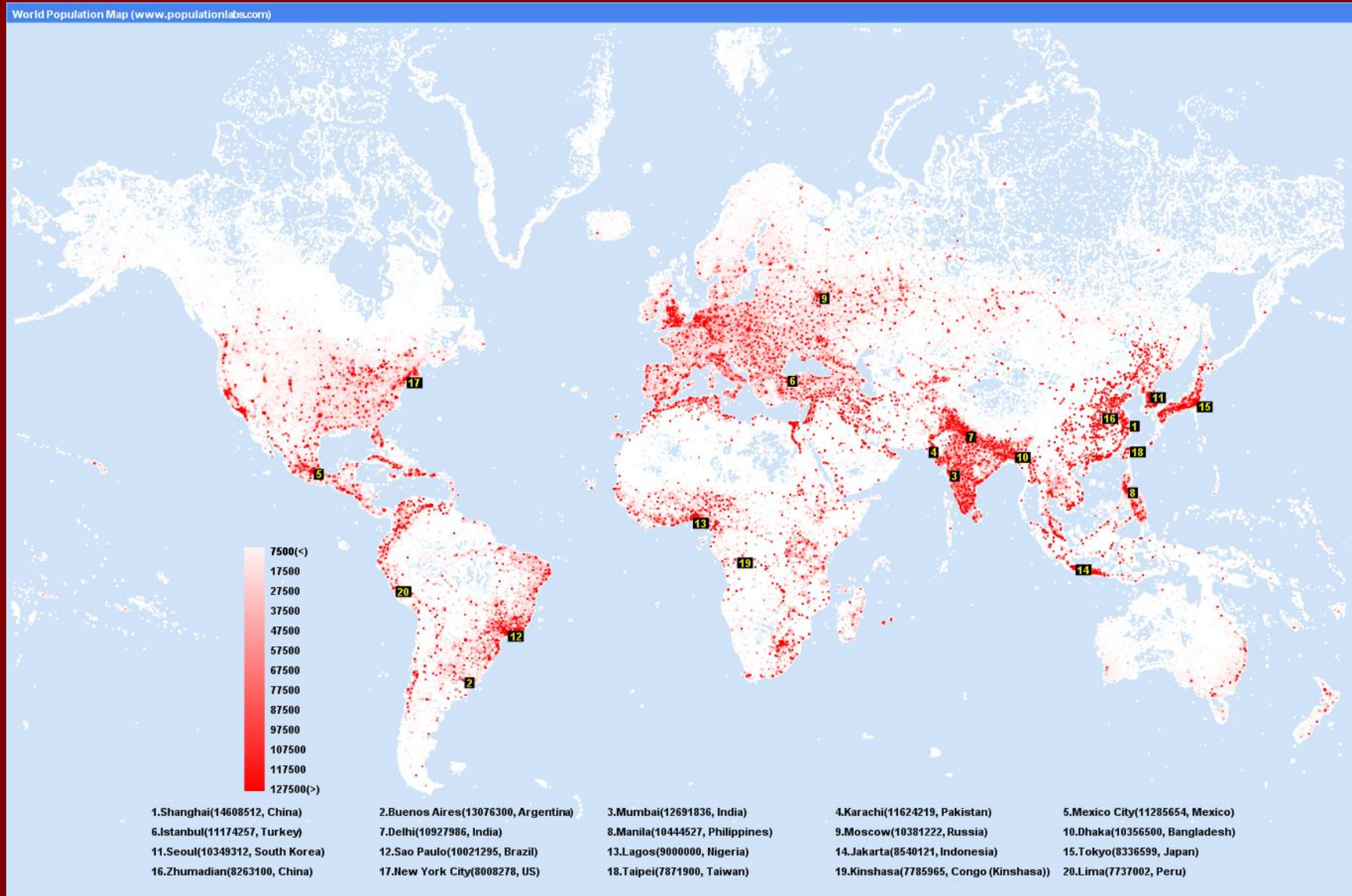
World Population (2018 and historical)

[View the complete population historical table](#)

Year (July 1)	Population	Yearly % Change	Yearly Change	Median Age	Fertility Rate	Density (P/Km ²)	Urban Pop %	Urban Population
2018	7,632,819,325	1.09 %	82,557,224	29.9	2.51	51	54.9 %	4,186,975,665
2017	7,550,262,101	1.12 %	83,297,821	29.9	2.51	51	54.4 %	4,110,778,369
2016	7,466,964,280	1.14 %	83,955,460	29.9	2.51	50	54.0 %	4,034,193,153
2015	7,383,008,820	1.19 %	84,967,932	30	2.52	50	53.6 %	3,957,285,013
2010	6,958,169,159	1.24 %	83,201,955	29	2.57	47	51.3 %	3,571,272,167
2005	6,542,159,383	1.26 %	79,430,479	27	2.63	44	48.9 %	3,199,013,076
2000	6,145,006,989	1.33 %	78,706,515	26	2.75	41	46.5 %	2,856,131,072
1995	5,751,474,416	1.53 %	84,106,191	25	3.02	39	44.7 %	2,568,062,984
1990	5,330,943,460	1.81 %	91,432,333	24	3.44	36	42.9 %	2,285,030,904
1985	4,873,781,796	1.80 %	83,074,052	23	3.60	33	41.1 %	2,003,049,795
1980	4,458,411,534	1.79 %	75,864,867	23	3.87	30	39.2 %	1,749,539,272
1975	4,079,087,198	1.97 %	75,701,910	22	4.46	27	37.6 %	1,534,721,238
1970	3,700,577,650	2.07 %	72,196,992	22	4.92	25	36.5 %	1,350,280,789
1965	3,339,592,688	1.94 %	61,276,032	23	4.96	22	N.A.	N.A.
1960	3,033,212,527	1.82 %	52,193,998	23	4.89	20	33.6 %	1,019,494,911
1955	2,772,242,535	1.80 %	47,193,563	23	4.96	19	N.A.	N.A.

World Population Concentrations

MAP: Urbanization and the Move to Cities: World Population Densities--Red Dots signify population centers over 1 million people

