

RICHARD LINDZEN

Some Thoughts on
the Public Discourse
over Climate Change

**VÁCLAV
KLAUS**

Science in the Age
of Post-Democracy:
A Few Tentative
Remarks

THE SCIENCE AND POLITICS OF GLOBAL WARMING

Vaclav Klaus has relentlessly and courageously dedicated a significant part of his political life to a fight against climate alarmism. He supposes it to have become a political topic systematically abused by those who want to oppress freedom and spontaneous human activities.

That is why The Institute of Vaclav Klaus invited a Professor Emeritus at the Massachusetts Institute of Technology Richard Siegmund Lindzen, one of the most prominent scientist and thinker criticizing the climate alarmism from scientific positions, to deliver his speech at the Institute's conference "The Science and Politics of Global Warming" held in Prague on May 15, 2017. Today, in the first part of the latest issue of the Newsletter Plus, we present the professor Lindzen's text that he delivered there.

In the second part of this edition we also offer the Vaclav Klaus's speech "Science in the Age of Post-Democracy" which he presented at the World Federation of Scientists Meeting in Erice, Italy, August 2017.

Some Thoughts on the Public Discourse over Climate Change*



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For over 30 years, I have been giving talks on the science of climate change. When, however, I speak to a non-expert audience, and attempt to explain such matters as climate sensitivity, the relation of global mean temperature anomaly to extreme weather, that warming has decreased profoundly for the past 18 years, etc., it is obvious that the audience's eyes are glazing over. Although I have presented evidence as to why the issue is not a catastrophe and may likely be beneficial, the response is puzzlement. I am typically asked how this is possible. After all, 97% of scientists agree, several of the hottest years on record have occurred during the past 18 years, all sorts of extremes have become more common, polar bears are disappearing, as is arctic ice, etc. In brief, there is overwhelming evidence of warming, etc. I tended to be surprised that anyone could get away with such sophistry or even downright dishonesty, but it is, unfortunately, the case that this was not evident to many of my listeners. I will try in this brief article to explain why such claims are, in fact, evidence of the dishonesty of the alarmist position.

* Lecture delivered at the seminar "The Science and Politics of Global Warming": Prague, Václav Klaus Institute, May 15, 2017.

The 97% meme

This claim is actually a come-down from the 1988 claim on the cover of *Newsweek* that all scientists agree. In either case, the claim is meant to satisfy the non-expert that he or she has no need to understand the science. Mere agreement with the 97% will indicate that one is a supporter of science and superior to anyone denying disaster. This actually satisfies a psychological need for many people. The claim is made by a number of individuals and there are a number of ways in which the claim is presented. A thorough debunking has been given by Bast and Spencer (*Wall Street Journal*, May 26, 2014). One of the dodges is to poll scientists as to whether they agree that CO₂ levels in the atmosphere have increased, that the Earth has been warming (albeit only a little) and that man has played some part. This is, indeed, something almost all of us can agree on, but which has no obvious implication of danger. Nonetheless this is portrayed as support for catastrophism. Other dodges involve looking at a large number of abstracts where only a few actually deal with danger. If among these few, 97% support catastrophism, the 97% is presented as pertaining to the much larger totality of abstracts. One of my favorites is the recent claim in the *Christian Science Monitor* (a once respected and influential newspaper) (Wood, 2017): “For the record, of the nearly 70,000 peer-reviewed articles on global warming published in 2013 and 2014, four authors rejected the idea that humans are the main drivers of climate change.” I don’t think that it takes an expert to recognize that this claim is a bizarre fantasy for many obvious reasons. Even the United Nations Intergovernmental Panel on Climate Change (this body, generally referred to as the IPCC is the body created by the UN to provide ‘authoritative’ assessments of manmade climate change) doesn’t agree with the claim.

Despite the above, I am somewhat surprised that it was necessary to use the various shenanigans described above. Since this issue fully emerged in public almost 30 years ago (and was instantly incorporated into the catechism of political correctness), there has been a huge increase in government funding of the area, and the funding has been predicated on the premise of climate catastrophism. By now, most of the people working in this area have entered in response to this funding. Note that governments have essentially a monopoly over the funding in this area. I would expect that the recipients of this funding would feel obligated to support the seriousness of the problem. Certainly, opposition to this would be a suicidal career move for a young academic. Perhaps the studies simply needed to properly phrase their questions so as to achieve levels of agreement for alarm that would be large though perhaps not as large as was required for the 97% meme especially if the respondents are allowed anonymity.

