

**Plato's Noble Lie
Codevilla's Scientific Pretense
Gov't Lying for Justice**

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Socrates in Plato's dialogues explained how the Noble Lie is useful for achieving political harmony. The Noble Lie Plato used was an "explanation for why there were differences in stature and position in a community that were ordained by a divine. Socrates speaks of a socially stratified society, wherein the populace are told "a sort of Phoenician tale."

Over the centuries the Noble Lie has been a constant and repeated in matters of politics and political affairs. exemplified today by the delusion of socialism as a scientific formula for social and societal propriety, for example, but, for this discussion let's consider Noble Lies told by environmentalists and their scientific allies, or whores, if you prefer that description that certainly fits.

The two major Noble Lies promoted by environmentalism in matters of science are built on another bigger Noble Lie, that humans are a cancer on the earth and destructive of the beauty and perfection of nature.

The two component lies essential to policy making are:

1. There is **no threshold** of toxicity or harm from radiation or chemical agents, so they must be eliminated from the environment
2. Even though epidemiology is not capable of proving causation, and small associations in an observational study are not proof of causation, for a cause, it is acceptable for researchers to lie and assert their small associations studies are proof that ambient air pollution is toxic and harmful.

In the case of the first lie Ed Calabrese has exposed the lies of Hermann Muller, Fruit Fly radiation effects researcher and 1946 Nobel Prize winner for "proving" Linear No Threshold (LNT) radiation biophysics. Muller influenced international Biological Effects of Ambient Radiation (BEAR)

panels to adopt his no threshold theory but his influence also resulted in adoption of linear no threshold (LNT) for general toxicology (particularly cancer research) even though the reality is that Paracelsus was and is right—**Dose Makes the Poison** even when it comes to carcinogenicity.

In the case of the small association epidemiology lie, the rules are the rules and are well described in the *Reference Manual on Scientific Evidence*, published by the Federal Judicial Center, discussed in detail below as to its assertions about the limits and usefulness of epidemiology.

Plato and the Noble Lie.

Plato (427 BC-347 BC) advocated a socialist order with property held in common (the state) and that human nature can and should be molded and transformed, influenced for the benefit of the state. NOT AN AMERICAN CONCEPT AT ALL BUT WELL DEVELOPED IN EUROPE.

On the other hand--Aristotle argued that the laws of nature and the rule of law demand that government should govern for the good of the people, not for the good of those in power. Cicero (106 BC-43 BC) asserted that the “right of ownership is inalienable” His reasoning was rooted in natural law and the “laws of human society.”

http://www.americanthinker.com/articles/2017/07/americas_long_march_toward_a_secular_socialist_democracy.html

Angelo Codevilla wrote an extraordinary essay in *American Spectator*, “Scientific Pretense vs. Democracy” (April 2009)

https://spectator.org/41862_scientific-pretense-vs-democracy/

Codevilla quoted President Obama in the intro “*We will restore science to its rightful place...*” Codevilla unpacked Obama’s statement—to this translation:

‘Under my administration, Americans will have fewer choices about how they live, and fewer choices as voters because, rightfully, those choices should be made by officials who rule by the authority of science.’

The argument “Do what we say because we are certified to know better” is a slight variant of “Do what we say because we are us.” (Make you think of the Noble Lie?)

Codevilla pointed out that the administrative state, that found its footing on the Continent as conceived and created by the French and then the Prussian government bureaucracies in particular, depends on the designation and sponsorship of an army of government “experts” that influence, persuade the populace and intimidate or even suppress opposing viewpoints. The intimidation is totalitarian in nature and the army serves the paternalistic state.

Codevilla:

Only in Switzerland and America did the theory and practice of popular government survive into the modern world. But note: they survived because they were planted on older, hybrid pre-Enlightenment roots.

Because the pretense of rare knowledge is the source of the modern administrative state's intellectual and moral authority, its political essence is rule of *the few, by their own authority, over the many*.

It follows then that *the modern struggle is over control of the process of accreditation*, and that the arguments the masses hear must be mostly *ad hominem*, seldom *ad valorem*— not least because the experts deem the masses incapable and unworthy of hearing anything else.

Codevilla favorably quoted Eisenhower's farewell speech:

The prospect of domination of the nation's scholars by Federal employment, project allocations, and the power of money is ever present and is gravely to be regarded. Yet, in holding scientific research and discovery in respect, as we should, we must also be alert to the equal and opposite danger that public policy could itself become the captive of a scientific technological elite.

Codevilla followed the 2009 essay on Scientific Pretense vs. Democracy with another stunning discussion of what has happened to America as it becomes an administrative state ruled over by a class of elites.

"America's Ruling Class and the Perils of Revolution." Summer issue 2010 *American Spectator*

https://spectator.org/39326_americas-ruling-class-and-perils-revolution/

Codevilla:

Hence more power for the ruling class has been our ruling class's solution not just for economic downturns and social ills but also for hurricanes and tornadoes, global cooling and global warming. *A priori*, one might wonder whether enriching and empowering individuals of a certain kind can make Americans kinder and gentler, much less control the weather. *But there can be no doubt that such power and money makes Americans ever more dependent on those who wield it. . . .*

Today's ruling class, from Boston to San Diego, was formed by an educational system that exposed them to the same ideas and gave them remarkably uniform guidance, as well as tastes and habits. These amount to a social canon of judgments about good and evil, complete with secular sacred history, sins (against minorities and the environment), and saints. Using the right words and avoiding the wrong ones when referring to such matters — speaking the "in" language — serves as a badge of identity. . . .

America's ruling class speaks the language and has the tastes, habits, and tools of bureaucrats. It rules uneasily over the majority of Americans not oriented to government.

