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What is Science and Why Should We Care?

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I propose to share with you a few reflections about the nature of scientific inquiry and its importance for public life. At a superficial level one could say that I will be addressing some aspects of the relation between science and society; but as I hope will become clear, my aim is to discuss the importance, not so much of science, but of what one might call the scientific worldview1 — a concept that goes far beyond the specific disciplines that we usually think of as "science" — in humanity's collective decision-making. I want to argue that clear thinking, combined with a respect for evidence — especially inconvenient and unwanted evidence, evidence that challenges our preconceptions — are of the utmost importance to the survival of the human race in the twenty-first century, and especially so in any polity that professes to be a democracy.

Of course, you might think that calling for clear thinking and a respect for evidence is a bit like advocating Motherhood and Apple Pie (if you'll pardon me this Americanism) — and in a sense you'd be right. Hardly anyone will openly defend muddled thinking or disrespect for evidence. Rather, what people do is to surround these practices with a fog of verbiage designed to conceal from their listeners — and in most cases, I would imagine, from themselves as well—the true implications of their way of thinking. George Orwell got it right when be observed that the main advantage of speaking and writing clearly is that "when you make a stupid remark its stupidity will be obvious, even to yourself".2 So I hope that I will be as clear tonight as Orwell would have wished. And I intend to illustrate disrespect for evidence with a variety of examples — coming from the Left and the Right and the Center — starting from some fairly lightweight targets and proceeding to heavier ones. I aim to show that the implications of taking seriously an evidence-based worldview are rather more radical than many people realize.

So let me start, perhaps a bit pedantically, by drawing some important distinctions. The word science, as commonly used, has at least four distinct meanings: it denotes an intellectual endeavor aimed at a rational understanding of the natural and social world; it denotes a corpus of currently accepted substantive knowledge; it denotes the community of scientists, with its mores and its social and economic structure; and, finally, it denotes applied science and technology. In this talk I will be concentrating on the first two aspects, with some secondary references to the sociology of the scientific community; I will not address technology at all. Thus, by science I mean, first of all, a worldview giving primacy to reason and observation and a methodology aimed at acquiring accurate knowledge of the natural and social world. This methodology is characterized, above all else, by the critical spirit : namely, the commitment to the incessant testing of assertions through observations and/or experiments — the more stringent the tests, the better — and to revising or discarding those theories that fail the test.3

One corollary of the critical spirit is fallibilism: namely, the understanding that all our empirical knowledge is tentative, incomplete and open to revision in the light of new evidence or cogent new arguments (though, of course, the most well-established aspects of scientific knowledge are unlikely to be discarded entirely).

It is important to note that well-tested theories in the mature sciences are supported in general by a powerful web of interlocking evidence coming from a variety of sources. Moreover, the progress of science tends to link these theories into a unified framework, so that (for instance) biology has to be compatible with chemistry, and chemistry with physics. The philosopher Susan Haack has illuminatingly analogized science to the problem of completing a crossword puzzle, in which any modification of one word will entail changes in interlocking words; in most cases the required changes will be fairly local, but in some cases it may be necessary to rework large parts of the puzzle.4

I stress that my use of the term "science" is not limited to the natural sciences, but includes investigations aimed at acquiring accurate knowledge of factual matters relating to any aspect of the world by using rational empirical methods analogous to those employed in the natural sciences. (Please note the limitation to questions of fact. I intentionally exclude from my purview questions of ethics, aesthetics, ultimate purpose, and so forth.) Thus, "science" (as I use the term5) is routinely practiced not only by physicists, chemists and biologists, but also by historians, detectives, plumbers and indeed all human beings in (some aspects of) our daily lives.6 (Of course, the fact that we all practice science from time to time does not mean that we all practice it equally well, or that we practice it equally well in all areas of our lives.)

The extraordinary successes of the natural sciences over the last 400 years in learning about the world, from quarks to quasars and everything in-between, are well known to every modern citizen: science is a fallible yet enormously successful method for obtaining objective (albeit approximate and incomplete) knowledge of the natural (and to a lesser extent, the social) world.

But, surprisingly, not everyone accepts this; and here I come to my first — and most lightweight — example of adversaries of the scientific worldview, namely academic postmodernists and extreme social constructivists. Such people insist that so-called scientific knowledge does not in fact constitute objective knowledge of a reality external to ourselves, but is a mere social construction, on a par with myths and religions, which therefore have an equal claim to validity. If such a view seems so implausible that you wonder whether I am somehow exaggerating, consider the following assertions by prominent sociologists:

"[T]he validity of theoretical propositions in the sciences is in no way affected by factual evidence." (Kenneth Gergen)7

"The natural world has a small or non-existent role in the construction of scientific knowledge." (Harry Collins)8

"For the relativist [such as ourselves] there is no sense attached to the idea that some

standards or beliefs are really rational as distinct from merely locally accepted as such." (Barry Barnes and David Bloor)9

"Since the settlement of a controversy is the cause of Nature's representation, not the consequence, we can never use the outcome — Nature — to explain how and why a controversy has been settled." (Bruno Latour)10

"Science legitimates itself by linking its discoveries with power, a connection which determines (not merely influences) what counts as reliable knowledge . . . ." (Stanley Aronowitz)[11]

Statements as clear-cut as these are, however, rare in the academic postmodernist literature. More often one finds assertions that are ambiguous but can nevertheless be 3 interpreted (and quite often are interpreted) as implying what the foregoing quotations make explicit: that science as I have defined it is an illusion, and that the purported objective knowledge provided by science is largely or entirely a social construction. For example, Katherine Hayles, professor of literature at Duke University and former president of the Society for Literature and Science, writes the following as part of her feminist analysis of fluid mechanics:

Despite their names, conservation laws are not inevitable facts of nature but constructions that foreground some experiences and marginalize others. . . . Almost without exception, conservation laws were formulated, developed, and experimentally tested by men. If conservation laws represent particular emphases and not inevitable facts, then people living in different kinds of bodies and identifying with different gender constructions might well have arrived at different models for [fluid] flow.[12] (What an interesting idea: perhaps "people living in different kinds of bodies" will learn to see beyond those masculinist laws of conservation of energy and momentum.) And Andrew Pickering, a prominent sociologist of science, asserts the following in his otherwise-excellent history of modern elementary-particle physics: "[G]iven their extensive training in sophisticated mathematical techniques, the preponderance of mathematics in particle physicists' accounts of reality is no more hard to explain than the fondness of ethnic groups for their native language. On the view advocated in this chapter, there is no obligation upon anyone framing a view of the world to take account of what twentieth-century science has to say."[13]

But let me not spend time beating a dead horse, as the arguments against postmodernist relativism are by now fairly well known: rather than plugging my own writings, let me suggest the superb book by the Canadian philosopher of science James Robert Brown, Who Rules in Science?: An Opinionated Guide to the Wars.[14] Suffice it to say that postmodernist writings systematically confuse truth with claims of truth, fact with assertions of fact, and knowledge with pretensions to knowledge — and then sometimes go so far as to deny that these distinctions have any meaning.

Now, it's worth noting that the postmodernist writings I have just quoted all come from the 1980s and early 1990s. In fact, over the past decade, academic postmodernists and social constructivists seem to have backed off the most extreme views that they previously espoused.

Perhaps I and like-minded critics of postmodernism can take some small credit for this, by initiating a public debate that shed a harsh light of criticism on these views and forced some strategic retreats. But most of the credit, I think, has to be awarded to George W. Bush and his friends, who showed just where science-bashing can lead in the real world. Nowadays, even sociologist of science Bruno Latour, who spent several decades stressing the so-called "social construction of scientific facts"[15], laments the ammunition he fears he and his colleagues have given to the Republican right-wing, helping them to deny or obscure the scientific consensus on global climate change, biological evolution and a host of other issues.[16] He writes:

While we spent years trying to detect the real prejudices hidden behind the appearance of objective statements, do we now have to reveal the real objective and 4 incontrovertible facts hidden behind the illusion of prejudices? And yet entire Ph.D. programs are still running to make sure that good American kids are learning the hard way that facts are made up, that there is no such thing as natural, unmediated, unbiased access to truth, that we are always prisoners of language, that we always speak from a particular standpoint, and so on, while dangerous extremists are using the very same argument of social construction to destroy hard-won evidence that could save our lives.[17]

That, of course, is exactly the point I was trying to make back in 1996 about social construction talk taken to subjectivist extremes. I hate to say I told you so, but I did — as did, several years before me, Noam Chomsky, who recalled that in a not-so-distant past, Left intellectuals took an active part in the lively working class culture. Some sought to compensate for the class character of the cultural institutions through programs of workers' education, or by writing best-selling books on mathematics, science, and other topics for the general public. Remarkably, their left counterparts today often seek to deprive working people of these tools of emancipation, informing us that the "project of the Enlightenment" is dead, that we must abandon the "illusions" of science and rationality — a message that will gladden the hearts of the powerful, delighted to monopolize these instruments for their own use.[18]

Let me now pass to a second set of adversaries of the scientific worldview, namely the advocates of pseudoscience.[19] This is of course an enormous area, so let me focus on one socially important aspect of it, namely so-called "complementary and alternative therapies" in health and medicine. And within this, I'd like to look in a bit of detail at one of the most widely used "alternative" therapies, namely homeopathy — which is an interesting case because its advocates sometimes claim that there is evidence from meta-analyses of clinical trials that homeopathy works.

Now, one basic principle in all of science is GIGO: garbage in, garbage out. This principle is particularly important in statistical meta-analysis: because if you have a bunch of methodologically poor studies, each with small sample size, and then subject them to meta-analysis, what can happen is that the systematic biases in each study — if they mostly point in the same direction — can reach statistical significance when the studies are pooled. And this possibility is particularly relevant here, because meta-analyses of homeopathy invariably find an inverse correlation between the methodological quality of the study and the observed

effectiveness of homeopathy: that is, the sloppiest studies find the strongest evidence in favor of homeopathy.[20] When one restricts attention only to methodologically sound studies — those that include adequate randomization and double-blinding, predefined outcome measures, and clear accounting for drop-outs — the meta-analyses find no statistically significant effect (whether positive or negative) of homeopathy compared to placebo.[21]

But the lack of convincing statistical evidence for the efficacy of homeopathy is not , in fact, the main reason why I and other scientists are skeptical (to put it mildly) about homeopathy; and it's worth taking a few moments to explain this main reason, because it provides some important insights into the nature of science. Most people — perhaps even most users of homeopathic remedies — do not clearly understand what homeopathy is. They probably think of it as a species of herbal medicine. Of course plants contain a wide variety of substances, some of which can be biologically active (with either beneficial or harmful consequences, as Socrates learned). But homeopathic remedies, by contrast, are pure water and starch: the alleged "active ingredient" is so highly diluted that in most cases not a single molecule remains in the final product.

And so, the fundamental reason for rejecting homeopathy is that there is no plausible mechanism by which homeopathy could possibly work, unless one rejects everything that we have learned over the last 200 years about physics and chemistry: namely, that matter is made of atoms, and that the properties of matter — including its chemical and biological effects — depend on its atomic structure. There is simply no way that an absent "ingredient" could have a therapeutic effect. High-quality clinical trials find no difference between homeopathy and placebo because homeopathic remedies are placebos.[22]

Now, advocates of homeopathy sometimes respond to this argument by asserting that the curative effect of homeopathic remedies arises from a "memory" of the vanished active ingredient that is somehow retained by the water in which it was dissolved (and then by the starch when the water is evaporated!). But the difficulty, once again, is not simply the lack of any reliable experimental evidence for such a "memory of water". Rather, the problem is that the existence of such a phenomenon would contradict well-tested science, in this case the statistical mechanics of fluids. The molecules of any liquid are constantly being bumped by other molecules — what physicists call thermal fluctuations — so that they quickly lose any "memory" of their past configuration. (Here when I say "quickly", I'm talking picoseconds, not months.)

In short, all the millions of experiments confirming modern physics and chemistry also constitute powerful evidence against homeopathy. For this reason, the flaw in the justification of homeopathy is not merely the lack of statistical evidence showing the efficacy of homeopathic remedies over placebo at the 95% or 99% confidence level. Even a clinical trial at the 99.99% confidence level would not begin to compete with all the evidence in favor of modern physics and chemistry. Extraordinary claims require extraordinary evidence. (And in the unlikely event that such convincing evidence is ever forthcoming, the person who provides it will assuredly win a triple Nobel Prize in physics, chemistry and biology — beating out Marie

Curie, who won only two.)

Despite the utter scientific implausibility of homeopathy, homeopathic products can be marketed in the United States without having to meet the safety and efficacy requirements that are demanded of all other drugs (because they got a special dispensation in the Food, Drug, and Cosmetic Act of 1938). Indeed, U.S. government regulations require each homeopathic remedy that is marketed over-the-counter (OTC) to state, on the label, at least one medical condition that the product is intended to treat — but without requiring any evidence that the product is actually efficacious in treating that condition![23] The laws in other Western countries are equally scandalous, if not more so.[24]

Fortunately, it seems that this particular pseudoscience has thus far made only modest inroads in the United States — by contrast with its wide penetration in France and Germany, where homeopathic products are packaged like real medicines and sold side-by-side with them in virtually every pharmacy. But other and more dangerous pseudosciences are endemic in the United States: prominent among these is the denial of biological evolution. It is essential to begin our analysis by distinguishing clearly between three very different issues: namely, the fact of the evolution of biological species; the general mechanisms of that evolution; and the precise details of those mechanisms. Of course, one of the favorite tactics of deniers of evolution is to confuse these three aspects.

Among biologists, and indeed among the general educated public, the fact that biological species have evolved is established beyond any reasonable doubt. Most species that existed at various times in the past no longer exist; and conversely, most species that exist today did not exist for most of the Earth's past. In particular, modern Homo sapiens did not exist 1,000,000 years ago; and conversely, other species of hominids, such as Homo erectus, existed then and are now extinct. The fossil record is unequivocal on this point, and this has been well understood since at least the late 19th century.

A more subtle issue concerns the mechanisms of biological evolution; and here our modern scientific understanding took a longer time to develop. Though the basic idea — descent with modification, combined with natural selection — was set forth with eminent clarity by Darwin already in his 1859 book, the precise mechanisms underlying Darwinian evolution did not become fully elucidated until the development of genetics and molecular biology in the first half of the twentieth century. Nowadays we have a good understanding of the overall process: errors in copying DNA during reproduction cause mutations; some of these mutations either increase or decrease the organism's success at survival and reproduction; natural selection acts to increase the frequency in the gene pool of those mutations that increase the organism's reproductive success; as a result, over time, species develop adaptations to ecological niches; old species die out and new species arise. This general picture is nowadays established beyond any reasonable doubt, not only by paleontology but also by laboratory experiments.

Of course, when it comes to the precise details of evolutionary theory, there is still lively debate among specialists (just as there is in any active scientific field): for instance, concerning

the quantitative importance of group selection or of genetic drift. But these debates in no way cast doubt on either the fact of evolution or on its general mechanisms. Indeed, as the celebrated geneticist Theodosius Dobzhansky pointed out in a 1973 essay, “nothing in biology makes sense except in the light of evolution”.[25]

Everything that I have just said is of course common knowledge to anyone who has taken a half-decent course in high-school biology. The trouble is, fewer and fewer people — at least in the United States — nowadays have the good fortune to be exposed to a half-decent course in high-school biology. And the cause of that scientific illiteracy is (need I say it?) politics: more precisely, politics combined with religion. Some people reject evolution because they find it incompatible with their religious beliefs. And in countries where such people are numerous or politically powerful or both, politicians kowtow to them and suppress the teaching of evolution in the public schools — with the result that the younger generation is denied the opportunity to evaluate the scientific evidence for themselves, and the scientific ignorance of the populace is faithfully26 reproduced in future generations.

Figure 1 shows the results of a fascinating cross-cultural survey, carried out in 2005 in 32 European countries along with the United States and Japan.27 Respondents were read the statement, “Human beings, as we know them, developed from earlier species of animals”, and were asked whether they considered it to be true, false, or were not sure. Of all 34 countries, the United States holds 33rd place for belief in evolution (with roughly equal numbers responding “true” and “false”). Only Turkey — where the secular heritage is under increasing assault from the elected Islamist government and its supporters — shows less belief in evolution than the United States. (Please note that this question concerns merely the fact of evolution, not its mechanisms.)

Of course, not all religious people reject evolution. Fundamentalist Christians do reject evolution, as do many Muslims and orthodox Jews; but Catholics and liberal Protestants have come (over time and perhaps grudgingly) to accept evolution, as have some Muslims and most Jews.28 Therefore, from a purely tactical point of view, non-fundamentalist religious people are the allies of scientists in their struggle to defend the honest teaching of science.

And so, if I were tactically minded, I would stress — as most scientists do — that science and religion need not come into conflict. I might even go on to argue, following Stephen Jay Gould, that science and religion should be understood as “nonoverlappingmagisteria”: science dealing with questions of fact, religion dealing with questions of ethics and meaning.29 But I can’t in good conscience proceed in this way, for the simple reason that I don’t think the arguments stand up to careful logical examination. Why do I say that? For the details, I have to refer you to a 75-page chapter in my book30; but let me at least try to sketch now the main reasons why I think that science and religion are fundamentally incompatible ways of looking at the world.[31]

When analyzing religion, a few distinctions are perhaps in order. For starters, religious doctrines typically have two components: a factual part, consisting of a set of claims about the universe and its history; and an ethical part, consisting of a set of prescriptions about how to

live. In addition, all religions make, at least implicitly, epistemological claims concerning the methods by which humans can obtain reasonably reliable knowledge of factual or ethical matters. These three aspects of each religion obviously need to be evaluated separately.

Furthermore, when discussing any set of ideas, it is important to distinguish between the intrinsic merit of those ideas, the objective role they play in the world, and the subjective reasons for which various people defend or attack them.

Figure 1: From Miller, Scott and Okamoto (2006).

(Alas, much discussion of religion fails to make these elementary distinctions: for instance, confusing the intrinsic merit of an idea with the good or bad effects that it may have in the world.) Here I want to address only the most fundamental issue, namely, the intrinsic merit of the various religions' factual doctrines. And within that, I want to focus on the epistemological question — or to put it in less fancy language, the relationship between belief and evidence. After all, those who believe in their religion's factual doctrines presumably do so for what they consider to be good reasons. So it's sensible to ask: What are these alleged good reasons?

Each religion makes scores of purportedly factual assertions about everything from the creation of the universe to the afterlife. But on what grounds can believers presume to know that these assertions are true? The reasons they give are various, but the ultimate justification for most religious people's beliefs is a simple one: we believe what we believe because our holy scriptures say so. But how, then, do we know that our holy scriptures are factually accurate? Because the scriptures themselves say so.[32] Theologians specialize in weaving elaborate webs of verbiage to avoid saying anything quite so bluntly, but this gem of circular reasoning really is the epistemological bottom line on which all "faith" is grounded. In the words of Pope John Paul II: "By the authority of his absolute transcendence, God who makes himself known is also the source of the credibility of what he reveals."[33] It goes without saying that this begs the question of whether the texts at issue really were authored or inspired by God, and on what grounds one knows this. "Faith" is not in fact a rejection of reason, but simply a lazy acceptance of bad reasons. "Faith" is the pseudo-justification that some people trot out when they want to make claims without the necessary evidence.

But of course we never apply these lax standards of evidence to the claims made in the other fellow's holy scriptures: when it comes to religions other than one's own, religious people are as rational as everyone else. Only our own religion, whatever it may be, seems to merit some special dispensation from the general standards of evidence. And here, it seems to me, is the crux of the conflict between religion and science. Not the religious rejection of specific scientific theories (be it heliocentrism in the 17th century or evolutionary biology today); over time most religions do find some way to make peace with well-established science. Rather, the scientific worldview and the religious worldview come into conflict over a far more

fundamental question: namely, what constitutes evidence.

Science relies on publicly reproducible sense experience (that is, experiments and observations) combined with rational reflection on those empirical observations. Religious people acknowledge the validity of that method, but then claim to be in the possession of additional methods for obtaining reliable knowledge of factual matters — methods that go beyond the mere assessment of empirical evidence — such as intuition, revelation, or the reliance on sacred texts. But the trouble is this: What good reason do we have to believe that such methods work, in the sense of steering us systematically (even if not invariably) towards true beliefs rather than towards false ones?34 At least in the domains where we have been able to test these methods — astronomy, geology and history, for instance — they have not proven terribly reliable. Why should we expect them to work any better when we apply them to problems that are even more difficult, such as the fundamental nature of the universe?

Last but not least, these non-empirical methods suffer from an insuperable logical problem: What should we do when different people's intuitions or revelations conflict? How can we know which of the many purportedly sacred texts — whose assertions frequently contradict one another — are in fact sacred?

In all these examples I have been at pains to distinguish clearly between factual matters and ethical or aesthetic matters, because the epistemological issues they raise are so different. And I have restricted my discussion almost entirely to factual matters, simply because of the limitations of my own competence. But if I am preoccupied by the relation between belief and evidence, it is not solely for intellectual reasons — not solely because I'm a "grumpy old fart who aspire[s] to the sullen joy of having it known that [I] don't suffer fools gladly"35 (to borrow the words of my friend and fellow gadfly Norm Levitt, who died suddenly four years ago at the young age of 66). Rather, my concern that public debate be grounded in the best available evidence is, above all else, ethical.

To illustrate the connection I have in mind between epistemology and ethics, let me start with a fanciful example: Suppose that the leader of a militarily powerful country believes, sincerely but erroneously, on the basis of flawed "intelligence," that a smaller country possesses threatening weapons of mass destruction; and suppose further that he launches a preemptive war on that basis, killing tens of thousands of innocent civilians as "collateral damage." Aren't he and his supporters ethically culpable for their epistemic sloppiness?

I stress that this example is fanciful. The overwhelming preponderance of currently available evidence suggests that the Bush and Blair administrations first decided to overthrow Saddam Hussein, and then sought a publicly presentable pretext, using dubious or even forged "intelligence" to "justify" that pretext and to mislead Congress, Parliament and the public into supporting that war.[36]

Which brings me to the last, and in my opinion most dangerous, set of adversaries of the evidence-based worldview in the contemporary world: namely, propagandists, public-relations

flacks and spin doctors, along with the politicians and corporations who employ them — in short, all those whose goal is not to analyze honestly the evidence for and against a particular policy, but is simply to manipulate the public into reaching a predetermined conclusion by whatever technique will work, however dishonest or fraudulent.

So the issue here is no longer mere muddled thinking or sloppy reasoning; it is fraud.

The Oxford English Dictionary defines "fraud" as "the using of false representations to obtain an unjust advantage or to injure the rights or interests of another".[37] In the Anglo-American common law, a "false representation" can take many forms, including[38]:

• A false statement of fact, known to be false at the time it was made;

• A statement of fact with no reasonable basis to make that statement[39];

• A promise of future performance made with an intent, at the time the promise was made, not to perform as promised[40];

• An expression of opinion that is false, made by one claiming or implying to have special knowledge of the subject matter of the opinion — where "special knowledge" means knowledge or information superior to that possessed by the other party, and to which the other party did not have equal access.[41], [42]

Anything here sound familiar? These are the standards that we would use if George Bush and Tony Blair had sold us a used car. In fact, they sold us a war that has thus far cost the lives of 179 British soldiers, 4486 American soldiers, and somewhere between 112,000 and 600,000 Iraqis[43] — a human toll, that is, of somewhere between 35 and 200 September 11ths; that has thus far cost the American taxpayers a staggering $810 billion (with ultimate estimates ranging from $1–3 trillion)[44]; and that has strengthened both al-Qaeda and Iran — in short, a war that may well turn out to be the greatest foreign-policy blunder of American history. (Of course the British have a longer history, and hence a longer history of blunders to compete with.)