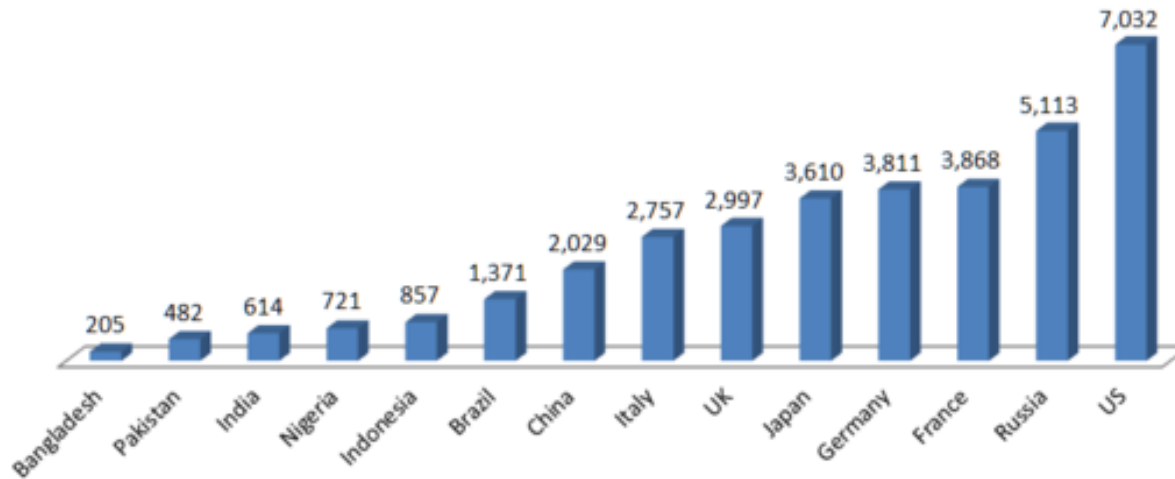


World at Night

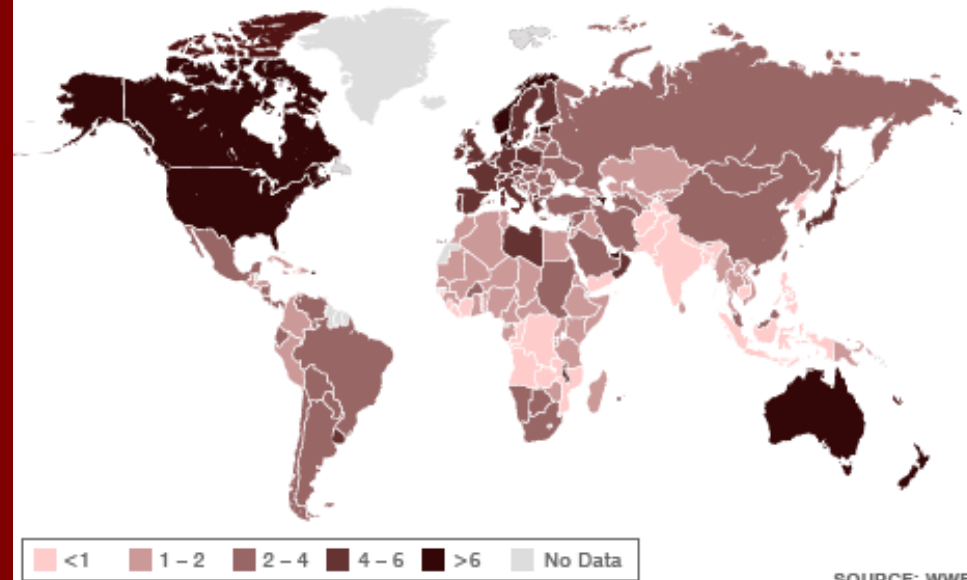


Highest consumption rates world-wide

Energy Use per Capita



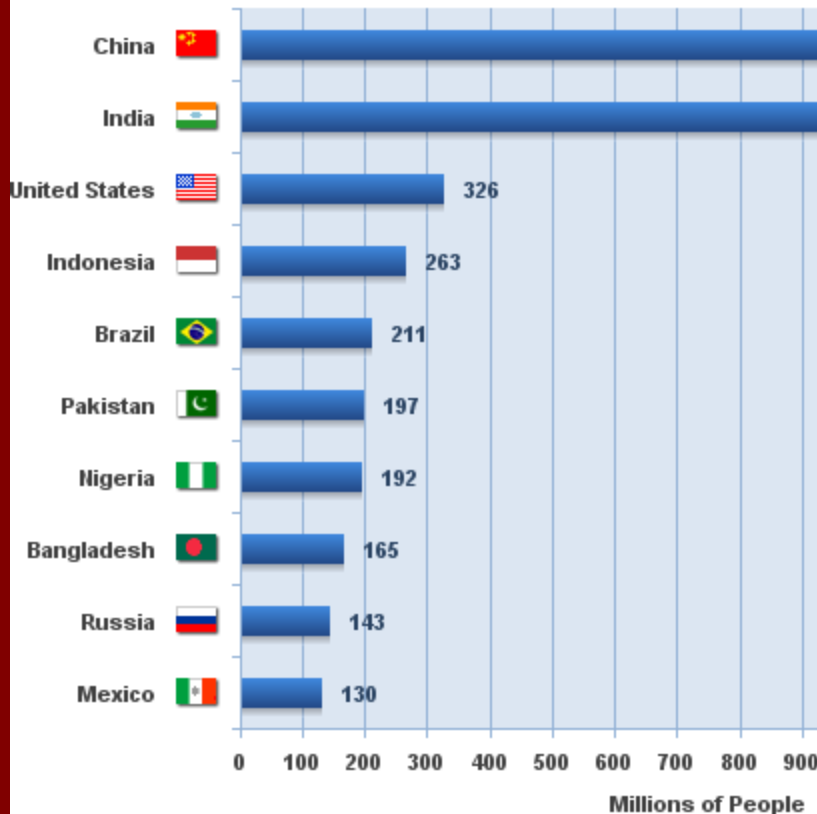
ECOLOGICAL FOOTPRINT BY COUNTRY



SOURCE: WWF

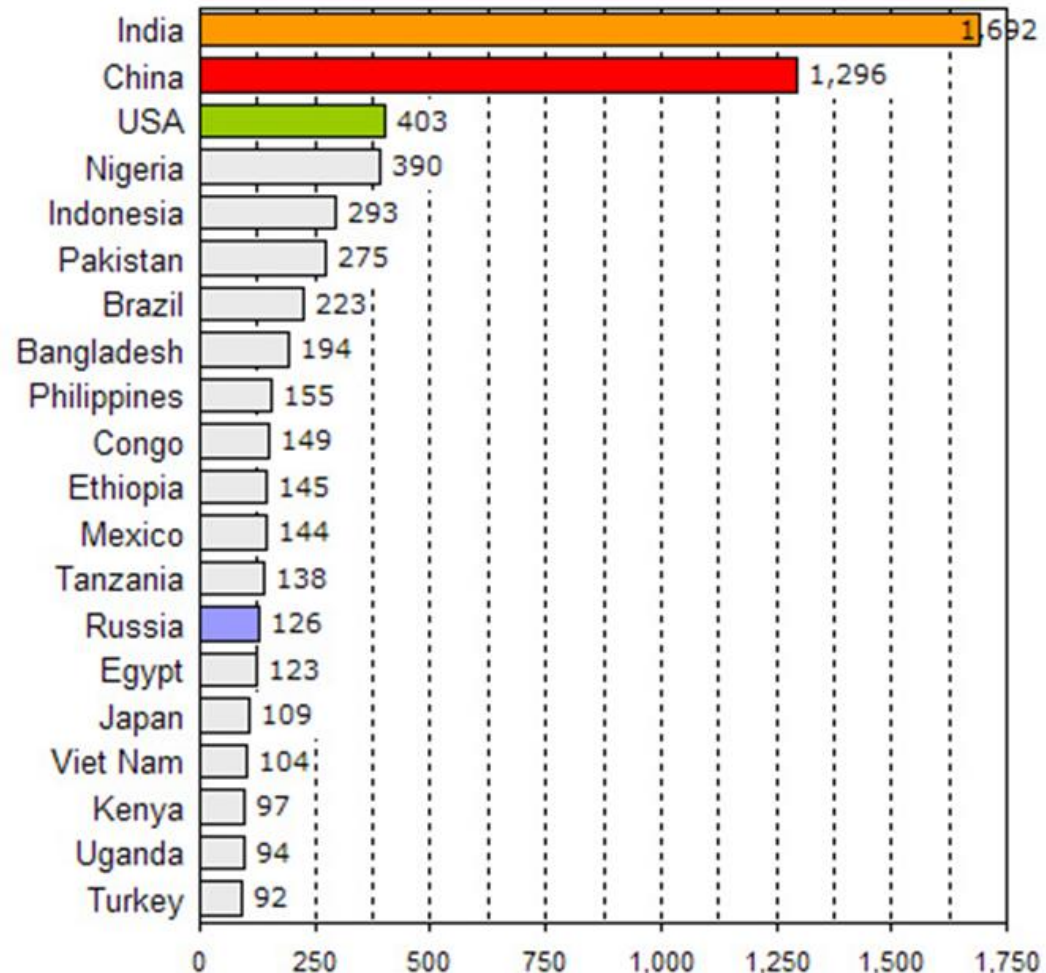
Nations with largest current populations