The two classes have less in common culturally, dislike each other more, and embody ways of life more different from one another than did the 19th century's Northerners and Southerners — nearly all of whom, as Lincoln

reminded them, “prayed to the same God.” By contrast, while most Americans pray to the God “who created and doth sustain us,” our ruling class prays to itself as “saviors of the planet” and improvers of humanity.

(Dunn: That is why they can live with their NOBLE LIES)

Eric Hoffer:

Faith in a holy cause is to a considerable extent a substitute for lost faith in ourselves. Our sense of power is more vivid when we break a man's spirit than when we win his heart.

Friedrich Hayek called it the Fatal Conceit, the pretense of knowledge.

CS Lewis—“Of all tyrannies a tyranny sincerely exercised for the good of its victims may be the most oppressive.”

Joseph Schumpeter said the first casualty of idealism is the truth.

Thomas Sowell and **William Voegeli** have eloquently pointed out in their writings that Intellectuals traffic in abstract concepts and notions, and most importantly are never required to show that their ideas work. They have no accountability but have a high opinion of themselves and their good intentions.

George Orwell: “During times of universal deceit, telling the truth becomes a revolutionary act.”

Karl Popper thought the Noble Lie smelled of totalitarianism.

The point is that political tyrannies and totalitarian states are built on lies, and the populace is tamed by lies and intimidated by lies, particularly if compliant in voicing those lies. As Orwell asserted in 1984, it is important to get the populace to believe the lie, to assert the lie, to believe the lie.

Dissent and disagreement are fundamentally democratic and statists are dedicated to suppression of dissent, censorship of opposition. I would suspect the totalitarians are a little uneasy with the nature of the audience at DDP that I address here today.

HL Mencken said—

The whole aim of practical politics is to keep the populace alarmed (and hence clamorous to be led to safety) by menacing it with an endless series of hobgoblins, all of them imaginary.

The Precautionary Principle and the goal of practical politics energizes and enables the Noble Lie and paternalistic tyranny.

The noble lie that creates a hobgoblin enables the statist tyrants.

Fear and anxiety expressed in the political mind set of zero tolerance and the precautionary principle is also the key to enablement of the state and it's apparatchiks and bureaucrats, who derive their power from their ability to designate "experts" in the service of the state and the purpose of rescuing the populace from the hobgoblins and uncertainties that are portrayed as hobgoblins.

Richard Feynman on Cargo Cult Science (Cal Tech Commencement speech 1974)

<http://www.lhup.edu/~DSIMANEK/cargocul.htm>

. . . The first principle is that you must not fool yourself--and **you are the easiest person to fool. So you have to be very careful about that.** After you've not fooled yourself, it's easy not to fool other scientists. You just have to be honest in a conventional way after that.

. . . you should not fool the layman when you're talking as a scientist.

It is very dangerous to have such a policy in teaching--to teach students only how to get certain results, rather than how to do an experiment with scientific integrity.

Is there a path in America to rational science and policy making? A way to prevent the Noble Lie?

Daubert v. Merrell Dow 509 US 579 (1993) and Scientific Evidence Reliability and Admissibility.

Justice Blackmun wrote the opinion for the Supreme Court that established new and more rigorous rules for admissibility of scientific evidence. He made the general assertion that the science offered should be the product of methods and processes used by professionals in their daily conduct of science and specified the characteristics of good science.

The ***Reference Manual on Scientific Evidence***, published by the Federal Judicial Center in response to the dicta and impact of *Daubert*, is now in the 3rd Edition (2011) and provides legal and scientific advice and guidance written by experts to educate judges and lawyers on evidence admissibility issues under the Federal Rules of Evidence (1973) with particular attention to Rules 104 of relevance and fit and 702 on Expert Testimony. I would recommend the discussions in the chapter on epidemiology related to proof of causation and the importance of showing a strong

relationship between the alleged toxin and the effect, the effect of 100%, a relative risk of 2.0 being a critical minimum.

None of the EPA studies on air pollution achieve that Relative Risk of 2.0 or more.

Judging Science (MIT Press 1997) by Peter Huber and Kenneth Foster, explores the nature of science in the context of Daubert and by writings of great scientists and a review of the literature shows how to assure reliable science is admitted in court. They also provide explanations for how intellectual passion and confirmation bias produce bad science.

We can always hope that when the proper forum and arguments are presented, good science will win.

The Noble Lie about projected warming is:

Warming is going to be catastrophic and we will reach intolerable warmth that is destructive and harmful.

Answer—warming is good, carbon dioxide is beneficial to life and the history of the planet does not support the catastrophic predictions for effects of warming or increased carbon dioxide. The planet has done quite well in the past when it was much warmer and carbon dioxide levels were much higher.

The longest running Noble Lie of the researchers and policy makers at the US EPA? Ambient Air Pollution is toxic and lethal. It kills hundreds of thousands of Americans annually. It causes asthma, heart disease, lung disease strokes, pimples, premature births, anxiety, pneumonia, irritable bowel disorders, insomnia, (name something) and IT KILLS HUNDREDS OF THOUSANDS OF AMERICANS EVERY YEAR, MILLIONS AROUND THE GLOBE.

Well, I have been a physician for 46 years now and I am still waiting for my first death from air pollution. A few episodes of extraordinary inversion events with toxic chemical smog have caused some deaths in the past, Donora PA event of 1946 killed 20, the Belgium Meuse Valley event of 1930 killed 60 and the London smog of 1952 supposedly killed 4000 or some say 12,000 but then we consider who was reporting. That's the record of terrible air pollution events? Even the record in times of significant air pollution in China, for example.

