

# Why haven't compelling epidemiologic data eliminated health disparities?

Presented at the American College of Epidemiology Minority Affairs  
Committee Workshop  
September 23, 2017, New Orleans LA











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# Outline

- I. Public health achievements are dramatic but not universally shared.
- II. Efforts to reduce or eliminate disparities extend over many decades.
- III. Is there an epidemiology of public health?
- IV. New possibilities

# I. Public health achievements are dramatic but not universally shared

**CLEAN UP!**  
"Cleanliness Is Next To Godliness"

	Does your Back Yard look like this?	Or like this?	
	Open-top Wells admit Filth and Drainage.	Use a Pump with cement top and have all drainage away from your well.	
	Is your Privy a Disease Spreader?	Is it Fly-tight, placed over a Pit & 100 yards from your well?	
	Does your Kitchen look like this?	Or is it Screened Clean & Convenient?	
	Dirty, Dusty, Living Rooms cause Poor Health	Keep the House Clean Screened & Comfortable.	
	Do you buy Food from stores like this?	Or do you buy only Clean Food?	

**KEEP CLEAN**  
State Board of Health, Raleigh, N.C.

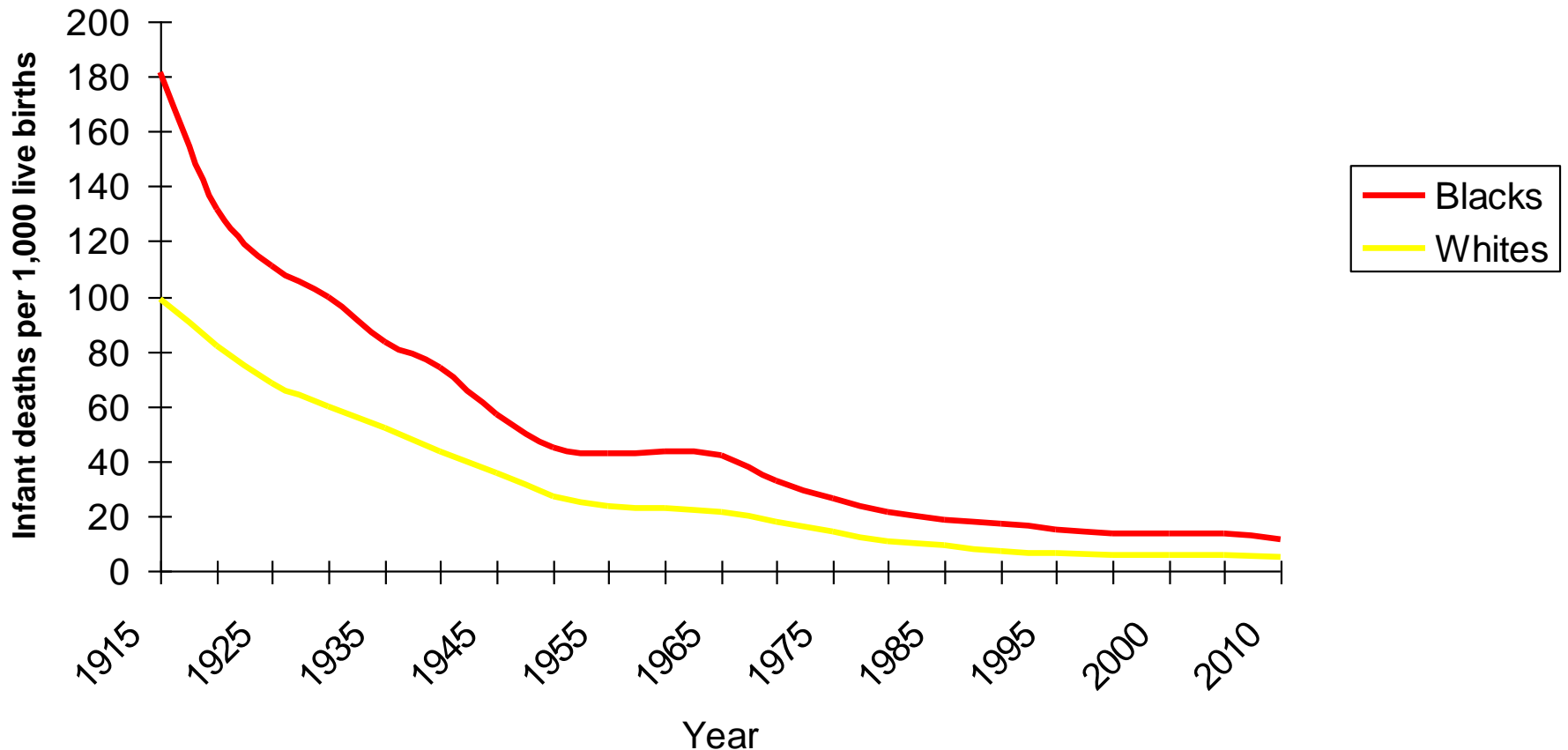
Graphic from Health Bulletin

# Ten Great Public Health Achievements -- United States, 1900-1999

- Vaccination
- Motor-vehicle safety
- Safer workplaces
- Control of infectious diseases
- Decline in deaths from coronary heart disease and stroke
- Safer and healthier foods
- Healthier mothers and babies
- Family planning
- Fluoridation of drinking water
- Recognition of tobacco use as a health hazard

<https://www.cdc.gov/mmwr/preview/mmwrhtml/00056796.htm>

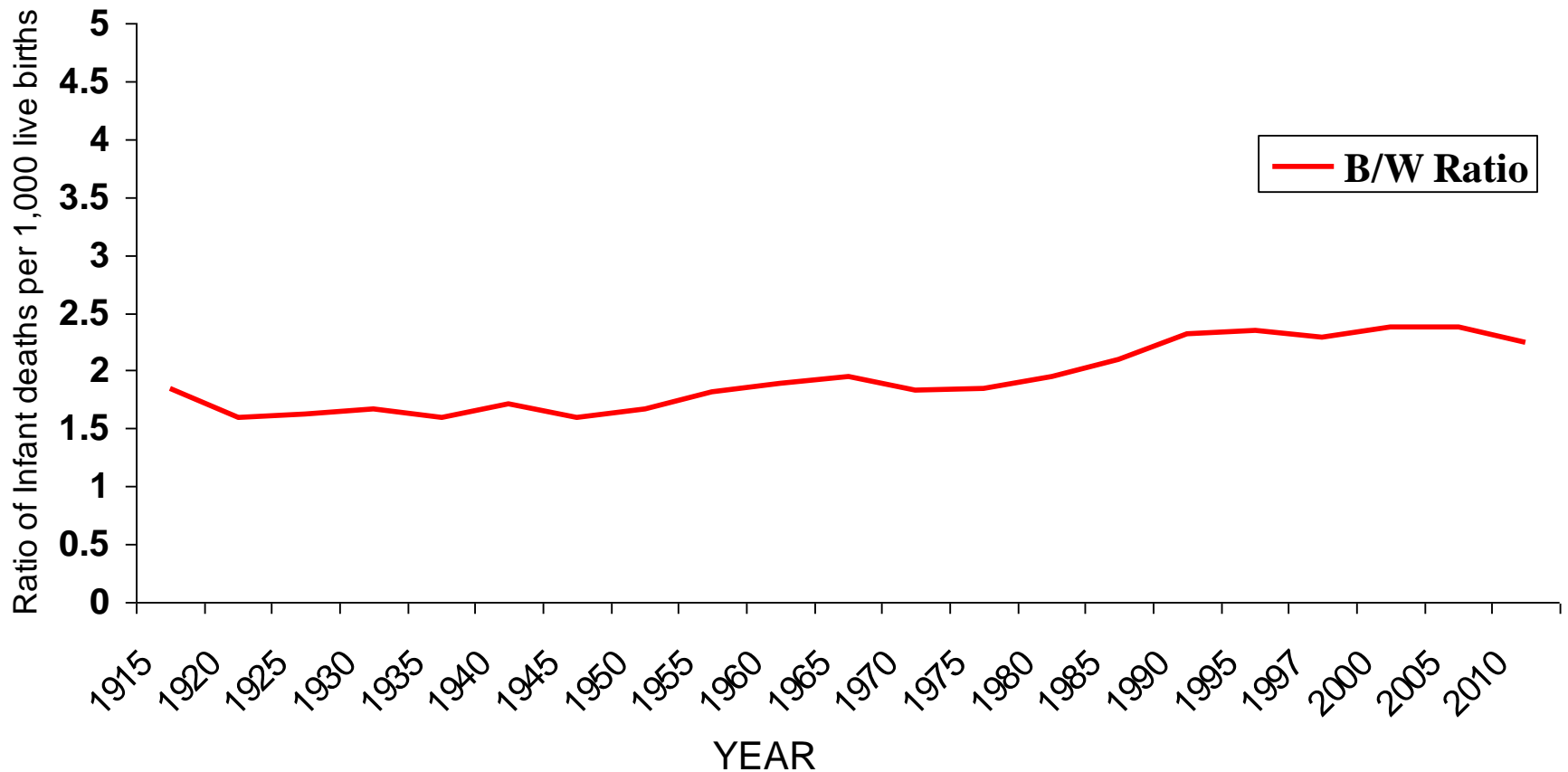
# One achievement: Decline in infant mortality, 1915-2010\*