10 Most Populated Countries in the World
Population in Millions - June 30, 2017



Source: Internet World Stats - www.internetworldstats.com/stats8.htm

2050 Projected



WORLD

% Increase in population, 1950 - 2009

- over 900%
- 700 - 900%
- 600 - 700%
- 500 - 600%
- 400 - 500%
- 300 - 400%
- 200 - 300%
- 100% - 200%
- 50 - 100%
- 25 - 50%
- 0 - 25%
- DECLINE

Italy set to double child benefit to combat low birth rate

🕒 15 May 2016 | Europe

🔗 Share



There were fewer births in Italy in 2015 than in any year since the modern state was founded in 1861

Italy's health minister has outlined plans to double child benefit to combat what she described as an "apocalyptic" decline in the country's birth rate.

Beatrice Lorenzin said the monthly bonus for lower income families should be twice the current €80 (£60; \$90).

Ms Lorenzin also called for higher payments for second and subsequent children to encourage big families.

Just 488,000 babies were born in Italy in 2015, fewer than in any year since the modern state was founded in 1861.

Speaking to Italy's La Repubblica newspaper, Ms Lorenzin said: "If we carry on as we are and fail to reverse the trend, there will be fewer than 350,000 births a year in 10 years' time, 40% less than in 2010 - an apocalypse."

She added: "In five years we have lost more than 66,000 births (per year)... If we link this to the increasing number of old and chronically ill people, we have a picture of a moribund country."

The benefit payments, which were introduced last year, are available for babies born between 1 January 2015 and 31 December 2017 and payable up to their third birthdays.

Ms Lorenzin, an influential member of Prime Minister Matteo Renzi's government,

Germany passes Japan to have world's lowest birth rate - study

🕒 29 May 2015 | Europe

🔗 Share



A study says Germany's birth rate has slumped to the lowest in the world, prompting fears labour market shortages will damage the economy.

Germany has dropped below Japan to have not just the lowest birth rate across Europe but also globally, according to the report by Germany-based analysts.

Its authors warned of the effects of a shrinking working-age population.

They said women's participation in the workforce would be key to the country's economic future.

In Germany, an average of 8.2 children were born per 1,000 inhabitants over the past five years, according to the study by German auditing firm BDO with the Hamburg Institute of International Economics (HWWI).

It said Japan saw 8.4 children born per 1,000 inhabitants over the same time period.

COLD WAR POLITICS CONTINUES...

Cold War Politics ...
in a Post-Cold War Era

Cold War Political Alignments/Divisions: 1945-2000

The WEST

NATO Countries (North Atlantic Treaty Organization)--U.S., Britain, Canada, France, West Germany, Italy, Turkey...

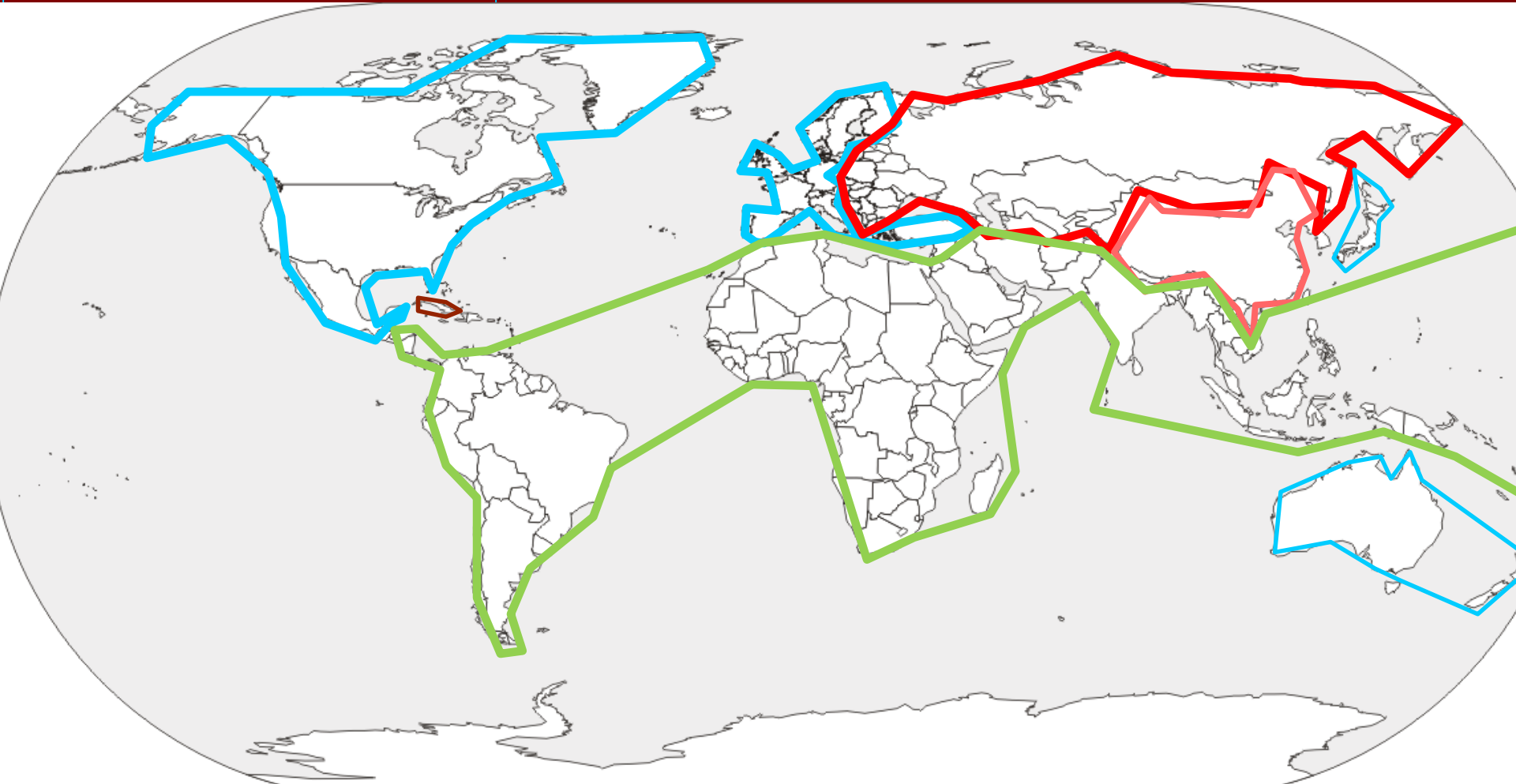
The EAST

WARSAW PACT Countries--Soviet Union, Romania, Bulgaria, Poland, East Germany, Czechoslovakia...