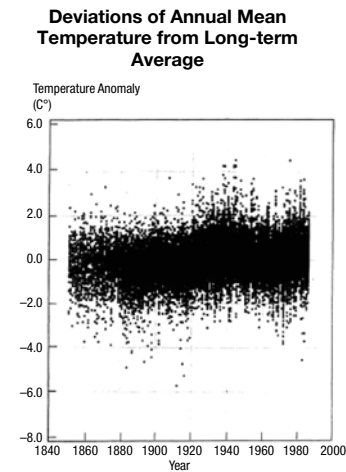
The ‘warmest years on record’ meme

This simple claim covers a myriad of misconceptions. Under these circumstances, it is sometimes difficult to know where to begin. As in any demonization project, it begins with the ridiculous presumption that any warming whatsoever (and, for that matter, any increase in CO₂) is bad, and proof of worse to come. We know that neither of these presumptions is true. People retire to the Sun Belt rather than to the arctic. CO₂ is pumped into greenhouses to enhance plant growth. The emphasis on ‘warmest years on record’ appears to have been a response to the observation that the warming episode from about 1978 to 1998 appeared to have ceased and temperatures have remained almost constant since 1998. Of course, if 1998 was the hottest year on record, all the subsequent years will also be among the hottest years on record. None of this contradicts the fact that the

warming (ie, the increase of temperature) has ceased. Yet, somehow, many people have been led to believe that both statements cannot be simultaneously true. At best, this assumes a very substantial level of public gullibility. The potential importance of the so-called pause (for all we know, this might not be a pause,

and the temperature might even cool), is never mentioned and rarely understood. Its existence means that there is something that is at least comparable to anthropogenic forcing. However, the IPCC attribution of most of the recent (and only the recent) warming episode to man depends on the assumption in models that there is no such competitive process.

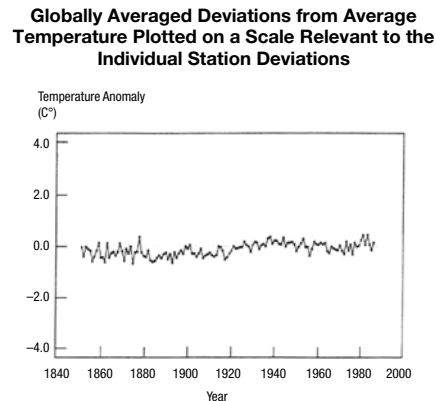
The focus on the temperature record, itself, is worth delving into a bit. What exactly is this temperature that is being looked at? It certainly can't be the average surface temperature. Averaging temperatures from places as disparate as Death Valley and Mount Everest is hardly more meaningful than averaging phone numbers in a telephone book (for those of you who still remember phone books). What is done, instead, is to average what are called temperature anomalies. Here, one takes thirty year averages at each station and records the deviations from this average. These are referred to as anomalies and it is the anomalies that are averaged over the globe. The only attempt I know of to illustrate the steps in this process was by the late Stan Grotch at the Lawrence Livermore Laboratory. Figure 1a shows the scatter plot of the station anomalies. Figure 1b then shows the result of averaging these anomalies. Most scientists would conclude that there was a remarkable degree of cancellation and that the result was almost complete cancellation. However, instead, one stretches the temperature scale by almost a factor of 10 so as to make the minuscule changes in Figure 1b look more significant. The result is shown in Figure 1c. There is quite a lot of random noise in Figure 1c, and this noise is a pretty good indication of the uncertainty of the analysis (roughly +/- 0.2C). The usual presentations show something considerably smoother. Sometimes this is the result of smoothing the record with something called running means. It is also the case that Grotch used data from the UK Meteorological Office which



1. Data points averaged to obtain time record of global mean temperature. Note points range from less than -2C to more than +2C.

Source: S. L. Grotch, Lawrence Livermore Laboratory, Livermore California

Figure 1a



2. Average of points in previous figure.

Figure 1b

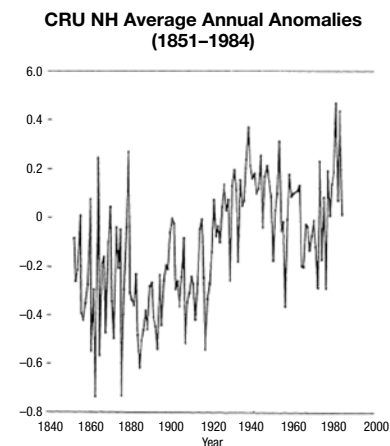


Figure 1c

was from land based stations. Including data from the ocean leads to smoother looking series but the absolute accuracy of the data is worse given that the ocean data mixes very different measurement techniques (buckets in old ship data, ship intakes after WW1, satellite measurements of skin temperature (which is quite different from surface temperature), and buoy data). These issues are summarized in Figure 2 which presents an idealized schematic of the temperature record and its uncertainty. We see very clearly that because the rise ceases in 1998, that this implies that 18 of the 18 warmest years on record (for the schematic presentation) have occurred during the last 18 years. We also see that the uncertainty together with the smallness of the changes offers ample scope for adjustments that dramatically alter the appearance of the record (note that uncertainty is rarely indicated on such graphs).