\*Note: For years 1915-1960, “White” included persons stated to be “White,” “Cuban,” “Mexican,” or “Puerto Rican.” All others during that time period were referred to as “Nonwhite.”

Figure courtesy of Bill Jenkins.

# Black-White Ratio of Infant Mortality, United States: 1915-2010\*



\*Note: For years 1915-1960, "White" included persons stated to be "White," "Cuban," "Mexican," or "Puerto Rican." All others during that time period were referred to as "Nonwhite."

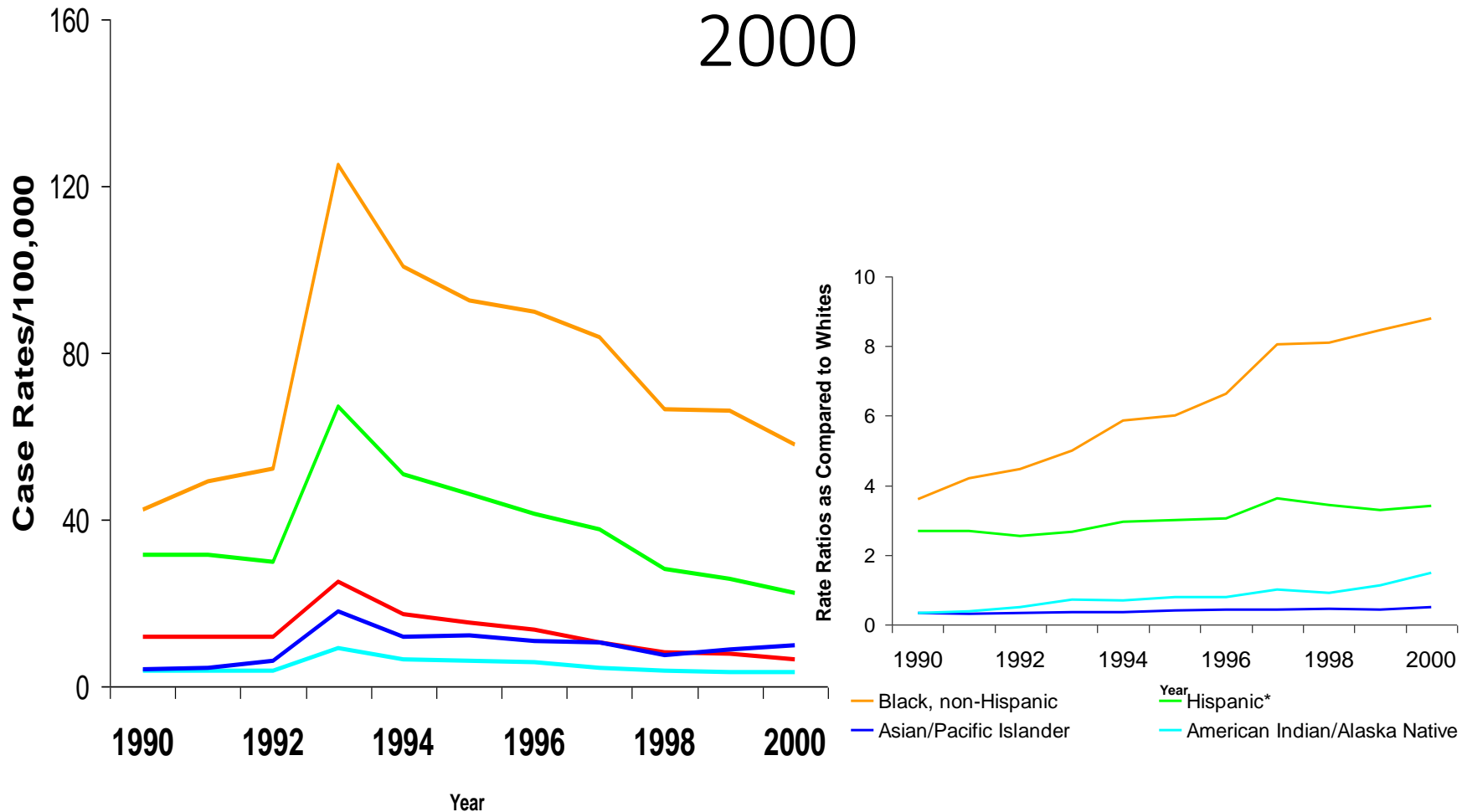
Figure courtesy of Bill Jenkins

# Age Adjusted Death Rate Ratios

	1950	1960	1970	1980	1990	2000	2002
Heart Dis	1.0	1.0	1.1	1.1	1.2	1.3	1.3
Stroke	1.3	1.4	1.4	1.4	1.5	1.4	1.4
Cancer	0.9	1.0	1.1	1.3	1.3	2.6	1.2
Diabetes	1.0	1.2	1.2	2.0	2.2	2.2	2.1
HIV	---	---	---	---	3.2	8.3	8.6
Homocide	10.9	9.6	9.4	5.8	6.6	5.7	5.6

Slide courtesy of Bill Jenkins

# AIDS by Ethnicity: United States, 1990-2000



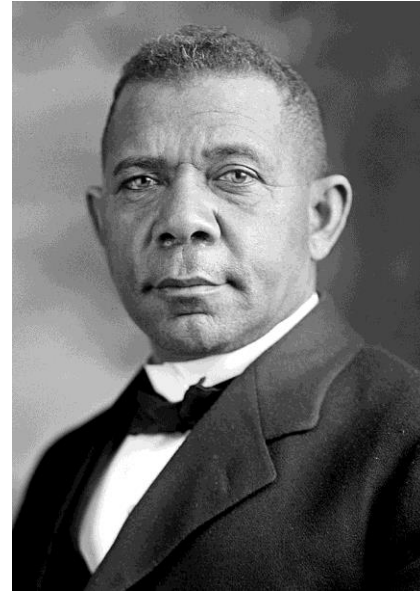
- White, non-Hispanic
- Black, non-Hispanic
- Hispanic\*
- Asian/Pacific Islander
- American Indian/Alaska Native

Slide courtesy of Bill Jenkins



II. Efforts to reduce or eliminate disparities extend over many decades

# W.E.B. Du Bois, Booker T. Washington



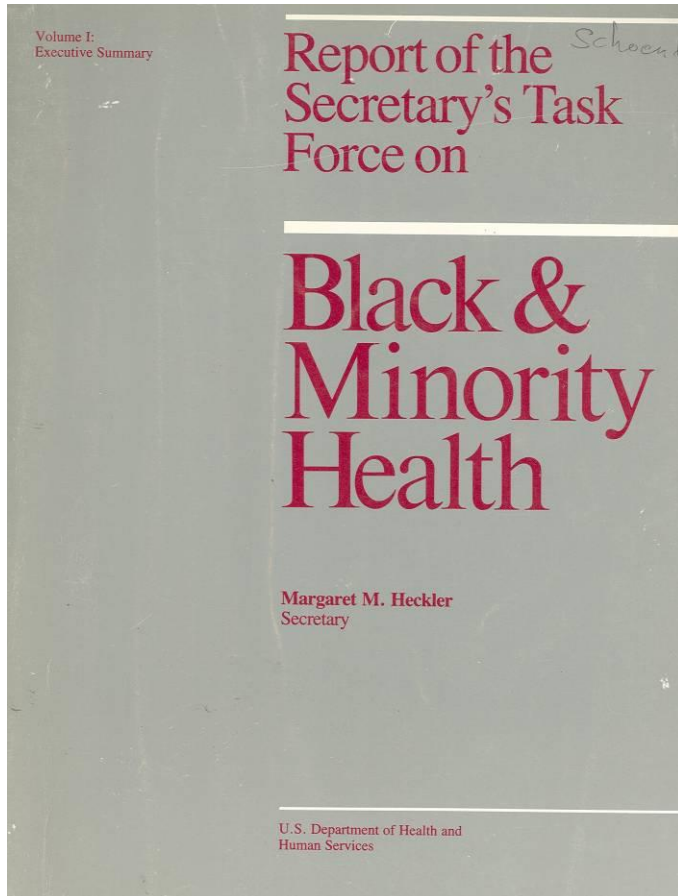
Left: W. E. B. Du Bois (1868 – 1963), in 1918. by Cornelius Marion (C.M.) Battey (1873–1927)

