

Nathaniel Rich's *Losing Earth* and the Role of William Nierenberg and Other Science Advisors: Why didn't we act on climate change in the 1980s?

Ed Levy

The entire *New York Times Magazine* of August 5, 2018 was devoted to an important article by Nathaniel Rich, *Losing Earth: The Decade we almost stopped climate Change*. In Rich's account from 1979 to 1989 the United States came close to "breaking our suicide pact with fossil fuels."¹ Rich shows that at the beginning of that decade a broad international consensus had developed favoring action in the form of a global treaty to curb emissions and that U.S. leadership was required and possibly forthcoming. Yet at the end of the decade it was clear that these efforts had failed. Rich sets as his primary task answering the question, "Why didn't we act?" He does not provide a satisfactory answer.

However, Rich's informative and nuanced accounts convey well the shifting positions about climate change in the US during the decade. At the beginning it was difficult to get widespread attention, later it looked as though linking global warming to other issues such as ozone depletion and CFCs could result in action.

These accounts are based on a large number of interviews and extensive research, but the story is told primarily through the eyes of two significant players, Rafe Pomerance and James Hansen, "a hyperkinetic lobbyist and a guileless atmospheric physicist who, at great personal cost, tried to warn humanity of what was coming."

Still, Rich barely addresses the central question explicitly and does not come close to providing a convincing answer. I don't have a definitive answer either, but in this piece I will argue that key U.S. science advisors should at least be part of the answer, especially when conjoined with candidate answers Rich rejects. I will show that the role of highly influential advisors would have been more apparent if Rich had more accurately characterized their roles and the views they advocated.

Rejected answers

¹ Rich, Nathaniel, "Losing Earth: The Decade we almost stopped climate Change, *New York Times Magazine*, August 5, 2018. (All quotations not attributed otherwise are from Rich's article.)

In the Prologue Rich quickly dismisses conventional explanations that the failure to act was due to the fossil-fuel industry and/or to the Republican Party. He supports the latter contention mainly by citing a number of Republicans, even prominent ones such as George H.W. Bush during his initial campaign for President, who expressed concern about climate change. I have doubts that this positive evidence in itself is sufficient to absolve the Republican establishment.

As for the fossil-fuel industry, Rich points out that there is substantial literature documenting the operations of the industry's lobbyists and

... the corruption of scientists and the propaganda campaigns that even now continue to debase the political debate, long after the largest oil-and-gas companies have abandoned the dumb show of denialism.

However, in his view these machinations did not begin in earnest until the end of 1989. Instead, during the preceding decade "some of the largest oil companies, including Exxon and Shell, made good-faith efforts to understand the scope of the crisis and grapple with possible solutions." In the main body of the article he supports these claims by pointing out numerous instances in which representatives of the fossil-fuel industry voiced concern about climate change, participated in conferences on the subject, and even initiated research and policy considerations about it.

One can grant that all of that is accurately reported and yet still have reservations about the conclusion that the fossil-fuel industry did not contribute significantly to the position of take-no-action-now between 1979 and 1989. For me those reservations stem from Rich's somewhat misleading accounts about one of the major reports of the decade, the 500-page *Changing Climate* ("CC" hereafter) and the role that its lead author, William A. Nierenberg, subsequently played.^{2,3}

²National Research Council, and Carbon Dioxide Assessment Committee. *Changing climate: Report of the carbon dioxide assessment committee*. National Academies, 1983.

³The most thorough accounts of Nierenberg's role in CC can be found in the works of Naomi Oreskes and colleagues. Oreskes, Naomi, Erik M. Conway, and Matthew Shindell, "From Chicken Little to Dr. Pangloss: William Nierenberg, global warming, and the social deconstruction of scientific knowledge," *Hist Stud Nat Sci* 38.1 (2008): 109-152. And Oreskes, Naomi, and Erik M. Conway. *Merchants of doubt: How a handful of scientists obscured the truth on issues from tobacco smoke to global warming*. Bloomsbury Publishing USA, 2011.

Changing Climate

In 1980 Congress mandated the National Academy of Sciences to produce a major scientific assessment of climate science. The person chosen to Chair the committee that produced CC was William Nierenberg, a physicist, presidential advisor, director of the Scripps Institute, and chair of JASON – the latter was formed in 1960 and consisted of a self-selected group of eminent scientists, mainly physicists who either were participants in the Manhattan Project or their students.⁴ When Rich discusses CC in the main body of the paper he says that it “argued that action had to be taken immediately, before all the details could be known with certainty, or else it would be too late.” He also says that CC “urged an accelerated transition to renewable fuels.” Rich points out, however, that in press interviews following the publication of CC in 1983 Nierenberg said “the opposite.” And in the conclusion of the article Rich underscores his claim that “Everybody knew” that significant policy adjustments need to be made to deal with climate change, by saying that Ronald Reagan knew because he “had *Changing Climate*.”