EPA epidemiology Lies, the Noble Lie for pristine air

Small association epidemiology (population studies) is a fertile field for cargo cult data dredging and dishonest projections. Small associations in epidemiological studies don't prove causation, and there are many studies that show no associations at all, but the US EPA officially decided to embrace the Noble Lie that small particle air pollution kills so many knowing they were making those claims based on no proof epidemiology.

In the 1993 and 1995 two studies by Douglas Dockery and C. Arden Pope (they shared the work as co-authors) were alleged by Carole Browner, a fanatic environmentalist and Administrator of the

US EPA, to prove the toxicity and lethality of ambient small particle air pollution, justifying dramatic and aggressive new air pollution regulations.

Pope study 1995, Particulate Matter as a predictor of mortality

http://www.atsjournals.org/doi/abs/10.1164/ajrccm/151.3_Pt_1.669?journalCode=ajrccm Pope study

Douglas Dockery, An Association between Air Pollution and Mortality in Six U.S. Cities, 1993

<http://www.nejm.org/doi/full/10.1056/nejm199312093292401#t=article>

The problem with epidemiology is that in a spatial/temporal inquiry that allows for slicing and dicing data, there is always the temptation to try this and that methods with the data until the answer desired comes up. IT'S called data dredging.

However, after the sponsored studies were in and small associations found in the population studies of Pope, Dockery and others, all financed handsomely by the EPA, the NOBLE LIE WAS IN.

The EPA asserted that the small associations, even within the range of noise for the effect being studied, were proof of air pollution toxicity and lethality and then the game was on.

Fallacious and mistaken conclusions that are a product of what Plato called the Noble Lie—a lie to the public for political agenda purposes can be used to promote what some in government consider a Noble Cause—suppressing industrial activity and progress.

The Noble Lie in air pollution epidemiology is that small associations must mean something because the ideological mind set is air pollution must be bad, so make it bad to make it easier to regulate it and eliminate it.

Karl Popper, philosopher of science and strong advocate of evidence based deductive science, thought that the Noble Lie was an element of political totalitarianism, and intellectual tyranny. (Popper, Noble Lie) His assessment appears to be correct.

All of the conduct of the US EPA researchers that violates the rules of Austin Bradford Hill on proof of causation are violations of the rules of the scientific method. They are intended to support the claims of air pollution toxicity and lethality or carcinogenicity to support the US EPA's agenda and regulatory regime but the science is a scam and sham, and as unreliable as the EPA claims of hundreds of thousands of deaths to support a political agenda.

As a physician in emergency medicine, general practice and corrections medicine, I am still waiting to see my first small particle air pollution death. As for ozone and asthma,

my experience is that when ozone declines in the fall, the asthma attacks increase. I take that to be evidence that the ozone/asthma causal link is another Noble Lie.

How many Noble Lies can a society tolerate, considering that the Noble Lies are mostly seen in the political/social science areas of inquiry? I could wear you out with the lies that are perpetrated by social scientists and psychologists.

Today James E. Enstrom (PhD Physics, Stanford, MPH (epidemiology) UCLA) will provide the DDP conference with a reanalysis of the results on important air pollution research to show that there is no justification for the claims of horrific death counts annually.

James E. Enstrom

Dr. Enstrom is a distinguished epidemiologist who has dedicated his career to epidemiological research, is long associated with the Jonsson Comprehensive Cancer Center at the University of California, Los Angeles. Now he has a Scientific Integrity Institute dedicated to challenging junk science in air pollution research in particular, and exposing flaws in epidemiological studies relied on by EPA and air quality regulatory agencies in California to estimate the health effects of air pollution, particularly particulate matter (PM). He points out at every opportunity the problem with epidemiological studies on air pollution:

- mobile populations
- unreliable, non-continuous and fixed monitor information
- no monitor information on some pollutants all the time (2.5 micron particulate matter, for example) or part of the time (10 micron and others)
- an attempt to assess long term chronic health effects of air pollution by death studies, an acute phenomenon
- death certificates and raw death data used without autopsies
- inside air quality ignored for populations living indoors, particularly during old age, advanced medical illness, and terminal illness
- no biological plausibility because the deaths are in the setting of non-toxic levels of air pollution (Enstrom, 2005)

Each of these flaws can lead to violations of Bradford Hill standards for proof of causation, and make such studies unreliable guides for public policy.

Despite these known limitations on the reliability of observational studies, EPA and other air quality regulators rely on them for virtually all their claims of air pollution effects and reasons for their aggressive air pollution regulations.

To emphasize work of Enstrom, I add this discussion and the references.

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Some introductory information and then Enstrom's alarming criticisms of US EPA and other environmental entity sponsored research.

Enstrom:

EPA's claim that PM_{2.5} causes long-term death is grounded in two long-term epidemiologic studies: the Harvard Six Cities study (Dockery et al. 1993, Pope et al., 2002) and the American Cancer Society (ACS) study (Pope et al., 1995, 2002, 2009). The original Harvard Six Cities study tracked the health of 8,111 subjects in six cities between 1974 and 1991 and found a RR of 1.26 for those living in cities with the highest reported levels of air pollution compared to those living in the city with the lowest reported level of air pollution. The authors concluded, "fine particulate air pollution ... contributes to excess mortality in certain U.S. cities." The original ACS study compared air pollution levels with mortality in more than 500,000 people from 151 U.S. metropolitan areas between 1982 and 1989. It found RRs of 1.17 for PM and 1.15 for sulfate, once again comparing the most polluted city with the least polluted city. Even this weak association – far below the RR of 2 or even 1.5 required by the Federal Judicial Center – is suspect. According to Arnett, "health information was obtained only once, at entry into the study in 1982 and it considered only a few of the 300 known risk factors that have been associated with cardiovascular disease. None of the data obtained was verified by review of medical records or by other means" (Arnett, 2006, p. 6).