Photo source: [https://en.wikipedia.org/wiki/W. E. B. Du Bois#/media/File:WEB\\_DuBois\\_1918.jpg](https://en.wikipedia.org/wiki/W._E._B._Du_Bois#/media/File:WEB_DuBois_1918.jpg)

Right: Booker T. Washington, by Harris & Ewing, 1905. Photo source:

[https://commons.wikimedia.org/wiki/File:Booker\\_T\\_Washington\\_retouched\\_flattened-crop.jpg](https://commons.wikimedia.org/wiki/File:Booker_T_Washington_retouched_flattened-crop.jpg)

# The Heckler Report



- The Task Force was led by Dr. Thomas Malone, Deputy Director of the National Institutes of Health, and Dr. Katrina Johnson.

## 1985 Report of the Secretary's Task Force

"Despite the unprecedented explosion in scientific knowledge and the phenomenal capacity of medicine to diagnose, treat, and cure disease, Blacks, Hispanics, Native Americans, and those of Asian/Pacific Islander heritage have not benefited fully or equitably from the fruits of science or from those systems responsible for translating and using health sciences technology." (Introduction and Overview)

# National Black Leadership Initiative on Cancer

Per Lovell Jones, 9/17/2017: Dr. Louis Sullivan was on the National Cancer Advisory Board (NCAB) and pushed the National Cancer Institute (NCI) to do something in response to the Heckler report. NCAB agreed to hold six regional fact-finding meetings/summits under the name *National Black Leadership Initiative on Cancer* (NBLIC). Sullivan recruited Morehouse alumni and National Medical Association (NMA) members in six cities: Los Angeles and Atlanta - Dr. M. Alfred Haynes; Chicago - Dr. Clyde Phillips; New York - Dr. Harold Freeman; Washington, D.C. - Dr. LaSalle D. Leffall, Jr.; and Houston - Dr. Dezra White, joined by Lovell Jones.


In fall 1988, after the six meetings/summits, the group met with Dr. Alan Rabson, then Interim Director of the National Cancer Institute (NCI). When he basically offered nothing, Clyde Phillips said, "I can't leave your office and go back to Chicago with nothing. All of us agreed that we couldn't go back without some formal commitment. Essentially they had a sit-in.

The end result was supplemental funds to the Drew-Meharry-Morehouse Consortium Cancer Center to create six NBLIC Regions to address community cancer prevention and control needs from 1989-1992.

# ACE 10<sup>th</sup> Annual Scientific Meeting, 1991 in Atlanta, GA

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AMERICAN COLLEGE OF EPIDEMIOLOGY  
TENTH ANNUAL SCIENTIFIC MEETING







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Theme  
**"MORBIDITY/MORTALITY GAP:  
IS IT RACE OR RACISM?"**

on  
**November 7-8, 1991**

at  
**The Centers for Disease Control**

Co-sponsored by  
**American Cancer Society  
Centers for Disease Control  
Emory School of Public Health  
Morehouse School of Medicine**



## Morbidity/Mortality Gap: Is it Race or Racism?"

# ANNALS OF EPIDEMIOLOGY

VOLUME 3, NUMBER 2  
MARCH 1993

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Co-sponsored by the Centers for Disease Control, Emory University School of Public Health,  
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# ANNALS OF EPIDEMIOLOGY

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ELSEVIER

Sponsored by the  
AMERICAN COLLEGE  
OF EPIDEMIOLOGY

# Foreward, by Gladys H. Reynolds, PhD

“We need to ask why these differences exist. We need to be concerned about the data we lack and the quality of the data we do have. We need to reanalyze and reinterpret the data in order to understand the relationship between these disparities and past and current racial discrimination in education, access to jobs, housing and health care, and political power.... Most importantly, we need to develop prevention and intervention strategies appropriately designed for different cultures.... People of different races, ethnic groups, genders, and backgrounds can and should be given active roles in defining themselves and in making the decisions that determine how much and to which groups, and to which health area or disease, resources are allocated.”

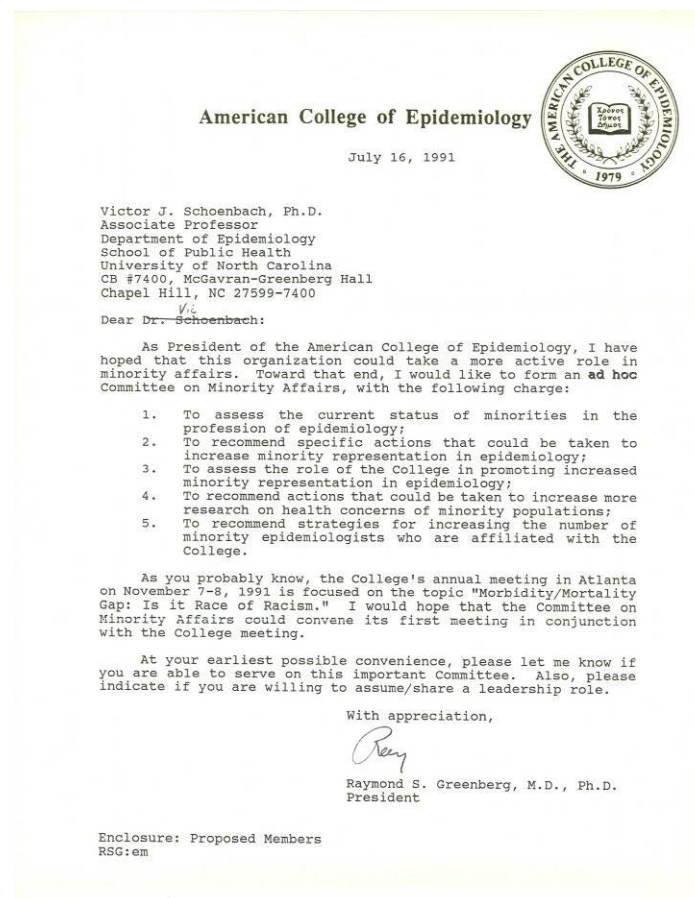
*Annals of Epidemiology* March 1993;3(2):119



# ACE President forms *ad hoc* Committee on Minority Affairs

“As President of the American College of Epidemiology, I have hoped that this organization could take a more active role in minority affairs.”

Raymond S. Greenberg, MD, PhD



# Recommendations

1. Epidemiology's **mission should include advancement** of minority health / minority epidemiologists.
2. Study minority health problems and solutions; **study racism**.
3. Conduct **vigorous outreach** to make epidemiology careers and financial aid opportunities more visible to minorities.
4. Provide **ample, stable funding** for minority training and supportive educational environments, plus networks of minority epidemiologists.
5. Federal programs (e.g., MARC, MBRS, HCOP) should expand their coverage of epidemiology research and training; **more programs should be created like the CDC's Project IMHOTEP**.
6. Professional development opportunities should include diversity training related to the review of applications for admission, applications for grants, submitted manuscripts, etc.
7. A body analogous to the AAMC Division of Minority Health, Education, and Prevention should be provided a mandate and resources to monitor progress in increasing the role of underrepresented minorities in epidemiology. Recognize/support/reward epidemiologists who make exceptional contributions.