The NON-Aligned Nations

Non-Aligned Countries--Countries which were either not invited to be part of NATO or the WARSAW Pact or which had decided not to become affiliated with either NATO or WARSAW nations.

Non-Aligned Countries include over **80 countries** and account for nearly **70% of the world's population**. India, Indonesia, Nigeria, Colombia, Thailand, Egypt...



The Cultural Power Politics of Identity Development: Dates of African Independence



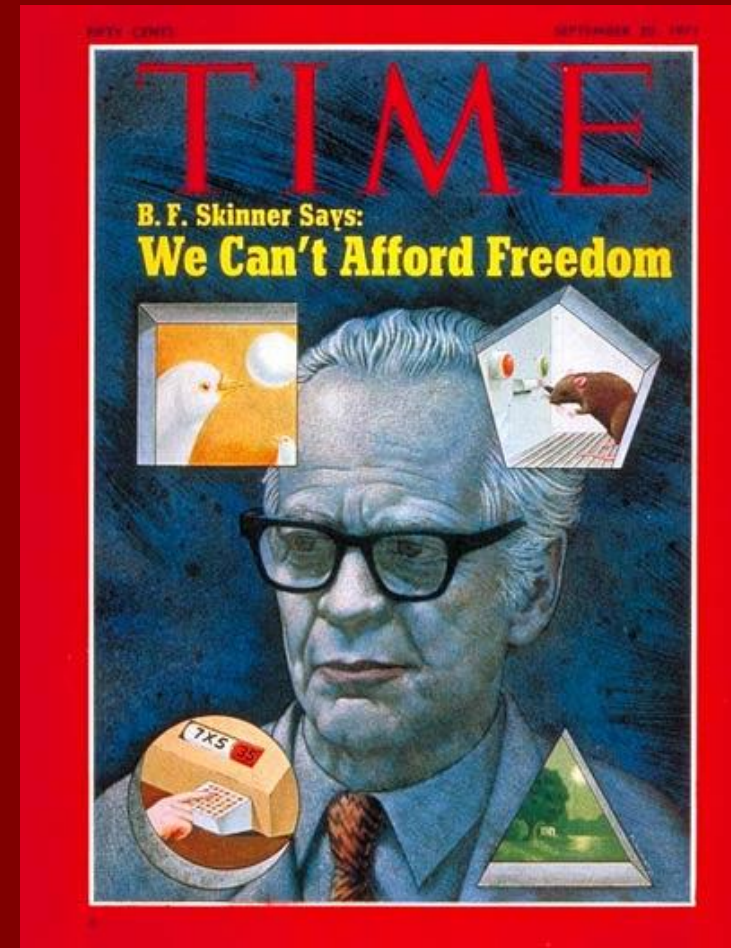
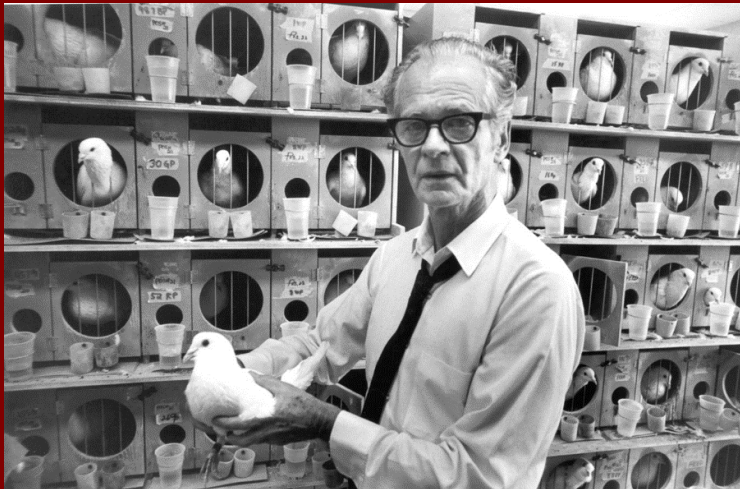
ASIA--NATIONAL INDEPENDENCE



B.F. SKINNER

(1904-1990)

- ▷ Modern **Social** Psychology
- ▷ Post-WW2 1945+
- ▷ A founder of the **school of behaviorism**
 - ▶ Classical Conditioning (Involuntary behaviors Pavlov/Watson) to ...
 - ▶ **Operant Conditioning** (rewards and punishments & voluntary behaviors)
- ▷ Complex Behaviors can be controlled and systematically constructed in humans.
- ▷ Media as a **CENTRAL TOOL** for that “construction.”



A failure is not always a mistake, it may simply be the best one can do under the circumstances. The real mistake is to stop trying.

The real problem is not whether machines think but whether men do.

Daniel Lerner--

- Books by Daniel Lerner:

1. Psychological Warfare against Nazi Germany (1949)
2. The Passing of Traditional Society: Modernizing the Middle East (1958)



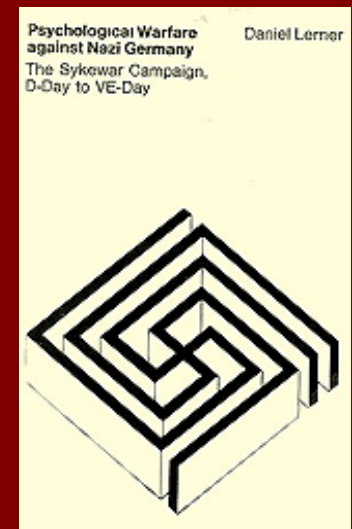
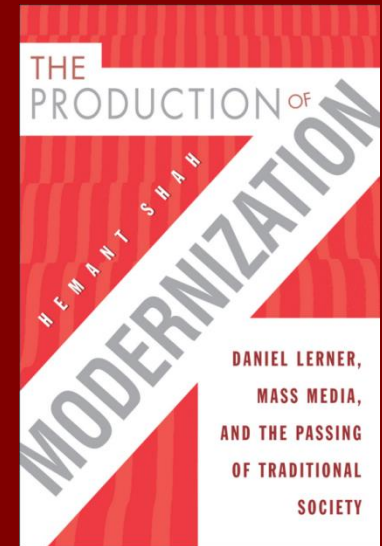
- PRIMARY Research Concept: **Defining a "Modern Man" and a "Modernized Society."**

- **QUESTION**: What are the essential criteria of "MODERN DEMOCRATIC SOCIETIES"?
- **QUESTION**: WHAT are the essential characteristics of "Traditional" societies.

- Secondary Focus: Evaluating the EFFECTIVENESS of AMERICAN "MESSAGES" ABROAD.