Not surprisingly, given the small associations they found and lack of supporting science, EPA's own scientific advisory committee refused to approve a PM standard. In 1995, in response to a request from EPA, researchers for the National Institute of Statistical Science investigated the possible relationship between airborne particulate matter and mortality in Cook County, Illinois, and Salt Lake County, Utah. "We found no evidence that particulate matter \leq 10 microns (PM₁₀) contributes to excess mortality in Salt Lake County, Utah. In Cook County, Illinois, we found evidence of a positive PM₁₀ effect in spring and autumn, but not in winter and summer," they reported. "We conclude that the reported effects of particulates on mortality are unconfirmed" (Styer et al., 1995).

More from Enstrom:

In 2005, Enstrom surveyed observational studies on the health effects of PM in the U.S. up to that point. His table summarizing the findings appears in Figure 4.2.3.2. Note the most important

result column at the far right, and the number of studies with small Relative Risk (RR) but also the number of studies that had confidence intervals that included 1.0, that means the result was a null effect. Enstrom, J.E. 2005. Fine particulate air pollution and total mortality among elderly Californians, 1973-2002. *Inhalation Toxicology* **17**: 803-817.

In later writing on this study, Enstrom said “The methodology used in my study is completely consistent with the methodology used in the 2002 Pope study. For instance, my study controlled for smoking at entry and presented results for never smokers. Furthermore, fully adjusted relative risks hardly differed from age-adjusted relative risks. My study used the same 1979-1983 PM2.5 data that was used in the Pope studies” (Enstrom, 2006). Enstrom also noted that his findings were consistent with those of Krewski et al. (2005) who found “no excess mortality risk in California due to PM2.5 among the ACS CPS II cohort during 1982-1989” (Ibid.).

Enstrom returned to the issue with a paper presented in 2012 at a meeting of the American Statistical Association (Enstrom, 2012). Part of that presentation included a new table summarizing more recent California-specific studies of PM2.5 and total mortality in California. That table appears below in Figure 4.2.3.3.

There are those who might argue that a study of California is not broad enough, but if the purpose of the study is to determine the effect of small particulates and the study has an adequate sample size, only an unknown or unmeasured benefit or positive factor related to living in California could be considered as an explanation for the null effect results. Such a confounder is not known or proposed, so the results have to be accepted as evidence that small particles are not killers and do not harm.

Figure 4.2.2.3. Epidemiologic cohort studies of PM2.5 and total mortality in California
Source: Enstrom, 2012. Enstrom wrote, “There is now overwhelming epidemiologic evidence that particulate matter (PM), both fine particulate matter (PM2.5) and coarse particulate matter (PM10), is not related to total mortality in California” (Enstrom, 2012, p 2324). At one time 10 micron particle particles were the only measured particle pollution and small particles were assumed to be part of the total large particle pollution load.

Enstrom, J.E. 2012. Particulate matter is not killing Californians. Presentation at American Statistical Association Joint Statistical Meeting, San Antonio (August 1). <http://www.scientificintegrityinstitute.org/PFSupp072015.pdf>.

In 2017 Enstrom published another review and analysis of the CPS data and concluded that the claims made were flawed.

From the Abstract:

Conclusion: No significant relationship between PM2.5 and total mortality in the CPS II cohort was found when the best available PM2.5 data were used. The original 1995 analysis found a positive relationship by selective use of CPS II and PM2.5 data. This independent analysis of

underlying data raises serious doubts about the CPS II epidemiologic evidence supporting the PM_{2.5} NAAQS. These findings provide strong justification for further independent analysis of the CPS II data. (Enstrom 2017)

Not surprisingly, given the small associations they found and lack of supporting science, EPA's own Clean Air Scientific Advisory Committee (please review the information on George Wolff, Chair of the CASAC refused to approve a PM standard.

In 1995, in response to a request from EPA, researchers for the National Institute of Statistical Science investigated the possible relationship between airborne particulate matter and mortality in Cook County, Illinois, and Salt Lake County, Utah. "We found no evidence that particulate matter ≤ 10 microns (PM₁₀) contributes to excess mortality in Salt Lake County, Utah. In Cook County, Illinois, we found evidence of a positive PM₁₀ effect in spring and autumn, but not in winter and summer," they reported. "We conclude that the reported effects of particulates on mortality are unconfirmed" (Styer *et al.*, 1995).

TABLE 10
Relative risk (RR) and 95% confidence interval (CI) for long-term all-cause mortality per $10\text{-}\mu\text{g}/\text{m}^3$ increase in $\text{PM}_{2.5}$ for U.S. cohort studies based on $\text{PM}_{2.5}$ data, circa 1980