# Annals of Epidemiology editorial by Ray Greenberg

## EDITORIAL

### Is Epidemiology Broken Down by Race and Ethnicity?

In this issue of *Annals of Epidemiology*, Schoenbach and coauthors (1) present the results of a survey conducted in 1992 of epidemiology degree programs in the United States. The purpose of this survey was to assess the racial/ethnic distribution of faculty, students, and fellows in these programs. By identifying epidemiology degree programs in a range of academic settings and in attempting to maximize participation, Schoenbach and colleagues were comprehensive in their approach.

The results of this survey are unlikely to surprise anyone who has studied or taught in an academic epidemiology program within the United States. Among faculty, only 7% of U.S. citizens were from minority groups. The corresponding minority representation levels were 20% among masters students, 13% among doctoral students and 6% among postdoctoral fellows. The reliability of these estimates is substantiated in large part by data collected independently by the Association of Schools of Public Health. The levels of minority representation within epidemiology departments in schools of public health during 1992 were 10.3% and 18.7% for faculty (2) and students (3), respectively.

In assessing these data, one might reasonably question whether the experience for epidemiology is any different from other disciplines within public health. Again, reference to the data collected by the Association of Schools of Public Health provides some insights (2, 3). When compared to the other core disciplines within schools of public health (i.e., biostatistics, health services administration, health education, and environmental sciences), epidemiology has the second lowest level of minority representation among faculty (range of other four disciplines: 7.9%–25.9%, median = 14.8%), and the lowest level among students (range of other four disciplines: 19.8%–22.7%, median = 21.2%).

Since the survey conducted by Schoenbach and colleagues (1) was cross-sectional in design, the question arises as to whether the level of minority representation in epidemiology degree programs has changed over time. The data collected by the Association of Schools of Public Health indicate that minority faculty representation was virtually

unchanged between 1985 and 1992, but the percentages of minority students increased by more than one-third during that time period. The rise in minority representation among students is attributable to increases in the percentages of Hispanic and Asian students.

There are at least three reasons why epidemiologists should be concerned about the underrepresentation of minorities in our academic programs. First, we should subscribe to the general societal goal of removing historical impediments to professional education for members of minority and disadvantaged groups. Second, minority populations in this country experience disproportionate rates of morbidity and mortality, and studying these issues in culturally appropriate ways should be enhanced with a more diverse workforce. Third, within a few decades the survival of many academic programs will depend upon their ability to compete successfully for students from an increasingly diverse applicant pool.

There is a sad irony in the fact that epidemiology, one of the disciplines that has contributed substantially to understanding the costs of social disadvantage, should find its own ranks less diverse than other public health disciplines. Schoenbach and colleagues (1) have offered seven recommendations for enhancing minority representation within epidemiology degree programs. These proposals would make our profession more accessible to a wider range of people, and as a result, would build a broader and stronger foundation for the future of epidemiology.

Raymond S. Greenberg, MD, PhD  
Dean, School of Public Health  
Emory University  
Atlanta, Georgia

#### REFERENCES

1. Schoenbach VJ, Reynolds GH, Kumanyika SK. Racial and ethnic distribution of faculty, students, and fellows in U.S. epidemiology degree programs, 1992. *Ann Epidemiol*. 1994;4:259–265.
2. Levin M. Washington, DC: U.S. Schools of Public Health Report on Faculty. Association of Schools of Public Health, 1992.
3. Levin M. Data Report on Applicants, New Enrollments and Students, Fall 1992 and Graduates and Expenditures, 1991–92 with Trend Analysis for 1974–75 Through Fall 1992. Washington, DC: Association of Schools of Public Health, 1993.

“These proposals would make our profession more accessible to a wider range of people, and as a result, would build a broader and stronger foundation for the future of epidemiology.”

# Healthy People – Overarching goals



*Healthy People 2010:*

Goal 1: Increase Quality and Years of Healthy Life

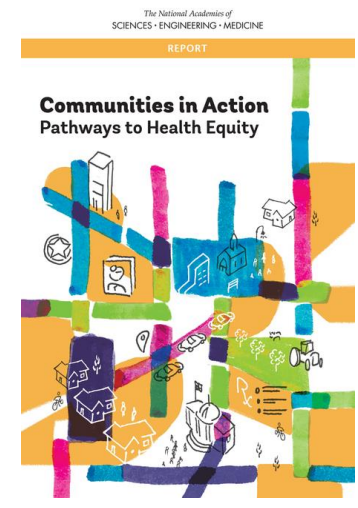
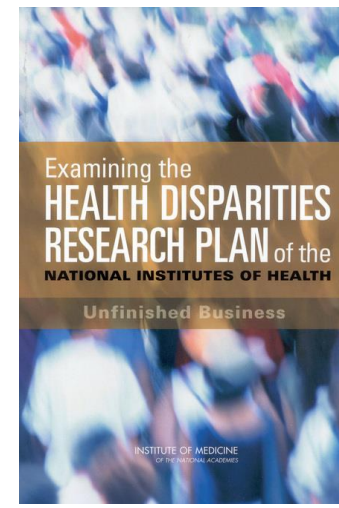
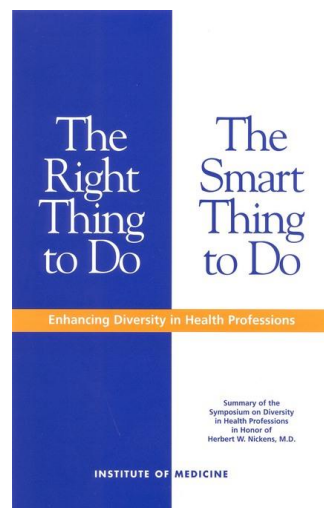
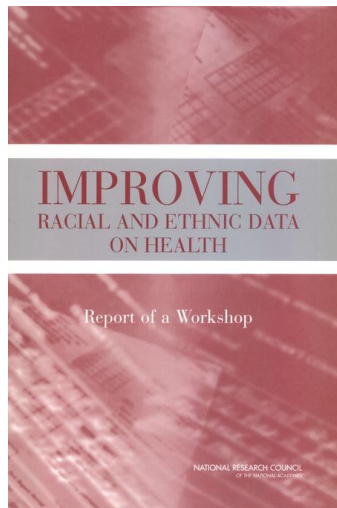
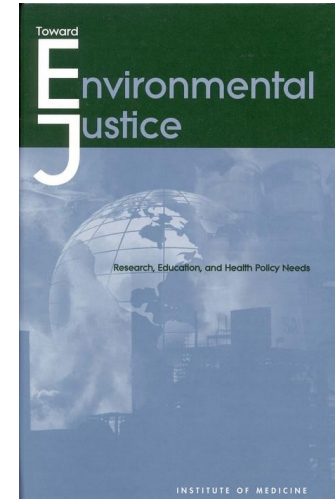
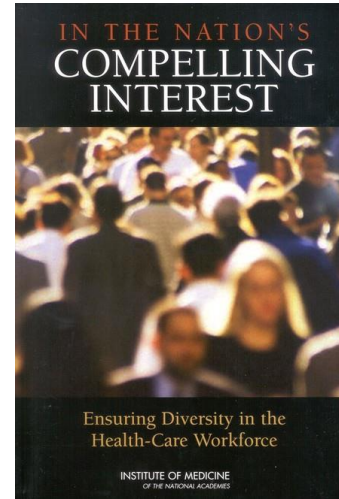
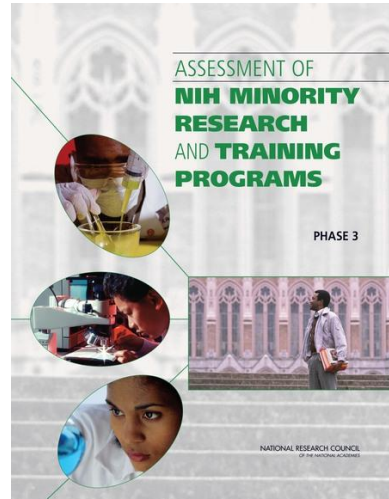
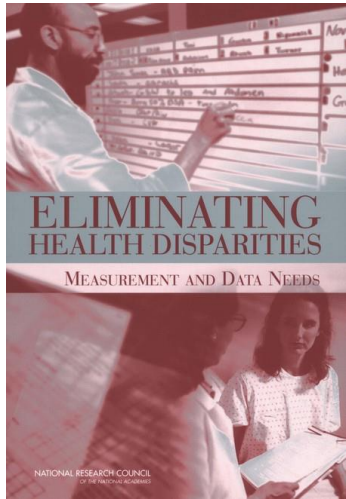
**Goal 2: Eliminate Health Disparities**



*Healthy People 2020:*

1. Attain high quality, longer lives free of preventable disease, disability, injury, and premature death.
2. **Achieve health equity and eliminate disparities.**
3. Create social and physical environments that promote good health for all.
4. Promote quality of life, healthy development, and healthy behaviors across all life stages.