Now, in the common law there are in fact two distinct torts of misrepresentation: negligent misrepresentation and fraudulent misrepresentation. Fraudulent misrepresentation is of course difficult to prove because it involves the state of mind of the person making the misrepresentation, i.e. what he actually knew or believed at the time of the false statement.[45] Which means that the question becomes (as it was in the case of an earlier American president who stood accused of far lesser crimes and misdemeanors): What did George Bush and Tony Blair know and when did they know it? Unfortunately, the documents that could elucidate this question are top secret, so we may not know the answer for 50 years, if ever. But enough documents have been leaked so far to support, I think, a verdict of fraudulent misrepresentation.[46]

Now, all this is very likely old hat to most of the people in this room. We know perfectly well that our politicians (or at least some of them) lie to us; we take it for granted; we are inured to

it. And that may be precisely the problem. Perhaps we have become so inured to political lies — so hard-headedly cynical — that we have lost our ability to become appropriately outraged. We have lost our ability to call a spade a spade, a lie a lie, a fraud a fraud. Instead we call it "spin".[47]

We have now travelled a long way from "science", understood narrowly as physics, chemistry, biology and the like. But the whole point is that any such narrow definition of science is misguided. We live in a single real world; the administrative divisions used for convenience in our universities do not in fact correspond to any natural philosophical boundaries. It makes no sense to use one set of standards of evidence in physics, chemistry and biology, and then suddenly relax your standards when it comes to medicine, religion or politics. Lest this sound to you like a scientist's imperialism, I want to stress that it is exactly the contrary. As the philosopher Susan Haack lucidly observes: "Our standards of what constitutes good, honest, thorough inquiry and what constitutes good, strong, supportive evidence are not internal to science. In judging where science has succeeded and where it has failed, in what areas and at what times it has done better and in what worse, we are appealing to the standards by which we judge the solidity of empirical beliefs, or the rigor and thoroughness of empirical inquiry, generally."[48]

The bottom line is that science is not merely a bag of clever tricks that turn out to be useful in investigating some arcane questions about the inanimate and biological worlds. Rather, the natural sciences are nothing more or less than one particular application — albeit an unusually successful one — of a more general rationalist worldview, centered on the modest insistence that empirical claims must be substantiated by empirical evidence.

Conversely, the philosophical lessons learned from four centuries of work in the natural sciences can be of real value — if properly understood — in other domains of human life. Of course, I am not suggesting that historians or policy-makers should use exactly the same methods as physicists — that would be absurd. But neither do biologists use precisely the same methods as physicists; nor, for that matter, do biochemists use the same methods as ecologists, or solid-state physicists as elementary-particle physicists. The detailed methods of inquiry must of course be adapted to the subject matter at hand. What remains unchanged in all areas of life, however, is the underlying philosophy: namely, to constrain our theories as strongly as possible by empirical evidence, and to modify or reject those theories that fail to conform to the evidence. That is what I mean by the scientific worldview.

It is because of this general philosophical lesson, far more than any specific discoveries, that the natural sciences have had such a profound effect on human culture since the time of Galileo and Francis Bacon. The affirmative side of science, consisting of its well-verified claims about the physical and biological world, may be what first springs to mind when people think about "science"; but it is the critical and skeptical side of science that is the most profound, and the most intellectually subversive. The scientific worldview inevitably comes into conflict with all non-scientific modes of thought that make purportedly factual claims about the world. And how could it be otherwise? After all, scientists are constantly subjecting their colleagues'

theories to severe conceptual and empirical scrutiny. On what grounds could one reject phlogistic chemistry, the fixity of species, or Newton's particle theory of light — not to mention thousands of other plausible but wrong scientific theories — and yet accept astrology, homeopathy or the virgin birth?

The critical thrust of science even extends beyond the factual realm, to ethics and politics. Of course, as a logical matter one cannot derive an "ought" from an "is".[49] But historically — starting in the 17th and 18th centuries in Europe and then spreading gradually to more or less the entire world —scientific skepticism has played the role of an intellectual acid, slowly dissolving the irrational beliefs that legitimated the established social order and its supposed authorities, be they the priesthood, the monarchy, the aristocracy, or allegedly superior races and social classes.[50] Four hundred years later, it seems sadly evident that this revolutionary transition from a dogmatic to an evidence-based worldview is very far from being complete.

Notes

1. It is crucial, in order to avoid misunderstandings, that the word "scientific" here be understood in the broad sense to be explained below, namely as "investigations aimed at acquiring accurate knowledge of factual matters relating to any aspect of the world by using rational empirical methods analogous to those employed in the natural sciences". Alternatively, one could use the phrase evidence-based worldview.

2. Orwell (1953 [1946], p. 171).

3. See Bricmont (2005) for an illuminating discussion of the critical/skeptical aspect of science.

4. Haack (1993, 1998, 2003).

5. If you, by contrast, prefer to restrict the term "science" to the natural sciences only, then it suffices to replace the word "science" everywhere in my text by the phrase "investigations aimed at acquiring accurate knowledge of factual matters relating to any aspect of the world by using rational empirical methods analogous to those employed in the natural sciences".

6. The allusion to historians and detectives was employed previously by Haack (1993, p. 137): "there is no reason to think that [science] is in possession of a special method of inquiry unavailable to historians, detectives, and the rest of us". See also Haack (1998, pp. 96–97; 2003, pp. 18, 24, 95, 102 and passim).

7. Gergen (1988, p. 37).

8. Collins (1981, p. 3). Two qualifications need to be made: First, this statement is offered as part of Collins' introduction to a set of studies (edited by him) employing the relativist approach, and constitutes his summary of that approach; he does not explicitly endorse this view, though an endorsement seems implied by the context. Second, while Collins appears to intend this assertion as an empirical claim about the history of science, it is possible that he

intends it neither as an empirical claim nor as a normative principle of epistemology, but rather as a methodological injunction to sociologists of science: namely, to act as if "the natural world ha[d] a small or non-existent role in the construction of scientific knowledge", or in other words to ignore ("bracket") whatever role the natural world may in fact play in the construction of scientific knowledge. I have argued elsewhere (Bricmont and Sokal 2001, 2004) that this approach is seriously deficient as methodology for sociologists of science.

9. Barnes and Bloor (1981, p. 27), clarification added by me.

10. Latour (1987, pp. 99, 258), emphasis in the original. See Sokal and Bricmont (1998, chapter 4) for a detailed analysis of this claim and its various possible meanings.

11. Aronowitz (1988, p. 204), emphasis in the original.

12. Hayles (1992, pp. 31–32).

13. Pickering (1984, p. 413). Can Pickering, who was initially trained as a physicist, really be unaware of four centuries' work demonstrating the extraordinary power of mathematics as a tool for formulating and solving problems in the physical (and, to a lesser extent, the biological) sciences? See Wigner (1960) for a prominent physicist's reflections on the "unreasonable effectiveness" of mathematics in the natural sciences.

14. Brown (2001).

15. This is the subtitle of Latour and Woolgar (1979).

16. See Mooney (2005) for an extensively documented account of the assault on science being carried out by Republican politicians on behalf of an unholy (and uneasy) alliance of big corporations seeking to escape environmental and safety regulations and religious fundamentalists seeking to impose their dogmas on education and health policy.

17. Latour (2004, p. 227), italics in the original.

18. Chomsky (1993, p. 286). See also Albert (1992), Chomsky (1992) and Ehrenreich (1992) for related commentary.

19. See also Sokal (2006) for a tentative exploration of the curious nexus between pseudoscience and postmodernism.

20. Kleijnen et al. (1991), Linde et al. (1997, 1999), Linde and Melchart (1998), Cucherat et al. (2000), Shang et al. (2005). See also Ernst (2002) for a useful review of metaanalyses of homeopathy. In fairness, it should be pointed out that the inverse correlation between methodological quality and observed treatment efficacy holds also in conventional medicine: see e.g. Schulz et al. (1995), Khan et al. (1996), Moher et al. (1998), Shang et al. (2005), and Poolman et al. (2007). The difference is that, in at least some cases of conventional medicine,

analyses restricted to high-quality studies can show an indisputably significant treatment effect. For a lucid explanation of the importance of allocation concealment and double-blinding — and the distinction between the two — see Schulz (2000).

21. There was one apparent exception: a 1997 meta-analysis of homeopathy published in the Lancet (Linde et al. 1997), which is frequently cited by advocates of homeopathy because it found positive effects that were statistically significant at the 95% confidence level even when restricting attention to the 26 studies (out of 119) that met the authors' criteria for "high quality". However, a subsequent reanalysis of the same data by the same group (Linde et al. 1999), paying greater attention to the effects of study quality, found "clear evidence that in the study set investigated more rigorous trials tended to yield smaller effects" (p. 634), with the five highest-quality studies showing an effect that is no longer statistically significant at the 95% confidence level (Table 2: odds ratio 1.55 for homeopathy over placebo, with the 95% confidence interval running from 0.77 to 3.10). The authors conclude that The most plausible explanation of this finding is bias. . . . The evidence of bias weakens the findings of our original meta-analysis. . . . It seems, therefore, likely that our meta-analysis at least overestimated the effects of homeopathic treatments. (pp. 634–635) Furthermore, in response to a letter-writer who suggested "an analysis restricted to good-quality studies . . . with a clear predefined main endpoint" (Seed 1998), the authors admitted that "there are insufficient studies to conduct a useful analysis of only high quality investigations with predefined outcome measures" (Linde and Jonas 1998, p. 367) — which suggests that the small residual effect in the "highest-quality" studies might itself be a result of bias. See also Ernst (2002).

22. Moreover, "different" homeopathic remedies — for instance, nux vomica and excre-mentum caninum — are the same placebo. This was inadvertently admitted by Kate Chatfield of the (British) Society of Homeopaths in testimony before the House of Lords Select Committee on Science and Technology (21 February 2007): Q538 Lord Broers: I have a simple, technical question about homeopathy and drugs. Is it possible to distinguish between homeopathic drugs after they have been diluted? Is there any means of distinguishing one from the other? Ms. Chatfield: Only by the label. (U.K. House of Lords 2007) Indeed, an amusing situation of this type arose in France in 2007, when it was discovered that one of the major producers of homeopathic products, Laboratoires Boiron, had accidentally interchanged the labels in bottles of Gingko biloba and Equisetum arvense. Apparently no one noticed any unusual effects during the 5 months of this inadvertent double-blind trial.

23. See U.S. Food and Drug Administration (2010).

24. In the European Union, the situation is similar to that in the U.S.: Directive 2001/83/EC of 6 November 2001 relating to medicinal products for human use contains special provisions applicable to homeopathic products only (Title III, Chapter 2), which state inter alia (Article 14, paragraphs 2 and 3): The criteria and rules of procedure provided for in Article 4(4), Article 17(1) and Articles 22 to 26, 112, 116 and 125 shall apply by analogy to the special, simplified registration procedure for homeopathic medicinal products, with the exception of the proof of therapeutic efficacy. The proof of therapeutic efficacy shall not be required for homeopathic

medicinal products registered in accordance with paragraph 1 of this Article, or, where appropriate, admitted in accordance with Article 13(2). [italics mine] In the United Kingdom, by contrast, homeopathic products do not receive any overt exemption from the requirement of efficacy; rather (and even more scandalously in my opinion), the word “efficacy” is given — for homeopathic products only — a special redefinition that allows those products to be declared “efficacious” even if they completelylack efficacy in the ordinary sense of the word. If you don’t believe me, go read U.K. Secretary of State for Health (2006) and U.K. Medicines and Healthcare Products Regulatory Agency (2006) and see for yourself.

25. Dobzhansky (1973).

26. Pardon the pun.

27. Miller, Scott and Okamoto (2006).

28. Catholics have accepted evolution, albeit with many caveats, since the 1950 encyclica Humani Generis of Pope Pius XII (see its paragraphs 36 and 37). One of the caveats is an insistence that there is an individual Adam from which all humans are descended (see paragraph 37). Concerning Muslim attitudes towards evolution, see Hassan (2007, p. 466) and Hameed (2008).

29. Gould (1999).

30. Sokal (2008, Chapter 9).

31. See also Bricmont (1999) for an illuminating discussion.

32. This important point was made by Harris (2004, p. 35).

33. John Paul II (1998, paragraph 13).

34. Of course, the same question can and should be posed about scientific methods, but in this case there is a strong answer: the fact that we are able to make accurate predictions of the results of experiments that have never yet been performed — sometimes to extraordinary accuracy — strongly suggests that our scientific theories must be correctly capturing at least something about the world. [See Sokal (2008, Chapter 7) for further details of this argument.] If “direct experience” of “spiritual reality” has some equally compelling argument in favor of its reliability, I would very much like to hear it.

35. Levitt (1996).

36. See e.g. Prados (2004), Miller (2006, chapter I) or Rich (2006) for extensive documentation. As the 23 July 2002 Downing Street Memo candidly put it (for private consumption within the Prime Minister’s inner circle), “the intelligence and facts were being fixed around the policy” (Smith 2005). See also U.S. House of Representatives (2004) and the associated website, which

contains “a searchable collection of 237 specific misleading statements made by Bush Administration officials about the threat posed by Iraq. It contains statements that were misleading based on what was known to the Administration at the time the statements were made. It does not include statements that appear mistaken only in hindsight. If a statement was an accurate reflection of U.S. intelligence at the time it was made, it was excluded even if it now appears erroneous.”

37. Black’s Law Dictionary defines “fraud” rather more ornately as all the multifarious means which human ingenuity can devise, which are resorted to by one individual, to get an advantage over another by false suggestions or suppression of the truth. . . . [I]t includes all surprise, trick, cunning, dissembling, and any unfair way by which another is cheated. [Black (1979), citing Barr v. Baker, 9 Mo. 850 (1846), at 854.] Black goes on to say that “the only boundaries defining [fraud] are those which limit human knavery.” In subsequent editions of Black’s Law Dictionary, the definitions have become less eloquent, though the meaning is unchanged. Elsewhere, Black (1916, p. 43) observes that “to defraud another is not only to deprive or withhold from him that which belongs to or is due to him, but also to deprive him of any right . . . by any artifice or wrong practiced upon him. And it is not essential that fraud should be accomplished by means of spoken or written falsehoods. If the intended result is accomplished, it is immaterial whether the means employed are affirmative or negative, that is, whether they consist of false pretenses or representations, deceptive acts or conduct, or the fraudulent suppression of material facts.”

In English law, the definition of fraud is essentially identical to that given by Black: Fraud . . . may be said to include properly all acts, omissions, and concealments which involve a breach of legal or equitable duty, trust or confidence, justly reposed, and are injurious to another, or by which an undue or unconscientious advantage is taken of another. All surprise, trick, cunning, dissembling and other unfair way that is used to cheat any one is considered as fraud. (McDonnell and Monroe 1952, p. 1) [F]raud is proved when it is shown that a false representation has been made (1) knowingly, or (2) without belief in its truth, or (3) recklessly, careless whether it be true or false. To prevent a false statement being fraudulent, there must, I think, always be an honest belief in its truth. . . . [I]f fraud be proved, the motive of the person guilty of it is immaterial. [Derry v Peek (1889) 14 App Cas 337 at 374, per Lord Herschell]

Furthermore, if I thought that a person making a false statement had shut his eyes to the facts, or purposely abstained from enquiring into them, I should hold that honest belief was absent, and that he was just as fraudulent as if he had knowingly stated that which was false. [ibid., at 376]

38. See Spencer Bower and Handley (2000, chapters 2–5) for a detailed discussion. See also https://en.wikipedia.org/wiki/Fraud and https://en.wikipedia.org/wiki/Misrepresentation for a brief summary.

39. “Although an absence of reasonable grounds for believing a statement to be true is not itself a ground for liability [as fraud], it is important evidence that no such belief really exists

and herefore that the defendant is guilty not of negligence but of fraud." (Heuston and Buckley 1996, p. 372)

40. "[For there to be fraud] there must be a misstatement of an existing fact: but the state of a man's mind is as much a fact as the state of his digestion. It is true that it is very difficult to prove what the state of a man's mind at a particular time is, but if it can be ascertained it is as much a fact as anything else. A misrepresentation as to the state of a man's mind is, therefore, a misstatement of fact." [Edgington v Fitzmaurice (1885) 29 Ch.D. 459 at 483, CA, per Bowen LJ]

41. "[I]f the facts are not equally known to both sides, then a statement of opinion by the one who knows the facts best involves very often a statement of a material fact, for he impliedly states that he knows facts which justify his opinion." [Smith v Land and House Property Corporation (1885) 28 Ch.D. 7 at 15, per Bowen LJ]

42. It is worth noting the analogy, in this last case, with scientific fraud. A scientist frequently has privileged access to information concerning his own research: raw experimental data, unpublished details of calculations, etc. For this reason, every scientist is ethically obliged to bend over backwards to disclose all potentially relevant information (and to make further data available to other scientists upon request), especially if it might cast doubt on his or her own theory. It is also worth stressing that, in law as well as in science, misrepresentation is not limited to asserting as true a proposition that one knows for a fact to be false; it also — and far more importantly — includes misrepresenting the strength of the evidence that one possesses for or against a particular proposition. [See American Law Institute (1977, §526b,c) and Prosser (1971, p. 701), cited in footnote 45 below.] This is crucial, both in science and in public policy, because one rarely possesses, in the case of any controversial scientific or policy question, "proof beyond a reasonable doubt".

43. The 112,000 figure is a lower bound, based on reports of civilian deaths between March 2003 and March 2013 —due to coalition and insurgent military action, sectarian violence and increased criminal violence — that have been published in English-language media (including Arabic media translated into English). See https://www.iraqbodycount.org/ Other estimates of deaths due to violence, based on professional polling and published in peer-reviewed journals, range from 151,000 through June 2006 (Iraq Family Health Survey Study Group 2008) to 601,000 through July 2006 (Burnham et al. 2006). For an extremely detailed account of the radically divergent estimates of excess Iraqi deaths by violence since 2003, along with methodological criticisms and rebuttals, see https://en.wikipedia.org/wiki/Casualties of the Iraq War and the pages to which it links.

44. The $810 billion estimate (as of 24 May 2013) is due to the National Priorities Project (https://costofwar.com). It includes military and non-military (e.g. reconstruction) spending in Iraq (incremental costs only, e.g. combat pay but not soldiers' regular pay). It does not include future medical care for wounded soldiers, interest payments on Iraq-related debt, or any indirect economic costs (e.g. increased oil prices). Broadly similar figures are found by the

Congressional Research Service (Belasco 2007) and the Congressional Budget Office (Orszag 2007). Economists' estimates of the ultimate total cost of the Iraq war (to the U.S. alone) range from approximately $1 trillion (Wallsten and Kosec 2005) to $3 trillion (Bilmes and Stiglitz 2008). See Leonhardt (2007) for an illuminating perspective on "what $1.2 trillion can buy".

45. In English law, see Derry v Peek, quoted in footnote 37 above; and see Spencer Bower and Handley (2000, chapters 2–5) for more details. The definition in American law is as follows (American Law Institute 1977):

§526 Conditions Under Which Misrepresentation Is Fraudulent (Scienter) A misrepresentation is fraudulent if the maker (a) knows or believes that the matter is not as he represents it to be, (b) does not have the confidence in the accuracy of his representation that he states or implies, or (c) knows that he does not have the basis for his representation that he states or implies. The following addendum is also relevant to the cases of Bush and Blair:

§527 Ambiguous Representation A representation that the maker knows to be capable of two interpretations, one of which he knows to be false and the other true is fraudulent if it is made: (a) with the intention that it be understood in the sense in which it is false, or (b) without any belief or expectation as to how it will be understood, or (c) with reckless indifference as to how it will be understood. The subsequent commentary adds that, Even though the maker of the statement did not realize the ambiguity of the statement when he made it, if he subsequently becomes aware that as a result of its ambiguity the statement is understood by the recipient in a sense that would make it false, he is under a duty to use reasonable care to disclose to the recipient information to prevent him from being misled by the statement. Furthermore,

§529 Representation Misleading Because Incomplete A representation stating the truth so far as it goes but which the maker knows or believes to be materially misleading because of his failure to state additional or qualifying matter is a fraudulent misrepresentation. Note, finally, that "a defendant who asserts a fact as of his own knowledge, or so positively as to imply that he has knowledge, under circumstances where he is aware that he will be so understood when he knows that he does not in fact know whether what he says is true, is found to have the intent to deceive, not so much as to the fact itself, but rather as to the extent of his information." (Prosser 1971, p. 701)

46. See note 36 above.

47. One of the additional corrupting effects of cynicism is that it undermines our ability to properly appreciate those politicians who do have the courage to tell us the truth — even when it is unsettling, even when it contradicts our (and their own) preconceptions.

48. Haack (1998, p. 94).

49. Many postmodernists reject the fact-value distinction, but I strongly uphold it.

50. The argument (as well as some of the phraseology) in the preceding two paragraphs is

shamelessly plagiarized from Bricmont (2005, pp. 21–23 and 32–33).

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The Left, Right and Science: Relativists and Materialists

By | 2013: vol. 12, no. 2

None of the seventeenth-century founders of modern science – Bacon, Descartes, Boyle, Hooke, and Newton – could have imagined the peculiar world of contemporary anti-science polemics. They thought that having some control over nature, particularly over human health, was – however desired – almost an unimaginable goal. They believed that certain methods – experience, experiment, inductive and deductive thinking, and mathematical reasoning – might provide access to the intelligibility of nature. Only when their ideas got in the way of religious doctrines taught by the clergy – or by their own religious scruples – did natural philosophy come under attack.

At the University of Utrecht during the 1630s and well beyond the followers of the philosopher/theologian, Gisbert Voetius, would have run Descartes out of town, more precisely out of the Dutch Republic, if only the Voetians had the backing of magistrates willing to persecute. Voetius rightly concluded that Descartes' mechanical philosophy could not be reconciled with Aristotle. Shrewdly, fellow clerics offered other skillful arguments, arguing from the pulpit, for example, that if the educated elite took up a mechanical understanding of man and nature they would renege on their obligations to the poor. Always the objections to Cartesianism included the fear that it would lead to materialism, and hence atheism.

Newton thought that Descartes's system would do just that, and devout English, if heretical, Protestant that he was, Newton was intemperate on the subject of atheism.[1] In 17th century Holland, as in England, religious passions and interests infiltrated when it came to assessing the worth of science, or what the age called natural philosophy. Not much has changed since that time, only the nature of the clergy.

Sometimes commentators in our science wars, the new clergy, try to hide their intentions and attack the left or the right for being anti-science without mentioning that they are imposing distorting comparisons.[2] Or they dress up the polemics by recourse to science, especially studies in psychology. Certain character traits belong to conservatives, suggesting – according to the polemicists – that conservatives have a harder time separating their beliefs from the information provided by science about climate change, stem-cell research, or human evolution.[3] It follows inexorably: the right wing lies more often, or suffers from denial, delusion, or engages in a dramatic amount of biased and motivated reasoning: "many American conservatives don't even know *who or what we are*."[4] Each side postures as the true friend of science while making misleading or distorting statements about the other.

Into this tainted ideological quagmire we might reasonably expect that academic commentators who study the nature of science, as distinct from doing natural science in field or laboratory, would enter the discussion and sort through the polemical debris. There are approximately sixty units or departments in the United States where science is studied for its history or its philosophical meaning. In a few of them, generally known under the label "science studies," orthodoxy requires that no explanation for the historical development of a science can invoke its relative truthfulness as the reason why contemporaries chose a particular approach or embraced a body of factual material. In some places such as Edinburgh, the British academy also excels in science studies, and smaller outposts can be found in The Netherlands and France.

Guidance through the quagmire is thus in short supply, especially when we look to the practitioners of science studies. Let me begin with one of its founders, the ever fashionable, Bruno Latour, found generally at *Sciences Po* in Paris. His critics accuse him of epistemological relativism, a charge that amounts to the ultimate heresy against the academic pursuit of truth. The accusation must have hurt enough for him to answer it in an essay that appeared in *Critical Inquiry* (2004) during the Bush administration when the anti-global warming, anti-stem cell crowd were riding high. Latour, to his credit, wondered if the science studies movement with its recourse to social construction and discourse analysis had made the crowd's life easier.[5]

Urging his compatriots in science studies to take stock, Latour asked if the questioning of scientific facts had led to our forgetting "a realism dealing with what I will call matters of concern, not matters of fact. The mistake we made, the mistake I made, was to believe that there was no efficient way to criticize matters of fact except by moving away from them and directing one's attention toward the conditions that made them possible." Facts, Latour is saying, are not the real issue, "Matters of fact are only very partial and, I would argue, very polemical, very political renderings of matters of concern and only a subset of what could also be called states of affairs."[6] Thus liberated from the burden imposed by an excessive zeal for facts, Latour is free to question any narrative about the way the world might be, whether it be mathematical, empirical, or, of course, historical.

His major complaint centers on the narrative of Western modernity. Contrary to what many historians and the general public might believe, Latour proclaims modernity an illusion, and the source of the false dichotomy we imagine between "the social" and "the natural." In effect he lays blame on the experimental science that emerged out of the work of Boyle and Newton. It rendered nature passive, subject to mechanical laws, and awarded agency only to humans.

Latour seems unacquainted with, or forgetful of, the basic tenet of the pre-modern Christian West, namely the separate existence and superiority of Creator over creation. All that modernity does is supplant God and offer the social in his place; social construction should mean but a fancy way of saying "people make or do science." Latour wants to escape the dichotomy between the natural and the social, opting instead for the posture of a "non-modern." He wishes to award equal agency to all entities – things, objects, humans and beasts

– and in the process find a definitive way out of the social constructionist-anti-realist vs. realist/positivist confrontation that so plagues the discipline of science studies and its critics. He wants to rescue passive nature from being subjected to socially constructed maxims posing as facts or laws. One adoring acolyte finds Latour's philosophical move so brilliant as to make him "the Galileo of metaphysics, ridiculing the split between the supra-lunar world of hard scientific fact and the sub-lunar world of human power games." [7]

What are we who value the creativity of all human and natural sciences to do with allies like Latour? How would a Latourian address the evolution deniers or the critics who think that the right wing is "hard-wired" to be intellectually dim? Or – to pose the question in an historical context – how would he explain the 17th century Dutch Calvinist minister who thought Cartesianism would lead to the neglect of the poor, or Newton's fear that Descartes' science would lead inexorably to atheism?