Study (author, year)	$\text{PM}_{2.5}$		Study characteristics				
	Data period	Mean (range) ($\mu\text{g}/\text{m}^3$)	Cohort geographic definition	Follow-up period	Mean entry age for period	Number entered in cohort	Deaths in follow-up period
Males							
Dockery et al., 1993	1979–1985	19 (11–30)	6 U.S. cities	1975–1989	~50	3671 ^a	830 ^a
Pope et al., 1995	1979–1981	18 (9–34)	50 U.S. SMSAs	1982–1989	57	130,310 ^a	~12,400 ^a
McDonnell et al., 2000	1973–1977	32 (17–45)	9 CA airsheds	1976–1992	58	≤1347	≤375
Lipfert et al., 2000	1979–1981	24 (6–42)	42 U.S. counties	1975–1981	51	26,067	~4600 ^c
	1982–1984	22 (8–41)		1982–1988	57	~21,467	~6100 ^c
	1982–1984	22 (8–41)		1989–1996	63	~15,367	~5765 ^c
Pope et al., 2002	1979–1983	21 (10–30)	61 U.S. SMSAs	1982–1998	57	~159,000 ^a	~36,000 ^a
Enstrom, 2005	1979–1983	24 (11–42)	11 CA counties	1973–1982	66	15,573	4701
	1979–1983	24 (11–42)		1983–2002	74	10,872	8831
Females							
Dockery et al., 1993	1979–1985	19 (11–30)	6 U.S. cities	1975–1989	~50	4440 ^a	599 ^a
Pope et al., 1995	1979–1981	18 (9–34)	50 U.S. SMSAs	1982–1989	57	164,913 ^a	~8365 ^a
McDonnell et al., 2000	1973–1977	32 (17–45)	9 CA airsheds	1976–1992	58	≤2422	≤568
Pope et al., 2002	1979–1983	21 (10–30)	61 U.S. SMSAs	1982–1998	57	~200,000 ^a	~24,000 ^a
Enstrom, 2005	1979–1983	24 (11–42)	11 CA counties	1973–1982	65	20,210	4094
	1979–1983	24 (11–42)		1983–2002	73	16,116	10,815
Both Sexes							
Dockery et al., 1993	1979–1985	19 (11–30)	6 U.S. cities	1975–1989	~50	8111	1430
Pope et al., 1995	1979–1981	18 (9–34)	50 U.S. SMSAs	1982–1989	57	295,223	20,765
Pope et al., 2002	1979–1983	21 (10–30)	61 U.S. SMSAs	1982–1998	57	~359,000	~60,000
Enstrom, 2005	1979–1983	24 (11–42)	11 CA counties	1973–1982	65	35,783	8795
	1979–1983	24 (11–42)		1983–2002	73	26,988	19,646

^a Obtained from supplementary data (Krewski et al., 2000).

^b Recalculated from published data (US EPA, 2004).

^c Obtained from the author.

None of the studies in Enstrom's table found an RR for PM_{2.5} greater than 1.15 (at the 95% confidence level), far below the Federal Judicial Center requirement of an RR of 2 or more to pass the legal requirement for evidence showing exposure to air pollution is "more likely than not" to cause an adverse health effect. Recall that an RR = 1 means no association at all, and a negative RR means a possible *positive* effect on health outcomes. Confidence intervals that include an RR of 1.0 mean that the study has a range of results that includes no effect, a result of no effect.

In the same article, Enstrom presented the results of his original study of the health effects of PM_{2.5} in California. He described his methodology as follows: "[T]he long-term relation between fine particulate air pollution and total mortality was examined in a cohort of 49,975 elderly Californians, with a mean age of 65 yr as of 1973. These subjects, who resided in 25 California counties, were enrolled in 1959, contacted in 1972, and followed from 1973 through 2002; 39,846 deaths were identified.

Enstrom returned to the issue with a paper presented in 2012 at a meeting of the American Statistical Association (Enstrom, 2012). Part of that presentation included a new table summarizing more recent California-specific studies of PM_{2.5} and total mortality in California. That table appears below in Figure 4.2.3.3.

Figure 4.2.2.3. Epidemiologic cohort studies of PM_{2.5} and total mortality in California

Relative risk of death from all causes (RR and 95% CI) associated with increase of 10 µg/m ³ in PM _{2.5}				
Krewski 2000 & 2010	CA CPS II Cohort (N=40,408 [18,000 M + 22,408 F]; 4 MSAs; 1979-1983 PM _{2.5} ; 44 covariates)	RR = 0.872 (0.805-0.944)	1982-1989	
McDonnell 2000	CA AHSMOG Cohort (N=3,800 [1,347 M + 2,422 F]; SC&SD&SF AB; M RR=1.09(0.98-1.21) & F RR=0.98(0.92-1.03))	RR ~ 1.00 (0.95 - 1.05)	1977-1992	
Jerrett 2005	CPS II Cohort in Los Angeles Basin (N=22,905; 267 zip code areas; 1999-2000 PM _{2.5} ; 44 cov + max confounders)	RR = 1.11 (0.99 - 1.25)	1982-2000	
Enstrom 2005	CA CPS I Cohort (N=35,783 [15,573 M + 20,210 F]; 11 counties; 1979-1983 PM _{2.5} ; 25 county internal comparison)	RR = 1.039 (1.010-1.069) RR = 0.997 (0.978-1.016)	1973-1982 1983-2002	
Enstrom 2006	CA CPS I Cohort (N=35,783 [15,573 M + 20,210 F]; 11 counties; 1979-1983 & 1999-2001 PM _{2.5})	RR = 1.061 (1.017-1.106) RR = 0.995 (0.968-1.024)	1973-1982 1983-2002	
Zeger 2008	MCAPS Cohort "West" (3.1 M [1.5 M M + 1.6 M F]; Medicare enrollees in CA+OR+WA (CA=73%); 2000-2005 PM _{2.5})	RR = 0.989 (0.970-1.008)	2000-2005	
Jerrett 2010	CA CPS II Cohort (N=77,767 [34,367 M + 43,400 F]; 54 counties; 2000 PM _{2.5} ; KRG ZIP; 20 ind cov+7 eco var; Slide 12)	RR ~ 0.994 (0.965-1.025)	1982-2000	
Krewski 2010	CA CPS II Cohort (N=40,408; 4 MSAs; 1979-1983 PM _{2.5} ; 44 cov) (N=50,930; 7 MSAs; 1999-2000 PM _{2.5} ; 44 cov)	RR = 0.960 (0.920-1.002) RR = 0.968 (0.916-1.022)	1982-2000 1982-2000	
Jerrett 2011	CA CPS II Cohort (N=73,609 [32,509 M + 41,100 F]; 54 counties; 2000 PM _{2.5} ; KRG ZIP Model; 20 ind cov+7 eco var; Table 28)	RR = 0.994 (0.965-1.024)	1982-2000	
Jerrett 2011	CA CPS II Cohort (N=73,609 [32,509 M + 41,100 F]; 54 counties; 2000 PM _{2.5} ; Nine Model Ave; 20 ind cov+7 eco var; Fig 22 & Tab 27-32)	RR = 1.002 (0.992-1.012)	1982-2000	
Lipsett 2011	CA Teachers Cohort (N=73,489 [73,489 F]; 2000-2005 PM _{2.5})	RR = 1.01 (0.95 - 1.09)	2000-2005	
Ostro 2011	CA Teachers Cohort (N=43,220 [43,220 F]; 2002-2007 PM _{2.5})	RR = 1.06 (0.96 - 1.16)	2002-2007	
	replaced Ostro 2010 Incorrect 2010 Result:	RR = 1.84 (1.66 - 2.05)	2002-2007	