# National Academy Press



# Legislation, strategic plans, organizations, grants, ...

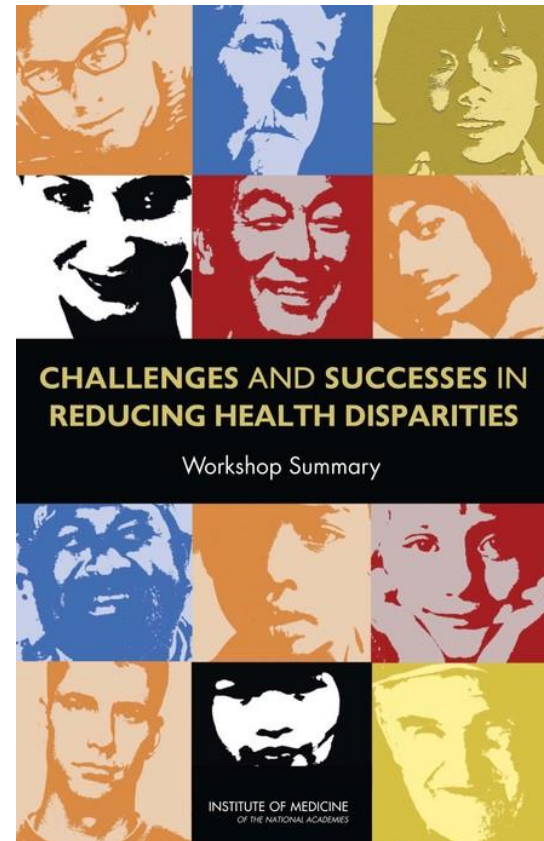
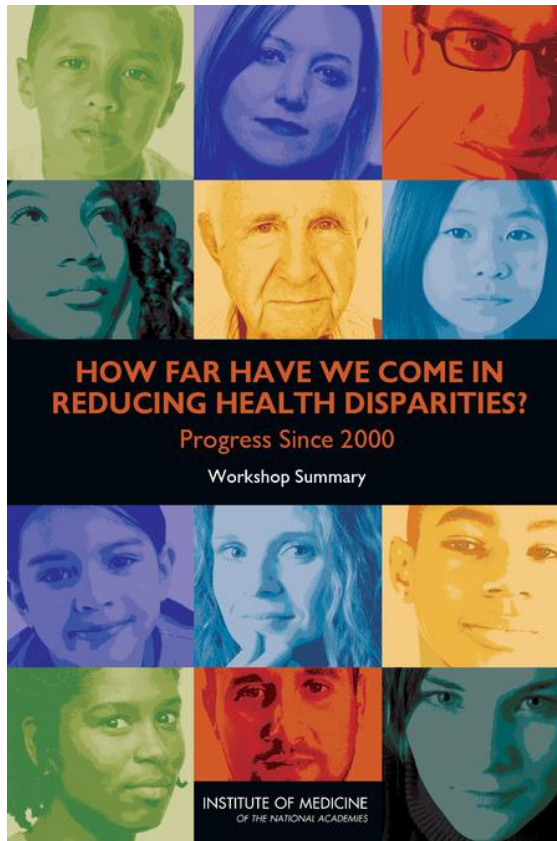
- Private organizations adopt strategic plans, etc.
- Various federal and state agencies create offices of minority health; all NIH institutes formulate strategic plans.  
NIH ORMH > NCMHD > NIMHD
- “In fiscal year 2001, the NIH spent over \$2 billion on research, research infrastructure, and public information and community outreach efforts to reduce health disparities. This provided a strong basis for further investments over the longer term – investments that promise substantial progress in reducing the incidence, prevalence, severity, and social and economic burdens of diseases and disabilities that affect racial and ethnic minorities and other health disparity populations.”

# But counterveiling forces

- War on Drugs
- War on Crime
- Our “Carceral Society”
- Private, for-profit prisons
- Technology and automation
- Globalization – outsourcing of jobs, immigration of low skilled workers
- Genomics and biotechnology
- Escalation in educational requirements vs. de-escalation in funding for public education = student debt
- . . . .



# National Academy Press



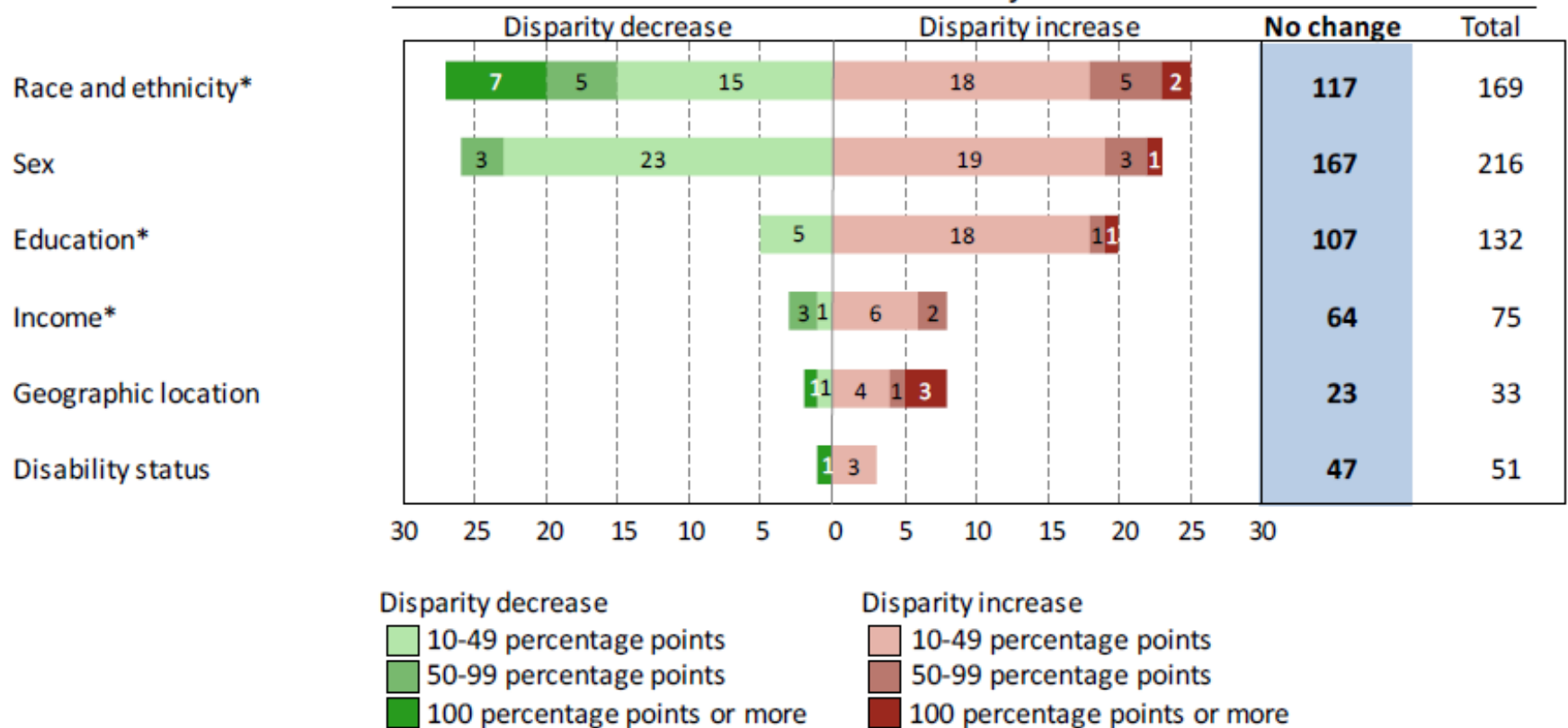


## Figure ES-8. Changes in Health Disparities from the Baseline to the Most Recent Time Points by Population Characteristic

(Healthy People 2010 Final Review)

“most of the population-based objectives with data to measure disparities had no change in health disparities.”