I think the thrust of these comments misses the mark: CC did not urge immediate, significant action on climate change except in the area of scientific research funding. As Spencer Weart remarks in his respected history of the science of global warming, the science in CC did not differ markedly from other prior and contemporary reports such as two issued in 1979, Gordon Macdonald’s JASON assessment, and the Charney report, but CC’s tone was quite different.^{5,6} And even more importantly, unlike almost all other assessments produced by scientists before CC, CC made specific recommendations not to take action until more research was done. These recommendations were based

⁴ Rich compares JASON to “teams of superheroes with complementary powers that join forces in times of galactic crisis.” JASON was created because the founders thought the government should get independent advice. Much of JASON’s work was contracted by government military and defense agencies and was classified. See Finkbeiner, Ann. *The Jasons: The secret history of science’s postwar elite*. Penguin, 2006.

⁵ Weart, Spencer R. *The discovery of global warming*. Harvard University Press, 2008 and the hypertext of that book at <http://www.aip.org/history/climate/climogy.htm>.

⁶ MacDonald, Gordon. *The long term impact of atmospheric carbon dioxide on climate*. Vol. 136. No. 2. SRI International, 1979. And Charney, Jule G., et al. *Carbon dioxide and climate: a scientific assessment*. National Academy of Sciences, Washington, DC, 1979.

primarily on the claims that currently we did not know enough to make changes and that we had time for science to reduce uncertainties.⁷

That CC made policy recommendations at all was a departure. Here for example is what Gordon Macdonald, a scientist Rich mentions several times, says in an earlier report explaining that a scientific assessment was not the place to endorse policies: “We have a massive report on acid rain, that says all sorts of things are happening, but it doesn’t say, ‘You’d better cut back on sulfur emission’.”⁸ In contrast CC says that alternative energy options might be needed sometimes in the future but for now should only be the subject of research: “We do not believe ... that the evidence at hand about CO₂-induced climate change would support steps to change current fuel-use patterns away from fossil fuels.”⁹ In other words unlike almost all previous assessments of global climate by scientists, CC advocated a policy and that was one of inaction.

I said that CC differed from almost all other assessments by scientists. A notable exception was advice in the form of a letter report requested by Philip Handler, the President of the National Academy of Sciences. This was produced in 1980 by a committee that included Nierenberg and that was chaired by Thomas Schelling, a distinguished economist and future Nobel Laureate.¹⁰ The report, which was not widely circulated, highlighted the uncertainties of climate science and urged that the emphasis be placed on reducing uncertainties over the next decade rather than on measures designed to address climate change. And notably the Schelling committee acknowledged that they were making both technical and political judgments and that not all members of the committee embraced the argument for inaction:

Most of what we report must therefore be recognized as a collective judgment rather than as a scientific finding ...

⁷ Rich also reports that in press interviews Nierenberg said that it is “Better to bet on American ingenuity to save the day.” More broadly, I believe that faith in science and technology to solve any problem underlay the views of many arguing to postpone action.

⁸ Interview of Gordon MacDonald by Finn Aaserud on April 16, 1986, Niels Bohr Library & Archives, American Institute of Physics, College Park, MD, USA.
<http://www.aip.org/history/ohilist/4754.html>

⁹ Nierenberg op. cit., p. 4.

¹⁰ Schelling, Thomas, et al. to Philip Handler, Ad hoc Study Panel on Economic and Social Aspects of Carbon Dioxide Increase, 18 Apr 1980.

In view of the uncertainties, controversies, and complex linkages surrounding the carbon dioxide issue, and the possibility that some of the greatest uncertainties will be reduced within the decade, it seems to most of us that the near-term emphasis should be on research, with as low political profile as possible. We should emphasize that this is both a technical and a political judgment. Another point of view represented on the panel is that further research will not fundamentally change our perception of the issue; in this view, the need for preventive measures is already apparent and urgent.¹¹ [Emphasis in the original.]

At about the time the Schelling letter was issued, Nierenberg was tapped to lead the development of CC and Schelling was invited to become a contributor. Schelling's chapter in CC is essentially an expanded version of his letter report and is the main source of policy recommendations.¹² Those recommendations were repeated in the overview section of CC called "Synthesis".¹³ It was as though the inclusion of social scientists in what had previously been assessments by physical scientists constituted a license to move into the realm of policy.¹⁴

CC, Nierenberg and Contrarianism

As Rich indicates, in Nierenberg's press interviews following the publication of CC he took a more aggressive stance in favor of take-no-action-now. That's as far as Rich goes with respect to Nierenberg, but that was hardly the end of the matter. In 1984 Nierenberg joined two distinguished colleagues who also served as senior scientific advisors to government, Frederick Seitz and Robert Jastrow, in founding the George

¹¹ Schelling, op. cit.

¹² It is one of the few chapters in CC that has a single author and the only one without references.

¹³ One other chapter of CC was written by economists, including, William D. Nordhaus, who was awarded the 2018 Nobel Prize. His chapter in CC is focused on models for quantifying uncertainties and effects of adopting particular policies rather than recommending policies.

¹⁴ I do not believe that in general there is a hard and fast distinction between the realms of science and policy. Almost always scientific accounts employed in policy relevant science are shot through with policy assumptions. However, there are instances such as the one under discussion where statements about what should-be-done can be distinguished from best estimates about what is or will be the case.