Source: Enstrom, J.E. 2012. Are fine particulates killing Californians? Presentation to the American Statistical Association (August 1).
<http://www.scientificintegrityinstitute.org/ASA080112.pdf> Last viewed on October 30, 2015.

While one study in Enstrom's table, the CA teachers cohort at the bottom, shows an RR of 1.84 it is clearly an outlier: none of the other studies shows an RR greater than 1.11 and several show RRs *less*

than 1.0, suggesting a *positive* health effect from PM. Recent research plainly shows no support for claims by EPA and other air quality regulators that PM poses a threat to human health. Commenting on his findings, Enstrom wrote, “There is now overwhelming epidemiologic evidence that particulate matter (PM), both fine particulate matter (PM_{2.5}) and coarse particulate matter (PM₁₀), is not related to total mortality in California” (Enstrom, 2012, p 2324). At one time 10 micron particle particles were the only measured particle pollution and small particles were assumed to be part of the total large particle pollution load.

Enstrom has recently published a paper that takes down the claims of the mid 90s by the EPA sponsored and applauded researchers derived from their flawed analysis of the CPS Data.

Here is a short summary of his critique in the abstract:

Conclusion: No significant relationship between PM_{2.5} and total mortality in the CPS II cohort was found when the best available PM_{2.5} data were used. The original 1995 analysis found a positive relationship by selective use of CPS II and PM_{2.5} data. This independent analysis of underlying data raises serious doubts about the CPS II epidemiologic evidence supporting the PM_{2.5} NAAQS. These findings provide strong justification for further independent analysis of the CPS II data.

This is the complete text of the Enstrom study in Dose Response:

<https://junkscience.com/2017/04/epidemiologist-accuses-prominent-epa-funded-researchers-of-deliberate-misrepresentation-on-key-air-pollution-studies/>

The GRADE Working Group

GRADE Working Group research on epidemiological methods and reliability of epidemiological research is the product of cooperative work of an international group of academic and public entity researchers. The list of participants is impressive.

In the GRADE Working Group series (Grade Working Group publications) of articles on research guidelines published in the Journal of Clinical Epidemiology Guidelines paper no. 9 discusses quality of evidence in observational studies:

1. Introduction

In prior papers in this series devoted to exploring GRADE’s approach to rating the quality of evidence and grading strength of recommendations, we have dealt with issues of framing the question; introduced GRADE’s conceptual approach to rating the quality of a body of evidence; and presented five reasons for rating down the quality

1 The GRADE system has been developed by the GRADE Working Group. The named authors drafted and revised this article. A complete list of contributors to this series can be found on the journal’s Web site at www.elsevier.com.

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Key points

GRADE includes three criteria for rating up quality of evidence particularly applicable to observational studies.

- Rating up one or even two levels is possible when effects in observational studies are sufficiently large, particularly if they occur over short periods of time.
- A dose response gradient, or a conclusion that plausible residual confounding would further support inferences regarding treatment effect, may also raise the quality of the evidence.

This ninth article in the series examines the criteria for rating up the quality of evidence. The three primary reasons for rating up the quality of evidence are (Table 1) as follows:

- 1. When a large magnitude of effect exists,**
- 2. When there is a dose response gradient, and**
- 3. When all plausible confounders or other biases increase our confidence in the estimated effect. . . .**

Table 1

- Large magnitude of effect (direct evidence, relative risk [RR] 5 or RR 0.2 with no plausible confounders); very large with RR 5 or RR 0.2 and no serious problems with risk of bias or precision (sufficiently narrow confidence intervals); more likely to rate up if effect rapid and out of keeping with prior trajectory; usually supported by indirect evidence.
- Dose-response gradient.
- All plausible residual confounders or biases would reduce a demonstrated effect, or suggest a spurious effect when results show no effect. (Grade Guidelines 9, 2011)

Grade Working Group Publications and International organization
<http://www.gradeworkinggroup.org/>

Guyatt G, Oxman A, Sultand S, et. al. GRADE guidelines: 9. Rating up the quality of evidence J Clin Epidemiol. 2011 Dec;64(12):1311-6.

<https://www.ncbi.nlm.nih.gov/pubmed/21802902>

https://www.researchgate.net/publication/51534193_GRADE_guidelines_9_Rating_up_the_quality_of_evidence

Steve Milloy

Steve Milloy will discuss with you the EPA record of sponsoring human exposure experiments using this supposedly lethal and toxic small particulate air pollution on humans, that is unethical and illegal if what the EPA claims is true.

The National Academy of Sciences contract research arm, the National Research Council recently exonerated the EPA on the charge that they were doing unethical and illegal human experiments because the panel asserted the EPA public claims of thousands, hundreds of thousands of annual deaths were not correct and proposed that the EPA small particle air pollution deaths claims were based on chronic, not acute toxicity.