Number of objectives



# ASPPH – 32 years after Heckler

Despite great strides in the advancement of public health, health disparities – based on ethnicity, race, or socioeconomic class – still exist, leading to populations that are disproportionately affected by disease and have limited access to health care. Disadvantaged populations often find affordable health care to be inaccessible, and more prominent incidences of chronic diseases, like obesity and heart disease, are common. Professionals in the public health field are committed to making health care accessible to all sectors of society and discovering how to serve diverse individuals and populations, which may be at greater risk.

<http://www.aspph.org/discover/#addressing-health-disparities>

# Hookworm in Lowndes County, AL

“The parasite, better known as hookworm, enters the body through the skin, usually through the soles of bare feet, and travels around the body until it attaches itself to the small intestine where it proceeds to suck the blood of its host. Over months or years it causes iron deficiency and anemia, weight loss, tiredness and impaired mental function, especially in children, helping to trap them into the poverty in which the disease flourishes.

“Hookworm was rampant in the deep south of the US in the earlier 20th century, sapping the energy and educational achievements of both white and black kids and helping to create the stereotype of the lazy and lethargic southern redneck. As public health improved, most experts assumed it had disappeared altogether by the 1980s.”

Quoted from Ed Pilkington, “Hookworm, a disease of extreme poverty, is thriving in the US south. Why?”, *The Guardian*, Sept 5, 2017

<https://www.theguardian.com/us-news/2017/sep/05/hookworm-lowndes-county-alabama-water-waste-treatment-poverty>

Based on “Human Intestinal Parasite Burden and Poor Sanitation in Rural Alabama”, Megan L. McKenna *et al.* *American Journal of Tropical Medicine and Hygiene*, 05 Sept 2017; <https://doi.org/10.4269/ajtmh.17-0396>

III. Is there an epidemiology of public health?

*Why would* compelling epidemiologic data lead to the elimination of health disparities?

- Have compelling epidemiologic data led to the elimination of tobacco? Hospital-acquired infections? Antibiotic resistance? Widespread handgun ownership? Climate change?
- There are many competing desires and priorities for individual and collective action. People do what they have to do – but they may resent that; what they think they ought to do – but they may resent that also; what they want to do – but they may regret that; or they just do whatever!

# Social determinants of health – epidemiology as a population science: examples

- Leonard Syme – [Historical perspective](#)
- Nancy Krieger – [Epidemiology and the web of causation: Has any one seen the spider?](#) and [Epidemiology and the People's Health. Theory and Context](#)
- Anthony McMichael – [Globalization, Climate Change, and Human Health](#)
- Carl Shy – [The failure of academic epidemiology: Witness for the prosecution](#)
- David Williams – [Social and Behavioral Determinants of Toxic Stress](#)
- David Satcher – [Social Determinants of Health and Their Implications for Public Health](#)
- Moyses Szklo – [Epidemiology for public health: Are we missing the boat?](#)
- Sandro Galea – [The social in context: On rational directions in quantitative population health science](#)
- Sir Michael Marmot – [Social Determinants of Health](#)

# Epidemiology, Equity, Economics, Evolution, and Enlightenment

Victor J. Schoenbach, <http://go.unc.edu/vjs>

August 24, 2016

Social Epidemiology Seminar

UNC Department of Epidemiology

(audio recording available at <https://sakai.unc.edu/x/Cc8ln3>)

# Epidemiology, Equity, Economics, Evolution, and Enlightenment

- Epidemiology – for understanding and improving health of all people
- Equity – equity / social justice reflects the distribution of power
- Economics – economic resources are fundamental to public health, and their distribution depends on social forces
- Evolution – fundamentally, we and our societies are expressions of biology, evolving through time as an emergent phenomenon
- Enlightenment – broader and deeper understanding of our nature and our environment may help humanity manage our collective lives better, advancing public health in the present and future

From Social Epidemiology Seminar, UNC Dept of Epidemiology, Aug. 24, 2016  
(See notes page for links to slides and audio.)



# We are systems within systems

1. Complexity: Life is an “emergent phenomenon” that arises from the actions of innumerable agents – organizations, individuals, neurons, macromolecules, etc. (Examples of emergent phenomena are at <http://www.evolutionofcomputing.org/Multicellular/Emergence.html> ).

# We have evolved to cope with complexity

2. In attempting to cope with the complexity of life, we (humans and other animals that employ reasoning) create simplified representations for our perceptions, reasoning, and understanding, and simplified maxims to live by (“significant results”, “evidence-based”, “treat thy neighbor as one would be treated”, etc.). Such reductionism has been extremely effective in successfully navigating the challenges of living and interacting, enabling species to flourish – and also occasioning major problems where important elements of a situation are overlooked.

But that entails being selective, simplifying, and probably oversimplifying

3. Simplifications – models – are evaluated and declared useful, effective, accurate, etc., based on what we regard as important though inevitably incomplete criteria. For obvious practical reasons, the criteria must be observable (“measurable objectives”), relatively near-term, not too subtle, and “relevant” to what we regard as important. For example, we will declare a teaching innovation to be effective if it appears to improve student performance on examinations. If it also hastens the onset of dementia by two decades, we cannot know that.

## Science is also a system within systems

4. Scientific research is a broad conversation in which different investigator communities explore, present, critique, debate, persuade (or not) others until some kind of consensus is reached, possibly to be upset when a new discovery is accepted. The process of science involves persuading peers and gatekeepers that one has an idea worth pursuing (and being funded), publishable (because editors and reviewers think it's worthy), and accurate (because serious criticisms do not arise). How else could the search for truth work? There are no available authorities except humans. Some regard God as the ultimate authority, but in any case humans are the channels for God's communications and enforcement.

## Right choices are elusive

5. In addition, most actions have multiple effects - some “good” and others “bad”, some in the present and others only later on, some local and others distant. Because of diversity, a given phenomenon affects different people differently – “one size fits all” never completely applies. So actions affect some individuals and groups in one way and other individuals and groups in other ways. Thus, most important policy questions do not have “right” answers, but rather answers that are “right” for some and “wrong” for others (e.g., should we tax gasoline to bring its price back to \$3/gallon?). There must always be trade-offs, typically without knowing the full accounting, and not on an abstract scale but in relation to different people's interests.

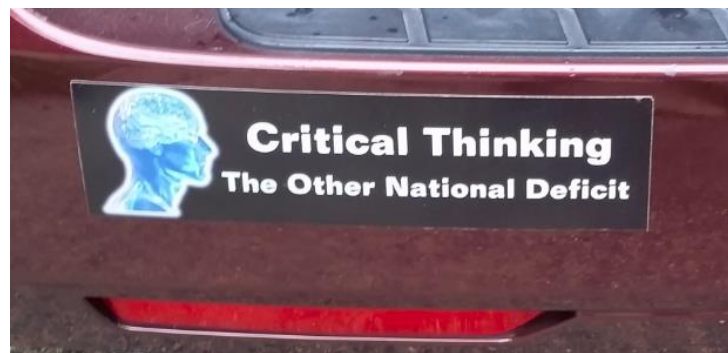
# But people see things their own way, anyway

6. In a sense, it doesn't matter that there may not be right answers, because there would be no way to recognize them even if there are, and people would not believe them unless they regarded the likely results as visibly favorable for their interests. The policies that actually emerge and are implemented will be the outcome of a competition (and cooperation) among the various agents.



We are not as rational or “evidence-based” as we think

7. Humans for the most part advocate and pursue what we regard (including unconsciousness influences) as in our interests (I’m using broad definitions of "regard" and “interests”). And that pursuit affects our very perceptions (partly via what we pay attention to), judgment, and what we devote our energies to.



# Implications

If society is emergent behavior, we need better agents – intelligent, cooperative, rested, content!

Discontent causes friction and is contagious.

Question: Does an emphasis on disparities / equality, rather than overall public health, generate friction and resistance?