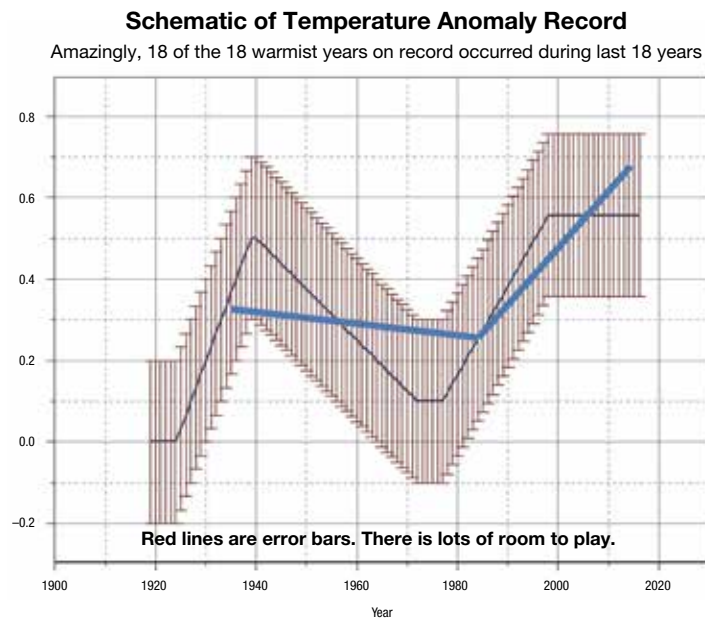


Figure 2

At this point, one is likely to run into arguments over the minutia of the temperature record, but this would simply amount to muddying the waters so to speak. Nothing can alter the fact that the changes one is speaking about are small. Of course 'small' is relative. Consider three measures of smallness.

Figure 3 shows the variations in temperature in Boston over a one month period. The dark blue bars show the actual range of temperatures for each day. The dark gray bars show the climatological range of temperatures for that date, and the light gray bars show the range between the record-breaking low and record-breaking high for that date. In the middle is a red line. The width of that line corresponds to the range of temperature in the global mean temperature anomaly record for the past 175 years. This shows that the temperature change that we are discussing is small compared to our routine sensual experience. Keep this in mind when someone claims to 'feel' global warming.

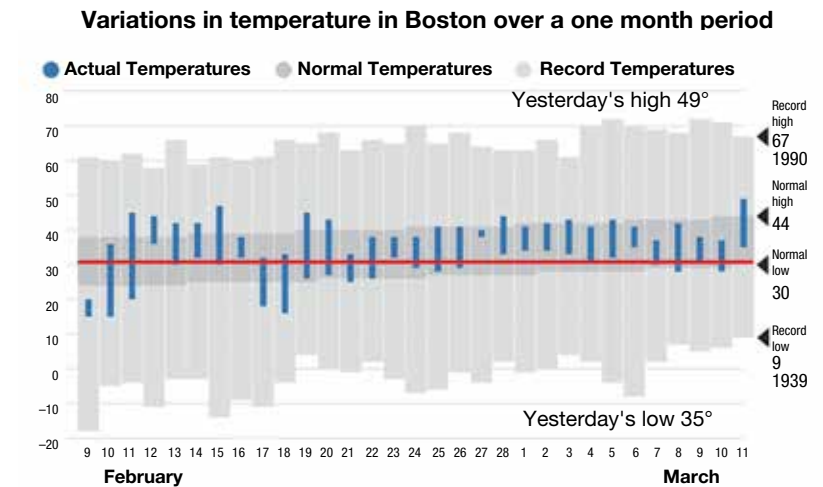


Figure 3

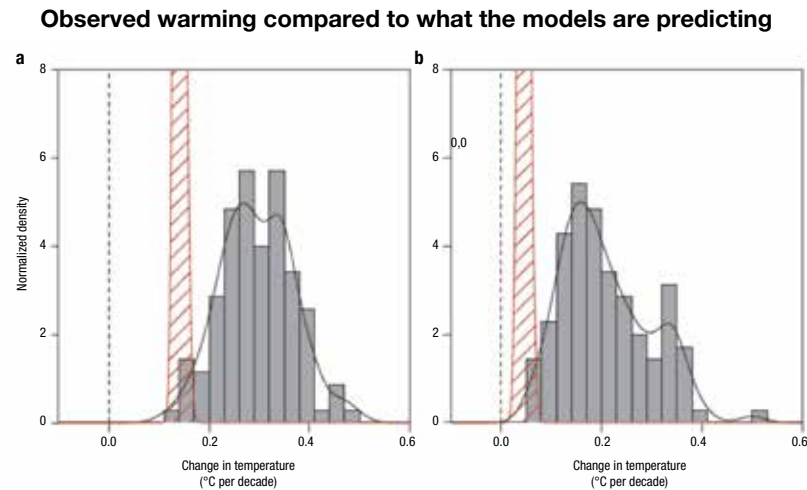


Figure 4. Red bar represents observations. Gray bars show model predictions.

The next measure is how does the observed change compare with what we might expect from greenhouse warming. Now, CO_2 is not the only anthropogenic greenhouse gas. When all of them are included, the UN IPCC finds that we are just about at the greenhouse forcing of climate that one expects from a doubling of CO_2 , and the temperature increase has been about 0.8°C . If man's emissions are responsible for all of the temperature change over that past 60 years, this still points to a lower sensitivity (sensitivity, by convention, generally refers to the temperature increase produced by a doubling of CO_2 when the system reaches equilibrium) than produced by the least sensitive models (which claim to have sensitivities of from $1.5\text{--}4.5^\circ\text{C}$ for a doubling of CO_2). And, the lower sensitivities are understood to be unproblematic. However, the IPCC only claims man is responsible for most of the warming. The sensitivity might then be much lower. Of course, the situation is not quite so simple, but calculations do show that for higher sensitivi-

ties one has to cancel some (and often quite a lot) of the greenhouse forcing with what was assumed to be unknown aerosol cooling in order for the models to remain consistent with past observations (a recent article in the *Bulletin of the American Meteorological Society* – Hourdin and others, 2017 – points out that there are, in fact, quite a number of arbitrary adjustments made to models in order to get some agreement with the past record). As the aerosol forcing becomes less uncertain, we see that high sensitivities have become untenable. This is entirely consistent with the fact that virtually all models used to predict 'dangerous' warming over-predict observed warming after the 'calibration' periods.