George Wolff PhD, former chair of the Clean Air Scientific Advisory Committee of the US EPA Provides a shocking indictment of US EPA researcher perfidy and misconduct.

George Wolff, toxicologist, epidemiologist, former Chair of the Clean Air Scientific Advisory Committee (CASAC) of the US EPA during the mid 1990s wrote a complementary blurb for Steve Milloy's book *Scare Pollution* and I met him at the DC Heartland climate conference in the spring of 2017 but I also did research on his comments to the EPA on behalf of industry and commercial interests on proposed air pollution regulations.

After a long look at all of this I was pleased to be able to meet Dr. Wolff, and I interviewed him on the issue of US EPA commitment to junk epidemiology. Dr. Wolff confirmed to me that the US EPA made a conscious decision to go with junk epidemiology in the mid 1990s. That was opposed by the CASAC but that opposition was buried and the CASAC members were ignored and subsequently dismissed, apparently for insubordination and adherence to reliable scientific inquiry.

Dr. Wolff told me that the EPA consciously and intentionally decided to go with the lie that the Pope, Dockery and other research claims were valid. I am not surprised, are you?

Below are Dr. Wolff's comments on the matter that have been submitted recently during public comment periods for proposed new US EPA air pollution regulations.

They comments, written by Dr. Wolff and his associates, are compelling on the question of the false claims of the EPA on small particles and ozone air pollution effects.

Review and Critique of U.S. EPA's Assessment of the Health Effects of Particulate Matter (PM)
by

George T. Wolff (Edit note: Ph.D., (Environmental Sciences), Rutgers University, New Brunswick, NJ, 1974 M.S., (Meteorology), New York University, 1970

B.S. , (Chemical Engineering), New Jersey Institute of Technology, 1969 PhD, former member 1987-97, and Chair 1992-96, US EPA Clean Air Scientific Advisory Committee [CASAC], 1992-96)

Jon M. Heuss (Edit note: BS MIT and MSc Cal Berkeley, Chem Engineering, Former Chief Scientist General Motors Corp., Principle Scientist Air Improvement Resource Inc.)

In considering the establishment of NAAQS, EPA relies on three types of health effect studies: controlled human exposures ("clinical"), animal toxicology ("toxicology") and epidemiology studies. In all NAAQS reviews prior to the 1996 PM review, EPA relied most heavily on controlled human exposures, which establish health effect endpoints as a function of exposure and demonstrate causality, and the toxicology studies which provide insights as to the mode of the damage caused by an exposure.

Epidemiology studies were used if they supported the findings in the other two types of studies because epidemiology studies can only identify statistical associations between air pollutant concentrations and health endpoint incidence and cannot be used to demonstrate causality (cause-effect relationships).

For the PM NAAQS review that ended in 1996, EPA subordinated its reliance on human exposure and toxicological studies because they showed no evidence of effects at concentrations near the level of the existing NAAQS. Instead, they relied primarily on epidemiology studies, which were finding very weak statistical associations between measures of PM, including PM10 and PM2.5, and mortality (death) at ambient concentrations well below the then existing PM10 NAAQS. EPA recognized that there were large uncertainties associated with the epidemiology studies because they cannot demonstrate cause and effect. Despite this realization, EPA promulgated new annual and 24-hour PM2.5 NAAQS based on the epidemiology findings.

When the current ongoing PM review began in 2009, EPA largely ignored the uncertainties that still remained despite more than a decade of targeted research and concluded that the epidemiological evidence is sufficient to conclude that causal relationships exist between both acute (short-term) and chronic (long-term) exposures to PM2.5 and mortality and cardiovascular and respiratory effects. As a result, they have proposed to lower the annual PM2.5 standard even further.

In summary, this study demonstrates the importance of: 1) incorporating smoking and socioeconomic variable into the models, 2) using a longer time series that has significantly different pollutant concentrations at the beginning and end of the study, 3) using the BMA approach which minimizes model selection uncertainties and finds insignificant health impacts. This suggests that the epidemiological evidence relied on by EPA is scientifically unsound and should not be used as a reason to drive the NAAQS lower and lower.

Extensive references are provided in this monograph, and space limitations prevent a complete exegesis of the Wolff and Heuss 64 page critique that focuses primarily on the problems with epidemiological studies in air pollution studies (Wolff and Heuss Review and Critique 2012)

Alliance of Automobile Manufacturers Comments on EPA's Proposal to Revise the National Ambient Air Quality Standards for Particulate Matter

77 Fed. Reg. 38890 (June 29, 2012)

August 28, 2012

(Editor note: Dr. Wolff's group make a good case for no evidence to justify more stringent regs for small particles. They also condemn the developing regulatory regime for haze and not justified by the research or the clear language of the Clean Air Act.)

EXECUTIVE SUMMARYince 1990, PM concentrations have declined dramatically across the U.S. and will continue to do so as a result of emission control programs in place. These various emission control programs will help to reduce all criteria pollutant concentrations across the country, while improvements to air quality and fuel economy will continue to occur. These reductions will occur regardless of whether the existing PM annual standard is revised.

The Alliance has carefully examined the evidence in the PM Integrated Science Assessment (ISA), the Risk and Exposure Assessment (REA), the Urban-Focused Visibility Assessment, the Policy Assessment (PA), and in the proposed rule. The current PM standards are protective of public health with an adequate margin of safety and protective of public welfare in accordance with Section 109 of the Clean Air Act. There is no basis for EPA to revise the standards at this time.