# Observing society through the media and daily interactions

## Random examples of behavior and public health

- Cooperativeness, helpfulness vs corruption, anger, etc.
- Rationality, irrationality
- Religion
- Houston volunteers
- Flood insurance
- Muncie, IA – opioid use

## Grumpiness and lack of sleep

“When people have slept less, it’s a little like looking at the world through dark glasses,” said [Janice Kiecolt-Glaser](#), a longtime relationship scientist and director of the Ohio State Institute for Behavioral Medicine Research. “Their moods are poorer. We’re grumpier. Lack of sleep hurts the relationship.”

Quoted from “Relationship Problems? Try Getting More Sleep”,  
Tara Parker-Pope, *NY Times*, Sept. 4, 2017

<https://www.nytimes.com/2017/09/04/well/family/relationship-problems-try-getting-more-sleep.html>

# Grumpiness and lack of sleep

- Couples' shorter sleep duration related to higher stimulated cytokine production after marital conflict.
- People who slept less behaved more negatively and less positively only when their partner had also slept less.
- One's own and one's partner's use of emotion regulation strategies during conflict buffered short-sleep-related inflammatory reactivity.

Stephanie J. Wilson, *et al.* Shortened sleep fuels inflammatory responses to marital conflict: Emotion regulation matters. *Psychoneuroendocrinology*. May 2017; 79: 74-83  
<http://www.sciencedirect.com/science/article/pii/S0306453016305169>

# Election manipulation by Russia

On Twitter, as on Facebook, Russian fingerprints are on hundreds or thousands of fake accounts that regularly posted anti-Clinton messages. Many were automated Twitter accounts, called bots, that sometimes fired off identical messages seconds apart — and in the exact alphabetical order of their made-up names, according to the FireEye researchers. On Election Day, for instance, they found that one group of Twitter bots sent out the hashtag #WarAgainstDemocrats more than 1,700 times.

Quoted from “The Fake Americans Russia Created to Influence the Election”,  
Scott Shanes, NY Times, Sept 7, 2017

<https://www.nytimes.com/2017/09/07/us/politics/russia-facebook-twitter-election.html>

# Election manipulation by Russia

Critics say that because shareholders judge the companies partly based on a crucial data point — “monthly active users” — they are reluctant to police their sites too aggressively for fear of reducing that number. The companies use technical tools and teams of analysts to detect bogus accounts, but the scale of the sites — 328 million users on Twitter, nearly two billion on Facebook — means they often remove impostors only in response to complaints.

Quoted from “The Fake Americans Russia Created to Influence the Election”,

Scott Shanes, NY Times, Sept 7, 2017

<https://www.nytimes.com/2017/09/07/us/politics/russia-facebook-twitter-election.html>

# Election manipulation by Russia

Twitter, unlike Facebook, does not require the use of a real name and does not prohibit automated accounts, arguing that it seeks to be a forum for open debate. But it constantly updates a “trends” list of most-discussed topics or hashtags, and it says it tries to foil attempts to use bots to create fake trends. However, FireEye found that the suspected Russian bots sometimes managed to do just that, in one case causing the hashtag #HillaryDown to be listed as a trend.

Quoted from “The Fake Americans Russia Created to Influence the Election”,

Scott Shanes, NY Times, Sept 7, 2017

<https://www.nytimes.com/2017/09/07/us/politics/russia-facebook-twitter-election.html>

## IV. New possibilities

Tasha Daniels describes her experience of the Transcendental Meditation technique and how it helps her deal with stress



(click photo for video)

"Things still happen and don't go as perfectly as I wish they would, it's just the way I respond to it is different. I can be calmer and react to [stress] in a better way."



# Fred Travis on Transcendental Meditation and brain integration

States of consciousness, types of meditation - 8 min

- [www.epidemiolog.net/video/epid799c\\_2016/03-20160426/Excerpt-1018-1804.mp4](http://www.epidemiolog.net/video/epid799c_2016/03-20160426/Excerpt-1018-1804.mp4)

Brain diagrams of blood flow, EEG patterns - 5 min

- [www.epidemiolog.net/video/epid799c\\_2016/03-20160426/Excerpt-1945-2445.mp4](http://www.epidemiolog.net/video/epid799c_2016/03-20160426/Excerpt-1945-2445.mp4)

TC to CC, brain waves in 4-month vs. 8-year meditators - 4+ min

- [www.epidemiolog.net/video/epid799c\\_2016/03-20160426/Excerpt-3153-3642.mp4](http://www.epidemiolog.net/video/epid799c_2016/03-20160426/Excerpt-3153-3642.mp4)

**\* Brain integration correlations - TM - 1+ min**

- [www.epidemiolog.net/video/epid799c\\_2016/03-20160426/Excerpt-5434-5541.mp4](http://www.epidemiolog.net/video/epid799c_2016/03-20160426/Excerpt-5434-5541.mp4)

**\* Brain integration correlations - not TM - 2.5 min**

- [www.epidemiolog.net/video/epid799c\\_2016/03-20160426/Excerpt-5700-5928.mp4](http://www.epidemiolog.net/video/epid799c_2016/03-20160426/Excerpt-5700-5928.mp4)

**TM and brain integration - conclusion - 2 min**

- [www.epidemiolog.net/video/epid799c\\_2016/03-20160426/Excerpt-6062-6228.mp4](http://www.epidemiolog.net/video/epid799c_2016/03-20160426/Excerpt-6062-6228.mp4)

[May need to copy-and-paste the link into Chrome]

# Meditation in the Classroom – The Maharishi School, Fairfield IA

(Ken Chawkin, *The Edge*, Aug 1, 2004)

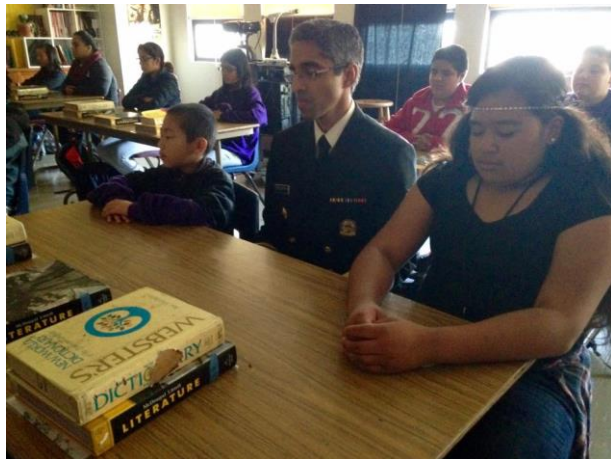
Dr. Charles Matthews, chairman and former professor of science education at Florida State University: “The students ... have the longest attention span of any I have seen in the 30 years of teaching and educational research in public and private schools.”

Julia Herbert, Ed.S., reading consultant in the Washington, D.C., area schools: “... I have never felt such a calm and silent atmosphere in a school of bright, lively, alert children...”



Jill Olsen-Virlee, Iowa Teacher of the Year for 1996 from Marion, Iowa: “Your school was truly an inspiration. The inner peace, the concern for one another, the respect and thirst for wisdom and a holistic approach to children are awesome.”

# Former Surgeon General Vivek Murthy visits the TM Quiet Time program in San Francisco



Murthy: The "Quiet Time" program has revolutionized schools in San Francisco. Grades are up, detentions/suspensions down, happiness on the rise, violence on the decline. These student and faculty practitioners are teaching us about more than stress management. They are teaching us how to love ourselves and one another.

# The Maharishi Effect

- Among the hundreds of studies of the practice of Transcendental Meditation (TM), there are over 50 studies of individuals or groups practicing the TM and/or TM-Sidhi programs and association with indicators of the larger society's quality of life, such as indicators of conflict (the Maharishi Effect).