That is to say, observed warming is small compared to what the models upon which concerns are based are predicting. This is illustrated in Figure 4. As I have mentioned, uncertainties allow for substantial adjustments in the temperature record. One rather infamous case involved NOAA's adjustments in a paper by Karl et al that replace the pause with continued warming. But it was easy to show that even with this adjustment, models continued to show more warming than even the 'adjusted' time series showed (Michaels, Lindzen, Knappenberger, 2015). Moreover, most papers since have rejected the Karl et al adjustment (which just coincidentally came out with much publicity just before the Paris climate conference).

The third approach is somewhat different. Instead of arguing that the change is not small, it argues that the change is 'unprecedented.' This is Michael Mann's infamous 'hockey stick.' Here, Mann used tree rings from bristle cone pines to estimate Northern Hemisphere temperatures back hundreds of years. This was done by calibrating the tree ring data with surface observations for a thirty year period, and using this calibration to estimate temperatures in the distant past in

order to eliminate the medieval warm period. Indeed, this reconstruction showed flat temperatures for the past thousand years. The usual test for such a procedure would be to see how the calibration worked for observations after the calibration period. Unfortunately, the results failed to show the warming found in the surface data. The solution was starkly simple and stupid. The tree ring record was cut off at the end of the calibration period and replaced by the actual surface record. In the Climategate emails (Climategate refers to a huge release of emails from various scientists supporting alarm where the suppression of opposing views, the intimidation of editors, the manipulation of data, etc. were all discussed), this was referred to as Mann's trick.

The whole point of the above was to make clear that we are not concerned with warming per se, but with how much warming. It is essential to avoid the environmental tendency to regard anything that may be bad in large quantities to be avoided at any level however small. In point of fact small warming is likely to be beneficial on many counts. If you have assimilated the above, you should be able to analyze media presentations like Worland (2017) to see that amidst all the rhetoric, the author is pretty much saying nothing while even misrepresenting what the IPCC says.

The extreme weather meme

Every line weather forecaster knows that extreme events occur someplace virtually every day. The present temptation to attribute these normally occurring events to climate change is patently dishonest. Roger Pielke, Jr. (2014) actually wrote a book detailing the fact that there is no trend in virtually any extreme event (including tornados, hurricanes, droughts, floods, etc.) with some actually decreasing. Even the UN's IPCC acknowledges that

Temperature map for North America

there is no basis for attributing such events to anthropogenic climate change.

The situation with respect to extreme temperatures actually contradicts not just observations but basic meteorological theory. Figure 5 shows a map of temperatures for North America on February 27, 2008. Extreme temperatures at any location occur when air motions carry air from the coldest or warmest points on the map. Now, in a warmer climate, it is expected that the temperature difference between the tropics and the high latitudes will decrease. Thus the range of possible extremes will be reduced. More important is the fact that the motions that carry these temperatures arise from a process called baroclinic instability, and this instability derives from the magnitude of the aforementioned temperature difference. Thus, in a warmer world, these winds will be weaker and less capable of carrying extreme temperatures to remote locations. Claims of greater extremes in temperature simply ignore the basic physics, and rely, for their acceptance, on the ignorance of the audience.

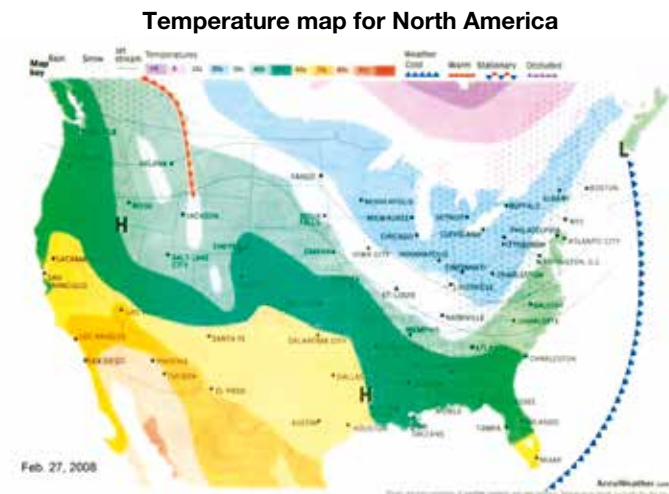


Figure 5.

The claims of extreme weather transcend the usual use of misleading claims. They often amount to claims for the exact opposite of what is actually occurring. The object of the claims is simply to be as scary as possible, and if that requires claiming the opposite of the true situation, so be it.