The Latourian might have recourse to human power games as the long and short of what motivates these critics of science or natural philosophy. Science Studies might take a close look at who finances the anti-global warming initiatives. Following the money would lead to naked self-interest posing as serious intellectual inquiry. A power game, indeed. But does that approach work in an historical inquiry into the motivations of 17th century actors, where no profit-making motive can be discerned? As with the controversy between Hobbes and Boyle that set off Latour's rejection of modernity – power determined which kind of science triumphed and Newton, like Boyle, had powerful followers. Newton was anti-science when it came to Descartes' science and understandably keen on his own. It made him famous, and unbeknownst to Latour, Newton even died with £14,000 safely tucked away in the Bank of England.[8]

The problem with the Latourian – or the science studies – approach to the evolution of science derives from the inability of its practitioners to think historically. Knowing that Newton wrote his comments about the implications of Descartes' science before the publication of the *Principia* (1687), and in a manuscript that never saw the light of day in his life time, suggests that private religious commitments figured centrally in Newton's anti-Cartesian science posture. Something similar can probably be said about the Dutch minister. "Cogito ergo sum" was seen at the time, and subsequently, as a license for individualism. So emboldened, might the Dutch urban elite, once seen as singularly responsible for charity and poor relief, abandon the communitarian impulse as sanctioned by much of Aristotelian thought? What looks like anti-science *tout court* begins to look like an articulation of core values about the nature of society, or God, or the fate of a Godless nation.

Similar contextual approaches might enable us to disaggregate the motives of a present-day crowd of anti-science polemicists, where each in turn must be seen in relation to their broader interests and commitments. These can range from the will to make a profit – the environment be damned -to belief that Godlessness can only be abetted by explanations about natural change that leave God out of the scientific narrative. Such disaggregating does not make the threat to the integrity of science, or historical enquiry, any less real, but it does provide a

multi-purpose tool kit that addresses the difference between greed and piety.

Finally my readers, without any direct experience of science studies or the writings of Latour, might well be asking, how did a field so promising become laden with dead-end philosophical disputes? Nothing about this situation can be understood without reference to the Cold War. To put it as my generation being trained in the 1960s said it, how would we write a history of Western science after World War III? The whole notion of the control of nature, the Baconian discourse about the improvement of man's estate, would become unthinkable, even immoral.

The enormous power of post-war American science and technology (in constant competition with the Soviets) demanded deconstruction, an exposure to the power relationships imbedded within the entire structure of Western science, beginning at its seventeenth-century origins. A classic intellectual move, derived from the ancient Greeks, required a turn toward skepticism, more precisely relativism. Science Studies was the result – but so too was the license to question any scientific finding. No one thought until very recently that the anti-science forces would receive powerful backing and make their way into actual policy formation. Only relativism justifies advocating the teaching of creationism and evolution in the same curriculum.[9]

It would be naïve to think that anti-science critiques, with longevity back to the seventeenth-century if not before, will disappear if only science education were more widespread. Western metaphysics with its dichotomous thinking about mind/body, Creator/creation, matter/spirit or consciousness makes the proponents of God, spirit or consciousness fear that their intellectual and spiritual commitments will be swamped within a universe where only matter and motion account for all of nature. To them such a universe is bleak and impoverished, and materialism – often called reductionist – rules unopposed.

Western philosophy has a way of entrapping even its most sophisticated practitioners. Reductionist materialism, most commonplace among physicists, meets its match when philosophers such as Thomas Nagel assert: "My guiding conviction is that mind is not just an afterthought or an accident or an add-on, but a basic aspect of nature."[10] Mind and body are separate, and Nagel wants to award agency to both. Both Nagel and the materialists write as if there is no escape from the mind/body dichotomy. They know their Aristotle when they should be boning up on their Spinoza. Modern neuroscience is suggesting that brain and mind are intimately connected, and future philosophical constructions, at least when it comes to the nature of mind, will need significant revision.[11] Such a revision to Western metaphysical categories might have been unthinkable to Newton, or to contemporary creationists. For the rest of us it suggests progress tied to cutting-edge science.

Notes

[1] Sir Isaac Newton, "De Gravitatione et Aequipondio Fluidorum." Translated by W. B. Allen: "If we say with Descartes (that) extension is body, do we not rather manifestly spread the way to atheism, for then that extension is not being created but was from eternity, whereupon we

have an absolute idea of it without any relation to God, and thus we are able to conceive existence for the time being as if at that time we would suppose God not to be. And no distinction of mind from body, according to this philosophy, is understandable, lest simultaneously we say that mind is by no means extension, and thus is substantially present in no extension, or is no place; and so too if we say it is not that by means of which it is seen; however, I have plainly restored its minimum understandable union with body, not saying (it is) impossible. Moreover, if the distinction of substances into thinking and extended is lawful and perfect, then God does not eminently contain, and hence he cannot create, extension within himself; but God and extension are two substances severally called absolutely complete and singular."
Accessed April 2, 2013, SIR ISAAC NEWTON'S DE GRAVITATIONE ET AEQUIPONDIO FLUIDORUM translated by W. B. Allen.

[2] Witness the discussion of Bill Maher and Rush Limbaugh in Alex B. Berezow and Hank Campbell, *Science left Behind. Feel-Good Fallacies and the Rise of the Anti-Scientific Left* (New York: Public Affairs of Perseus Books, 2012), p. 216.

[3] Chris Mooney, *The Republican Brain. The Science of Why They Deny Science – and Reality* (Hoboken, NJ: John Wiley & Sons, 2012), pp. 60-61.

[4] Ibid. p. 181-86.

[5] *Critical Inquiry,* vol. 30, 2004, p. 227, "entire Ph.D. programs are still running to make sure that good American kids are learning the hard way that facts are made up, that there is no such thing as natural, unmediated, unbiased access to truth, that we are always prisoners of language, that we always speak from a particular standpoint, and so on, while dangerous extremists are using the very same argument of social construction to destroy hard-won evidence that could save our lives. Was I wrong to participate in the invention of this field known as science studies? Is it enough to say that we did not really mean what we said? Why does it burn my tongue to say that global warming is a fact whether you like it or not? Why can't I simply say that the argument is closed for good? Should I reassure myself by simply saying that bad guys can use any weapon at hand, naturalized facts when it suits them and social construction when it suits them? Should we apologize for having been wrong all along? Or should we rather bring the sword of criticism to criticism itself and do a bit of soul-searching here: what were we really after when we were so intent on showing the social construction of scientific facts?" For the history of science studies at one of its founding centers see https://www.stis.ed.ac.uk/research_groups/science_studies_unit/about.

[6] Ibid. p. 231-32.

[7] See Graham Harman, *The Prince of Networks. Bruno Latour and Metaphysics* (Melbourne, Australia: Re Press, 2009), pp. 58-61. For a different perspective see Margaret C. Jacob, "Reflections on Bruno Latour's Version of the Seventeenth Century," in Noretta Koertge, ed. *A House Built on Sand. Exposing Postmodernist Myths About Science* (New York: Oxford University Press, 1998), pp. 240-254.

[8] Bank of England Archives, London, AC 27/444 Bank Stock #21 I-Q Anno 1725-1732, Folio 1105; May 18, 1727 "Sir Isaac Newton deceased," with £14,000 being willed to various named inheritors.

[9] *Bush Remarks On 'Intelligent Design' Theory Fuel Debate*, By Peter Baker and Peter Slevin, Washington Post Staff Writers, Wednesday, August 3, 2005, "President Bush invigorated proponents of teaching alternatives to evolution in public schools with remarks saying that schoolchildren should be taught about "intelligent design," a view of creation that challenges established scientific thinking and promotes the idea that an unseen force is behind the development of humanity. Although he said that curriculum decisions should be made by school districts rather than the federal government, Bush told Texas newspaper reporters in a group interview at the White House on Monday that he believes that intelligent design should be taught alongside evolution as competing theories.

[10] Thomas Nagel, *Mind and Cosmos. Why the Materialist Neo-Darwinian Conception of Nature is Almost Certainly False* (New York: Oxford University Press, 2012), p. 16.

[11] Antonio Damasio, *Looking for Spinoza. Joy, Sorrow, and the Feeling Brain* (New York: Harcourt, 2003).

Plato’s Revenge: An Undemocratic Report from an Overheated Planet

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I

By midsummer 2099, as yet more record temperatures were reported from an ever wider collection of places, the intergovernmental office of environmental studies finally announced the answer to a long-debated question. Many figures for the rise in the mean temperature of the Earth during the twenty-first century had been predicted, but it turned out that the right value was 5.24°C – rather more than optimists had expected and somewhat less than pessimists had feared. The report was discussed by the former residents of the Maldives and the Bay of Bengal in the various places to which they had fled, by the refugees from the Great Italian Desert and the California salt-marshes, and a few lucky predictors raised their glasses of Hebrides Champagne. It was an occasion for many of the world’s two billion displaced people to reflect on the billion-plus members of their former homelands who had succumbed to floods, hurricanes, droughts, starvation, and the ravages of the six great pandemics which had swept the globe during the past four decades – and it was also the occasion for an unusually popular podcast (a quaintly anachronistic form of communication that survived only in backwater academic circles).

Nobody would have expected an obscure professor of classical philosophy – one of the very few remaining members of that apparently useless specialty – to engage so large an audience, but the piece struck a chord. Of course, the world’s discussion fora had been filled for decades with recriminations against the voters of the early twenty-first century nations who had, time after time, elected politicians who vowed that anthropogenic global warming was a hoax, or, later, that the problem could be addressed without diverging from established patterns of energy usage. Especially in the disaster zones and in the refugee camps, survivors had angrily debated the sources of the appalling irresponsibility that had caused the climate crisis. The professor did not address that question, but she did point out, convincingly, that some such catastrophe had been predicted by an ancient thinker.

Even the opening of the podcast was quaint – it began with the now defunct subjunctive. “Were Plato living today, he would be hard pressed to avoid saying “I told you so”.[1] Although he did not think of democracy as we do, and despite the fact that he would have seen our political systems as peculiar types of oligarchy, one of his central messages was that government is too difficult to be left to the ignorant. If those who do not know important things are allowed to have a say – *any* say – in the crafting of policies, there is a serious danger that foolish things will be done or that necessary things will be left undone. So-called

democratic societies are disasters waiting to happen, and, in the early twenty-first century, the trouble finally erupted on a grand scale. Expert advice, even when loudly and forcefully given, was ignored. Sacrifices that were urgently needed were neglected. Our devotion to a misguided political system led to the irreversible modification of the one planet we have – and to the deaths of well over a billion people (not to mention the reduction of billions more to lives of hardship and squalor)."

The professor continued with some scholarly details, but that opening paragraph, for all its stylistic infelicities and its archaic usages, resounded in the consciousness of a broad public. At last it was clear what had gone wrong. Our species had paid the price for its addiction to a political fetish, its obsession with democracy.

II

It may not go as badly as my story suggests, or it may go worse. According to the expert consensus on climate science, the best we can hope for, if nothing is done is a rise of 2-3°C in the Earth's mean temperature by century's end.[2] A really pessimistic assessment would predict 6-7°C. My imagined figure is roughly in the middle of the interval. Even if the rise were at the low end of the range, rising sea levels would eliminate low-lying islands and coastal areas – like the Maldives and the Bay of Bengal. The Italian desert is more of a conjecture, and, even with an increase of 5°C, the *bella campagna* might avoid that dreadful fate, if there were some (improbable) shift in weather patterns. That increase would almost certainly inundate California's central valley, producing a large body of salt-water broken by patches of marshland (and putting an end to California agriculture). Hebridean champagne is a whimsical possibility, but the traditional homelands of wine production would almost certainly be unable to grow the necessary grapes. Increasing frequency and severity of destructive weather events – droughts, floods, hurricanes – is a straightforward effect of rising average temperatures. Rapidly melting snowpacks will cause summers marked by initial floods and later droughts; floods will lead to contamination of water supplies. Shortages of water, pollution of springs and rivers, disruption of agriculture, and mass migrations will generate huge outbreaks of disease and even allow for the rapid evolution of new disease vectors.

During the past three decades an overwhelming consensus has developed among the world's climate scientists. As James Hansen, Steven Schneider and Michael Mann have documented, a plot of the Earth's mean temperature against time shows extraordinary correlation with the levels of greenhouse gases (primarily but by no means exclusively carbon dioxide) in the atmosphere. [3] (Fig. 1) Correlation is not proof of direct causation, as every scientist knows and as climate deniers repeatedly insist, but, in this instance, not only is there an exquisite correlation, but also a mechanism – recognized by earth and atmospheric scientists for well over a century – for the increase in temperature when levels of carbon dioxide rise. Further, there is no plausible alternative mechanism for explaining the effect. When your favorite fictional detective assembles a dozen or so correlations between the murder and a suspect,

when he shows how the suspect could have done the dreadful deed, and when there is no plausible rival account, his fictitious less gifted rivals and his actual devoted readers do not withhold assent. When climate scientists offer a sample of clues larger by several orders of magnitude, when they can demonstrate the potential mechanism and when they can decisively eliminate proposed rivals, it would be stubborn folly not to accept their claims.

The minimal consensus estimate is that, *even were we to act immediately to control the emission of greenhouse gases*, the Earth's mean temperature would rise by 2-3°C by 2100. Charitably, and perhaps too optimistically, I've taken that range as the base line, even if we continue to do nothing. The standard assignment of probabilities to various levels of temperature increase is shown in Fig. 2. Climate scientists offer different models of the factors affecting the mean temperature (since there is disagreement about the weight to be assigned to factors that might force or dampen the greenhouse mechanism), and they diverge in their assessments of rates of sea-level rise, and the effects on weather patterns and on different geographical regions. Some effects are, however, uncontroversial. Nobody doubts that the mean sea level will rise by enough to flood certain low-lying places. Nobody questions the fact that extreme weather events are increasing in frequency, that the distribution of weather shifts so that what was previously rare becomes more common and that the new "rare" events (the new tails of the distribution) are unprecedented. (Fig. 3)

From this state of consensus arises a multi-tiered debate. The ground level concerns the existence of anthropogenic global warming, and here the shouting should long have been over. The second level addresses the question of whether there will be unfortunate, or catastrophic, consequences of likely increases in the earth's mean temperature. *Ideally* that level of debate would proceed by assigning precise probabilities to the intervals within which the increase might lie – for example, by declaring that the probability of an increase of 4-5°C, given no steps to curb the emission of greenhouse gases, is 0.19 – and by detailing the exact consequences of an increase of the type – say by delineating the regions of the world that would be submerged, identifying which would be affected by severe drought, and so forth. *Realistically* nothing of that sort is possible. Even if you restrict attention to the consequences for human well-being – a sensible restriction, given the difficulties of considering all the ecological variables that might affect the survival of a non-human species and the wide variation in human concern about species conservation – gauging sea-level rise is already difficult, and attending to the host of factors that might contribute to drought, disruption of agriculture, frequency of severe weather events, and spread of disease would be vastly harder. Any sensible debate at this second level would be better framed by specifying some notion of "catastrophic consequence" and asking, with respect to particular ranges of temperature increase, what the chances would be of avoiding that outcome: thus, you might declare that a situation in which a billion human lives were lost over a period of a decade, as a result of global warming, was an unacceptably catastrophic consequence, and ask for the probability of *avoiding* this outcome, given a rise in mean temperature of 3.5 to 4.5 °C. Although any answer to that question would be a matter of expert judgment, it seems likely that those who have immersed themselves in articulating the wide variety of scenarios that could affect human well-being, and human survival, through the variety of factors mentioned –

rising sea-levels, drought, water-contamination, disruption of agriculture, modified patterns of disease transmission, forced human migrations – would suppose it very improbable that the human losses in the later decades of the twenty-first century could be held to a billion, if the earth's mean temperature were to rise by 3.5 to 4.5 degrees. Deriding expert judgment of this sort is no more reasonable than ridiculing the planning of prudent parents who, after thorough reflection on their circumstances, their prospects, and the needs of their children, decide on various insurance and investment strategies.

The third level embeds the conclusion of the second level in as thorough an examination of the likely outcome of alternative strategies as we can achieve. The reasonable core of the protest against the existing proposals to restrict the emission of greenhouse gases consists in the correct observation that these proposals impose burdens on people now living and on our descendants. Comparative analysis is critical. You need to understand not only that the consequences of unchecked behavior are unacceptably bad, but that they are worse than those that would result from applying the brakes. If, as I believe, the debate ought to be over at the ground level and the contours of a resolution are already visible at the second level, the third level issues need far more focused articulation than they have so far received. Our political discussions urgently require a thorough survey of as many alternatives to business-as-usual as informed and imaginative thought can supply, and as careful and precise a delination of the human consequences as can be achieved. If expert judgment enters into the second level, it does so more crucially here, for the selection of particular scenarios as likely is itself a matter of weighing the strength of factors that defy any ability to provide numerical estimates, and the further enterprise of comparing the chances of their obtaining would involve the kinds of judgments about which even the most knowledgeable people justifiably feel queasy. Perhaps we can hope that the exploration of alternatives would be sufficiently imaginative to unearth some plausible scenario that would clearly be superior to the most prominent rivals – as might occur, for example, if there were some clever and convincing suggestion for harnessing sources of energy that would pose no environmental problems. In the absence of that, it may be necessary for our species, in full self-consciousness of what is being done, to take a gamble. We may find ourselves in the predicament William James conjures up at the close of "The Will to Believe": caught in a blinding blizzard on a high pass, the traveler must strike out in *some* direction, even though he is fully aware that he may be heading towards a precipice.

The fourth and final level brings to the deliberations of the third some important constraints from ethics and the theory of justice. The burdens and benefits of particular ways of responding to the rising mean temperature of our planet fall differently on different groups of people, on those who live in some places rather than in others, on members of societies who have gained from previous use of carbon-based fuels as compared with those whose nations are in the process of industrializing, on those who live now and those who will come later. Even if the consequences of the array of possible responses developed at the third level entirely clear, it would still be necessary to subject those responses to ethical scrutiny, to ensure that all those affected – and that includes all members of our species from now into the future – are treated fairly. Despite skeptical concerns that fundamental ethical issues are incapable of

resolution, global warming presents us with questions about justice that human beings have to answer – and that we have to answer together.

I have only sketched the debate that nature demands of us, without attending to all sorts of considerations that would have to figure in any detailed outline. For present purposes, however, a sketch is enough. For my aim is to understand how our current misconceptions about democracy, and about what a commitment to democracy requires of us, interfere with the global political discussions we so urgently need.

III

In countries all over the world, political attention to climate change has waned. Even nations that appeared committed to imposing serious restrictions on the emission of greenhouse gases are retreating from what their manufacturing entrepreneurs view as "intrusive regulation", and in Britain and the USA the situation is particularly dire. One obvious factor in accounting for the retrenchment is the state of the global economy: essentially, nation-states are leaping to a conclusion about the third- and fourth-level debates because they see their current economic prospects as endangered. Yet the turn away from any active pursuit of a prudent climate policy is reinforced by public skepticism about the need for attention to the issue. In the wake of the disclosures about e-mails among climate scientists, and about a (minor) error in a section of the IPCC report, many media sources have trumpeted the idea that "global warming is a hoax". A sufficient number of American Senators and members of the House of Representatives are disposed to accept that view to render serious policy-making by the world's largest economy impossible. Although the United States is fortunate to have a president who has some understanding of the issue, his hands are thoroughly tied and his attention is diverted – and it is possible that he will be succeeded by a lover of Big Oil who is completely convinced that warnings of increasing global temperatures are scandalous lies.

A Yale University study of American attitudes is sometimes taken to provide a more comforting picture. According to that study:

A majority (63%) of Americans understand that global warming is happening, while 19 percent say it is not happening, and 19 percent say they don't know.

Half of Americans (50%) say that if global warming is happening, it is caused mostly by human activities. Over a third (35%) say that if it is happening, it is caused by natural changes, while 7 percent reject the question and say global warming is not happening.

Thirty-nine percent (39%) say that most scientists think global warming is happening, while 38 percent say there is a lot of disagreement among scientists whether or not global warming is happening.

Just over half of Americans say they are very (16%) or somewhat worried (39%) about global

warming, while 45 percent say they are not very (26%), or not at all worried (19%).

In fact, these figures are not particularly reassuring. Note first that, by the laws of probability, the probability of any conjunction can be no greater than the probability of its least probable conjunct: hence *at most* 50% of the American population believes in anthropogenic global warming. Americans are evidently not well-informed on the extraordinary international consensus among climate scientists. Nor, evidently, is this an area in which American citizens harbor strong concerns.

The inaction of successive United States administrations thus reflects the popular mood. Moreover, one might think, that is just as it should be in a democracy. For, on a simple conception of what democracy entails, policy should reflect the will of the public. If the public does not think a particular issue should be addressed, then it is entirely right that nothing should be done about it. Plato saw this as a fundamental commitment of democracy, and, because he understood that people may be massively deceived – or misled – about what is in their interests, he drew the conclusion that democracy is a political disaster.

Many friends of democracy agree with Plato about the commitment of the political system they champion. Since they must also concede the possibility that the public can be seriously mistaken in its factual beliefs – and recognize that possibility as realized on various occasions in various societies – they are forced to Plato's intermediate conclusion, to wit that democracies sometimes (perhaps frequently) pursue policies that are contrary to the interests of a majority of their citizens. If this is not to count as a disaster, that must either be because the mismatch between policy and interests occurs less frequently under democratic regimes, or because there must be some special value in the kind of freedom democracy allows that counterbalances the thwarting of broadly-shared aspirations.

It is possible to conceive ideal political systems that respond perfectly to the interests of the majority of citizens: Plato himself offered one utopia, in which the perfect match was supposedly guaranteed. One part of the defense of democracy consists in denying that anything close to complete alignment of policy with majority interests can be achieved in any world in which human beings run the show: no system of eduction could produce the guardians with their combination of deep insight and incorruptibility. Yet even if you suspended your doubts about the inevitable venality of political leaders, there would remain a further advantage of democratic decision-making, a benefit accruing from the freedom democracy allows. There is something to the idea that, even though others might make better decisions on our behalf, we gain by acting for ourselves: the extra mistakes are outweighed by the freedom of self-expression.

How far can that go? Suppose there were a deep desire shared by most members of a polity, even common to the overwhelming majority of human beings. Suppose that desire to be so central to the lives and personal projects of people that, were it not to be realizable, those lives and projects would be importantly undermined and defeated. Would a democracy in which policies that put the desire at risk – or even ran contrary to it – be preferable to an autocracy

whose policies promoted the realization of that desire? Is the freedom to choose for oneself so valuable as to override the contravention of most people's central aims and goals?

For many human beings, our hopes for those who come after us are entwined with our sense of what we are. Those hopes are expressed in the sacrifices we make for children and grandchildren, but they range more broadly than that. Our lives are diminished if we come to understand that we have failed to do what is necessary to allow our descendants, both those who have a biological connection to us and those who live in the communities in which we have resided, to have the possibility of leading valuable lives of their own. If we were to think that we had put their habitat at risk, done things that made it impossible for them to live securely and in health on our planet, we would view ourselves as having failed to discharge an important obligation to them. It would be little consolation to emphasize the supposedly great value of having participated in radically uninformed democratic decisions.

The alleged "fundamental commitment" of democracy is part of an overly simple picture of what democracy is: Plato and my envisaged friends of democracy are wrong. To be sure, democratic freedom is a valuable thing, but its value is grounded in the fostering of the interests of the citizens. Our votes matter because they allow us to make our interests apparent. To the extent that the preferences we express run contrary to our interests, those votes are meaningless.

Democracy is a historically evolving political system. Its popularity rests not on the naive thought that "government by the people" will result in policies that express the popular will, but on the clear capacity of democracy to solve the *problem of identifiable oppression*. That problem arises in societies where the overwhelming majority of the people can see very clearly that those who rule are acting in ways directly contrary to their interests: the deprivations and sufferings they experience can be easily and correctly traced to the actions of their oppressors. Enshrining particular limits in a constitution, whether written or unwritten, serves as a first line of defense against tyrannical predation, but if the rulers overstep the boundaries, the machinery of elections and voting allows for their recall. Reflection on the last century, and on the dictatorships that have flourished in many regions of the globe, makes clear the importance of finding a solution to this problem.