- Conducted over 1,000 Audience Surveys related to "popular" opinions about radio broadcasts in Turkey, Lebanon, Egypt, Syria, Jordan, Iran, and Iraq (The oil consortium)

- **OVERARCHING GOAL**: **MODERNIZE** ("westernize") global culture



The **SPRING** Slide☀

☀ *Readings: The European Dream + EU Packet (Thurs)*

☀ Doc Film: *Gringo Trails: Global Tourism (Thurs)*

☀ Media Mapping Site Critiques (Due Tues)

☀ I-NGOs or Media Education **Due Fri. May 3rd**

☀ ***Final Exam: Wed. May 8th 1-3:30***

Daniel Learner

The Necessities of Modernization

Major Arguments: Modern ("westernized")

1. Time allocation and TIME management

- Efficiency trumps all other concerns
- Busy-Doing-Working-Playing HARD
- FUTURE DIRECTED. Ultimate belief in upward mobility and PROGRESS!
- Time = \$\$\$

2. Individualistic within a "TEAM PLAYER" → EGO driven/Optimistic

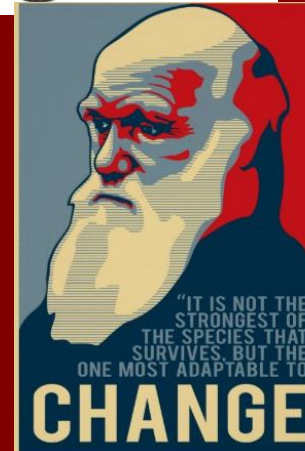
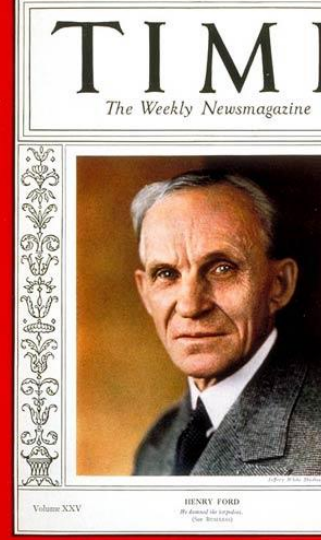
- Entrepreneurial/Promotional
- COMPETITIVE!

3. CORPORATE → Industrial → Urban → TECHNOLOGICAL

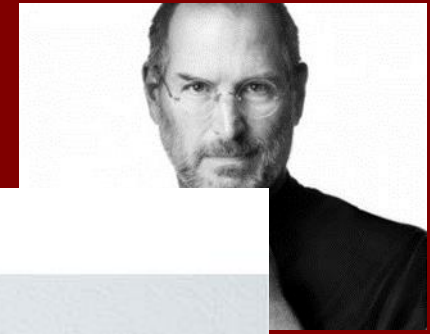
4. Rational-Scientific-Technical-Education (quantitative, math, science, and linear logic)

5. "Psychic Mobility"

- > Empathy--Psychological Projection of one's self onto another
- > Urban, Industrialized, and Cosmopolitan--
- > Future Looking
- > UPWARD Linear Passage from traditional to modernized



What the Media IMPLICITLY tells us about being a "MODERN MAN"



THE F
MOD
for the r

Shoulders
A good suit should hug your shoulders. Let it hold you firmly, in a friendly way.

Torso
Your jacket should fit the silhouette of your frame. Have a better sense of it or at the sales to highlight shoulders.

Sleeves
Have sleeve ends. Having sleeves to sit them of a waist fabric rule a mean figure.

Ticket pockets
Channel your inner dandy.

Flap pockets
Classic. End of story.

Cuff
It's the frame on a party, let a little more show through as a finishing touch. It also lengthens the look of your arms.

Belt
We, it should match your shoes and no you don't have to wear one if your pants fit well.

Pants
Slim, flat-front, and quilting at the top of your shoes, end of story.

Shoes
The one thing every man should own is a black leather shoe. Black shoes have leather soles. Take care of your shoes. Tap on the heels and toes, under shoes mean when you're not wearing them. Big man, solid shoe. Choose a substantial sole to anchor your weight. Your shoes should be as confident as your suit. Say no to square toes. Black lace-ups are the most sophisticated and versatile shoes you can own.

Nelson, J. (2010). GQ Style manual 2010. Grafton-Smith Quarterly. Conde Nash Special.



What the Media tells us about being A “MODERN WOMAN”



The campaign is being sponsored by Warner Bros and DC Entertainment who are supporting the UN and Unicef's year-long campaign for gender equality and women's empowerment.

The UN has itself **come under some criticism for having a lack of gender parity in senior roles**. Despite campaigns there has never been a female Secretary General and **one analysis found** that in 2015 nine of 10 senior leadership jobs went to men.

Comics site The Mary Sue **welcomed the announcement**. "Wonder Woman is a



Traditional People/Society

1. Entrenched in Past/Tradition
2. Conservative/dogmatic
3. Unchanging → fatalistic
4. Value Nature over Technology
5. Inefficient (Time/approach) → Slow
6. Non-scientific → non-technical/rational “Backward”
7. Irrational → FEARFUL





MT'S Political-Economic FORMULA

Modernization (Tech/Ideological)



Economic “Free Market” Capitalism



Social/Cultural Progress



American Democratic Practices



Stable & Sustainable National Development

The POWER BROKERS

Institutions of “Modernization” & Supporting Soft POWER WAR for Hearts and Minds

1. The USA Government

Massive Foreign Aid: LOAN\$\$→ For TECHNOLOGICAL DEVELOPMENT

Marshall Plan (Pres. Truman) Ties to the State Department (U.S. Foreign Policy)

•US State Dept.

- USAID
- USIA--United States Information Agency
- The Peace Corps
- Embassies, Consulates, American Organizations/Unions

–Department of Defense (DOD)

–Intelligence Community:
CIA, NSA, FBI
Voice of America



2. World Banking Trinity

1. World Bank--“Structural Adjustment
2. International Monetary Fund (IMF)
3. World Trade Organization (WTO)



3. The United Nations and associated I-NGOs

- UNICEF
- UNDP
- (UNESCO)--Internationalized Efforts for World-wide Development

4. Educational Institutions

Research Universities: MIT, Harvard, Oxford, Cambridge, Princeton, Yale, UPenn, Stanford, CalTech