Marshall Institute (GMI), a think-tank that later became one of the mainstays of the contrarian movement.

It was not until 1989 that GMI issued its first report on climate change. Accounts in *Science* of that report sparked a heated exchange including letters from the GMI authors. In his letter Nierenberg characterizes CC as "... the most complete [report] that has been published and is still being widely referenced."¹⁵ In fact he links CC and the GMI Report by pointing out that CC "... was put forward during the discussions at the same White House meeting where the [1989] Marshall Institute report was summarized."

So it is clear that far from providing a foundation for those urging immediate action on global warming, CC was used by very senior science advisors to counsel inaction. And in doing so, those advisors were not bending the message of CC. However, there were differences between CC and the use made of it by GMI and others. Unlike in CC, the contrarians' defense of their take-no-action-now policy was to mount ferocious attacks on the substance of climate science. Added to the views that we didn't know enough and that we had time to respond later was the claim that we didn't even know as much as we thought we did.

So why did the U.S. take no action between 1979 and 1989 and then become even less inclined to take action thereafter?

As I said above, I do not have a definitive answer to that question. In Rich's article he focuses on the profound influence that John H. Sununu had as George H. W. Bush's first Chief of Staff beginning in 1989. And in so doing Rich seems to imply that Sununu's policy position was part of the answer to the question. I have no grounds for disputing that in November of that year Sununu played a crucial role in preventing the U.S. from signing a major international treaty aimed at freezing carbon dioxide emissions. The same for other actions and positions Rich attributes to Sununu. But the question remains: Why no action from 1979 to 1989?

It seems to me that the answer has to include the influence of the *Changing Climate* beginning in 1983, and the positions subsequently taken by Nierenberg, by some other

¹⁵ L. Roberts, "Global Warming: Blaming the Sun A Report that Essentially Wishes Away Greenhouse Warming is Said to be having a Major Influence on White House Policy," *Science* 246, no. 4933 (1989): 992-993.

JASONS, and then by The George Marshall Institute and other think-tanks partially underwritten by the fossil-fuels industry.¹⁶ It is of course true that GMI did not issue its first position paper on climate change until 1989, but there is no reason to believe that Nierenberg and colleagues kept their own counsel from 1983 to 1989. And it is important to take account of the prestige and power of Nierenberg and his associates.

These were not occasional or incidental governmental advisors; they were among the most highly respected spokespeople for the scientific establishment. As noted in Rich's text Nierenberg was a member of Ronald Reagan's transition team in 1980 and he was a JASON. Combine that with the fact that the George Marshall Institute was one of the key groups of scientists in the 1980s that strongly supported Reagan's Strategic Defense Initiative ("Star Wars"). Given Nierenberg's role in CC and his public statements upon its publication, the position publicly taken by GMI in 1989, and the fact that Nierenberg had access to the Republican administrations of Ronald Reagan and George H. W. Bush, it is clear that science advisors at the very highest governmental level helped to forestall action on climate change.

In saying all of this I certainly agree with Rich that the U.S. government underwent a sea change in its public position on climate change beginning in 1989. That shift to militant contrarianism happened for a number of reasons including the fact that the international community created the Intergovernmental Panel on Climate Change in 1989. It became obvious that the international scientific community, and possibly governments, were going to urge action. Nevertheless, the ground for the commitment to no action in the U.S. had been prepared since the issuance of CC in 1983. Although scientists are certainly entitled to advocate for particular policies, it is another matter for a major scientific assessment to slide into the realm of policy without even acknowledging that it is not simply a matter of science whether or not more science is needed on which to build policy. There were no doubt other factors promoting inaction in the decade 1979-1989, but a complete answer will certainly include the mutually supportive influences of some senior scientific advisors and elements of the fossil-fuels industry and of influential leaders of the Republican Party.

¹⁶ Not all Jasons shared Nierenberg's view about climate change. For example Gordon J. F. Macdonald, who is cited in Rich's article, did not and neither did Henry W. Kendall, who founded the Union of Concerned Scientists after resigning from Jason.

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Ed Levy obtained a BS in Physics from the University of North Carolina and a PHD in History and Philosophy of Science from Indiana University. He became a member of the Philosophy Department at the University of British Columbia in 1967. In 1988 he joined the biotech company QLT Inc., a company that developed the first worldwide medical treatment for age-related macular degeneration, the leading cause of blindness among the elderly. His position at QLT enabled him to work actively in one of his prior main areas of research interest, namely in the intersection of science and policy issues.

Ed's interests in the interactions among science and policy institutions in the fields of law, ethics, economics, and government were honed on multi-disciplinary research projects including one studying the Green Revolution in Asia and another investigating *Mandated Science*, which involves situations such as standard setting and health regulations where scientists have a mandate to make policy recommendations in contested fields.

Upon retiring from QLT in 2002 Ed became an adjunct professor at UBC's W. Maurice Young Centre for Applied Ethics and worked on several projects funded by Genome Canada.

He has served on a number of not-for-profit and other boards including Tides Canada, B.C. Civil Liberties Association, WelTel, Oncolytics Biotech, BIOTECanada, Lawyers' Rights Watch Canada, and PIVOT Foundation.

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