Contemporary human societies live, however, with a different difficulty: the *problem of unidentifiable oppression*. Even in the most affluent contemporary democracies, some citizens suffer from governmental policies that deprive them of opportunities to pursue their legitimate interests. Neither the children who go to ill-staffed, poorly-equipped, dangerous schools, nor those who care for them (often a single parent or a weary grandmother) can easily recognize the sources of the conditions that so tightly cramp their future prospects from an early age. The effects of a diffuse cloud of governmental and bureaucratic decisions "trickle down" (for once the phrase is apt) into their soggy lives. Only when democratic government is reinforced with public knowledge can democracy cope with problems of this sort. Widespread ignorance of the factors that thwart the citizens' interests makes "government by the people" an empty piety. Plato was partly right, after all.

In a world with a complex division of labor, in which consequential decisions turn on pieces of specialized knowledge whose *formulations* are typically incomprehensible to the vast majority of people, problems of unidentifiable oppression are everywhere. If democracy is to address many of the sources of current oppression, it is not enough for it to stop with the defense against evident tyranny (important though that defense is). Democracy needs to evolve further.

IV

At this point, an obvious thought is likely to surface. Democratic societies are not only committed to constitutional guarantees and opportunities to recall those who overstep them, but also marked by "free and open" discussion. Precisely this supplies what is needed. Equipped with their native wit, common sense, natural rationality (or what you will), the citizens are able to listen to and appraise the issues that arise for them, to come to recognize the things they need to know. Contemporary enthusiasm for the magic wrought by "fair and balanced" debate – matched only by ardor for the magic worked by the "free market" – translates into the modern context points that were elegantly and eloquently made centuries ago. Milton asks, rhetorically, "Who ever knew Truth put to the worse in a free and open encounter?", and Mill celebrates the "clearer and livelier perception of truth produced by its collision with error". [4] Perhaps Milton and Mill were right to be convinced that public debate would produce such benefits in the controversies of most concern to them. But that is not the way we live now.

Milton, Mill and their successors presuppose a principle of *evidential harmony*: public discussion of controversial issues occurs in such a way that those who make the final assessments are able to do so on the basis of the evidential support accruing to the rival positions. That principle is plainly flouted in the debate with which this essay began: only a tiny number of those whose interests will be affected by climate change are in any position to recognize the evidence for or against any of the principal claims that figure in the public controversy. To suppose that the newspaper reports they read, the radio broadcasts they hear, the television news they watch, or the internet sites they visit provide them with any "clearer and livelier perception of the truth" is an absurd fantasy. Attention to the full range of these media sources makes it evident that there are many devices available to those who wish to put Truth to the worse. Climate deniers are handsomely funded by industrial sugar-daddies, and able to produce slick videos to market their message. They appropriate the rhetoric of the virtues of free discussion, praising a worthy ideal while simultaneously creating conditions – arenas in which production values substitute for reasons – that foil any chance of its realization.

In the contemporary world, market mechanisms are unlikely to favor the dissemination of accurate information. Even if inaccuracies are detected, and even if they are deemed important, their promulgation can be explained away. Media sources can expect large profits by substituting sensationalism for sober reporting, entertainment for enlightenment.

Especially in societies where there are deep political and religious differences, market niches can be defined in terms of a constellation of attitudes to be continually reinforced by the latest "news": those who tune in can be sure that their fundamental convictions will not be perturbed. Moreover, the less accurate a picture of the world the citizens have, the less able they are to engage in critical reflection on their favored sources of "information". The world they inhabit is remote from those envisaged by Milton and Mill.

Yet, even if these familiar features of the transmission of "public knowledge" were absent, it would still be hard to cope with the problems of unidentifiable oppression we face. For an important point, descending from Kuhn – and ultimately from Fleck – casts doubt on any possibility of timely resolution of technical controversies in a public forum. Kuhn's historical examples show clearly that the considerations underlying many scientific debates are subtle and delicate, that resolutions come slowly, and that a complex web of argumentation must be elaborated before anything close to consensus can be reached.5 Scientific decision-making is not algorithmic (although philosophers continue to dream of making it so), nor is it the case that some single piece of evidence or argument convinces everyone. Hence, even given universal good will and impeccable honesty, the task of settling the climate change controversy in public would pose enormous challenges. It is simply unrealistic to expect that democracy's commitment to "free and open discussion" will solve the many problems of unidentifiable oppression faced by the citizens of modern societies, or that open debate will create pressure on political leaders to craft policies answering to a deep and central interest of almost all people. Sustaining democracy seems incompatible with saving our planet.

V

Is this Plato's revenge? I hope not, and my hopes are founded in the thought that democracy is – must be – an evolving political system. Plato rightly linked education to his political system, and so too did one of democracy's premier champions, John Dewey. Education, serious education, has to be central to the democracies of the future (assuming that they continue to exist), but, as Dewey saw, democratization can itself be a form of education.6 Beyond the superficial machinery of votes and elections, beyond the "free discussions" in which partisans of different views campaign for the allegiance of citizens, lies the engagement of citizen with citizen, the sharing of points of view, the mutual recognition. Reforming the educational systems of the contemporary world is probably an important step, but it will be too slow to address some of the challenges our species now faces: even if the voters of the next generations would have a firmer grasp of the issues pertinent to climate change, we cannot wait that long. In the short term, what is urgently needed is the restoration of trust in genuine expertise. How might that happen?

Through the refashioning of a type of democratic discussion that has often been central to flourishing government by the people. Citizens with different perspectives can be brought together, they can be put into conversations with representatives of pertinent areas of

technical inquiry, and encouraged to arrive at a consensus. Their testimony can then help a broader class of citizens to share the expert understanding: trust can be restored as small representative groups are "led behind the scenes", emerging to spread their findings to larger populations. This is an extension of the ideal of *Well-Ordered Science*, an ideal that tries to combine a realistic picture of the scientific enterprise with democratic values.[7]

In recent decades, the authority of scientific experts has been radically eroded.[8] That is not because of some particular philosophical movement – post-modernism has not been introduced into the drinking water. Nor is it because the findings of scientists have been decisively shown to be unreliable. Rather, the trouble stems in part from the need for scientists to pronounce on urgent issues before there is a clearly articulated consensus that can be presented and defended in simple terms, in part from the workings of the "credit economy" that underlies the practices of scientific communities, and in part from the inevitable entanglement of scientific work with judgments of value.

We inhabit a world in which there are many large problems with respect to which scientific pronouncements must be tentative, and discussion of such problems frequently involves public debate among "experts". Further, the welcome diversity of scientific perspectives is often encouraged by competition among scientists who vie for credit. Even when a consensus seems imminent, those with divergent views have incentives to take their ideas to a lay public that is in no position to judge their merits.

Most fundamental, however, is the increasing recognition that, in choosing their problems, in conducting their research, and even in validating their conclusions, scientists have to decide that the hypotheses they entertain and the practical tools they forge are well-established enough for the purposes to which they will be put. Value judgments enter here. Once that fact is appreciated, the scientists who put forward a consensus view can be charged with deserting the scientific ideal, of succumbing to illicit prejudices. The situation is further complicated by a widespread distrust of any possibility of serious discussion of values. The thoughtful climate scientists who make judgments about human consequences are effectively assimilated to those who announce views that harmonize strikingly with the aims of the private corporations that fund their research.

Within the family and in small communities, profitable discussion of values and aims is possible, even common. The right worry about "experts" is not that they are importing values – that is inevitable – but that they introduce values that would not be sustainable in a broadly democratic discussion: they promote special interests, not the deeply shared concerns of most members of our species. We urgently need channels of communication that will allay that kind of doubt. Hence my (tentative) suggestion that small representative groups of citizens go behind the scenes, returning to report on the nature of the consensus and the values that are in play. To answer Plato's challenge, something of that sort must remedy the public ignorance to which our children's future is currently held hostage.

In the end, the democratic conversation must become truly global. With respect to climate

change, the characteristic procedures introduced and refined by the IPCC need to be embedded in discussions in which citizens from all parts of the world, and from diverse perspectives, come together to share in decision-making. The town-meetings Tocqueville rightly saw as so vibrant a part of American democracy might take place on a broad scale, as citizens – citizens of the world – join to carry on the multi-level conversation §II envisaged. Nobody should suppose that this will be easy, or even to assume that it will necessarily succeed, but if Plato is not to have the last mordant laugh, it is hard to think of any serious alternative.

Fig.1

Fig. 2

Fig 3

Notes

1 The professor was obviously thinking of the discussions in the *Republic*.

2 As I shall acknowledge later, even this is too optimistic. Virtually all climate scientists beleve that, if we act immediately, the global mean temperature will rise by 2-3°C by the end of the century.

3 For accessible presentations of their ideas, see Hansen *Storms of my Grandchildren* (New York: Bloomsbury, 2009), Schneider *Science as a Contact Sport* (Washington DC: National Geographic, 2009), Mann *The Hockey Stick* (New York: Columbia University Press, forthcoming).

4 John Milton *Areopagitica*, John Stuart Mill *On Liberty*.

5 T.S. Kuhn *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1962) Chapter XII.

6 John Dewey *Democracy and Education* (New York: Free Press, 1944).

7 The ideal was originally introduced in my *Science, Truth, and Democracy* (New York: Oxford University Press, 2001). It is defended and developed much further in *Science in a Democratic Society*.

8 The ideas of the following paragraphs are a *radical* compression of themes worked out far more extensively in *Science in a Democratic Society*. For the perspective on values, see also *The Ethical Project* (Cambridge MA: Harvard University Press, 2011).

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Democracy and Pseudo-Science

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Rudolf Steiner and Anthroposophy

When I was thirteen, my mother died suddenly. On the rebound, my father married again to a German woman, whose family were great enthusiasts for the thinking of the Croatian-born seer and polymath, Rudolf Steiner. To that point, I had never heard of Steiner (my family, English, were Quakers), but in the sixty years since I have heard a great deal. Rudolf Steiner was a devotee of German culture, for a while he worked in the Goethe archives in Jena, and also for a number of years he was a follower of the Russian-born mystic (some would say charlatan) Madame Blavatsky, the theosophist. He broke off to found his own organization, anthroposophy, and then for many years pushed a wild vision of gods (two Jesuses), angels, planets and their influences (astral forces), and much more. Like the theosophists he was much impressed by Indian religions and was always convinced of reincarnation. At the same time, Steiner founded a school system – so-called Waldorf Schools, very much thriving today – a dance form (eurythmy), a distinctive form of art and architecture, a type of medical treatment, a religious organisation (the Christian Community), and an idiosyncratic mode of organic farming, biodynamic agriculture (Ruse 2013).

I have never myself been attracted to anthroposophy, but I have grown to like many of its enthusiasts (including my still-active step-mother), and have a certain respect – if tinged occasionally with amusement – for its philosophy and activities. I think all of the stuff about angels and spirit forces is pretty daft, and I simply cannot get over the boredom of seeing a bunch of middle-aged people of both sexes prance around a stage while dressed in flowing garments in pastel colors (reflecting Goethe's views on the spectrum). Although I have to say that seeing my teenaged brother and his mates forced into the embarrassment of eurythmy performances made up for much.

But it does seem to me that even though there are things one might criticize about Waldorf education, there is also a care and attention to the whole child and its needs that is altogether admirable. And biodynamic agriculture, for all its silliness – you need to take a cow's horn in the fall and fill it with manure and bury it over winter to catch the astral forces, which can then be diluted and spread over the fields in the spring – has a sense about the organic that many should emulate. As it happens, through a close friend (Marjorie Spock, the sister of the pediatrician Benjamin Spock), in her famous work *Silent Spring* (1962), Rachel Carson used a huge amount of material gathered by the biodynamic agriculturalists against DDT. Since this is one of the most influential works of the twentieth century – a work that many still consider groundbreakingly important in the fight for the health of our planet – the scales are certainly tipped in favor of Steiner and his movement.

Having said this, one should not turn a blind eye to the failures and dangers of anthroposophy. My father caught measles as a child and as a result had badly damaged eyesight, 50% in one eye and 25% in the other. And yet, under the influence of the Steiner movement, to the end of his days (near eighty) he was adamantly opposed to vaccination for any of the childhood illnesses. Steiner (whose ideas he embraced enthusiastically) argued that humans are a bit like Russian dolls, with different bodies enclosing each other – the outer one being physical and getting more spiritual as you go inwards. Steiner education is designed to work with this progression and thus, to the age of seven, you work on the outer physical body and then inwards during the growth of the child until fully mature. Illnesses like measles are thought essential parts of development — in getting them and working through them the physical body becomes more and more stable and integrated with the person. In other words, measles are a good thing and nothing should be done to prevent them.

We also understand why, among the best minds of our period, there exists a kind of aversion to vaccination. This would constitute the indispensable counterpart without which we are performing only half our task. We are merely accomplishing something to which the person in question will himself have to produce a counterpart in a later incarnation. If we destroy the susceptibility to smallpox, we are concentrating only on the external side of karmic activity. (Steiner 1910, Lecture 8)

Of course, what should not be forgotten here is that as fewer and fewer people get vaccinated the incidence of disease goes up, meaning that more and more are put at risk. Waldorf Schools have a bad track record in this respect and obviously there is a knock-on effect for the general public. One can only thank God that polio seems no longer a major threat because that is another disease against which anthroposophists refuse to take preventative steps.

Four Basic Points

As Aristotle rightly noted, one swallow does not make a summer. But I use this little personal story for some more general points I want to make about science and democracy, or more particularly – for I consider this to be true of much of the Steiner output – pseudo-science and democracy. Let me lay out what seem to me to be some pretty basic points.

First, if democracy means anything then it means letting people have some pretty silly thoughts (Mill 1859). Of course, what counts as “pretty silly” is a comparative term, but that is no big issue. Even if you are a minority of one in thinking something pretty silly, you are still obligated to let others have them. While I find the idea of turning water into wine a very attractive prospect, I don’t think it is true, and moreover I think anyone who believes this has a pretty silly belief. I am fully aware that most people in the part of the world where I live would not agree, but whether I am a minority of one or a majority faced with but one believer, I should not prevent that person from having those beliefs. I take it for granted that what I am saying is hedged with the usual caveats. Personally I find the idea of sex with young children rather silly – rather disgusting actually – but I take it that for the obvious reasons (exploitation and so forth) the tolerance I am expressing does not apply here. I shall have more to say

shortly about the boundaries of tolerance.

Second, pretty silliness is not entirely a subjective matter. Let's leave religion on one side (because that is not the topic now) and turn to the realm of the empirical, the world of science. I take it that down through the centuries philosophers and others interested in the nature of science have managed to articulate a fairly robust set of criteria for distinguishing between genuine science and false or bogus or pseudo-science. At the risk of seeming intolerably self-serving, but pointing out that they were accepted in a court of law – in an anti-Creationism trial in Arkansas in 1981 — let me give you the criteria that I favor for real science.

1. It is guided by natural law;
2. It has to be explanatory by reference to natural law;
3. It is testable against the empirical world;
4. Its conclusions are tentative, i.e. are not necessarily the final word; and
5. It is falsifiable. (Ruse 1988)

I take it that Darwin's theory of evolution through natural selection fits these sorts of criteria (Ruse 2006). It appeals to law – both natural selection and the laws of genetics (formerly Mendelian and now molecular). It can be tested. For instance, one can run models to see how efficiently an ant nest uses its resources and then check your results against actual nests. It is always open to revision – is it selection working here or just random factors (genetic drift)? And sometimes it is seen to be false or at least potentially so. The newly discovered little human-like creature, *Homo floriensis* (nicknamed the "hobbit") might turn out just to be a diseased, regular *Homo sapiens*, and not a new species at all.

I take it that something like so-called Creation Science that supposes that Genesis is literally true does not satisfy these criteria. It appeals to miracles – God created Adam and Eve. It is certainly not testable nor are its conclusions tentative. Nothing would persuade its enthusiasts that Noah's Flood was not literally true. And it is certainly not falsifiable. How could it be? It is based on the Word of God.

Third, I take it that tolerance about people's beliefs does not extend to letting this sort of stuff be taught in science classrooms in state-supported schools. I am not sure that I would go as far as Richard Dawkins (2007) as to say that all forms of religious education are just excuses for child abuse. Although I am not comfortable with many of these things, I don't think I would want to close down private schools that taught what I (and others) regard as pseudo-science. But there are good reasons for preferring regular science over pseudo-science, not the least being that the former works and the latter does not. I want children taught the best that we have, not any odd idea because someone is sincere about it. Put the matter this way. In medical schools would you want equal time given over to Christian Science and the Jehovah's Witnesses on blood transfusions and the anthroposophists on vaccinations? I want children taught what works. I certainly do not want children – or medical students – taught things that are positively false and potentially very harmful. (I am leaving on one side constitutional questions. In the USA, Creation Science cannot be taught in state schools because it violates

the separation of Church and State as mandated by the First Ammendment. Here I am trying to make a more general, philosophical argument, not win a court case.)

Fourth and finally, let me draw your attention to the fact that pseudo-science rarely comes without a philosophy attached (Ruse 2013). It stands to reason in a way. There has to be something driving people to go out into the wilderness beyond respectability. In the case of anthroposophy, it is a vision of human nature, one bound up with astral forces as we develop and try to respond to the unseen. It is deeply holistic, seeing the whole of nature including humans as part of one integrated whole. This is all very much in the spirit of Romanticism seeing all as one. Wordsworth expressed it well in his poem *Tintern Abbey*.

And I have felt
A presence that disturbs me with the joy
Of elevated thoughts; a sense sublime
Of something far more deeply interfused,
Whose dwelling is the light of setting suns,
And the round ocean, and the living air,
And the blue sky, and in the mind of man,
A motion and a spirit, that impels
All thinking things, all objects of all thought,
And rolls through all things.

Ultimately of course it all goes back to Plato and his theory of forms, with the Good standing above and integrating all things. Anthroposophists are not above suggesting that Rudolf Steiner is Plato reincarnated. Since apparently we alternate sexes in our incarnations, one wonders who was the woman in the middle. One presumes that the Virgin Mary was not an option.

In the case of Creation Science, obviously there is (what I would consider) the somewhat distorted version of Christianity that carries with it those values that lie near and dear to the hearts of American evangelicals (Ruse 2005). To be candid, I doubt anyone has ever really worried about gaps in the fossil record. But they do worry about abortion on demand and gay marriage and the abolition of the death penalty and (very much) feminism. (They worry a lot less about divorce perhaps because the evangelical record in this respect is truly dreadful – undoubtedly in major part a function of people marrying far too young in order to enjoy the delights of connubial bliss and to avoid the snare of fornication.[i])

Tolerance

Now, I think that tolerance demands that one accept the views of others in this respect, meaning that they have a perfect right to hold them, although frankly I am not sure that the other side would reciprocate. (I suspect that the value of letting others have their values is one of the values at issue here.) But it doesn't mean that I have to accept them in a quiescent sort of way or have no right to argue against them or to try politically to prevent their ideas and

values prevailing. I can do everything in my ability to block them – as indeed I personally have done for the past thirty years with respect to all forms of Creationism.

Democracy is a precious thing and there are always forces trying to prevent it or to circumscribe it – in our own society particularly, when you think of the grotesque gerrymandering that goes on when drawing up congressional districts or the absurd qualifications that are demanded before one is allowed to vote. It is a nice balance between recognizing that democracy means that others can believe and do what one finds offensive – pretty silly, as I have said – and making sure that no one abuses that right to try to stop you holding ideas that they find offensive – pretty silly. Remembering also that democracy does not mean that every idea deserves a level playing field. We have the right and the obligation to judge ideas in the light of past experience and if they fail the test then they should be so judged.

None of this sounds very easy, but whoever said that the important things are easy?

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[i] A survey (a nation-wide Barna poll) in 1999 found the following rates:

Non-Denominational (that is, evangelical) 34%
Mainline Protestants 25%
Atheists/Agnostics 21%

Rejecting the Founders' Legacy: Democracy as a Weapon Against Science

By | 2013: vol. 12, no. 2

Building a new country is hard work. Plato had interesting ideas about the model city-state, but his plans never got beyond the thinking stage. The American Founders, on the other hand, faced with the opportunity — indeed, the necessity — to do more than dream up theoretical blueprints for a new political system, actually constructed one. They built a democracy, and not just any kind. They wanted something that had never existed: a secular, constitutional democracy. Church and state would be separate, each having power over its respective realm and no more. This would be a fortunate arrangement. Religious persecution, a European tradition that American settlers brought with them, had plagued the colonies for more than a century. But the Founders were also decidedly pro-science. No longer would the ecclesiastical institutionalization of scientific error — Galileo's conviction was little more than a century old — obstruct the pursuit of knowledge that would make life more secure and enjoyable. The natural sciences would be the engine of America's technological and economic advancement. In the new United States of America, science and democracy would progress together.

The historical record since the Founders formalized their vision in the U.S. Constitution shows that the dual promotion of science and democracy has been imperfect. The American experiment has been marred by honest mistakes, sheer stupidity, and gross inhumanity. Nevertheless, our secular democracy has enjoyed the benefits of science to an extent that the Founders never conceived. So why, from the twentieth until now, the twenty-first century, has the Republican Party been engaged in a sustained attack on science? Rather than emulating the Founders' support for science, Republican politicians, allied with the Religious Right, are using the mechanisms of democracy in order to undermine it.

The Founders' Support for Science

Bernard Cohen's excellent book, *Science and the Founding Fathers: Science in the Political Thought of Thomas Jefferson, Benjamin Franklin, John Adams and James Madison*, documents the Founders' integration of their enthusiasm for science with democratic politics. Many attended college and were schooled in the science of their day: "At Harvard, at Yale, at Princeton, at William and Mary, students were required to study mathematics and the principles of Newtonian science and were introduced to the new sciences being created or advanced in their own time." [1] Not only were future presidents John Adams, Thomas Jefferson, and James Madison well informed about contemporary science, but their scientific literacy also had a measurable influence on their intellectual and political lives. [2]

Even Founders who never attended college understood the benefits of science for democratic government. Foreseeing the need for scientifically educated citizens, Benjamin Franklin founded the American Philosophical Society in Philadelphia in 1743. With “the first Drudgery of Settling new Colonies, which confines the Attention of People to mere Necessaries, . . . now pretty well over,” he aimed to facilitate “all philosophical [scientific] Experiments that let Light into the Nature of Things, tend to increase the Power of Man over Matter, and multiply the Conveniencies or Pleasures of Life.” [3] Moreover, this self-educated scientist became a Fellow of the Royal Society in 1756 and a foreign associate of France’s Académie des Sciences in 1773. [4] Yet, he never held the one office that wielded the political power to promote the institutional advancement of science. That task fell to his younger associates: George Washington, Adams, Jefferson, and Madison.

Like Franklin’s, Washington’s formal education ended in adolescence. [5] However, his 1783 “Circular to the States,” announcing his retirement as commander-in-chief of the colonial army, reveals his awareness of the potential benefits of science and democracy to the country’s future. America’s foundation “was not laid in the gloomy age of Ignorance and Superstition,” but rather during the Enlightenment, “when the rights of mankind were better understood and more clearly defined, than at any former period,” and when “knowledge, acquired by the labours of Philosophers [who, in the 18th century, included natural scientists], Sages and Legislatures” could be “happily applied in the Establishment of our forms of Government.” [6] Practicing what he preached, Washington put the latest agricultural science to use at Mount Vernon. [7] As his presidency ended in 1797, he urged Americans to establish “institutions for the general diffusion of knowledge” as “an object of primary importance.” [8]

Cohen writes that the politically conservative Adams considered natural science “the highest form of human knowledge based on reason and experience.” [9] A Harvard graduate who “received as good an education in science as was possible in America at that time,” he regretted spending more time reading political philosophy than science. [10] Yet, Adams understood that American cultural and economic development depended on science: “I must study Politicks and War that my sons may have liberty to study Mathematicks and Philosophy [science]. My sons ought to study Mathematicks and Philosophy, Geography, natural History, Naval Architecture, navigation, Commerce and Agriculture, in order to give their Children a right to study Painting, Poetry, Musick, Architecture, Statuary, Tapestry and Porcelaine.” [11] To that end, in 1780 Adams co-founded the American Academy of Arts and Sciences. [12] Its charter emphasizes the importance of “Arts and Sciences” to “agriculture, manufactures, and commerce” and to “the wealth, peace, independence, and happiness of a people; as they essentially promote the honor and dignity of the government which patronizes them.” [13] Adams clearly believed that democracy would benefit from his promotion of science.