Sea level rise

Globally averaged sea level appears to have been rising at the rate of about 6 inches a century for thousands of years. Until the advent of satellites, sea level was essentially measured with tide gauges which measure the sea level relative to the land level. Unfortunately, the land level is also changing, and as Emery and Aubrey (1991) note, tectonics are the major source of change at many locations. Beginning in 1979 we began to use satellites to measure actual sea level. The results were surprisingly close to the previous tide gauge estimates, but slightly higher, but one sees from Wunsch, Ponte and Heimbach (2007) that one is in no position to argue that small differences from changing methodologies represents acceleration. Regardless, the changes are small compared to the claims that suggest disastrous changes. However, even in the early 1980's advocates of warming alarm like S. Schneider argued that sea level would be an easily appreciated scare tactic. The fact that people like Al Gore and Susan Solomon (former head of the IPCC's Scientific Assessment) have invested heavily in ocean front property supports the notion that the issue is propagandistic rather than scientific.

Arctic sea ice

Satellites have been observing arctic (and Antarctic) sea ice since 1979. Every year there is a pronounced annual cycle where the almost complete winter coverage is much reduced each summer. During this period there has been a noticeable downtrend in summer ice in the arctic (with the opposite behavior in the

Antarctic), though in recent years, the coverage appears to have stabilized. In terms of climate change, 40 years is, of course, a rather short interval. Still, there have been the inevitable attempts to extrapolate short period trends leading to claims that the arctic should have already reached ice free conditions. Extrapolating short term trends is obviously inappropriate. Extrapolating surface temperature changes from dawn to dusk would lead to a boiling climate in days. This would be silly. The extrapolation of arctic summer ice coverage looks like it might be comparably silly. Moreover, although the satellite coverage is immensely better than what was previously available, the data is far from perfect. The satellites can confuse ice topped with melt water with ice free regions. In addition, temperature might not be the main cause of reduced sea ice coverage. Summer ice tends to be fragile, and changing winds play an important role in blowing ice out of the arctic sea. Associating changing summer sea ice coverage with climate change is, itself, dubious. Existing climate models hardly unambiguously predict the observed behavior. Predictions for 2100 range from no change to complete disappearance. Thus, it cannot be said that the sea ice behavior confirms any plausible prediction.

It is sometimes noted that concerns for disappearing arctic sea ice were issued in 1922 (Ifft 1922) suggesting that such behavior is not unique to the present. The data used, at that time, came from the neighborhood of Spitzbergen. A marine biologist and climate campaigner has argued that what was described was a local phenomenon (Goreau 2010) but, despite the claim, the evidence presented by the author is far from conclusive. Among other things, the author was selective in his choice of 'evidence.'

All one can say, at this point, is that the behavior of arctic sea ice represents one of the numerous interesting phenomena

that the earth presents us with, and for which neither the understanding nor the needed records exist. It probably pays to note that melting sea ice does not contribute to sea level rise. Moreover, man has long dreamt of the opening of this Northwest Passage. It is curious that it is now viewed with alarm. Of course, as Mencken noted, “The whole aim of practical politics is to keep the populace alarmed (and hence clamorous to be led to safety) by an endless series of hobgoblins, most of them imaginary.” The environmental movement has elevated this aim well beyond what Mencken noted.

Polar bear meme

I suspect that Al Gore undertook considerable focus-group research to determine the remarkable effectiveness of the notion that climate change would endanger polar bears. His use of an obviously photo shopped picture of a pathetic polar bear on an ice float suggests this. As Susan Crockford, a specialist in polar bear evolution, points out, there had indeed been a significant decrease in polar bear population in the past due to hunting and earlier due to commercial exploitation of polar bear fur. This has led to successful protective measures and sufficient recovery of polar bear population, that hunting has again been permitted. (<https://polarbearscience.com/>) There is no evidence that changes in summer sea ice have had any adverse impact on polar bear population, and, given that polar bears can swim for over a hundred miles, there seems to be little reason to suppose that it would. Nonetheless, for the small community of polar bear experts, the climate related concerns have presented an obvious attraction.

Ocean Acidification

This is again one of those obscure claims that sounds scary but doesn't stand up to scrutiny. Ever since the acid rain scare, it has

been realized that the public responds with alarm to anything with the word ‘acid’ in it. In point of fact, the ocean is basic rather than acidic (ie, its ph is always appreciably higher than 7, and there is no possibility of increasing levels of atmospheric CO₂ bringing it down to 7; note that ph is a measure of acidity or basicness: values greater than 7 are basic and less than 7 acid.), and the purported changes simply refer to making the ocean a bit less basic. However, such a more correct description would lack the scare component. As usual, there is so much wrong with this claim that it takes a fairly long article to go over it all. I recommend Moore (2015).

The alleged death of coral reefs is partly linked to the acidification issue above, and as we see, the linkage is almost opposite to what is claimed. There is also the matter of warming per se leading to coral bleaching. A typical alarmist presentation is Hughes and others (2017). The article is behind a pay wall, but most universities provide access to *Nature*. The reasoned response to this paper is provided in Steele (2017). As Steele points out, bleaching has common causes other than warming and is far from a death sentence for corals whose capacity to recover is substantial.