Primary Standard

- The Alliance does not support the proposal to lower the level of the annual PM_{2.5} standard to within a range of 12.0 to 13.0 micrograms per cubic meter (< g/m³).
- The Alliance supports retaining the current annual standard along with the other PM NAAQS.
- The Alliance takes these positions because the Proposed Rule overstates the case for PM_{2.5} health effects.
- Despite the publication of many new studies of cardiovascular and respiratory endpoints, the estimate of the magnitude of association of acute effects with PM_{2.5} is smaller and less consistent than thought in the previous review.
- The individual-city results in multi-city acute PM studies demonstrate a biologically implausibly wide range of associations from positive to negative; such a range is not consistent with causality.
- in large multi-city studies, there are spatial and temporal patterns in combined associations that are not consistent with causality.
- The evidence from new long-term exposure studies is not as consistent as portrayed in the NPRM.
- There are spatial differences and inconsistencies in the chronic mortality studies; for example, there is no cardiovascular mortality signal in a large study in the Netherlands and there is no chronic mortality signal in several studies in the Western U. S. This leads to the conclusion that, to the extent there are positive PM_{2.5} chronic-mortality associations, they are caused either by unidentified covariates that may or may not be pollution-related, by components of PM not PM mass, or by historic high exposures and sources unique to the Eastern U. S.
- The proposed revision is based on selected epidemiologic associations, ignores many studies in the literature, and is not supported by evidence from controlled human exposures or animal toxicology.
- The cardiovascular health risk assumed by EPA is not consistent or coherent with fine PM risks from other PM exposure situations including indoor pollution in developed countries, indoor pollution in underdeveloped countries, smoking, and occupational exposures. The PM Risk Assessment in the proposal is based on assumptions that are known to be wrong (all fine PM is equally toxic) or unverifiable (the dose-response is linear with no threshold). Based on these issues, little or no weight should be afforded to the results of the risk assessment.
- Given the many limitations and uncertainties of interpreting the acute and chronic epidemiological data, retaining the current annual standard would be a prudent, health- protective decision.

Secondary Standard

- The Alliance does not support the proposal to create a new 24-hour secondary standard within the range of 28 to 30 deciviews which would be the controlling standard in many urban areas.
- The Alliance supports retaining the current secondary standards which are identical to the current primary standards.
- The Alliance takes these positions because EPA has not made a case that the proposed secondary NAAQS is needed to improve urban visibility.
- EPA has not used sound science to provide a basis for the proposed secondary NAAQS.
- EPA has not demonstrated that the visibility level that is acceptable in any one place, is appropriate for the entire U.S.
- The way in which the proposed NAAQS is formulated is unnecessarily stringent. (Alliance PM submission 2012)

ALLIANCE OF AUTOMOBILE MANUFACTURERS

Comments on EPA's Proposed Revisions to the National Ambient Air Quality Standards for Ozone
Docket No. EPA-HQ-OAR-2008-0699

Submitted March 17, 2015

(Editor note: This table of contents outlines the thorough and extensive, up to date, critique of US EPA air regs and human effects science related to ozone claims research and proposed ozone regs. The paper shows that the EPA has ginned up a noisy but weak argument on the detrimental effects of ozone at current ambient levels.

The critique is thoroughly devastating to the US EPA position on ozone, a phantom menace if there ever was one.

Underlying all the US EPA claims on ozone is the failure of US EPA researchers to show disease and death from ambient ozone, so they have retreated to a position that ozone causes asthma and calculated benefits not on deaths but asthma attacks. Any honest researcher familiar with the nature of ozone and asthma would consider the claims by the US EPA risible for the following reasons:

- 1 Chamber high exposure (beyond ambient level ozone) exercise experiments show no disease effect or even a death effect.² The US EPA researchers, as shown in this paper, misuse and exaggerate the results from pulmonary function tests.
- 3 The underlying claims are refuted by the basic knowledge of the mechanism for asthma—it is an allergic disease and ozone is not an allergen.
- 4 The basic observational refutation of the US EPA claims are twofold:
 - Ozone levels have declined over decades while asthma rates have increased; and
 - Rates of asthma decrease in the warmer months and increase in the cooler and colder months while ozone is an air component increased in the summer.

The combined results of the large and comprehensive APHENA study are not consistent with ozone having a causal role in mortality or morbidity below the current standard. (Alliance Submission on Ozone Wolff 2015)

Wolff G, Heuss J, “Review and Critique of the US EPA’s Assessment of the Health Effects of Particulate Matter.” August 18, 2012. <https://www.heartland.org/publications-resources/publications/review-and-critique-of-us-epas-assessment-of-the-health-effects-of-particulate-matter>

Wolff G Alliance of Automobile Manufacturers Comments on EPA’s Proposal to Revise the National Ambient Air Quality Standards for Particulate Matter
77 Fed. Reg. 38890 (June 29, 2012) August 28, 2012 <https://www.heartland.org/publications-resources/publications/alliance-of-automobile-manufacturers-comments-on-epas-proposal-to-revise-the-national-ambient-air-quality-standards-for-particulate-matter-77-fed-reg-38890>

Wolff G, ALLIANCE OF AUTOMOBILE MANUFACTURERS Comments on EPA’s Proposed Revisions to the National Ambient Air Quality Standards for Ozone
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Conclusion

I was always convinced that the researchers for the US EPA were intentionally lying about their results and the meaning and impact of their results—I never believed they had any evidence of the tremendous number of deaths from air pollution they claimed.

That is from the time when I first started submitting public comments protesting US EPA claims and their proposed regulations, until the present—20 years.

It is somewhat irritating that junk scientists could continue to perpetrate their mendacious claims, their scientific deceptions, but people will do terrible things for money and power and control, for ideology.

I would suggest that the NOBLE LIE IS STILL AN IMPORTANT FACTOR IN POLICY MAKING IN MODERN SOCIETY—AND WE THINK WE ARE SO SOPHISTICATED.

John Dale Dunn MD JD
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