Jefferson, a William and Mary alumnus and the most scientifically astute founding president, gave up science for politics only because of “the enormities of the times.” [14] As vice-president, he was also president of the American Philosophical Society. His commitment to both science and democracy is reflected in the portraits of John Locke, Francis Bacon, and Isaac Newton that he commissioned for his State Department office; he was, as Cohen says,

"surely the only president of the United States who ever read Newton's *Principia*." [15] Jefferson's command of the sciences proved politically significant when he commissioned the Lewis and Clark expedition, which he used to acquire scientific data and fossils. [16] In *Notes on the State of Virginia*, Jefferson combined a thorough presentation of scientific data with a vigorous defense of both democracy and religious liberty. [17] According to Cohen, his reference to the "laws of nature" in the Declaration of Independence was as closely tied to Newtonian science as to political theory. [18] Cohen argues that Jefferson's introduction was rooted not only in "philosophy and political theory, his reading about natural law and natural right, [and] his training and experience in civil law" but also from "his knowledge of science." [19]

Madison, a Princeton graduate, was at a disadvantage where science was concerned. Although Princeton students studied mathematics, basic physics, and astronomy, the school's early history was marked by constant complaints from administrators and faculty that they lacked funding for scientific equipment. Later in life, however, Madison became a science devotee through his friendship with Jefferson, becoming proficient enough to secure membership in the American Philosophical Society, along with chemist Joseph Priestley. Cohen points out that metaphors drawn from the natural sciences even made their way into Madison's famous *Federalist* No. 10. [20]

As Cohen documents, "the Founding Fathers displayed a knowledge of scientific concepts and principles which establishes their credentials as citizens of the Age of Reason." [21] Their commitment to science was second only to their commitment to political and religious liberty. The low status to which science has fallen in the Republican Party — a result of the historically ironic combination of democratic politics and religion — would shock them.

Using Democracy Against Science

Comparing the Founders' enthusiasm for science with Republicans' current animosity toward it is a sobering exercise, especially since this animosity is the result of the Republican Party's alliance with the Religious Right, as Barry Goldwater saw in 1994: "Mark my word, if and when these preachers get control of the [Republican] party, and they're sure trying to do so, it's going to be a terrible damn problem. Frankly, these people frighten me." [22] According to science journalist Chris Mooney, this unholy alliance began with Ronald Reagan's support for teaching creationism in the 1980s: "The Reagan administration's sympathies with creationism signaled a new development for the Republican Party and conservatism. . . . From this moment forward, many of the party's leaders willingly distorted or even denied the bedrock scientific theory of evolution . . . to satisfy a traditionalist religious constituency." [23]

Not all Republicans have gone along. Jon Huntsman announced (actually, tweeted) his acceptance of evolution and global warming during his 2011 run for the Republican presidential nomination. [24] However, Huntsman is an exception whose support for science was a political liability. Most Republican office-seekers have dutifully lined up with the science-deniers. Yet, Republican politicians' anti-science stance is not always mere political cynicism;

some are both theologically conservative and scientifically (perhaps willfully) misinformed. Georgia congressman Paul Broun, who, incredibly, is a physician and sits on the House Committee on Science, Space, and Technology, labels evolution and Big Bang theory as "lies straight from the pit of hell . . . to keep me and all the folks who were taught that from understanding that they need a savior." [25]

Whatever the motivation in individual cases, the amply documented fact is that the Republican Party and the Religious Right are using the mechanisms of democratic government against science. There is no better example than the state of Louisiana under the governorship of Bobby Jindal.

Louisiana — A De Facto Theocracy

With a Brown University biology and public policy degree, Jindal is well-schooled in both science and government. [26] Yet, the contrast with the Founders could not be starker. As governor, he has entangled religion and government to a degree that would make them blanch. Positioning himself for national office as chair of the Republican Governors Association, Jindal embodies his party's anti-science animus. [27] To please his right-wing religious base at home, he has signed laws designed to undermine science education and punish scientists. Kenneth Miller — a biologist at Jindal's alma mater — correctly describes Jindal's misuse of his office: "[I]n his rise to prominence in Louisiana, he made a bargain with the religious right and compromised science and science education for the children of his state." [28] Under Jindal, Louisiana has become a de facto "general theocracy," in which "ultimate authority . . . vested in a divine law or revelation [is] mediated through a variety of structures or polities," the relevant structures and polities being the governor's office, the legislature, and school boards. [29] Understanding how this transformation was achieved, how its agents view their roles, and how they are exploiting democratic processes is essential as a warning to other states and the nation at large.

Jindal's Religious Right allies began promoting anti-science legislation immediately after his January 2008 inauguration. Among the first bills he signed was the Louisiana Science Education Act (LSEA), which disguises creationism as 'critical thinking' and was promoted as a safeguard of 'academic freedom.' Written by the Discovery Institute (DI), an intelligent design (ID) creationist think tank, and the Louisiana Family Forum (LFF), a Focus on the Family affiliate, the LSEA permits public school science teachers to use pseudoscientific supplementary materials concerning "evolution, the origins of life, global warming, and human cloning." [30] Five years later, Jindal has admitted the law's true intent: "[T]he Science Education Act . . . says . . . if the [local] school board's okay with that, [and] if the state school board's okay with that, [teachers] can supplement those materials. . . . I've got no problem if . . . a local school board says, 'We want to teach our kids about creationism, that some people have these beliefs as well, let's teach them about intelligent design.' . . . What are we scared of?" [31] Moreover, in 2012, Jindal successfully pushed a school voucher law under which $11 million in public funding is going to almost two dozen Christian schools that teach young-earth creationism. [32]

An ultra-conservative Catholic, Jindal also signed the 2009 “human-animal hybrid ban” on behalf of the Louisiana Conference of Catholic Bishops. [33] This law threatens scientists with ten years at hard labor for, among other things, creating embryonic stem cells “by introducing a human nucleus into a nonhuman egg,” for example, replacing genetic material in a bovine ovum with a human nucleus, as is done in regenerative medicine research that is licensed in the United Kingdom. [34] Collusion between Republican politicians and the Religious Right occurs elsewhere, to be sure; Texas is a prominent example. [35] However, Louisiana has long been an incubator for religiously inspired — and democratically enacted —anti-science legislation, having adopted the 1981“Balanced Treatment Act” requiring the teaching of creationism along with evolution in public schools. The U.S. Supreme Court declared it unconstitutional in 1987. [36]

Jindal’s partner in the fusion of religion and government is his close political ally, Rev. Gene Mills, LFF executive director and an ordained Pentecostal minister who epitomizes “these preachers” who so distressed Goldwater. [37] Having co-founded LFF in 1998, Mills is one of the state’s most influential Republican operatives. In Louisiana, party lines tend to break down where religion is concerned. Many Democratic legislators who share LFF’s anti-secularism are willing allies. For example, Democratic state senator Ben Nevers sponsored the LSEA on LFF’s behalf. [38] However, Republicans hold all statewide elected offices and have majorities in both houses of the legislature. [39] These demographics, combined with Jindal’s active support, amplify Mills’ influence far beyond LFF’s small institutional size. Because of LFF’s statewide network of ever-ready political auxiliaries (pastors and churches), voter guides, and widely publicized legislative “scorecards,” politicians seek Mills’ endorsement and fear his opposition. [40]

Jindal and Mills have provided revealing insights into their own views of their roles in de-secularizing state government. Mills frequently reminds supporters (and prospective donors) that LFF holds “monthly pastors fellowship luncheon[s] with Louisiana’s Gov. Bobby Jindal at the Governor’s Mansion to break bread, share the word and pray together!” [41] While these religious-political networking events are private, others, such as LFF’s December 2007 “Governors’ Gala” celebrating Jindal’s election, are quite public. To hundreds of citizens, clergy, and elected officials, Jindal sermonized that Louisianians must build up the state, “motivated by the Holy Spirit, inspired by *His* written word, in faith that He is King and Almighty Ruler”; with Mills presiding, he also underwent the ‘laying on of hands.’ [42] Jindal frequently — and publicly — undergoes this ritual, which pastors view not only as their blessing of him but also as their transfer of God’s spirit through themselves to him and the governorship. His participation signifies his submission to the pastors’ expectation that he will use his office to implement God’s (i.e., their) will. [43]

In keeping with the status that LFF and its supporters have conferred upon him, Jindal attends LFF events, issues executive prayer proclamations that Mills uses as evidence of LFF’s influence (with both the governor and God), and, most important, signs the bills that Mills successfully steers through the legislative process. [44] New Orleans journalist Clancy Dubos, listing LFF among the “big winners” in the 2012 legislative session (following only Jindal

himself and the oil and gas industry), wrote that "some lawmakers reportedly were summoned to meet with LFF leader Gene Mills on the 4th floor of the Capitol — home of the governor's office — leading to speculation that LFF is now an extension of Team Jindal . . . or is it the other way around?" [45] Mills describes himself as a "missionary to the field of government," executing LFF's mission of rendering "assistance to the local pastor and the body of Christ in order that they may discover their jurisdictional authority in the arena of government." [46] He works through a "network of 300 to 500 churches [that] affords me the opportunity to have an influential voice in addressing cultural corrections and to execute objectives in an arena which respects power but often confuses the churches' authority." [47] Yet, stressing that "the vision is not complete," he says that LFF must "find, train and retain laborers to serve in this fertile mission field," ensuring that a new generation will learn "God's idea of government (jurisdiction, law, representation, continuity and authority)." [48] Jindal's and Mills' words and deeds provide substantive evidence that they are consciously transforming Louisiana into a de facto general theocracy.

LFF has also helped DI to advance its national anti-science agenda — which is just as religion-driven as LFF's — by facilitating its exploitation of the legislative process in Louisiana. A DI staffer describes its promotion of anti-evolution bills directly to legislators, both in Louisiana and other states: "Discovery Institute . . . is on the inside. . . . We draft and amend academic freedom language, counsel lawmakers privately, testify publicly, and are otherwise intimately acquainted with the intentions behind and likely effects of academic freedom legislation." [49] LFF's procurement of ground-level access to legislators for an out-of-state creationist think tank, with Jindal as guarantor of their success, epitomizes the Republican-Religious Right strategy of using democracy against science.

Madison's Warning

Louisiana exemplifies some of the worst infractions against both science and democracy that the Founders tried to prevent: a Catholic, Republican governor is colluding with a Pentecostal, Republican preacher, buttressed by politically organized clergy and parishioners, to codify their religious beliefs as law. Moreover, this is being done with little opposition from either the state's Democrats or its scientists. The latter fact would surely be as distressing to the Founders as the transgressions themselves.

Madison's "Detached Memoranda," written after he left office, reveal that he could already see a similar apathy. Lamenting that "silent accumulations & encroachments by Ecclesiastical Bodies have not sufficiently engaged attention in the U.S.," he warned against the "danger of a direct mixture of Religion & civil Government." [50] The Founders bequeathed to us a secular democracy in which politicians viewed science as essential to national vitality. Yet, despite enjoying the benefits of both, Republican politicians today, as Thomas Mann and Norman Ornstein have forthrightly pointed out, have become so "ideologically extreme" that they are "unmoved by conventional understanding of facts, evidence and science." [51] They have renounced the Founders' legacy in favor of co-opting the democratic system to execute the Religious Right's attack on science.

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Fundamentalist Christians, Science, and the Democracy

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Part One – Special Interest Democracy

Democracy has a very positive connotation for most modern peoples. It suggests that the individual citizens are important and that their opinions will be paid attention to by those they elect to political office. In a modified fashion, this is true. Take, for instance, democracy in the United States. The U.S. is not exactly a democracy of individuals whose numbers run to over 300 million. It is instead, a democracy competing interest groups. These interest groups are made up of subsets of the population–that is individuals who have come together based on shared interests and outlooks. They pool their voting numbers and financial capabilities and approach the elected government bodies as collectives. In that way they manage to exert (in the form of lobbies) much more influence than an individual voter ever could.

There are numerous examples of such special interests. Are you a retired or older American concerned about maintaining social security and medicare? Then join the American Association of Retired Persons (AARP). This organization has a membership of approximately 40 million citizens. When it speaks, the politicians in the U.S. government tend to listen. Are you a gun afficionado who fears losing your alleged Second Amendment right to go around the neighborhood with an automatic weapon? Then join the National Rifle Association (NRA). This organization has approximately 4.5 million members and has successfully prevented meaningful gun control laws from being enacted. Similar special interest groups exist on the foreign policy side of the U.S. political scene and have proved influential enough to control American policy toward individual countries such as Cuba and Israel as well as entire regions such as the Middle East.

This is how democracy works in the United States and much of the rest of the democratic world as well. Is it a good system? Winston Churchill had an answer to that question when he mused, “It has been said that democracy is the worst form of government except all the others that have been tried.” Churchill was a British politician old enough to remember a time when traditional elites were quite skeptical about what we now call representative democracy.

Why was that the case? As recently as the 19th century political and cultural elites considered the “masses” as little more than a mob. And, to a certain extent, this fear was warranted. The “masses” were largely un- or under educated, uninformed and, so it was thought, given to episodes of hysteria that could be exploited by charismatic leaders and charlatans. A branch of psychology, known as crowd psychology, grew up in the 19th century to investigate the negative

potential of mass action, and another branch known variously as public opinion/public relations/advertising grew up to investigate the possibility of controlling the behavior of the masses for profit and/or political advantage.

As our modern version of representative democracy evolved, the masses, now referred to as the voters or the citizenry, became better educated but not necessarily better informed. They sought solace and identity in special interest associations to compensate for existence in a largely atomized mass society. And, as we have seen, they also found the secret to political influence in such a society through those same special interest groups.

Part Two – Fundamentalist Christians as Lobbyist

The number of special interest sub-groups that have grown up in the representative democracy of the United States are myriad. The examples given above are but the tip of the iceberg. At first one would not think that this arrangement would have much impact on the status of science in society. After all, the United States is the arch-typically science and technology based society. Its economy is almost completely dependent on such knowledge bases. More generally, given the number of people now on the planet, we could not produce enough food, generate enough energy, maintain sufficient health to carry on without science. Nonetheless, there are increasingly powerful special interest groups within American society which are very suspicious of aspects of science. And, to the extent that they can influence government policy, their use of democracy actually becomes a threat to important components of scientific progress.

What interest group would want to undermine one of the mainstays of modern society? Well, it would be one representing the devotees of (from their perspective) a competing pillar of society. That competitor is religion, or at least certain fundamentalist forms of religion that see in science an unacceptable interpretation of who human beings are, where they come from, and what is allowable in terms of human self-realization. These fundamentalist manifestations of religion in the United States have, like the secular AARP and NRA, formed themselves into an array of powerful special interests with a real potential to influence government policies in relation to on-going scientific education and research.

The Pew Forum on Religion and Public Life has published an updated study entitled *Lobbying for the Faithful: Religious Advocacy Groups in Washington, D.C.* According to the study, as of May 2012. there are some 200 organizations engaged in “religious lobbying” and they address about 300 different issues and causes. 18% of them are described as “evangelical Christian” which have a particular interest in “bioethics and life issues.” These include stem cell research and the teaching of evolution.

It is difficult to know the exact numbers these special interests collectively represent. We do know that some 22% of Americans identify themselves as fundamentalist Christians.[1] In terms of a media presence, Pat Robertson’s 700 Club, a fundamentalist Christian media effort

which started in 1961 and is still broadcasting, is the longest running program on TV and has millions of viewers worldwide.[2] There can be no doubt that when well organized and directed, this constituency represents a politically powerful force. Here are two examples of how they use their influence.

Part Three – Issues and Arguments

I. Stem Cell Research

Stem cells are what may be called the body's foundational generic cells. Their job is to produce new cells for whatever specific organ or body part they belong. As such, medical researchers see them as potential cellular factories for the replacement of damaged or diseased tissues. For instance, as a mechanism to repair spinal injuries or correct Parkinson's disease. If they are correct, the benefits for mankind will be far-reaching.

There are two types of stem cells. The first is referred to as adult stem cells and these are the most common and readily abundant. All animals possess these cells throughout their bodies. However, it was long thought that adult stem cells were organ specific in their reproductive capacity (the scientific term is "multipotent"). If you have a bone marrow stem cell it was thought that its reproductive range was limited to blood cells.

Again, it was long believed that if you wanted to find stem cells with greater reproductive range you had to look for them at the animal's embryonic stage. Thus the term embryonic stem cells. Such cells are, if you will, young enough to be able to produce almost any type of cells that make up the body (the scientific term is "pluripotent"). Most embryonic stem cells used in research came from "leftover" embryos in frozen storage at fertility clinics. When such clinics help couples produce embryos for eventual implantation in the mother's womb they usually create enough to cover the possibility that the initial implantation will fail and have to be repeated. Over time "leftovers" accumulate. One estimate that there are now about 100,000 such embryos in storage in the U.S.[3] The eventual fate of these embryos depends on the wishes of the donors within legal parameters. The desire of the research community is that these embryos be used as a source of embryonic stem cells and, in the past, some of them have been used to create a limited number of self-reproducing lines of stem cells for just such research purposes. In the U.S. these lines were created and are maintained in private research laboratories. However, the problem is that to "harvest" such cells and establish the self-reproducing lines, researchers have to destroy the embryo from which the original cells come.

The destructive process when applied to human embryos gave rise to the controversy that led fundamentalist Christians, working through special interest lobbies such as the Family Research Council and the Alliance Defense Fund to press for legislation eliminating the use of federal funds to support embryonic stem cell research. Here is how the Los Angeles Times (August 12, 2001) put the issue, "The issue of stem cells struck a national nerve.…It introduced, in embryonic form, what may turn out to be the new bloody crossroads of U.S.

politics: where giant leaps forward in medical science meet deeply entrenched differences about what makes life sacred, and where the American gospel of progress meets the biblical admonition against human pride."

In other words, fundamentalist Christians (as well as some secular bio-ethicists) see human embryos as living human beings, albeit at their earliest stage, and therefore consider the destruction of such embryos as murder.

The LA Times had been moved to its florid description of the issue by the actions of President George W Bush. 2001 was the first year of Bush's presidency, and being a fundamentalist Christian he had instituted prayer sessions and bible study in the White House. Therefore, it came as no surprise that one of Bush's first major actions was to try to devise a policy toward federal funding of embryonic stem cell research that would meet most of the objections of his Christian compatriots while not totally alienating the medical research community. His compromise was to allow funding on self-reproducing embryonic stem cell lines that the research community had already brought into existence. That is lines of cells created from embryos already destroyed or, as Bush put it, where "the life and death decision has already been made." There would be no federal funding for research on any new embryonic stem cell lines.

In 2005, Congress (more liberal then than it is today) tried to broadened Bush's executive order and passed a Stem Cell Enhancement Act permitting federal funding to support stem cell research using embryos bound for disposal by fertility clinics with the written consent of the donor. However, the fundamentalist Christian interest groups objected and President Bush vetoed the bill the day after it was passed. Congress tried again in 2007 and passed the same legislation adding instructions to the National Institute of Health (NIH) to investigate alternative forms of stem cell sourcing. Again President Bush vetoed the bill. This standoff lasted until 2009 when a newly elected President Barak Obama issued his own executive order lifting restrictions on the federal funding of embryonic stem cell research and the number self-reproducing stem cell lines available to researches quickly grew.

What this story tells us is that there exists in the United States significant numbers of fundamentalist Christians for whom certain lines of scientific inquiry, including stem cell research, are ideologically anathema. As Dr. Ray Bohlin, author of The Natural Limits of Biological Change, has put it, the embryos from which stem cells are harvested are "of infinite value to God. We are not going to redeem them by killing them for research."[4] Such Christians are politically well organized and thus, under certain circumstances, able to shape government policy to fit their outlook.

There is a postscript to the stem cell story. A new category of adult stem cells with the reproductive range of embryonic stem cells has become available. Researchers have been able to "reprogram" adult stem cells, particularly those responsible for producing new skin cells, to behave like embryonic stem cells. Over time this development should end the confrontation described above because embryos will no longer be needed as a source of pluripotent stem

cells. However, stem cell research is not the only area of science that disturbs politically influential fundamentalist Christian special interests.

II. Teaching Evolution

The United States is home to the most potent fundamentalist Christian movement since the Protestant Reformation. The population of the U.S. as of 2012 was approximately 314 million people. If, as noted above, 22% of them are self-described fundamentalist Christians, that puts their number at over 69 million people. Some Gallup polls suggest that the number of such fundamentalists runs to 40% of the American population. What do these people believe? Among other things the believe that the bible is "inerrant." That is, it is the revealed word of God and therefore is to be taken as literal truth. When such Christians read the book of Genesis they are led to the belief that God created the world in less than 7 days and did so approximately 6,000 years ago. What of modern science and its wealth of evidence for the evolutionary process and an approximate age for the earth of 4.5 billion years? Fundamentalist Christians dismiss such evidence as either faulty or the result of God making things appear that way as a test of faith.

In a democracy like the United States people can believe what they wish as long as their beliefs do not lead to criminal behavior. And, it is within that environment of democratic freedom that fundamentalist Christians have chosen to organize themselves for an effort to forbade the teaching of scientifically based evolution in the public school system, or alternatively, to require the teaching of their bible based version of creation as a valid alternative alongside evolution.

This effort has been on-going since the end of World War I. At that time the scientific theory of evolution was incorrectly thought to have been one of the motivators of the German monarchy's decision to go to war. This, along with their fundamentalist reading of the bible, led some famous and influential American Christian leaders, such as Williams Jennings Bryan, to crusade against evolution. The result was that, in the 1920s, several states passed laws making it illegal to teach the fact of human evolution. This in turn led to the famous Scopes trial in Tennessee in 1925. Scopes was a biology teacher who was prosecuted under such a law in a trial that became a national media event. Paralleling the legislative effort against teaching evolution in the classroom was public pressure that led the major textbook publishers to leave evolution out of their texts until the 1960s.

The major organizations presently involved in this anti-evolution effort are the non-profit Discovery Institute based in Seattle which budgets about $1 million a year to push the notion of intelligent design; the Creation Studies Institute in Florida; Answers in Genesis in Kentucky; and Liberty University in Virginia. A stereotypical motivation for all of this was given by the Southern Baptist Minister Terry Fox who, referring to the effort of the Kansas State Board of Education to allow the teaching of alternatives to evolution, declared that "most people in Kansas don't think we came from monkeys" (a notion that evolution does not put forth). Fox is correct in that a large majority of Americans believe that God created human beings. Of

course, the fact that a majority of people believe something (for instance, that the sun revolves around the earth which itself stands motionless in the heavens) does not mean that it is true.

The laws against teaching evolution in the public schools eventually ran afoul of court decisions which labeled them violations of the separation of church and state. This turn of events has motivated fundamentalist Christians to create the notion of "scientific creationism" and later "intelligent design." Claiming that these concepts are not derived from religious belief, they have campaigned for them to be taught in the schools as equally valid ideas alongside evolution. All such efforts have been found unconstitutional by the courts and therefore blocked. This has led to resentment and an increased enrollment in Christian schools. As one fundamentalist mother who pulled her children out of public school rather curiously put it, "if students only have one thing to consider, one option, that's really more brainwashing."[5]

More importantly, prior to (and also following) all the court decisions against the Christian position, fundamentalists were successful in passing their demands into law in a large number of state legislatures. Indeed, as of 2012, twenty six states have on-going legislative challenges to the teaching of evolution.

The attack on the teaching of evolution has led to an attack on the veracity of science itself. For instance, Stephen C. Meyer of the Discovery Institute has said that "What we would like is to foment a civil discussion about science. That falls right down the middle of the fairway of American pluralism. We are interested in seeing that spread state by state across the country." He is backed up by former U.S. Senator Rick Santorum, a devout fundamentalist, who says that "my reading of the science is there's a legitimate debate. My feeling is let the debate be had." Another activist in this campaign, John H. Calvert calls the origins of life "the most fundamental issue facing the culture" and proclaims that "we are really in a revolution of scientific thought."

Of course, the "thought" of these opponents of evolution is not "scientific" at all. It is religious and equates their faith in biblical stories with evidence derived through the practice of the scientific method. But no matter, each year the advocates of the "intelligent design" hold an conference for "interested legislators and activists." Very much by design it is called the Darwin, Design and Democracy Conference.

Part Four – Conclusion: Democracy and Science

Science is not a product of popular choice and it is not a matter of faith. It is the product of a system of inquiry governed by rules of evidence. It is also a system that self-adjusts to new substantiated factual information. The term "theory," as used in science (for instance, the theory of evolution), is simply an indicator of the open ended nature of scientific positions to new factual evidence.

The theory of evolution is a product of this investigatory process. The substantiated factual

evidence gathered by researches over more than 100 years have supported the scientific understanding of evolution, as well as the notion of natural selection, without fail. To deny evolution because you have complete faith in a bible story is, of course, the individual prerogative of any person. To assert that your bible story is true in the same way as a scientifically established position is true, as does fundamentalists like Rick Santorum, is at the very least to confuse apples and oranges.