# Mozambique President Joachim Chissano credits TM with ending the civil war in that country.



**From left to right: Richard Robertson, President Joaquim Chissano, Janine Decot Robertson and Antonio Gonçalves at the Fundação Joaquim Chissano in Maputo**

[http://www.bienfaits-meditation.com/en/the\\_beatles\\_and\\_tm/celebrities/joachim-chissano\\_en](http://www.bienfaits-meditation.com/en/the_beatles_and_tm/celebrities/joachim-chissano_en)



# Ntwananu Elementary School, Maputo



All students meditating after the school's morning assembly

# IEBO Ocotepec, Mixteca, Oaxaca





# Santa Maria Tepantlali, Sierra Norte, Oaxaca





# The Maharishi Effect – Example papers

- Orme-Johnson, D. W., C. N. Alexander, J. L. Davies, H. M. Chandler, and W. E. Larimore. "International peace project in the Middle East: The effect of the Maharishi Technology of the Unified Field." *Journal of Conflict Resolution* 1988; 32(4):776–812.
- Dillbeck, M. C. "Test of a field theory of consciousness and social change: Time series analysis of participation in the TM-Sidhi program and reduction of violent death in the U.S." *Social Indicators Research* 1990; 22:399–418.
- Dillbeck, M. C., and M. V. Rainforth. "Impact assessment analysis of behavioral quality of life indices: Effects of group practice of the Transcendental Meditation and TM-Sidhi program." *Proceedings of the American Statistical Association, Social Statistics Section* 1996:38–43.
- Walton, K. G., K. L. Cavanaugh, and N. D. Pugh. "Effect of group practice of the Transcendental Meditation program on biochemical indicators of stress in non-meditators: A prospective time series study." *Journal of Social Behavior and Personality* 2005;17(1):339-376.

See full list and discussion at:

- [www.truthabouttm.org/documentFiles/20.doc](http://www.truthabouttm.org/documentFiles/20.doc)
- <http://www.truthabouttm.org/truth/societaleffects/critics-rebuttals/>

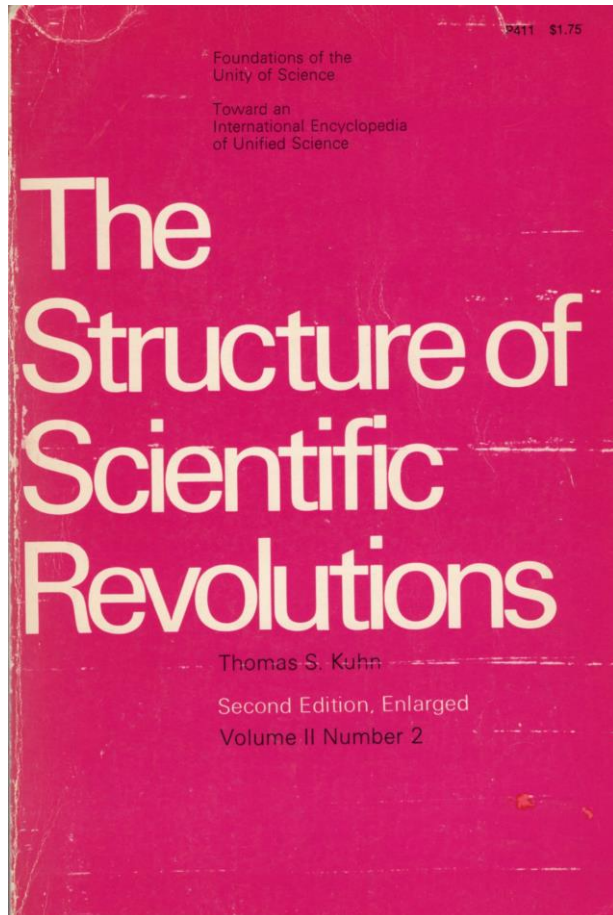
# The Maharishi Effect – Invincible Military

[Nepal](#), [Ukraine](#), and several militaries in [Latin America](#) are participating

(left: Ecuador:  
[http://www.davidleffler.com/enewsletter/20100703\\_IDT\\_News.html](http://www.davidleffler.com/enewsletter/20100703_IDT_News.html))



# Thomas Kuhn's *The Structure of Scientific Revolutions*

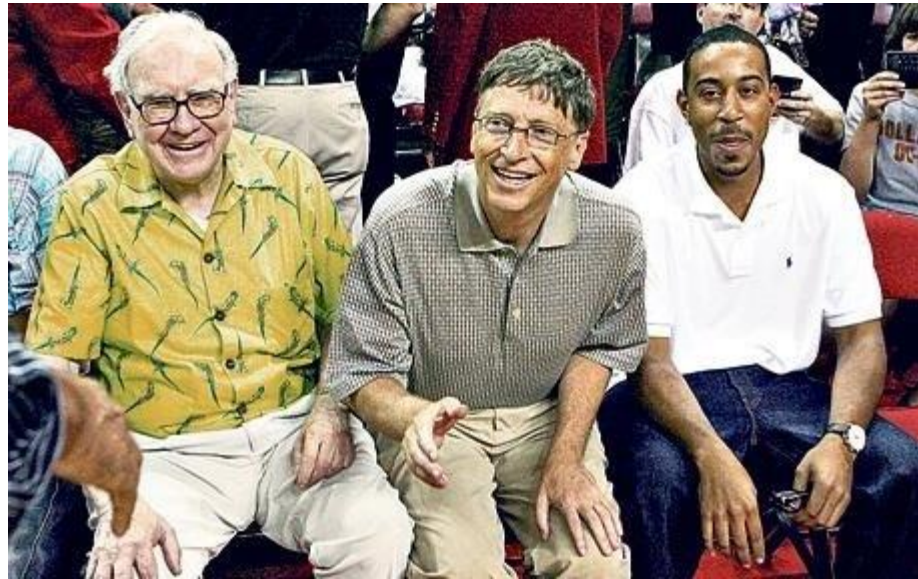


“Where the standard account saw steady, cumulative "progress", Kuhn saw discontinuities – a set of alternating ‘normal’ and ‘revolutionary’ phases in which communities of specialists in particular fields are plunged into periods of turmoil, uncertainty and angst. These revolutionary phases – for example the transition from Newtonian mechanics to quantum physics – correspond to great conceptual breakthroughs and lay the basis for a succeeding phase of business as usual.”

Quoted from “Thomas Kuhn: the man who changed the way the world looked at science”, John Naughton, *The Guardian*, 18 August 2012

<https://www.theguardian.com/science/2012/aug/19/thomas-kuhn-structure-scientific-revolutions>

# The dinner that cost Bill Gates, Warren Buffett and other celebrities billions



Warren Buffett and Bill Gates. Photo: Getty

# It could happen?

“This week ... 40 billionaires – worth a combined \$230 billion (£145 billion) – signed a "giving pledge" to donate at least 50 per cent of their wealth to good causes. It is a remarkable act of noblesse oblige, even in a country whose tradition of philanthropy is the strongest in the industrialised world.”

[www.telegraph.co.uk/news/worldnews/northamerica/usa/7929657/The-dinner-that-cost-Bill-Gates-Warren-Buffett-and-other-celebrities-billions.html](http://www.telegraph.co.uk/news/worldnews/northamerica/usa/7929657/The-dinner-that-cost-Bill-Gates-Warren-Buffett-and-other-celebrities-billions.html)

“it all started with a dinner”

“... it all started with a dinner – a secret one envisaged by Warren Buffett, organised by Bill and Melinda Gates, and hosted by David Rockefeller ... at the elegant and discreet President's House at Rockefeller University in New York on May 5 last year.” By Tom Leonard

[www.telegraph.co.uk/news/worldnews/northamerica/usa/7929657/The-dinner-that-cost-Bill-Gates-Warren-Buffett-and-other-celebrities-billions.html](http://www.telegraph.co.uk/news/worldnews/northamerica/usa/7929657/The-dinner-that-cost-Bill-Gates-Warren-Buffett-and-other-celebrities-billions.html)

## UNC conferences/webcasts

**Coming Sept 29th:** *The Courage to Lead: Scholar-Activism and Health Equity in Turbulent Times*, 23<sup>rd</sup> National Health Equity Research Webcast.

<http://go.unc.edu/nherw>

- Camara Jones, Andrew Curley, Paul Cuadros,  
Moderator: Wizdom Powell

**Coming Feb 23:** *Reclaiming the Narrative*, 39th Annual Minority Health Conference with interactive webcast of keynote lecture.

Past webcasts at [www.minority.unc.edu/resources/webcasts/](http://www.minority.unc.edu/resources/webcasts/)

Thank you!

Please visit my “virtual library” at

<http://go.unc.edu/sjae>

and my other pages at

<http://go.unc.edu/vjs>