Global Warming as the cause of everything

As we see from the above, there is a tendency to blame everything unpleasant on global warming. The absurd extent of this tendency is illustrated on the following website: www.numberwatch.co.uk. That hasn't stopped the EPA from using such stuff to claim large health benefits for its climate change policies. Moreover, I fear that with so many claims, there is always the question ‘what about?’ Hardly anyone has the time and energy to deal with the huge number of claims. Fortunately, most are self-evidently absurd. *Nation* magazine recently came up with what is a bit of a champion in this regard (Cole, 2017).

CO₂, it should be noted, is hardly poisonous. On the contrary, it is essential for life on our planet and levels as high as 5000 ppm are considered safe on our submarines and on the space station (current atmospheric levels are around 400 ppm, while, due to our breathing, indoor levels can be much higher). The *Nation* article is typical in that it makes many bizarre claims in a brief space. It argues that a runaway greenhouse effect on Venus led to temperatures hot enough to melt lead. Of course, no one can claim that the earth is subject to such a runaway, but even on Venus, the hot surface depends primarily on the closeness of Venus to the sun and the existence of a dense sulfuric acid cloud covering the planet. Relatedly, Mars, which also has much more CO₂ than the earth, is much further from the sun and very cold. As we have seen many times already, such matters are mere details when one is in the business of scaring the public.

Concluding remarks

The accumulation of false and/or misleading claims is often referred to as the 'overwhelming evidence' for forthcoming catastrophe. Without these claims, one might legitimately ask whether there is any evidence at all.

Despite this, climate change has been the alleged motivation for numerous policies, which, for the most part, seem to have done more harm than the purported climate change (Booker, 2017) and have the obvious capacity to do much more. Perhaps the best that can be said for these efforts is that they are acknowledged to have little impact on either CO₂ levels or temperatures despite their immense cost. This is relatively good news since there is ample evidence that both changes are likely to be beneficial although the immense waste of money is not.

I haven't spent much time on the details of the science, but

there is one thing that should spark skepticism in any intelligent reader. The system we are looking at consists in two turbulent fluids interacting with each other. They are on a rotating planet that is differentially heated by the sun. A vital constituent of the atmospheric component is water in the liquid, solid and vapor phases, and the changes in phase have vast energetic ramifications. The energy budget of this system involves the absorption and reemission of about 200 watts per square meter. Doubling CO₂ involves a 2% perturbation to this budget. So do minor changes in clouds and other features, and such changes are common. In this complex multifactor system, what is the likelihood of the climate (which, itself, consists in many variables and not just globally averaged temperature anomaly) is controlled by this 2% perturbation in a single variable? Believing this is pretty close to believing in magic. Instead, you are told that it is believing in 'science.' Such a claim should be a tip-off that something is amiss. After all, science is a mode of inquiry rather than a belief structure.

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Science in the Age of Post-Democracy: A Few Tentative Remarks*



Václav Klaus

Many thanks for the invitation and for offering me the possibility to participate in the debate about “*Structural Problems in Contemporary Science*” so well introduced in Prof. Lindzen’s invitation letter. My approach to this issue builds on several, to some respect unique and not easily repeatable pieces of my own experience. I don’t consider their short explicit presentation right at the beginning of my contribution a mere CV of mine but an integral part of my argumentation. My thinking is based:

- on a very special experience gained under the communist regime where I was forced to spend almost two thirds of my life, where science was at the same time promoted and prohibited, praised and celebrated, manipulated and misused, and where a high degree of political correctness mercilessly ruled (long before the term itself was invented);
- on my being an economist who believes much more in standard mainstream economics than in its modern (or post-modern) alternatives, who tries to teach economic science and make use of it in real life and who is convinced of its

* World Federation of Scientists meeting, the session on “*Structural Problems in Contemporary Science*”, Erice, Italy, August, 2017.

enormous and irreplaceable explanatory power for orientation in the world around us;

- on my being a politician for 25 years of my recent life; a politician in high positions who learnt a lot during this time.
- on being – for more than a decade – intensively involved in the world-wide, highly controversial and heavily manipulated debate about global warming and about the role of human beings in it. This controversy has evolved into becoming one of the fundamental characteristics of our era. We have to admit that climate alarmists succeeded in changing the way how people think and behave;
- and, finally, the following remarks are based on my frustration of being a subject of the European Union (I intentionally don't use the term citizen), of being caught again – after only a short break – in the brave new world of a non-democratic, highly manipulative political and social system. I have been witnessing a U-shaped “progress” curve of freedom and democracy in the last decades (from non-freedom in the communist era to freedom in the 1990s and then again to a highly curtailed freedom now). My almost daily contact with the current European (and not much different American) political elites tells me that they, together with their fellow travellers in media and academia, are more deeply hostile to the values of Western civilization than Marxism and communism ever was.

I condensed my remarks into seven groupings.

1. Post-democracy

The contemporary world can be called, labelled and described in many ways. To call it a post-democracy as I do is just one of its characteristics, for me, however, the crucial one. We may call it also a post-rational world, the era of relativism and of

the disappearance of old truths, traditions, habits and beliefs, the age of disorientation, the era of deconstructivism and of competing narratives which replaced the old, traditionally built theories, etc. I see a big methodological problem especially in the social sciences and in the constructively driven attempts to deal with complex systems (as the whole world or the global climate).