In much of the United States, if the question of evolution and its presentation in the public school system was to be left to the democratic process, the special interest lobbies hostile to evolution would probably succeed in having it banned from both the classroom and the textbooks. The best that could be expected is that evolution would be presented as a "theory" somewhat less worthy of belief than rival positions of religious nature–all of which would be taught to public school children.

The only thing that stands between the continued teaching of evolution and its democratically induced subversion is the courts. And the courts do not make their rulings based on the simple awareness that evolution is a provable fact and its competitors are popular stories with no demonstrable factual basis. They make their decisions based on the prevalent interpretation of that part of the constitutional that sanctions a separation of church and state.

The unfortunate conclusion one is drawn to is that, in the United States, democracy is no friend of science. It is a friend of religion and only held at bay by the country's constitution. Change the constitution, or for that matter the makeup of the Supreme Court which is the final interpreter of the Constitution, and the flood gates of biblical fantasy could wash evolution from the classroom and the textbooks. An important part of science would then, as the story goes, go the way of Pharaoh's ill-fated army engulfed in the waves of the Red Sea.

Notes

[1] https://www.gallup.com/poll/16519/us-evangelicals-how-many-walk-walk.aspx

[2] https://en.wikipedia.org/wiki/The_700_Club

[3] https://www.probe.org/site/c.fdKEIMNsEoG/b.4218211/k.1B8F/The_Controversy_Over_Stem_Cell_Research.htm

[4] https://www.probe.org/site/c.fdKEIMNsEoG/b.4218211/k.1B8F/The_Controversy_Over_Stem_Cell_Research.htm

[5] https://msl1.mit.edu/furdlog/docs/washpost/2005-03-15_washpost_know_nothings.pdf

Reversing the Labor Movement's Free Fall

By | 2013: vol. 12, no. 2

Everybody is aware that unions are in free-fall. In 2013 they represent less than 7% of private sector workers. And, while unions are still numerically dense among workers in the public sector—they represent a third—the recent assaults on collective bargaining at the state and local levels, the o% four year wage settlements in New York and elsewhere, and the leadership's pervasive fear of breaking no-strike contracts and state

laws, has weakened them. In short let us begin by stipulating the crisis of Organized Labor. Rather than dwelling on the woes, this article will address only two aspects of the crisis: some of the historical and structural factors that have contributed to unions' demise; and what can be done to reverse labor's outrageous fortune.

I

After more than a decade of steady retreat during the 1920s and early 1930s, in 1933 and 1934 the labor movement experienced a dramatic rebirth. Without the crutch of law or the state's approbation, workers in the mines, garment shops, textile mills, North and South, truck companies, auto factories, and the docks staged mass strikes for union recognition, against wage cuts and onerous working conditions and in some instances against the timidity and class collaboration by the mainstream AFL unions. Some of these struggles were conducted by or within established unions but others, particularly in the Minneapolis and San Francisco general strikes and the Toledo Auto Lite walkout were conducted by insurgencies against both the corporations and the old unions.

The Roosevelt administration was alarmed. The first New Deal, 1933-35, was an effort to revive industrial production and finances by giving federal funds to banks and imposing corporatism upon industrial relations in which labor was assigned a subordinate role. The National Industrial Recovery Act(NIRA) set up tri-partite industry boards—business, labor and public members—to regulate wages, prices and profits. With the exceptions of the apparel and mining industries, labor had little leverage over board decisions. Workers' wages were often frozen, and their power to impose better working conditions was severly limited. Radicals judged the NIRA as an American version of industrial fascism because it paralleled the Italian example. This perception was reinforced when, after promising to bring textile employers to the bargaining table, Roosevelt persuaded the AFL union leaders to call off the 400,000 worker strike. He reneged on his promise and 7000 activists were blacklisted from the industry, many of them Southern women. Roosevelt's betrayal contributed to the tough sledding unions faced

in the American South for decades.

According to historian Richard Hofstadter Roosevelt, therefore, “stumbled” into social reform. The mass strikes prompted pro-administration Congress members to cooperate with the administration in proposing a new form of regulation: the Wagner Act (NLRA) granted workers the right to form unions “of their own choosing” and provided a series of procedures for determining whether and how workers could form unions that would be recognized by law and therefore by their employers. It also encouraged collective bargaining to resolve labor disputes. Organized Labor did not renounce the strike weapon—indeed before final Supreme Court approval in 1937 of the new labor law Akron rubber workers and Flint and Cleveland auto workers staged factory occupations termed sit-down strikes rather than conventional walkouts to gain recognition, a tactic which the Supreme Court outlawed in 1938 because workers violated the most sacred of all common laws: the sanctity of private property. But with the notable exception of what Jeremy Brecher termed the 1946 general strike that embraced almost all of the major production industries, the wildcat walkouts in auto in the 1950s and 1970s, the historic 1959 116 day steel strike over the right of workers to negotiate over the introduction of new technology, and the early 1960s strikes among teachers and other public workers for union recognition, in private sector organizing the strike weapon mostly gave way to the Board-supervised representation election and to arbitration to resolve labor disputes. The public workers’ strike wave of the 1960s prompted many state legislatures and the federal government to outlaw strikes as a condition of granting union recognition. Most public employees’ unions readily accepted the deal because it brought millions of new members into the unions and strengthened collective bargaining, a goal that had become primary for all unions since the New Deal. As a result few public workers’ unions forged their culture in the baptism of fire; during organizing campaigns one of the main messages to workers was that there would be little risk if they joined the union.

The post-war labor movement became an ardent devotee of the union contract, especially its main features: locked -in wages, work-rules that gave unions some power over the labor process, a series of benefits that constituted, in effect, a private welfare state, and by limiting management’s right to fire workers arbitrarily, a degree of job security. The union contract was the most important concrete expression of the new social contract. It signified that Labor accepted the prevailing capitalist economic system, management’s control over the production and distribution of goods and services, and the law of labor relations in which workers rights and responsibility were rigorously enforced by the company and the union. In this regime the union becomes a partner of capital as well as a representative of its members, the tension between the two roles that is more or less constant.

Labor’s adaptation to legalism was a symptom of its embrace of the key elements of modern liberalism: a new social contract with capital that provided union recognition(except in the South); steady wage increases at least until the late 1970s; a privately-funded social wage following the failure of national health care legislation in 1949 and the stagnation of old age (social security) benefits, and the privatization of workers’ housing. And, besides becoming a devotee of the law and the Democratic party, Labor became a major ally of the post-war

administration's permanent war program: perpetual off-shore military and economic interventions, huge defense contracts that some union leaders viewed in terms of full employment, and anti-communism at home and abroad.

The post-war unions were among the most reliable allies of the Cold War. Conservative and progressive unions alike conducted a relentless purge of Communists and others who refused to cooperate with Congressional committees and government agencies in fingering fellow radicals. The Taft-Hartley amendments of 1947 to the Labor Relations Act not only barred Communists from holding union office, but barred unions from conducting solidarity strikes—sympathy, secondary boycotts, refusal of workers to handle struck goods and gave the US president the right to impose and 80 day strike prohibition when the "national interest" was involved. The CIO and many AFL unions blasted Taft-Hartley and vowed to seek its repeal. Brave words notwithstanding, the mainstream labor movement failed to mount a concerted campaign and after some refused to sign the requisite non-communist affidavits, dutifully fell in line. Even Miners president John L. Lewis and former CIO president who characterized Taft-Hartley as a "slave labor act" finally submitted to the law. Meanwhile the CIO expelled 11 of its affiliates for alleged Communist dominations and deprived the labor movement of many of its most militant and capable institutions and activists. The Auto, Steel, Electrical and Machinists unions spent much of the 1950s raiding the left-wing unions. By the mid-1950s many on the left determined that discretion was the better part of resistance; they re-entered the mainstream unions after publicly renouncing their Communist pasts or, in some cases, quietly quitting the CP. After the smoke cleared only the United Electrical Workers and the West Coast Longshore unions remained independent. Eventually Longshore re-entered the AFL-CIO, but UE has held out to this day.

Why did the unions fail to unshackle themselves from government control? One reason was that they were comfortable with the anti-Communist restrictions. Eliminating a large fraction of the Left protected the leadership from criticism and potential opposition. Another is that the CIO was actively distancing itself from its own history. It no longer had a taste for direct action but instead sought respectability and stability in labor relations. And, the progressives no less than the business unions became devoted to electorism as a strategy rather than relying, primarily, on organizing. Less than a decade after the enactment of Taft-Hartley, in 1955 the two federations merged. Among its impetuses was to halt the fierce competition that marked the 20 years since the founding of the CIO. Never mind that most CIO unions were no longer repositories of direct action and other forms of industrial conflict. The leaders of both federations sought labor peace and, indeed, in the midst of post-war relative prosperity, fueled, in part, by Corporate America's domination of world markets, the ordinary processes of collective bargaining were able to register continuous improvements in workers' living standards. And the Labor Board elections were resolved, generally, in unions' favor. By 1953, unions represented more than a third of private sector workers. The South, professional and technical workers, and the retail and wholesale trades posed the greatest challenges. Of course, until the 1960s, unions were painfully weak in the public sector, a condition that was soon to change. By the end of that decade, unions were on the way, especially in state and local jurisdictions, and in the Post Office. But Labor's increasing density barely disguised

growing rank and file discontent. Labor-management cooperation in auto, coal mining and steel prompted wildcat strikes and, by the mid-1970s a burgeoning rank and file that expressed itself as opposition slates for top and many local union offices. The auto and steel rank and file movements did not succeed at the national level , but Miners for Democracy took union power. The established leadership was shaken ,but remained unbowed in most instances where a rank and file mounted a challenge.

Until the late 1960s the AFL-CIO was a bastion of support for the war policies of the Kennedy-Johnson administrations and with the exception of some important unions like the Auto Workers and the growing public unions, were opposed to the militant civil rights movement and when not indifferent were hostile to feminism and environmentalism. With the exception of its core support for expanding the social wage, Organized Labor drifted to the right on most social issues, a position that alienated many young people women, blacks and Latinos. Although it was never true that women and blacks were not part of the labor movement, the public face of the unions was, in the main, white, male and middle-aged. Intellectually the unions were part of the backwater of society; more to the point, when American unions took an interest in International Labor affairs where ideas matter, they aligned with US foreign policy which encouraged and often financed anti-communist, antirevolutionary unions in Italy, France, Africa and Latin America.

Having been integrated into law and prevailing capitalist social relations during the New Deal and its successors, Labor's fate was further sealed by its profound anti-radical stances during the second social movements' upsurge of the 1960s and early 1970s. Even as US political hegemony was under siege in many developing countries, the American century in economic terms was challenged by the reemergence of Japan, Germany and France which became export societies on the basis of technologies that were, for various reasons, more advanced that those practiced by US industrial corporations. And the productivity of US industrial workers declined, largely due to shop-floor resistance. US corporations responded in two principal ways: intense technological investments reduced the relatively high wage force within the United States. And Northeastern and Middle Western-based industries moved first to the American South and then to Mexico and to the countries of Southeast Asia.

Unions adapted to these changes rather than waging struggles against plant closings and the emergence of Southeast auto, textile and metal-working factories. For example, the Auto Workers permitted the Big Three to move South, provided they agreed to unionize them. The union's compliance was by no means innocent. The Mid-west, especially Detroit, was a hotbed of opposition to the national leadership. In effect, the union colluded with management to diffuse discontent. Wages were not reduced, but since the plants were generally relocated in rural or small town areas, the chance of shop-floor disruption was sharply reduced. And, displaced union members had the right to relocate as well. However, other unions faced plant closings with far less bargaining power. Most relocated plants reopened on a non-union basis but the unions were either unable or unwilling to commit to a Southern organizing strategy that would entail a long-term presence in the communities without an immediate chance of obtaining recognition or winning a union contract. Having failed in the immediate post-war

years to make significance organizing gains in the South, the AFL-CIO unions were hesitant to drain their resources on Mexico, Guatamala and Southeast Asia because even the non-union workers in the US made too much money in the wake of global competition . The apparel industries were the first to go, but within a few decades Chinese contractors for Apple, Hewlett Packard and other companies were employing millions of workers in the production of computers and electronic parts. And, in textiles, whose Southern base traced to the 1920s, even the mechanization of the industry failed to inhibit migration to China and India. By the late 1990s, the South had been partially deindustrialized. Its economic woes became an occasion for European and Japanese auto corporations to install "transplants", all of them non-union. The UAW's sporadic efforts to organize Nissan and other plants have been unsuccessful. As of this writing, there are 13 transplants, among them a huge 4000 worker Nissan assembly plant in Mississippi. The union is engaged in organizing drive there. This time it has forsaken the hit and run pattern of Southern organizing, declaring it will engage the community, not only the plant, on a long-term basis. Whether the lessons of the recent past have been fully assimilated remains to be seen.

Two contrary developments in the post-war economy have almost completely missed Organized Labor's attention. The first was linked to the technological revolution and the expansion of health care. In technology the programming and systems analytic basis of computerization of both the industrial and service workplaces demanded the creation of a whole new series of job categories. From less than 4% of the labor force at the close of world war two, by the 1980s they had almost tripled in size. By the year 2013 they were just about 20% of the workforce or about 16 million. Many are wage and salaried workers and an expanding number are so-called "contractors" who do not draw a salary but are paid by the job and are offered no benefits. Although they are contingent workers because they are obliged to seek new employment when the job is finished, those with high qualifications such as computer engineers and website designers usually find new contracts. But lower down in the ladder, in times of economic slum p programmers systems analysts and middle managers have trouble finding a job. In New York, Philadelphia, and San Francisco many public high-tech employees are union members. But with few exceptions—the Communication Workers (CWA) efforts among Microsoft workers in Seattle, a small engineers union on the East Coast and technical workers at GM's Detroit area Tech center—unions have made almost no efforts to organize intellectual labor in high-tech.

The situation is different among the huge health care industry's five million workers. The Service Employees Union (SEIU) has established considerable presence in the country's vast system of hospitals and other large service providers like Kaiser Permanente. The coasts and considerable portion of the Midwest are unionized. In California and New York nurses are organized on a craft basis into SEIU and the Nurses Association which remain intensely competitive with each other, a healthy situation. In New York and California, Interns, Residents and some house physicians are unionized, but only in the public hospitals. Florida has a union of doctors, some of which are in private practice, but subject to Medicaid and other government programs. Yet, in an industry where 70% of physicians are salaried, the unions have barely scratched the surface.

The second major mostly ignored sector is the “service industry” a euphemism for the vast retail sector whose largest employment is in restaurants and so-called “big box” all-purpose supermarkets that sell everything from food, to household appliances, but also include hotels and traditional department stores. In recent months workers at the largest of the big box stores, WalMart and at fast food restaurants have conducted a series of one day minority strikes to call attention to their sub-poverty wages and miserable working conditions. Chicago, Detroit, New York, St. Louis and Milwaukee have witnessed walkouts ranging from a few dozen to the largest, 800 Detroit fast food workers. The WalMart actions are supported by the United Food and Commercial Workers who have a significant membership in conventional supermarkets on the coasts and the Midwest. But in most cases, the intiative has remained with the activists among the workers rather than a major “outside” campaign by an established union. The fast food organizing and strikes are a cooperative effort by a series of locally-based workers centers such as New York’s Communities for Social Change and Detroit’s workers centers, other community organizations and the SEIU. Aside fromwages, which hover at or close to the minimum wage, WalMart workers are protesting the corporations’ short-time work schedules which allow the corporation to avoid paying unemployment compensation. Taken together, WalMart, Target, another Big Box chain and the fast food restaurants employ millions of low wage workers, mostly contingent, part-time and chronically underpaid.

What is new about these struggles is that they are no longer directed to winning union contracts or attempting to gain recognition through Labor Board elections. Rather, they focus on direct action, forging collaboration among workers, community organizations and established unions. The long-term prospects for these movements is uncertain, but it is worth noting that around the country several taxi workers alliances have survived decades of uncertainty, no formal recognition or collective bargaining agreements limiting their freedom of action. And there are several organizations of domestic workers—nannies, housecleaners, cooks in private homes—who seek legislation that would provide health and safety protection, hours limitation and overtime payments and benefits. These initiatives point to possible new directions for a labor movement that, largely, is stumbling into powerlessness. The key components are:

a) Since the workers are not a labor organization under the meaning of the law, they rely on direct action rather than the labor relations law;

b) Cooperation between workers, traditional unions and community organizations like workers centers and advocacy groups;

c) In many instances, a highly democratic organizational structure in which members have a consistent and leading voice in group decision-making. This horizontalism contrasts with the hierarchical structure of traditional unions.

Of course, to insure a long life this model requires further conceptualization of issues such as money, organization, cadre formation and coordination between local struggles. Taxi workers

are on the road to forming a national organization, but most others have not. But thus far most of these struggles have focused on the basic wage issues and on conditions of precarity. There is little or no vision about what a new labor movement might look like.

II

"New" Labor Movement? Why not seek reform of the existing unions. Organized Labor is still more than 13 million. SEIU and the UFCW have shown an openness to innovative tactics. And some like the Communications Workers have reached out beyond their traditional base among manual and service workers in telephone companies. These are hopeful signs, but they do not signify that the unions—even those who have become more tactically creative—are prepared to abandon their reliance on the law, electoralism, the Democratic Party, the collective bargaining agreement or collaborative relations with" their" employers. For example, recall that, in order to assist them, the UAW agreed to a two-tier wage system with the big three auto corporations; despite making noises about saving the planet the AFL-CIO has endorsed the Keystone pipeline; Organized Labor is still collaborating with the government in attempting to thwart radical labor movements in the developing societies; and, without missing a beat Organized Labor donated $400 million to the 2012 Obama campaign and Democratic congressional candidates, even as this administration is, arguably, to the right of the Nixon administration and on civil liberties, worse. That Labor remains tied to the Center/Right and to the government does not seem to detain either the unions nor the liberals with whom they are allied. In short, there is plenty of reason to believe that these unions are beyond reform. They have not been an independent force in public life for more than 75 years and have even surrendered the crucial steps needed for their survival: instead of devoting their resources to preserving the bureaucratic and political status quo they would have to reverse direction and offer workers and the larger public a vision of the Good Life.

When asked for his vision, Samuel Gompers, the long-time president and founder of the AFL said "more", a phrase that signified his refusal to engage in speculation about an uncertain future. Industrial unionists and other radicals of his time scorned this tunnel vision. They were anarchists, socialists and communists who, in their anti-capitalist framework believed that those who produce society's wealth should own or it. They were opposed to the doctrine of private property's sanctity, agreeing, in effect, with Pierre Joseph Proudhon's judgment that "property is theft". Needless to say, they did not agree on the precise form or process by which the new society would emerge. Socialists saw the new society as a cooperative commonwealth in which production would notonly be worker owned but also worker controlled. They envisioned a democratic state to provide workers with the means to attain the Good Life but, with few exceptions did not take firm positions on the social issues raised by feminism or, beyond opposing racism I principle, would not agree that race was a "special question" requiring extraordinary measures to address. The anarcho-syndicalists believed the state was part of the problem and advocated a cooperative commonwealth based on workers councils. The communists stood between the two: while recognizing the need for a transitional state required to defend the revolution they held to the councilist idea as the best form of But they were all resolutely anti-capitalist. And, except for the socialists who remained loyal to the

AFL's craft philosophy, were strong advocates of industrial unions that united skilled, semiskilled and unskilled labor in the same organization.

Business unionism which refuses political philosophy beyond a vague concept of "fairness" has overtaken ideological unionism. Part of the reason for the decline of ideological unionism was the relative success of capitalism in raising mass living standards. To be frank, the left within the labor movement largely gave up the invocation to suggest that the labor movement went beyond fighting to raise living standards. The left fell into line behind contract unionism and confined its difference from many in the crafts by its argument for wall to wall unionism and, at least for the communists, a recognition that racial discrimination had to be addressed in the law as well as the contract by taking special measures to provide blacks with opportunities for skilled trades, equal pay for equal work and elective office within the union. Under the pressure of the black freedom movement of the 1960s and 1970s some, but by no means all unions, have adopted some of these demands, especially in the public sector where in most large cities, blacks constitute a major, when not a majority, of the labor force.

However, business unionism has reached an impasse. It can no longer insure higher wages and benefits and its transformation into a series of service organizations, some mostly insurance companies, has reduced its power in the wake of the disappearance of large chunks of its jurisdictions, including its largest, the construction trades, now half its post-war membership. Industrial unions have been reduced by two thirds so only the public employees and two of the service unions, SEIU and UFCW have girth. To expect these emaciated institutions to change course is both naïve and disingenuous.

The crisis of the labor movement requires a fresh beginning that embraces militant tactics and elides reliance on the law and the politicians. But it would be a labor movement that would address the shop floor but also housing, education, public transportation, the environment. It would seek a shorter work-day and work-week at a time when technological change has reduced the work forces in industrial production and many services. It would demand full time pay for the those condemned to the precariat. Among other measures it would demand that the cap be lifted from social security, so that the rich can subsidize a substantial increase, especially for low-wage workers, most of whom have no supplementary pensions. It would fight for a basic income guarantee. And, of course, it would demand that existing unions substantially boost their organizing activities, not only among the working poor, but in the under-unionized professional and technical categories. This demand should not preclude the formation of independent unions like the Taxi Workers where the old unions refuse or are unable to step up to the plate. Just as industrial unionists formed new unions when the old organizations refused, is not dual unionism to initiate new organizations to take up the urgent tasks, especially among the growing army of contingent labor fueled, in part, by Corporate America's domination of world marketsThe new labor movement would demand lifting no-strike laws which violate public employees' first amendment rights. The new labor movement would address the poorly funded schools in working class neighborhoods and demand that workers, blacks, Latinos and other oppressed formations be included in US and world history courses. And it would reverse the traditional aversion of the unions to abortion rights and

other feminist demands. Finally, the new labor movement would expose the farce of Obama care and join the industrialized world to support socialized medicine, termed “single payer” by American left-liberals.

The new labor movement would need to revive the almost abandoned educational mission, not only to discuss labor issues in the narrow range. It would address the historic role of labor in changing the social world; the new tasks of the unions regarding climate change, radical democratization of society and the labor movement itself, and the issues connected to achieving the good life. That is, it would address the failure ofcapitalism to meet social needs and what are the alternatives available for consideration. Lacking a new labor movement, the existing unions will continue to deteriorate or worse, become even more virulent opponents of social change.

Utopia

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Utopia is usually considered a dirty word. The concept has been too often been employed to justify the worst totalitarian terror and justify passivity in the face of actual political issues. Rarely is utopia understood as a regulative ideal that resists translation into practice yet remains necessary to guide any genuine attempt at liberation. It instead conjures up images of demagogues, dreamers, fanatics, apocalypse, gullibility, and – perhaps above all — what Samuel Butler, the great Victorian satirist, called "erehwon" (or "nowhere" spelled backwards). But this is only part of the story. Utopia has an anthropological appeal, especially for the lowly and the insulted, and Ernst Bloch was surely right when he noted in *Heritage of Our Times* (1935) that "man does not live by bread alone – especially when he doesn't have any." Most civilizations have their unique ideals of a heavenly or secular paradise from which, given a cosmopolitan outlook, every other civilization can learn. Utopian traces appear in the most varied forms of art, philosophy, and religion. They provide insight into what humanity might truly want—or not want – and so give substance to aspirations for liberated society.

Envisioning utopia requires boldness of the imagination coupled with a deep knowledge of the past and its cultural heritage. Older depictions (and some new ones) have a pastoral quality like the Garden of Eden, or paradise (once identified with the gardens of Persepolis built by Cyrus the Great in the Persian city of Shiraz), "the land of milk and honey," or even the heavenly gardens for-the-rich in the film *Metropolis* (1927). All such visions rest on the longing for an organic society without alienation or reification, decadence or the cultural and scientific complexity associated with modernity. Dystopian critics have criticized such utopias for ignoring the benefits of work, the enjoyment of politics, and the learning process that grows from failure. They have imagined the inhabitants of utopia as living in a quasi-drugged state, mindlessly happy, while lacking individuality and a sense of existential purpose. But such comfortable criticisms are easy to make by those who live comfortably. The wretched of the earth have always understood the liberating character of what Paul Lafargue (Marx's son-in-law) termed "the right to be lazy" and the utopian vision of a bountiful life marked by calm, health, leisure, joy, and play.

Utopia projects social justice, economic equality and radical democracy. But the "best life" is not reducible to the conquest of scarcity or institutional matters. Utopia projects a transformation with respect to what and how products are produced along with altered forms of behavior that privilege qualities like kindness and decency, charity and altruism, experimentation and tolerance, would define the interaction between people. The invocation of utopia makes us realize that what we have is not necessarily what we want and what we want is not necessarily all we can have. No system and no movement can ever fulfill the always untapped possibilities of human experience. Freedom and desire always outstrip the real.