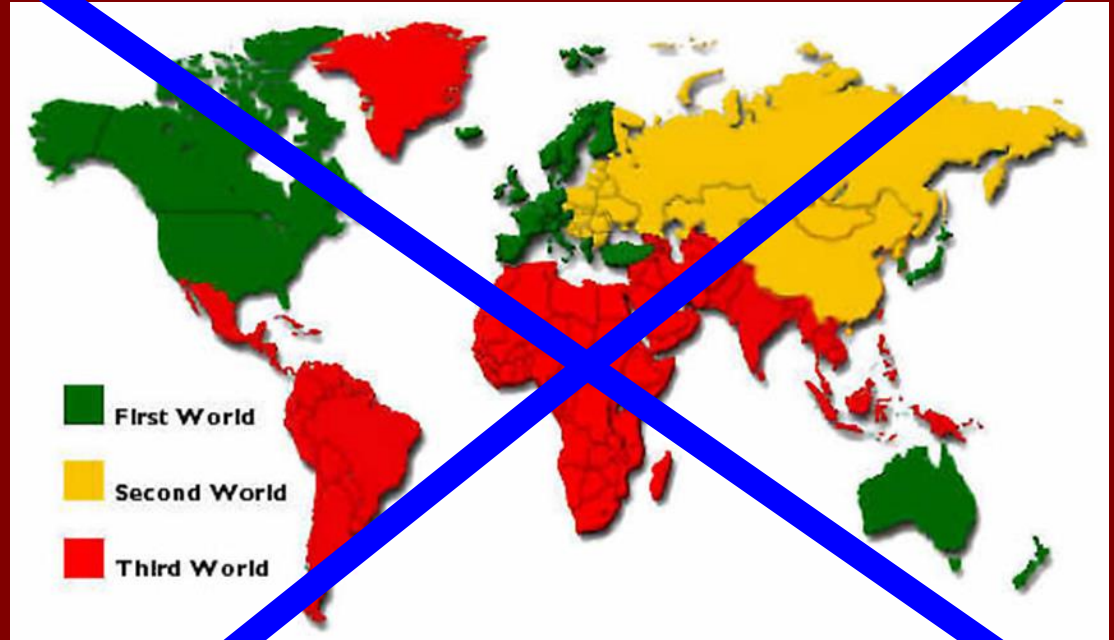
5. Private CORPORATIONS- Media-PR-Marketing Corps & Lobbying Groups

General Electric, IBM, AT&T, Facebook, Google, Coke/Pepsi, Procter and Gamble, Exxon/Mobil/Gulf Oil, Ford, GM, Chrysler, Microsoft, Dow Chemical, Monsanto, The World Press Freedom Committee, The Inter-American Press Assoc., Brookings Inst., The Heritage Foundation, The McArthur Foundation, The Ford Foundation, etc.

Common Derogatory Euphemisms/Synonyms of Modernism

“Us” v. “Them” mentality

- Third World
- Poor
- Untechnological
- Inefficient
- Anti-business
- Anti-Western
- Backward
- Impoverished
- Poverty Stricken
- Illiterate
- Stone Age
- Natives
- Unable to help themselves



Modernization

Theorists Media-Communication-Technologies (1960s→ Present)

1. Wilbur Schramm –

- ▶ Iowa School of Journalism
- ▶ Stanford Behavioral Science Program
- ▶ Mass Media and National Development (1964)



2. Ithiel de Sola Pool (MIT)

- ▶ 1963 (White Paper/Article) *The role of communication in the process of modernization and technological change*
- ▶ 1984 (Book) Technologies of Freedom

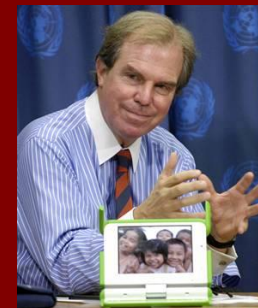


3. Everett Rogers -- Diffusion Theory (1980)

- ▶ University of Michigan
- ▶ Stanford
- ▶ Annenberg School of Communications USC



4. Nicholas Negroponte (MIT Media Lab) One Laptop Per Child



Technological Diffusion → Information Flows

Proponents of a "smooth" vision of social and cultural change

Everett Rogers → (Iowa → Stanford University Media/Technology Researcher)



Background: Rogers background was in AGRICULTURE. Many of his initial ideas revolved around spreading industrial agricultural techniques & technologies to increase food yields.

Evolution of Focus:

- I. How can countries of the Global South "**leapfrog**" from "developing" nations into first world status through COMMUNICATION TECHNOLOGIES... and the
- II. DIFFUSION of mass technologies and mass media.



Idealized Information Flows: More Media → More Free Flow of Information → More Freedom (But is this really true?)



Rogers's Underlying Approaches & Perspectives

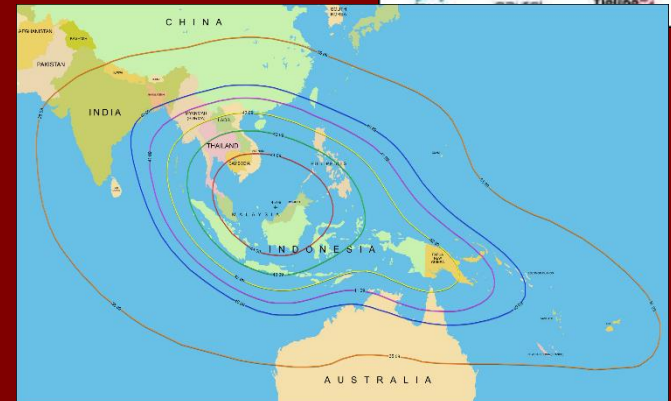
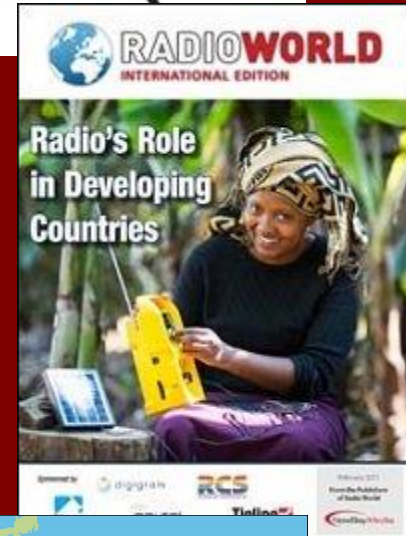
1. Ideological Framing

- ▶ Corporate Capitalistic Perspective
- ▶ Media Control must be in the hands of **private companies** and individuals (i.e. NOT governments).
 - ▶ IBM, ATT, Apple, Cisco, Disney, 20th Century Fox, Gannett, Intel, NBC, CBS, etc.



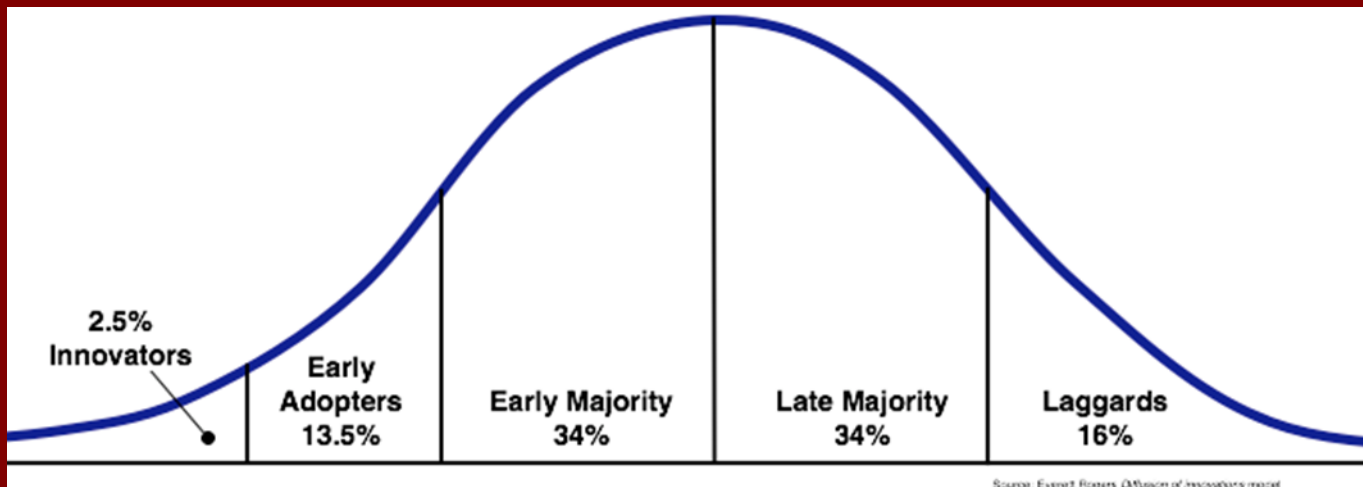
2. Approaches:

- **INSTALL THE NOTION THAT MEDIA = PERSONAL and/or INDIVIDUAL FREEDOMS**
- Persuade/Make people use mass media technologies across an entire population (Family→School→ Business)
- **FREE Access to PRIVATELY owned major broadcast media: Radio, Television, Web**



Media/Technology Adoption :

- Media Adoption Cycle/Formula:
 - (1) Innovators →
 - (2) Early Adopters →
 - (3) Opinion Leaders →
 - (4) Mass Adopters →
 - (5) Late Adopters →
 - (6) Laggards/Non conformists →



Innovation/Technology Adoption

5 Stages of Innovation Adoption

1. **Awareness** → Initial interest
2. **Evaluation** → Self Needs-Expectations
3. **Purchase** → Trial-Learning Curve
4. **Adoption**
5. **Habitual Life Ritual**

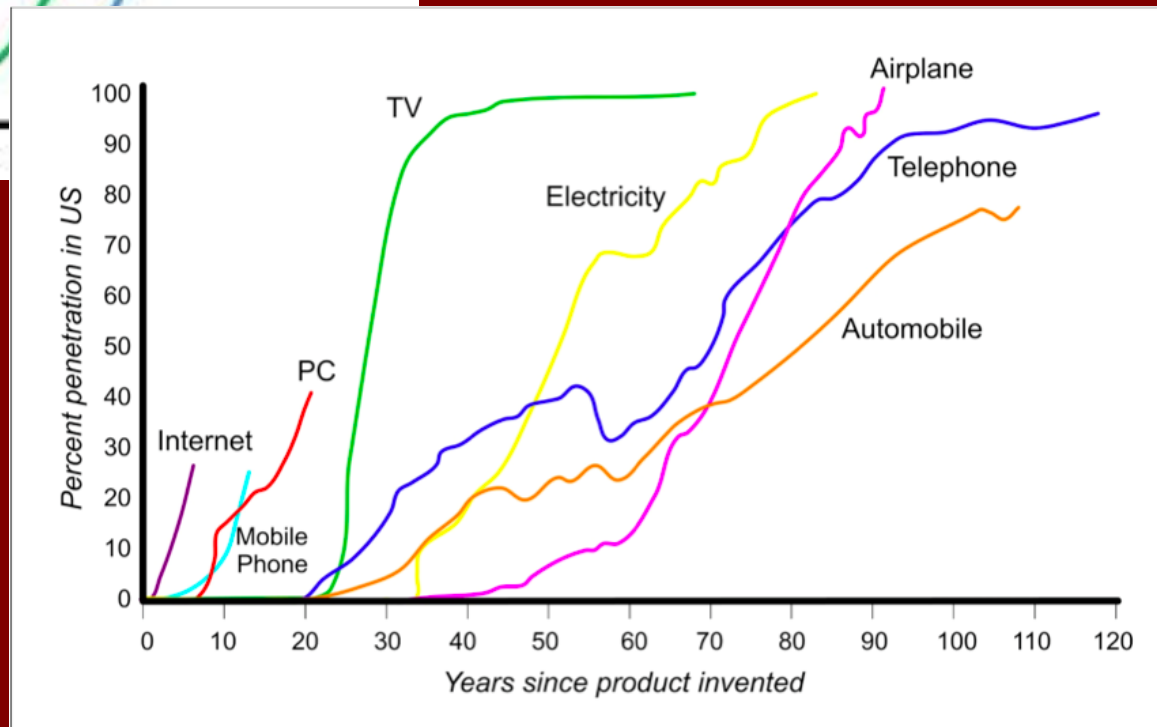
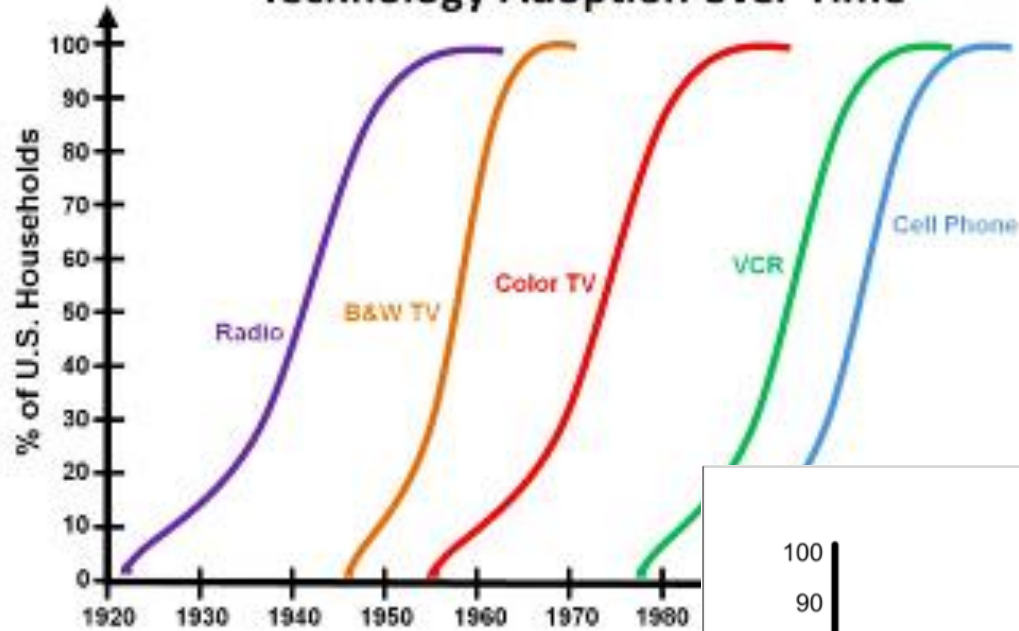
Perceived characteristics of innovations.

How likely those potential adopters are to move from *awareness* to *adoption*.

1. **relative advantage** (the 'degree to which an innovation is perceived as being **better** than the idea it supersedes);
↓
2. **compatibility** (the degree to which an innovation is perceived to be consistent with the existing values, past experiences and needs of potential adopters);
↓
3. **complexity** ('the degree to which an innovation is perceived as difficult to use');
↓
4. **trialability** ('the opportunity to experiment with the innovation on a limited basis'); and
↓
5. **observability** ('the degree to which the results of an innovation are visible to others').