I prefer the term post-democracy because – in my view – it reflects better than other terms the current post-totalitarian (but not much less destructive) features of the Western political system. This arrangement leads to a high degree of political authoritarianism and to the weakening of the role of parliaments, elections and political parties. It leads to the loss of a free exchange of views and of the elementary respect to different opinions, as well as to all kinds of authorities. We see the end of the dominance of well-defined – however imperfect, biased and misleading – grand ideologies (or Weltanschauungen). They, with all their weaknesses, helped in the past to guarantee the legitimacy of different views (including scientific concepts, theories and hypotheses) and a respect to the holders of these views. This doesn't exist anymore now.

The change of the Western political system – not so slowly undergoing but for many people still not sufficiently visible – influences also science. Undoubtedly, for the worse. Five years ago, in my first Erice speech, I spoke in a similar way about a “post-normal science” whose ambitions are connected with political activism.[1]

2. Science loaded with contexts

Science is, or should be, the incarnation of rational, systematic, organized knowledge. For many reasons, it is not always so. Science doesn't happen in a vacuum and scientists don't live

in ivory towers. This is why, scientific theories are loaded with contexts – historic, locational, political, etc. – much more than it is generally assumed and admitted. It was always the case, with non-negligible historic variations, but it has reached new heights now, in connection with the debate about global warming.[2] We, economists, witness a similar underestimation if not denial of scientific standards in the discussion about the allegedly dangerously growing inequality in our societies – it was so convincingly demonstrated in the undeservedly glorified and celebrated book by Thomas Piketty.[3]

Science has been undergoing a special development both as regards quantity and quality. The ever-growing number of scientific (or at least professional) books and articles and the huge variety of presented and published views conceal a high degree of intellectual conformism (unknown for centuries), the post-modern intellectual monoculture, and even the emergence of a mono-ideological world.

It is no accident that Richard Lindzen writes about the perpetuation of “group think”, that Wolfgang Kasper speaks about “climate fraternity”, and that Fred Singer mentions “the camaraderie of being part of an international scientific effort”. I find the resulting empty friendliness of scientists dangerous and counterproductive. It contributes to the herd instinct of scientists and to their conformism. I have always had problems with using first names (or “Du” in German) in my political and academic career.

3. The Role of politicians

The current post-democracy facilitates and accelerates the transmission process from ideas to public policy. Traditional checks and balances are turned-off. (Whenever there may arise a problem, Constitutional Courts come to help.)

Politicians – usually without any scientific background (and without reading and systematically educating themselves) – are superficial, aprioristic and utilitarian. They maximize short-term effects (connected with their own political career) and, at the same time, loosely and irresponsibly speak about the future.[4] They are interested in visible outcomes of their policies only (and underestimate the ever-present law of unintended consequences). Richard Lindzen in his 2015 Oslo speech [5] stresses that the politicians are not – usually – the authors of problematic ideas. He says “that politics is always opportunistically seeking some cause that fits its needs” (p. 10). This is their political rent-seeking. His idea of “the iron triangle of alarm” is refreshing.

The politicians are not omniscient and are no benevolent despots – in this respect the public choice school of economics made a mortal blow to the ever present idealization of policy makers. Not just individual politicians, but the whole governments are neither omniscient nor benevolent. They are no guarantors of the neutrality of the funding of research and science. The more post-democratic the system is, the worse the problems become. The European Union is in this respect the most exemplary case. The distance between the demos and politicians there has reached a new level (in the past known only in empires).

The ideas can very rapidly turn into policies, the substantial debate in governments and parliaments practically disappeared. Especially in the European parliament.

4. Government grants

A special role is in the current world played by government grants. The amounts of funds redistributed from tax-payers to scientists (or science organizations) are enormous. There is a high pay-off. It is, however, not easy to understand the com-

plicated procedures in the games of grant-seeking, grant-giving and grant-getting.

Public choice theorists have been dealing with grant (rent) seeking for a long time. There is nothing to add. The evidently negative, counterproductive and efficiency diminishing process of rent-seeking has been widely discussed (and became a textbook knowledge). We don't, however, study sufficiently the grant-giving where the whole problem starts. Its voluntarism and non-impartiality are even more destructive.

Massive grant-giving is a natural outgrowth of the ever-increasing government activism which is another, exceptionally harmful feature of our times. The government grants represent a very efficient method how to influence science and through influencing science the reality of the world.

An important role is played in this process by "scientists" who are appointed as "scientific advisors" to politicians. Most of them are not scientists in a narrow sense. They are often the people who either ceased doing science long-time ago or never did science at all. They just move in the vicinity of the scientific community. Some of them may possess elementary professional knowledge with the ability to read technical texts and use scientific terminology but that is all.

They are usually fighting for a special cause, for a special interest, for a special idea or ideology. Very often, they act more as activists than impartial advisors. In addition to it, we see a simple relationship: the bigger the role of governments, the more influential they are. The more politicized the issue, the more they take the lead and the title role. The softer the related science is, the more principal part they receive and occupy.