There will always be new possibilities for expanding the enjoyment of life and new discoveries of arbitrary constraint and repression. As Bertolt Brecht noted in *Mahagonny* (1930), when it comes to utopia there is always "something missing."

Utopian ideals have traditionally had a complex and tension-ridden connection with reality. The way in which they are employed, in fact, provides deep insights into the character of radical political parties and social movements, their specificity and how they operate. In his classic *Ideology and Utopia* (1929), Karl Mannheim noted how every genuine mass movement has been fueled by utopian impulses. Even social democracy had its visions of the best life crystallized in hugely popular works like Edward Bellamy's *Looking Backward* (1888). But such utopian ideals are always tainted and entangled with the particular interests and class base of the movement in question.

A partial view of utopia is thereby substituted for a vision consonant with its multiplicity and complexity – and its critical character of the concept gets lost. Utopia thus turns into ideological slogans and forms suitable for mobilizing the masses. Only "free-floating intellectuals," according to Mannheim, can reflect upon this process and confront such ideological misrepresentations. To a certain extent that is also true given the intellectual commitment that visualizing utopia requires. Unfortunately, Mannheim's position is usually criticized for justifying the intellectual's retreat from political life and as support for disengagement. Especially in periods of crisis and intense ideological conflict, however, it also serves as a plea for liberal politics and a rational stance with respect to what are often inherently emotional appeals.

Feelings of resentment and memories of exploitation by the subaltern render utopia susceptible to manipulation by authoritarian or totalitarian movements. Some have identified it with a racially pure or religiously homogenous or ethnically cleansed society. Others have used it to justify their belief that a particular historical agent alone has the wisdom and knowledge to wield the avenging sword. This view informed the moral relativism of Lenin's vanguard party and its treatment of enemies from the standpoint of expediency, as surely as later the purges of Stalin. To put it another way, utopia has often been used to legitimate an outlook in which the end justifies the means. Without making reference to teleology or the millenarian or the messianic, however, the end is only justified by the means used to achieve it. Utopian ideals call upon political actors to develop a plausible relationship between ends and means. Slogans like "by any means necessary" are seductive but dangerous and, ultimately, ethically self-defeating. The refusal to place limits on political action and the willingness to commit any crime in the name of utopian ends was what Camus considered the "pathology" of his age.

Freedom and human dignity mark any serious rendering of utopia. Politics only sets the stage: utopian thinking necessarily privileges the individual in terms of exploring his desires, expanding his interests, and taking control over his life. So, for example, Marx never equated communism with any regime, not even the Paris Commune, but instead with the end of "pre-history" and a world where "the free development of each is the condition for the free development of all." In such a world, he believed, humanity can finally democratically

determine its fate in common, consciously and without reference to external determinants like economic interest. Perhaps even more important, however, the classless society must serve as a society in which individualism would flourish.

This vision initially influenced the Bolsheviks who, after all, gained power in 1917 under the slogan: “All Power to the Soviets!” Left-wing radicals still exhibit nostalgia for the “heroic stage” of the Russian Revolution (1918-1921) when it seemed that all things were possible: the cultural avant-garde working for the people, the abolition of money, the transformation of the nuclear family, the end of hierarchy, and international revolution intent upon creating regimes based on soviets or workers’ councils. The arbitrary exercises of power, the bloodshed, the confusion, the cruelty, and the poverty of those times vanish. Only an idealized vision remains of what are today completely anachronistic institutions such as soviets in which, as it was once put to me, “everyone will control everything” (naturally without considering the number of meetings this would entail). Many contemporary radicals are inspired only by the image of that “new man” who once seemed ready to take the stage. Trotsky crystallized this utopian communist outlook in his *Literature and Revolution* (1924) by insisting that ultimately: “Man will become immeasurably stronger, wiser, and subtler; his body will become more harmonized, his movements more rhythmic, his voice more musical. The forms of life will become dynamically dramatic. The average human type will rise to the heights of an Aristotle, a Goethe, or a Marx. And above this ridge new peaks will rise.”

Utopian experiments undertaken in the past cast a dark shadow over the seemingly pedestrian politics in the present. According to this mode of thinking, differences between existing parties and movements appear negligible. There is only mass society with its culture industry and commercialism. The drama is gone. The existing ensemble of social relations turns into a seamless whole threatening all forms of critical reflection and individuality. The “system” (not class society) is now seen as the problem and anything tainted by instrumental reason or bureaucracy is suspect. Grand narratives are considered mere manipulative props for mass movements, authoritarian parties, and overweening states. Tempering the imbalances of political and economic power is no longer the priority. Nothing associated with real politics is radical enough and, in this way, the perfect becomes an enemy of the good. Staunch belief in utopian ideals excuses indifference to building a better future. As an all or nothing proposition, therefore, utopia can justify passivity as well as fanaticism.

Employed critically, however, utopia keeps us open to what were previously unacknowledged forms of oppression – and the liberating response to them. Twentieth century modernism provides a case in point. As I argued in *Modernism at the Barricades* (2012), expressionism, futurism, surrealism and other trends comprising this international cultural phenomenon blended fervent longings for utopia and a “new man” with radical artistic experiments that really did project new ways of hearing, seeing, and portraying the world. Free verse was pitted against rhyme, montage was employed against narrative; and a tonal scale revolutionized music. Such new prospects for expanding individual experience occurred in conjunction with powerful criticisms of the authoritarian family structure and sexual denial, the treatment of youth, patriarchy, rape, homophobia, abortion and other repressive yet hidden aspects of

everyday life. Not only did cultural modernism provide utopia with substance, it served as a corrective for those seeking to identify it with a particular ideology, movement, or regime.

Utopia is inherently unfinished: the society or regime that views itself as utopian, or even firmly on the path to utopia, is dystopian by definition. That is because history does not move in linear fashion. Progress in one realm of society can occur while regression takes place in another. Extraordinary scientific breakthroughs, for example, have accompanied the rise of religious fundamentalism; cultural liberation has flourished since the 1960s while economic equality has increased. There is no uniform and prefabricated teleological process leading humanity to a happy end. Unresolved conflicts, or what Bloch termed "non-synchronous contradictions," are often carried over from one epoch to the next. Clearly, for example, racism and sexism and religious prejudices are pre-capitalist in character but play an important role in capitalist society—and, potentially beyond. Tensions exist not only between the whole and its dynamic parts but between the parts themselves. To conceptualize utopia in a serious manner thus calls for both recognizing the critical and liberating inheritance of the past –while overcoming its limitations.

Others have understood it as requiring what might be termed an anthropological break from history. In *An Essay on Liberation* (1969) and other works, for example, Herbert Marcuse saw the best life as resting upon a "new sensibility" repulsed by cruelty, exploitation, greed, and bourgeois egoism. But he also recognized that those wishing to introduce the new sensibility must already be imbued with utopian habits of mind and behavior. Calling for the mechanical translation of utopia into practice therefore misses the point; Henry Pachter put the matter bluntly (though in a slightly different context) when he noted "one cannot have socialism, one is a socialist."

Only as a regulative idea that serves as a guide for radical politics, but resists being realized, can utopia highlight the inherent tension between humanity and its works, the power of the imagination and the demands of political power. Under such circumstances, utopia can provide radicals with both modesty in terms of their undertaking and a sense of purpose. It can invigorate politics by highlighting the ever-changing content and character of liberation. Or, to put it another way, utopia must remain utopian. Only then can it help confront the always historically-limited exercise of freedom, the dogmatism deriving from a lack of imagination, and – perhaps – an insight into the way forward.

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Gentrifying Brooklyn: Two Documentaries

By | 2013: vol. 12, no. 2

There is little resemblance between the New York I grew up in, and the New York of 2013. My South Bronx neighborhood has over the decades gone through cataclysmic changes from a solid working-class area teeming with small stores and a vital street life, to a burned-out wasteland of empty lots filled with rubble and abandoned tenements whose only inhabitants were cat decals. By 2013 it has become a functioning world of generally lifeless streets filled with Section 8 rental-assisted and public housing that replaced most of the tenements, red brick walk-ups, and art deco apartment houses of my adolescence. Other parts of the city have gone through vast shifts of a different nature. We are a city, for better or worse, where flux is the norm.

I suppose no borough has gone through more changes in the last sixty years than Brooklyn. The Brooklyn of the last decade differs radically from its 30s and 40s Hollywood version, that viewed it as a place solely inhabited by kind-hearted, gum-chewing, and fast talking urban ethnic men and women played by William Bendix, James Gleason, and Thelma Ritter -"the salt of the earth"-who loved their Dodgers, and were free of pretension. That image was echoed in a rhapsodic, Whitmanesque 1939 essay by James Agee depicting a Brooklyn of ordinary people- "a profoundly docile, and stable population." His Brooklyn was a horizontal, featureless, static place that "Manhattan's mad manic energy" sucks dry and makes "provincial," at the same time he sensed that people, by living their everyday lives there created something vital and stirring. That from "the wood tenements, bare lots and broken vistas" of Williamsburg and Bushwick to the "seas of lawn" where "the sloped light is turning gold" in Prospect Park, there is a world worth paying homage to.

By the 60s and 70s Brooklyn had lost jobs and people to the suburbs and the Sunbelt, and during the 1977 blackout, rioters burned entire blocks of one Brooklyn neighborhood-Bushwick-to the ground. The city was at its nadir, and drugs, crime, and a sense of hopelessness overwhelmed Brooklyn neighborhoods like Brownsville and East New York, among others.

However, since the 90s sections of Brooklyn have been transformed-though large pockets of poverty continue to exist: some neighborhoods, despite the reduction of crime, remain dangerous, and a number of its public schools continue to fail. Brooklyn's evolution into an iconic hipster and artist haven has achieved a worldwide brand in television series, and magazine and newspaper pieces. The Brooklyn of 2013 is where the hit series about young slackers/hipsters, Girls, is shot. This Brooklyn has writers, a couple of independent bookshops, literary readings, the Brooklyn Book Festival (the largest free literary event in New York City), and of course, BAM, which is committed to cutting-edge dance, theater, and music. Obviously,

to see it as a reincarnation of the Paris of the 20s is a skewed Chamber of Commerce's view of Brooklyn, but a real "scene" does exist there and even flourishes.

But along with the artists there has been a migration to Brooklyn of the moneyed and fashionable young whose impact has much less aesthetic appeal, and who inhabit sterile luxury buildings, and have begun to turn neighborhoods like Williamsburg and Park Slope into islands of glossy homogeneity. Two recent documentaries, My Brooklyn directed by Kelley Anderson and Gut Renovation directed by avant-garde filmmaker Su Friedrich, deal respectively with the gentrification by the moneyed of Downtown Brooklyn and of Williamsburg.

The film by Anderson's (who identifies herself as a gentrifier) depicts the dramatic transformation of Downtown Brooklyn and the Fulton Street Mall, where government policies and corporate development joined to displace small businesses and longtime neighborhood residents with 40 story luxury apartment towers, office buildings and hotels. The whole feel of the area is in the process of being transformed.

For years the Mall and its environs successfully served low income, working class and minority consumers-mostly Caribbean and African-American- with discount stores, fast food restaurants, barbershops, wig and music stores, Afro-centric bookshops, and street vendors. (Fulton Mall, serving 100,000 people a day, ranked 3rd in the city in profit, behind only 5th and Madison Avenues, when redevelopment planning began in 2002.) The new version of the Fulton Mall may not contain an upscale Barney's or a Bloomingdale's, but it's now stocked with major national retailers- H&M, T.J. Maxx and Starbucks- replacing the mom-and-pops.

In interviews with community residents and storeowners, the film makes clear that their voices went unheard as the pressure of high rents and new construction mounted leading many of them to feel despair about being unceremoniously pushed out. And it was rezoning and tax breaks, not the mere workings of the free market that were used to promote development in Downtown Brooklyn. In fact, public land was used for one luxury housing and retail project, City Point, and Anderson pointedly asks: "Why are we building a private development on public land with no public benefit? Some of that benefit should go to the public."

My Brooklyn is never strident. Anderson makes her points in an even tone, and is in no way reflexively opposed to change or development. She is ably assisted by urban historian Craig S. Wilder, who comments that it "is obscene" to suggest that the city government is powerless to influence the nature and direction of change. Anderson's film charts just how the government colluded with speculative development (the city planners tend to be uncaring, complacent, and unwilling to criticize the developers) without trying to garner any significant concessions-jobs for locals, more inclusionary zoning- from the overheated real estate market.

Anderson feels that we must connect the dots between city policy and neighborhood change, and advocates challenging government officials when they come before the community. She also ends her film on an affirmative note with a brief montage of a heterogeneous group of Brooklynites expressing what they like about the borough.

Su Friedrich's Gut Renovation is an angrier more personal film. Friedrich lived in a large Williamsburg loft for 20 years before being displaced in 2009 by a deluge of rising rents and new condominiums. She made the film while her block was being demolished around her.

Williamsburg is one Brooklyn neighborhood that has gone through much flux in the post WW11 era. After WW11 refugees from Europe- the most conservative and socially isolated Hasidic sect, the Satmars-streamed into the area. Opposed to both secular culture and political Zionism, they established a large enclave in South Williamsburg that has continued to grow (now over 60,000 people). Puerto Ricans and Dominicans also began to put down roots, and some of the earlier immigrant groups, like Poles and Italians, stayed on in smaller numbers and maintained a strong communal identity linked to the Catholic Church. But with the decline of industry by the 70s, poverty, crime and illegal drugs began to dominate the area.

However, as the city became more secure and prosperous in the nineties, gentrification intensified and Williamsburg became a destination for mostly white artists like Su Friedrich, musicians, and hipsters with some family money, who were attracted to the factory lofts, the relatively cheap rents, and the ten-minute ride by subway to the East Village.

Friedrich isn't interested in the history and demographics of the area, but in the fact that her block of artist lofts and small industrial businesses has been overwhelmed by new development, and so much of what she loved about the area has been demolished. She rages against the new glass boxes, and the chic well-dressed people with their coddled designer dogs, and nannies with custom-made strollers who have moved in. Shouting out from her window: "you may think it's funny, but you're the people who are coming and ruining our neighborhood," she runs the danger of a repetitive quality to her denunciations. Some of her footage of the demolition process also can be tedious, despite being deeply felt. Still, she is a more imaginative filmmaker than Anderson-using a map of Williamsburg, Friedrich strikingly colors in the more than 100 lots where development has occurred since the rezoning. Also, her editing is jazzier, and her camera more alive.

Williamsburg became a hot commodity when much of its zoning was changed from commercial to residential in 2005. The artists were then displaced by the fashionable, moneyed young with disposable incomes, and the loft buildings were transformed into condos whose promised percentage of affordable housing turned out to be extremely limited, and beyond the reach of the community's poorest families. Friedrich does not analyze in depth what occurred or give defenders of development a voice. The film is basically a passionate screed, and I wish it were more then that.

After being pushed out of Williamsburg Su Friedrich and her partner moved to Bedford Stuyvesant, where she and people like her could be considered gentrifiers. However, gentrification in itself is not an evil, just as no one wants to rule out all development-no city can be preserved in amber. Artists moving into Bushwick lofts and raising the neighborhood's property values-all that is part of the city's natural cycle, and is a matter of individual choice. City neighborhoods have always been characterized by change, with one ethnic group

replacing another or one neighborhood rising because of an infusion of new people, money, and housing, or declining when people and capital flee, and only the most marginal are left.

But the development depicted in these two films is of another more pernicious order. There is nothing inevitable about the city's becoming Bloomberg's luxury enclave–a zone of privilege which also often exhibits little sensitivity for the preservation of the architectural past, that gives the city much of its character. All that "upzoning," and those tax breaks to developers, while only 8% of new housing is affordable, leads to a city of glitz and glamour that is an unconscionable surrender to real estate interests and a betrayal of its middle and working class. So, if taxpayer dollars, public land, and city codes are involved, it seems we should expect that open public debate should precede such interventions. It also seems reasonable that the city- in the words of Professor of Urban affairs and Planning Tom Angotti: "Demand an end to the public giveaways to developers, and recapture the value created by the city's upzonings by heavily taxing developers, and use the money to help improve the public domain throughout the city where the needs are greatest."

I share much of Angotti's vision. But because real estate is one of the prime engines of the municipal economy, it's hard to imagine that any of the Democratic candidates running in the mayoralty primary, no matter how liberal and pro-tenant they purport to be, taking the developers on. But one can always fantasize.

In the Middle of the Watershed

By | 2013: vol. 12, no. 2

I sit on a rogue boulder
high in alpine fields
reading Gary Snyder.
My mind in the Rocky Mountains,
I watch blue glaciers blanketed with toxaphene
running away from the heat.
I reflect on the silvery river,
mirror of change, below.
Turn north, eye to the swollen river-sea
mouth where floating whales blow
toxic through spouts.
O weaving licentious river,
all the dirt slides down
your logged slopes.
I face west, where trout jump through rainbows
then disappear in silent oil-drilling
mud-spill.
Eagles circle, eyeing the thirsty waters.
I turn east, ear on explosive underground
streams of West Bank water wars.
Man's globe is leaking,
there are no neutral benedictions.
O mind of filtering bones and eggs
in sunken foamy pools, I face south,
with SPF 306 sunblock on skin.
No potions for mutant three-legged frogs.
Holy dwindling rivers in this multi-mega
industrial watershed: They're opening up
the country while closing down our ancient minds.
Look: We are the frogs, the whales, the eagles—
we claim spawnage from ice age flows.
We are the Nobel Laureate trout,
taking the river to an unmade bed.

Vivian Demuth's *newest poetry book is* ***Fire Watcher*** *(Guernica Editions, 2013), in which this poem originally appeared. She is also the author of a novel, Eyes of the Forest, and a previous poetry chapbook, Breathing Nose Mountain. Her work has appeared in journals and anthologies in Canada, the U.S., Europe, and Mexico. She works summers as a fire lookout in*

the Rocky Mountains, where she has hosted an annual Poetry on the Peaks event. In recent winters, she has taught creative writing and worked in a homeless outreach center in New York City.

The Moon

By | 2013: vol. 12, no. 2

The water. Only the flashed water. The water in the river.
Nothing but the flowing water, not even
(shore) or (overhanging branches), just the water in
& of the river. The water moves from Hiroshima
but stays, grayblue, browngreen, the infinite divisi-
bilities of yellows & cherry reds all suffused
with shadow, the murmuring movement of the water.
But since we need this, & since it is there & not there,
we allow the presence of moon in river—see
how it stays as the water leaves Hiroshima but remains.
We remember what the moon was, before we walked on it.
Some say a Christ can walk on water,
but this river's water cannot bear the weight of such
a divine personage, even the Buddha's dilemma
is how not to drown in it as he sips moon from that water.

William Heyen *is the author of 22 books of poetry, including* ***Hiroshima Suite*** *(2012), in which "The Moon" was originally published. Heyen's book, Shoah Train, was a finalist for the National Book Award in 2004, and his Crazy Horse in Stillness won the Small Press Book Award in 1997. His other poetry titles include Erika: Poems of the Holocaust, Pterodactyl Rose: Poems of Ecology, and Ribbons: The Gulf War. Heyen has also published six books of prose, and edited five anthologies of poetry, including* ***September 11, 2001: American Writers Respond****. His journals, among the most extensive in our literature, are being published by H_NGM_N BKS, with the second volume, Hannelore, recently released.*

On Talking to a Crowd Always Ready to Deflate Large Balloons

By | 2013: vol. 12, no. 2

Tell me about the difference between Washington and Moscow.
I want to know how girls open their mouths to speak over there.

How their skirts swoosh in the deadening zephyrs of October and
starlight
glints through chicken-wire fences, interlocking around the crumbling
schoolhouses

and the new handsome billboards. Tell me about your cathedrals and
idle priests
bellowing the smoke of a crashed zeppelin, the motorcade at 5 am

assassinating no one in particular. I've heard about the boyhood of the
timberlands,
the stall-keepers staring at passersby in the navel of your matronly
cities,

making the wrong change, and the delivery boys who ride their bicycles
in perfect circles. Park Avenue undulates in the toothless mouth

of our dear Cassandra, sitting on the banks of the Volga; she's not the
same
since the good war. Sometimes even the best magicians fall for their
own tricks;

wouldn't you say? The radio program forecasts the non-being that we
ourselves
put away every morning with an expression of inadvertent profundity,

as in a photograph of a smiling clerk whose bones will later be found in
the snow
under a glittering spruce, not too far from where our children sit in
Fords

and kiss each other to death. Their fathers, men of the malls, have been
fighting
at the Arques for centuries. Here they come now—as giddy as children

stepping off a carousel.

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First Idyll: Old is This Rushing of Rain

By | 2013: vol. 12, no. 2

Old is this rushing of rain down the bush branches,
the droning of grouse in the red dawn of summer –
old is this our talking:

of the yellow fields of barley and oat,
the herdsmen fires in the wet, windy loneliness of autumn,
of potato digging time,
and of the sultry heat of summer,
the white glare of winter, the din of sleighs on endless roads.
And about the heavy timber wagons, the boulders in the
fallow,
about the red clay ovens and limestone in the fields;
and then by lamplight in the evenings, in the autumn fields;
of grey –
about the wagonloads for tomorrow's market,
about the flooded and washed-out October roads,
and the wet potato digs.

Old is this our living here − many generations
walked these fields and left imprints,
each foot of ground still speaks and breathes of forefathers.
From the same cool stone walls
they watered returning broad herds,
and when the earthen floors hollowed in the rooms
and the walls in the house started slowly to crumble −
from the same pits they dug yellow clay,
golden sand − from the same fields.
And when we too are gone,
others will sit on the blue stones on the edge of the field,
will mow the overgrown floodplains and plow the slopes;
and when, back from work, they sit at the tables −
each table will speak, each clay pitcher,
each log in the wall;
they will remember wide yellow sand pits
and rye fields billowing in the wind,
the sad songs of our women in flax fields,
and that smell, the first time in a new house! −
the smell of fresh moss.

Oh, old is the flowering of clover,
the snorting of hoses in a summer's night −
and the rustling sound of rollers, harrows and plows,
the heavy rumbling of millstones,
the white glimmer of the scarves of women weeding gardens −
old is this rushing of rain down the bush branches,
the droning of grouse in the red dawn of summer −
old is this our talking.

Jonas Mekas *was recently elected to the American Academy of Arts and Sciences for his work in cinema. In his native Lithuania, he is best known for his poetry. This poem is the first of his classic twenty-six poem cycle,* Idylls of Semeniskiai*, which was first published in Lithuanian in 1948. This English translation was produced by Mekas' brother, the filmmaker Adolfas Mekas, for* Hallelujah Editions*. A German bi-lingual edition has just been released by* Matto Verlag *under the title* Alt ist dieses, unser Sprechen*.*

For more information on Mekas, visit his website: www.jonasmekasfilms.com.

Vietnam: Flashing Back and Forward

By | 2013: vol. 12, no. 2

Books reviewed in this essay:

Jack McLean, *Loon: A Marine Story* (Ballantine Books, 2009)

Karl Marlantes, *Matterhorn: A Novel of the Vietnam War* (Atlantic Monthly Press, 2011)

Karl Marlantes, *What It Is Like to Go to War* (Atlantic Monthly Press, 2012)

Mourn for the Marines. Had our country only learned from "Mad Jack" Percival's Vietnam strategy many a good marine who died a century later would instead have lived. Few Americans know that our nation's first campaign in Vietnam occurred in 1845, and ended without bloodshed and with precious little international attention. The context of the incident was the celebratory world cruise of the U.S.S. Constitution, "Old Ironsides" [1]. The ostensible mission of the world cruise was to signify America's commitment to freedom of the sea – especially for well-armed American frigates.

Old Ironsides was commanded by Captain John Percival, nicknamed for his "impetuous behavior" as "Mad Jack" (Martin, 2012). Percival was a veteran of two major War of 1812 victories and reputedly was well loved by his crews. Two U.S. Destroyers subsequently were named after him. Arriving in Tourane Bay (now, Da Nang) in the emirate of Cochin, Mad Jack's request for a shore visit and replenishment of ship's stores were graciously granted by the Cochin emperor. The emperor's representative, accompanied by imperial troops, even held a formal "tea" honoring the Americans at Tourane. At the tea, however, a note was smuggled to Mad Jack from a mysterious French missionary, self-reportedly a hostage of the emperor [2].

Eschewing diplomatic options for sussing out the fate of the missionary, a fellow "Christian in need" in Mad Jack's mind, he suddenly took decisive military action against his hosts. Captain Percival reinforced his ship's contingent of thirty marines with twenty of his most reliable sailors and led a gallant landing party to rescue the alleged captive. But the disappointed shore party found no soldiers and only a few village officials, who were seized as counter-hostages. To Mad Jack's frustration, the emperor ignored all his threats. From the shelter of his ship on Tourane Bay, two weeks later Mad Jack led Marines ashore to again find no one home. The lush tropical land that opened itself with a warm welcome had closed itself and now ignored the mightiest threat America had to offer. Utterly exasperated, Mad Jack lifted anchor and continued his international tour.