U.S. Tech Adoption of Different Media

Technology Adoption over Time



Nicholas Negroponte's OLPC in Colombia

Modernization Theory Applied



The screenshot shows a video player interface. The main video area displays the title "TED in the field" in large red and white text against a background of a cloudy sky. Below the title, it reads "TED FOLLOWS NICHOLAS NEGROPONTE TO DEPARTAMENTO DEL META, COLOMBIA" and "DECEMBER 2008". To the right of the video area are four circular icons: "Add to list", "Like", "Download", and "Rate". Below the video area is a control bar with "Pause", "Volume", "Subtitles", "Transcript", and "Full Screen" buttons. The video title "Nicholas Negroponte: Taking OLPC to Colombia" is displayed in the center of the control bar. Below the control bar is a "Share this idea" section with social media icons for Facebook, LinkedIn, Twitter, Link, Email, and Embed, followed by the text "357,802 Total views".

TED in the field

TED FOLLOWS NICHOLAS NEGROPONTE
TO DEPARTAMENTO DEL META, COLOMBIA
DECEMBER 2008

Pause Volume

Filmed December 2008 at TED in the field
Nicholas Negroponte: Taking OLPC to Colombia

Subtitles Transcript Full Screen

Share this idea

Facebook LinkedIn Twitter Link Email Embed

357,802 Total views

The woman whose phone 'misdiagnosed HIV'

By Jane Wakefield
Technology reporter

🕒 17 April 2017 | Technology

f t b e Share



Google is under pressure to embed warnings in some apps following a study in Kenya

Esther sells water on the side of the road in Kenya for a few dollars a day.

She also owns a smartphone and ownership of such a device should, according to most of the received wisdom, empower its owner.

But in fact it did quite the opposite for her when she acquired an app.

It claimed to diagnose HIV simply by analysing her fingerprint on the touch screen.

When researchers met her at her roadside workplace, she was worried.

"She did not know if it was true and she was panicking," said researcher Laura de Reynal, who worked on a year-long study into the experiences of first-time smartphone users in Kenya.

"And she wasn't the only one, there were others that came to us worried about this app and those were just the ones that were willing to speak out."



Women and girls in Kenya are three times more likely than men and boys to be 'gifted' a mobile phone but this may come with a price

The app was in fact a prank and anyone reading the comments on Google's Play Store would have seen that.

However, many first-time smartphone users in Kenya get hold of apps via a friend's Bluetooth connection, rather than downloading them via the net, in order to save data

Guyana tribe goes hi-tech to protect its land

By Gemma Handy

🕒 19 March 2017 | Latin America & Caribbean

f t b e Share



The Wai-Wais have been trained to use technology to record eco data

Eleazer Mawasha speaks haltingly. English is not his first language, and Skype not his preferred method of communication.

An elder of Guyana's Wai-Wai people, Mr Mawasha is more familiar with the sounds and rhythms of the rainforest with which its indigenous inhabitants have enjoyed a profound spiritual relationship for thousands of years.

Using the chat app during a trip to Georgetown is not the only foray into modern technology for members of the South American nation's smallest tribe.

Amerindians have been scrupulous caretakers of the environment for millennia and, as the rest of the world evolves, so too have their practices for monitoring and protecting natural resources.

GPS in the jungle

Wai-Wais in the remote southern district of Kanashen have been trained in the use of cutting-edge software, smartphones and GPS to gather data and assess carbon stocks, thanks to a pioneering two-year project by the World Wildlife Fund (WWF).



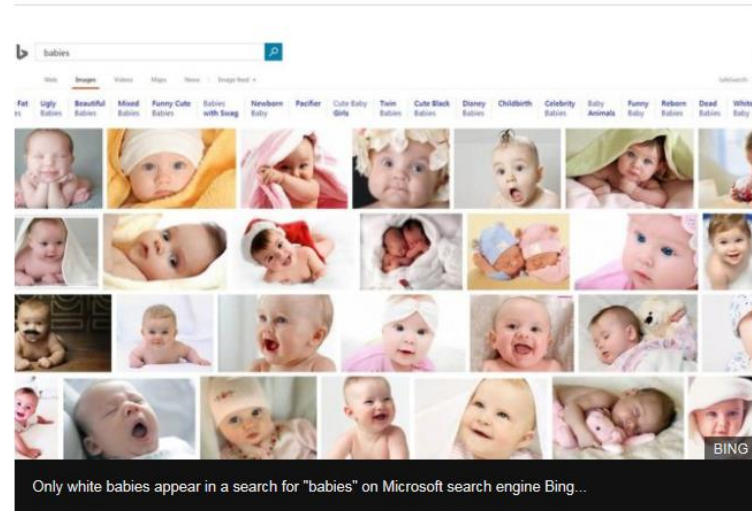
Mobile phones are nothing new, even in this isolated area on the fringes of the Amazon Basin, a punishing six-day journey by tractor and boat from the nearest town.

But the way they are being used to navigate the forest and record eco data marks a

Artificial intelligence: How to avoid racist algorithms

By Zoe Kleinman
Technology reporter, BBC News

14 April 2017 | Technology



There is growing concern that many of the algorithms that make decisions about our lives - from what we see on the internet to how likely we are to become victims or instigators of crime - are trained on data sets that do not include a diverse range of people.

The result can be that the decision-making becomes inherently biased, albeit accidentally.

Try searching online for an image of "hands" or "babies" using any of the big search engines and you are likely to find largely white results.

In 2015, graphic designer Johanna Burai created the **World White Web project** after searching for an image of human hands and finding exclusively white hands in the top image results on Google.

Her website offers "alternative" hand pictures that can be used by content creators online to redress the balance and thus be picked up by the search engine.

Google says its image search results are "a reflection of content from across the web, including the frequency with which types of images appear and the way they're described online" and are not connected to its "values".

Ms Burai, who no longer maintains her website, believes things have improved.

"I think it's getting better... people see the problem," she said.

Diverse data

Ms Buolamwini thinks the situation has arisen partly because of the well-documented lack of diversity within the tech industry itself.

Every year the tech giants release diversity reports and they make for grim reading.

- **Google's latest figures** (January 2016) state that 19% of its tech staff are women and just 1% are black.
- **At Microsoft in September 2016** 17.5% of the tech workforce were women and 2.7% black or African American.
- **At Facebook in June 2016** its US tech staff were 17% women and 1% black.

You get the picture. But what has that got to do with algorithms?

"If you test your system on people who look like you and it works fine then you're never going to know that there's a problem," Joy Buolamwini argues.

Biased beauty

Of the 44 winners of a beauty contest last year judged by algorithms, and based on some 6,000 uploaded selfies from 100 different countries, only one was non-white and a handful were Asian.

Alex Zhavoronkov, Beauty.AI's chief science officer, **told the Guardian the result was flawed because the data set used to train the AI (artificial intelligence) had not been diverse enough.**

"If you have not that many people of colour within the data set, then you might actually have biased results," he said at the time.

On a more serious note, AI software used in the US to predict which convicted criminals might reoffend, was found to be more likely to incorrectly identify black offenders as high risk and white offenders as low risk, **according to a study by the website Propublica** (the software firm disputed these findings).