This creates a special bias in funding, in grant-giving. The relatively short history of global warming alarmism brings many

examples of it. They should be carefully studied. Funding, together with setting agendas, has become the main vehicle for "shaping" science by politicians (and their advisors). The more and more funds available for a specific research finally results in some pieces of "evidence-based science" which are then used as a basis for political decisions with far-reaching consequences. The ridiculous claims as regards "climate science consensus" prove that.

I fully agree with the argumentation of a group of scientists in a recent article that "the alleged consensus about climate is nothing more than an agreement that temperatures have warmed in the past 300 years, and perhaps an agreement that human activities may have played some role". The authors warn, however, that "the degree and causes of warming are hotly debated among climatologists". There is no consensus as regards "the degree and causes". I can't compete with the analysis presented by David Legates, professor of climatology at the University of Delaware, quoted in the above-mentioned article, that "only 0.3 % of 11,944 peer-reviewed articles on climate and related topics, published from 1991 to 2011, explicitly stated that recent warming was mostly manmade". To speak about a consensus is absurd.

Virtually no discussion is about the consequences of grant-getting. It changes the way how scientists think and work and what kind of research they do (and try to publish). The scientists are - like all of us - "utility maximizers". It is not always directly the issue of money. These days' scientists compete with other celebrities for prime-time moments on TV channels. To appear there requires special topics and results (as well as the ability to "perform"). They are invited there only when their results reflect either popular or government demand and when the results are politically correct. Government grants help in this respect.

5. Science and political agendas

Consciously or unconsciously, with the lack of modesty, without sufficiently admitting the uncertainties of their own results, without stressing all the necessary caveats about complicated interconnections and indirect effects, scientists in their public assertions very often help to promote political goals which may not be originally on their agenda. Some climatologists perhaps did not want to be the vehicles for suppressing world-wide economic growth (especially in developing countries), for inspiring and defending global governance (of unelected bureaucratic bodies instead of elected politicians in nation states), and for redistributing wealth. They are not fully aware of the fact that the widely contested international agreements (such as the Paris Accord) are in principle not about a climate change. The alleged climate change is used as a way to undermine the liberal (in the classical European sense) order world-wide. Is unawareness of it dishonesty or ignorance?

6. The beauty and dubiousness of too simple theories

There is, undoubtedly, some sort of magic (and seductiveness) in straightforward and uncomplicated theories but they are usually not true. It is, of course, elementary, that the simpler the theory is, the more powerful it is. It has its limits, however. Scientists should a priori reject simplistic, too easily presentable theories about complex systems (like climate). The simple global warming hypothesis about CO₂ and temperature is such a case.

It is not tenable to assume that the small portion of carbon dioxide in the Earth's atmosphere (0.04 %) could be the primary cause and main mover behind the warming since the Little Ice Age. Nevertheless, it is so postulated and the whole green propaganda is based on it. It is believed to be so even though

a simple and stable relationship between carbon dioxide and global temperature evidently doesn't exist – neither in the long run, nor in recent years. It has also been proved many times that there are long lags between the movements of these variables. In spite of that it is believed that the climate change (or global warming) can be stopped by reducing the CO₂ emissions. It has no connection with science, or as Richard Lindzen put it, it represents “a serious threat to the credibility of science”.

7. The optimal level of precaution

In my first book on global warming[6], I devoted the whole chapter to the issue of excessive precaution under the title “*Cost-Benefit Analysis or Absolutism of the Precautionary Principle?*”. It is difficult to add anything. The economists think in terms of costs and benefits and stress the importance of proper discounting. They disagree with the low discount rates used in global warming models because it harms the current generations (especially the poor in the current generations) vis-à-vis much more affluent future generations. Even disregarding the intergenerational redistribution of wealth, there is, undoubtedly, a limit to the level of precaution humans can afford and base their behaviour on. The exponents of the global warming doctrine don't take this limit into consideration which is an intellectual defect. Someone should tell them.

We should be much more explicit about it all.

[1] Klaus, V., “The Manmade Contribution to Ongoing Global Warming Is Not a Planetary Emergency”, “Magisterial Lecture” at the International Seminar on Planetary Emergencies, organized by the World Federation of Scientists, Erice, Sicily, Italy, 20 August 2012. You can find the text here: www.klaus.cz/clanky/3165. The speech was also published in the book Klaus, V., “The Never-Ending Struggle for Free Society”, publication No. 14/2014, The Václav Klaus Institute, Prague, 2014.

- [2] See my recent book “Zničí nás klima, nebo boj s klimatem?” (Shall we be destroyed by climate or by our fight with climate), Grada Publishing, Prague, 2017. In Czech only.
- [3] Piketty, T., *Capital in the Twenty-First Century*, Harvard University Press, Cambridge, Massachusetts, 2014.
- [4] In my previous Erice speech I argued that “by assuming a very low, near-zero discount rate the proponents of the global warming doctrine neglect the issue of time and of alternative opportunities” (p. 210 in “The Never-Ending Struggle for Free Society” – see above).
- [5] Lindzen, R., S., *The language of alarm and the irrelevance of science*, University of Oslo, May 18, 2015.
- [6] Klaus, V., *Blue Planet in Green Shackles. What Is Endangered: Climate or Freedom?*, Competitive Enterprise Institute, Washington, D. C., 2008.

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