Mad Jack's adventure is often cited as prefiguring on a smaller scale the landing of Marines on

8 March1965, that marked the official commitment of U.S. combat troops in the Vietnam War [3]. Only no Marines died in Mad Jack's misadventure. Had there been instantaneous international communication, and a larger U.S. Navy, the result likely would have been a "Gulf of Tourane" Resolution and far greater investment of military resources. Had U.S. forces in 1965, as did Captain "Mad" Jack, realized the futility of trying to bend this Asian territory to their will with their, to say the least, limited military finesse, the enormous sufferings of the Marines in the three books reviewed here could have been entirely avoided.

The first "abandon all hope" inklings I had regarding Vietnam came via the first Marine combat veteran I encountered. I was a seventeen-year-old white boy hitchhiking on a hot, muggy day to junior college on Highway 90 near Pascagoula, Mississippi. For whatever reason this African-American Southerner picked me up for the most memorable ride I had in two years hitchhiking that stretch. Our discussion ranged from Dr. Martin Luther King, Jr., to the war in Vietnam. Dr. King for me was a heroic figure, but I was ambivalent about his statements that the U.S. should withdraw from Vietnam. Betraying little emotion, the driver said that Dr. King was correct, and that it was U.S. policy that needed changing. Only at that point did the driver (upon whom I desperately depended for the ride) reveal that he waded ashore at Da Nang with the 3rd battalion of the 9th Brigade of the U.S. Marines the previous year. In very unappealing terms, he described breaking his leg during the landing, and his subsequent discharge. He told me that I needed to learn more about Vietnam. For me, now a very serious student of Vietnam, the two Marlantes books and McLean's memoir illustrate everything that the Highway 90 Marine, in a few well-chosen words, tried to warn me about.

Karl Marlantes' *What It Is Like to Go to War* is a deeply personal account of dealing with his harrowing time as a Marine Corps officer in Vietnam. *Matterhorn* is his novel about taking a hillside in 1968 in I (pronounced eye) Corps, the northernmost military quadrant of South Vietnam. *Loon* is a memoir of one Marine enlisted man helping to defend a similar location in I Corps in 1968. Marlantes says he wrote *What It Is Like to Go to War* "to come to terms with my own experience of combat." But he writes for "other combat veterans" or "young people contemplating joining the military or who are about to enter combat themselves." Marlantes aims to wise up the uninitiated with a rigorous examination of the impact of military service and war on soldiers. Marlantes also hopes his work will serve as a "psychological and spiritual prophylactic" for those with service-connected Post Traumatic Stress Disorder, and coping with other disjunctions between combat and life after combat.

Due to the Marines' inordinate sacrifices in the name of this country, they deserve a better and more honest public hearing. Marines often reach out, but they know the sound of a socially forced silence. So whenever I hear a fellow veteran speak, I listen. Marlantes believes that in our society, "All conscientious citizens and especially those with the power to make policy will be better prepared to make decisions about committing young people to combat if they know what they are about to ask of them." The more aware citizens and our leaders are the more likely are we to diminish the occasions, and suffering, of war. The misery and the acute violence pervading *Loon* and *Matterhorn* are intense even for someone such as I who experienced other grim aspects of the Vietnam War. I am especially glad to review these books

together. Without McLean's non-fiction account, Marlantes' fiction might be just too wrenching for some readers to believe. I unhesitatingly and highly recommend all three of these books.

When I was just finishing *Loon*, I came across a review of *Matterhorn*. From the review I reckoned the books had to be a fictional and a non-fictional account of the same battle. I soon learned my error. Two different authors. Two different hilltops in I Corps. Same year. Same kind of battle. In each case, Marine units were placed between the Ho Chi Minh Trail in Laos and contested agricultural areas of Vietnam. In both cases, the National Liberation Front and North Vietnamese Army invested massive resources to kill those marines[3]. In *Loon* Jack McLean, who graduated from Harvard after returning from Vietnam, delves into his experiences as an enlisted marine. Currently a "Writer in Residence" at Fort Lee, New Jersey, Mclean writes in a concise crisp style worthy of the most savvy journalist. Most of *Loon* is told in fairly chronological order. Where Loon is a well-crafted memoir *Matterhorn* is a novel written from the multiple perspectives of Lieutenants Mellas and Hawke and other members of Bravo Company, 5th Marines Battalion. The newbie Mellas and the thinly experienced Hawke are each an appealing mix of the innocence and ignorance that defines most junior military officers. The statuses of the lieutenants reflects the condition in Vietnam where clusters of people with the same rank could end up in the same spot but with different responsibilities and authority. Competition for leadership roles, and the shortage of leadership personnel, is an ongoing concern in Matterhorn as it really was in Vietnam.

The omniscient perspective of the storyteller and the telling of the story from the views of different characters, especially when placed starkly beside a more linear non-fictional work such as *Loon*, can be less than gripping. For me, Loon therefore was the more enjoyable reading experience, but I confess it is merely a matter of stylistic preference. Both writers are extremely adept at laying out stories and skillfully letting the reader pick up the point. In *What It's Like to Go to War*, Marlantes describes Zoomer, a wounded squad member, who through a long lonely night hovers between rescue and death while waiting for a medevac. Side by side with Zoomer's plight Marlantes recalls his own boyhood in Oregon when he and his grandfather arduously hauled a seven-foot sturgeon into their fishing boat. The reader can't help but get Marlantes' comparison of a man's and a fish's struggles for the next breath.

McLean in his Foreword spans the distance between Vietnam and what vets called "the real world" back home by citing events in the U.S. when the grisly battle for Landing Zone Loon was waged. Again, military and civilian events are laid side by side and the common thread is unmistakable. Song lyrics by Lou Reed and John Cale, for example, describe the attempted assassination of Andy Warhol. At the same time that Warhol was shot, uptown at Columbia University a commencement speaker decries the role of violence in America. The speaker singled out the prolonged war in Vietnam as damaging profoundly the social fabric of American life. Ironically, he addresses a crowd depleted by graduates who already had walked out in protest of the war. The incident that most anchors us to the moment of the battle for Loon is the assassination of Senator Robert Kennedy. While Kennedy lay mortally wounded on a hotel kitchen floor, the first Marines were embarking to a nondescript patch of jungle where many of

them would likewise lie bleeding and dying.

I have written elsewhere that race was always a thematic feature in Vietnam. At the time Dr. King made his controversial case against Vietnam, African-Americans comprised ten percent of U.S. forces in Vietnam and took twenty percent of U.S. combat fatalities. Over time, perhaps as a result of Dr. King's intervention or simply as a collective response to inequity, African-Americans made themselves, by a range of behaviors, less likely targets. By the conclusion of the war, African-Americans had stabilized the differential fatality ratio, producing a final statistic that is used by apologists for the war to refute charges of discrimination by race in casualties.

On 4 April 1968 Dr. Martin Luther King, Jr. was assassinated. McLean notes, "That morning, I became aware of a thin line that began to divide the black marines from the rest of us—nothing that ever manifested itself in combat, but a "something" that began to appear in a thousand little ways in our day-to-day lives. (p. 129)" McLean acknowledges the central role that race relations play in Vietnam. In Matterhorn race is a sinister omnipresent protagonist. For white NCOs white marines have medical problems while black marines are malingers. At one point in Matterhorn a genuinely ill black marine plots the death of a hostile white NCO. While race is pivotal in the ultimate tragedy here, Matterhorn could have been a stronger novel without Marlantes' focus on black market activity, drug-trafficking, and militancy among black marines. Let's face it. A young infantry lieutenant is going to have limited exposure to what black soldiers are thinking or doing.

In Vietnam racism against African-American soldiers was always perversely 'balanced' by racism against Vietnamese – soldiers and civilians, ally and enemy. Marlantes labels the process that makes it easier to kill and harm Vietnamese as pseudospeciation. In pseudospeciation, we create a false species that is innately different from our human species. Vietnamese became "gooks," "zips," or "dinks." By disassociating the Vietnamese from the human species, we are exempted from observing moral codes. Even the American public and especially American policy makers, became practitioners and purveyors of pseudospeciation. Disassociation enabled moral sanctioning of indiscriminate napalming, bombing, and free fire zones. Marlantes fingers pseudospeciation as one aspect of warfare that must change if we are to make the conduct of war one that does not inherently corrupt and corrode the souls of all combatants.

In Marlantes' list of odious phenomena is "lying" to which he devotes an entire chapter in What It's Like. Vietnam (p. 114) "will be infamous for the way those who perpetrated it lied to those who fought and paid for it." This systemic dishonesty in waging war is rooted in the wider lack of "meaning" or purpose that characterized the war. "Lack of overarching meaning encourages making things up, lying to fill up the gap in meaning." In Vietnam, there is no better example of lying than kill ratios and body count. Early on, in Matterhorn, we witness the body count "game" as each layer of the chain of command fudges upward the lies (body count) of the previous layer. When there is a justifiable purpose attributed to why a war is waged, combat outcomes can be stated in a meaningful way as progress toward the goal. When there

is no meaning, an artificial construct such as body count becomes a horrid substitute.

It's not that body counts were entirely fictitious. McLean (p. 124) describes a life-jarring morning at the village of Cam Lo where he saw "dozens upon dozens of dead bodies stacked as high as they could be thrown." The body count was 160 and before him lay the evidence, a ghastly vision that would stay with him for life. Some lies were more insidious than even the body counts. McLean (p. 121) remembers his first exposure to Agent Orange, a defoliant dismissed by authorities as harmless to people. Most soldiers had no immediate reaction but a few did develop rashes and discomforts. Years later – later than McLean could have imagined as a young soldier – dioxin, the basic ingredient in Agent Orange, would generate heart disease, diabetes, and a host of cancerous tumors, in a new or renewed slaughter.

I have spoken with many marines about Vietnam but no one has added to my understanding of the works of Marlantes and McLean more than Robert Byrne. When another marine friend Robert Reeve heard that I was reviewing Matterhorn, he introduced me to Byrne, an enlisted member in Marlantes' company. Byrne generously shared photos and his wealth of information with me [4]. Byrnes' respect for Marlantes is steadfast. He recalls that Marlantes' status as a Rhodes Scholar was a mark of pride for his unit. I also learned from Byrne that honchos in the Marines are well aware of the work of Marlantes and McLean. In March 2013, a re-union of Marlantes' company was held at Parris Island. That a brigadier general attended the reunion suggests that Marlantes' testimony about military service is having some impact among Marine Corps leadership. I was pleased to learn that a special guest was Jack McLean.

There are still many for whom the lesson has not been learned. Take note of the use of Marines in Afghanistan. In spring 2010 the last Marine was removed from "Korangal Outpost" way out in an isolated area of Afghanistan. The Americans who fought there christened the bleak setting the "Valley of Death" (Rubin, 2010). After its closing, some officials suggested that the outpost strategy had perhaps been a mistake. The justification for pursuing this strategy was that the toll of marine casualties was outweighed by Taliban losses, and the marine entrenchments supposedly blocked the flow of fighters and supplies from neighboring Pakistan. Really? Mourn for the Marines. Had our country learned anything at all from "Mad Jack" Percival's Vietnam escapade, many a good Marine who died would have lived. Mourn for the Marines.

Notes

[1] "Old Ironsides," the oldest warship in the U.S. Navy, narrowly escaped being de-commissioned in 1831. The U.S.S. Constitution "Old Ironsides" was one of the success stories of the un-storied War of 1812. She served as flagship of the U.S. fleet in the war against the Barbary pirates from 1803 to 1805. The reference to the "shores of Tripoli" in the Marine Corps Hymn refers to Marine actions in the first Barbary War. The Constitution's nickname is

attributed to a battle with the British frigate Guerrierre in 1812 where a seaman noting the strength of the Constitution's hull in repelling enemy shot referred to the ship's sides of iron. The nickname was in common use by 1813 by the press and in naval reports. Oliver Wendell Holmes memorialized "Old Ironsides" in verse in 1831. The poem is often cited as an example of journalism influencing public policy. In 1835 a re-fitting of the ship was completed. Old Ironsides is now on display in Charlestown Naval Yard in Boston Harbor. See Martin, Tyrone G., Commander, U. S. Navy (Ret.), *"Old Ironsides" in Vietnam*, U.S.S. Constitution Museum 2012.

[2] Stanley Karnow in his *Vietnam: A History* (New York: Viking Press, 1983), pp. 69-70 identifies the French missionary as Dominique Lefebvre. Father Lefebvre was a self-appointed agent of French colonization of Indochina. Sentenced to death at least twice and spared each time by the emperor. According to Karnow, Lefebvre's continued political intrigues finally led to France's first attack on Vietnam and France's adding Vietnam to its empire.

[3] The amphibious part of the landing is described by participants. See Philip Caputo, *A Rumor of War* (New York: Henry Holt and Company,1999) and historians (Karnow, 1983) as involving classes of Vietnamese schoolgirls giving flowers to arriving marines. Most of the marines were flown into Da Nang that day.

[4] When I was looking through Byrne's photographs, I immediately asked him to identify one marine. In Chapter 1 of *Matterhorn*, the navy corpsman is struggling to save the life of a marine in whose urethra a leech had attached itself. I needed to see that guy alive for my own peace of mind.

[5] Bing West's *The Wrong War: Grit, Strategy, and the Way Out of Afghanistan* (2011, New York: Random House) begins at the outpost at Korangal for his critique of U.S. missteps in the war in Afghanistan.

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The Life and Times of the Underground Press

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Books reviewed in this essay:

Insider Histories of the Vietnam Era Underground Press (*Voices From the Underground)*, edited by Ken Wachsberger

Smoking Typewriters: The Sixties Underground Press and the Rise of Alternative Media In America, by John McMillian.

On the Ground: An Illustrated Anecdotal History of the Sixties Underground Press in the U.S., edited by Sean Stewart.

Gay Press, Gay Power: The Growth of LBGT Community Newspapers in America, edited by Tracy Baim.

My Odyssey through the Underground Press (Voices From the Underground by Michael "Mica" Kindman.

Also discussed:

Famous Long Ago: My Life and Hard Times with Liberation News Service, by Raymond Mungo.

The Movement Toward a New America: The Beginnings of a Long Revolution, edited by Mitchell Goodman.

The Paper Revolutionaries, by Lawrence Leamer.

A Trumpet to Arms: Alternative Media in America, by David Armstrong.

Unamerican Activities: The Campaign Against the Underground Press, by Geoffrey Rips.

The Dissident Press: Alternative Journalism in American History, by Lauren Kessler.

Uncovering the Sixties: The Life and Times of the Underground Press, by Abe Peck.

What's the continuing lure of a genre—the underground press—that essentially folded its paisley tent 40 years ago, after just seven years at the barricades? Was it that these often-scruffy, occasionally lovely papers—a handful in the mid-'60s, hundreds by 1970, largely done by 1973—fed and reflected a multifaceted surge, from building a counterculture to opposing the Vietnam War to preferring Black Panthers over the police? Were their staffs journalistic Davids, or part of a collective Goliath, a movement of millions stretching from the inner cities to furry-freak zones to the Third World? And was it about not only political power, but something that a visionary yet cantankerous progenitor, Jack Kerouac, described:

…the only people for me are the mad ones, the ones who are mad to live, mad to talk, mad to be saved, desirous of everything at the same time, the ones who never yawn or say a commonplace thing, but burn, burn, burn like fabulous yellow roman candles exploding like spiders across the stars."[1]

The current "third wave" of underground press books includes a selective and two participant histories, newer volumes of an ongoing anthology and a comprehensive look at a medium—the gay press—that has slender roots within underground media. All these works are solid, and one bares its soul. (Three books on the outside-the-lines design of papers from the shamanistic *San Francisco* Oracle to New York's gritty *Rat* will be covered in Part II of this essay.)

THE FIRST WAVE

To better understand the new works, we need to explore those that came before. By 1970, several books had gestated that endure today. Each took a different approach.

Famous Long Ago: My Life and Hard Times with Liberation News Service[2] remains the best known of several memoirs to arise from LNS. In it, Ray Mungo described how a small circle of friends came together to found an organization that sent packets containing reports from the barricades, analysis and reprints to hundreds of papers around the country. Mungo and his hipster compadres removed LNS to a Massachusetts farm rather than have it taken over by "politicos," then concentrated on living communally after their version faded. *Famous Long Ago* was conversational and evocative, opinionated yet open (except on the subject of some key players' gayness, since they were not yet out). Mungo bore witness to a journey many others were taking.

Next up was *The Movement Toward a New America: The Beginnings of a Long Revolution*.[3] Helmed by protest veteran Mitchell Goodman, more than 700 pages of articles, cartoons and illustrations from underground newspapers and radical magazines became a *Whole Earth Catalog*-style organizing tool, tying together topics from university protest to the emerging sexual-liberation movements. When it appeared, I thought from my perch as the editor of the *Chicago Seed* undergrounder that it was a bit static; in retrospect it's a valuable compendium.[4]

Lawrence Leamer's *The Paper Revolutionaries* completed this trilogy.[5] This compact, sympathetic roundup traced the papers' roots in earlier generations' radicalism, described a surge that put hippie or radical papers in 500 or so towns and campuses, and noted mainstream reaction that labeled them as unpatriotic or obscene. Leamer, a trained "straight" journalist (he would chronicle the Kennedy and Reagan families) conducted many on-site interviews of those who saw no line between activism and journalism—I for one would like to take back some of my authentic hippie gibberish. Notably, Leamer nailed the tension between communal "heads" and more organizational "fists" that would bedevil LNS and the 1968 Democratic Convention protests before those who'd stayed in the game began to bridge it circa 1969.[6]

Other books touched on time served in the underground press. Richard Neville, editor of the irreverent and oft-busted Australian-English *Oz,* explored the "international underground" in his jovial *Play Power*.[7] Movement heavies turned radical feminists described how they and others had seized the male-dominated *Rat* in a revolution within the revolution. But in 1973, at its annual convention, the Underground Press Syndicate (UPS)—a loose alliance and story exchange among the papers—changed its name to the Alternative Press Syndicate (a group opposed to this realistic revanchism called itself OFUP—The Old Farts of the Underground Press). Withdrawal from Vietnam and the birth of the gender and environmental movements were in the mix, but multiple and extreme strategies, a dance between government repression and Movement violence, the sheer intensity of life around the light table and a declining advertising base had sapped the papers' strength and burned out many of its participants. Less than a decade after the *Los Angeles Free Press* had started up as an insert for the Renaissance Pleasure Faire only to grow into a 100,000-circulation weekly, most papers were gone, shells or becoming less radical even as their readerships wanted a real bed and a second pair of jeans.

THE SECOND WAVE

Appearing 10 to 20 years "after the revolution," a cluster of books offered a consensus narrative: "rise and fall yet at least some missions accomplished."

In 1981's *A Trumpet to Arms: Alternative Media in America*,[8] David Armstrong noted dissident forebears such as Tom Paine. But Armstrong focused on '60s media and their 1970s replacements, which were alternative to both daily and underground newspapers. These less-radical weeklies made story choices free of both mainstream conventions and Movement orthodoxies. They also were infinitely more prone to, as one of Armstrong's chapter headings put it, offer "Ten Great Places to Find Croissants After Midnight[9] rather than, say "Ten Ways to Smash the State."

That same year, Geoffrey Rips produced *Unamerican Activities: The Campaign Against the Underground Press*.[10] A series of essays probed harassment by multiple governmental organizations. While a little repression had been invigorating, the techniques captured in this PEN American Center Report ranged from seizure of papers to leaning on advertisers, printers and landlords. A bogus LNS packet exacerbated that organization's split, and the FBI even

published a faux underground paper to siphon off campus energy.

In 1984, Lauren Kessler, a University of Oregon professor, offered *The Dissident Press: Alternative Journalism in American History.**[11]*** In a small book, Kessler linked black, feminist, utopian, foreign language and war-resister papers into a collective counter-voice against media that had labeled blacks as chattel, women as subservient and non-native born peoples as suspicious. (A similar approach seems to have fueled a 2001 book I've just learned about: *Voices of Revolution: The Dissident Press in America*, by Rodger Streitmatter, a newspaper reporter turned professor at American University.)[12]

My own *Uncovering the Sixties: The Life and Times of the Underground Press*[13] appeared in 1985 and was reissued in 1991. Now a professor at Northwestern, I attempted a full reprise of the "underground decade." A hundred interviews and my experience as editor of the *Seed* attempted to address an admonition from veteran *Village Voice* and gay-press writer Arthur Bell: "Make it wet." I endorsed multiple memes. The papers had empowered a multi-pronged Movement. New constituencies—women, gays, anti-colonialists—had risen up. But as politics calcified or kamikazed before a seemingly unending war and unrealized utopias, the papers often became what *The East Village Other*'s Lennox Raphael labeled as "too dull, flatirons of defense."[14] I exited *The Seed* after endorsing violent acts that I myself would not commit; the book's "Where Are They Now" afterword let readers rate who'd stayed the course or sold out.[15]

A TRANSITION AND A CHAMPION

In 1993, Ken Wachsberger assumed the mantle of indefatigable underground-press chronicler. A veteran of various papers, he complied the hefty Volume One of what was then called *Voices From the Underground: Insider Histories of the Vietnam Era Underground Press*, which contained 26 essays by participants and observers. *Volume 2* was *A Directory of Resources & Sources on the Vietnam Era Underground Press*.[16]

Wachsberger widened the bandwidth with commentaries on small-town, military, black, feminist and prison papers. John Woodford traced an arc that took him from *Ebony*, the largest African-American mainstream magazine, to *Muhammad Speaks*, the Black Muslim outreach paper. *The Guardian*—portrayed by hipsters as older, stodgier, here challenged both the war and Movement excess. *Freedom of the Press* was one of the hundreds of GI underground papers that blasted the racism and class base undergirding the war. Boston's *Fag Rag* spoke for an emerging Gay Liberation Front.

Wachsberger reissued *Voices* in 2011 and 2012 through Michigan State University, dividing the main volume into two handier books and flipping the name to become *Insider Histories of*

the Vietnam Era Underground Press (Voices From the Underground). In the foreword to the new "Part 2," feminist stalwart Susan Brownmiller (*Against Our Will: Men, Women, and Rape*) declared why women had felt compelled to defy the male hegemony that marked nearly all the papers.[20] Marcos Moulitsas, founder of the activist online site *Daily Kos*, cited a continuing need to challenge "an arrogant, unaccountable, and irresponsible mass media" (as opposed to "the fierce and adversarial alternative press of the Vietnam and civil rights era" that had challenged an even more hidebound press)[21] The passage of time allowed Moulitsas to make a connection only dreamed about when acid-inspired *East Village Other* staffers proclaimed an Intergalactic World Brain—the Internet. "The online political communities of today,' Moulitsas continued, "are seeded with these same participants from an earlier era, trained to question authority, demand accountability, and insist on the validity of ordinary people taking charge of their own civic destinies."[22]These aspirations could support or clash with each other, and at least one contributor noted bending the truth to stick it to The Man.[17] Yet there was a unifying purpose. The radical-lesbian-feminist *Furies* sought "to build a movement which makes all people free."[18] At Houston's *Space City* "all shared the same passion for social justice and, above all, human freedom."[19]

Nearly all of *Voices*' original contributors updated their work. Some were wistful, none recanted and many drew links to the present. Jack Smith of *The Guardian* visited a thriving Ho Chi Minh City in 2005 and received

A medal for being the editor of a paper that supported their cause. It was the second gift I received from Vietnam. The first was the privilege of being able to join with them, even from halfway around the world, in the long struggle for the liberation of South Vietnam and the unification of the country.[23]

As time passed, new coverage areas emerged as archives were mined. *Protest and Survive: Underground GI Newspapers during the Vietnam War**[24]* arrived from James Lewes in 2003, and the anthology *The Black Panther: Intercommunal News Service 1967-1980,**[25]* edited by former Panther chief of staff David Hilliard, appeared in 2007. Ken Wachsberger remained in the mix, co-editing 2012's *Stop the Presses! I Want to Get Off! A Brief History of the Prisoners' Digest International**[26]* with the author, Leavenworth alum Joe Grant. As we'll see, Wachsberger had a remaining ace up his publishing sleeve.

2011: Overview and Oral History

Smoking Typewriters: The Sixties Underground Press and the Rise of Alternative Media in America,[27] is the latest sixties-themed book from John McMillian, who is now a professor at Georgia State University. This 2011 work retained traces of "dissertation-ese," but I wished I'd matched its portraits of the underground press' founding fathers (all men) as they morphed from straight lives into radical press-hood. There was the "half-Marxist, half-hippie"[28] Art Kunkin of *The Los Angeles Free Press*, the most widely circulated underground paper. Rather than sign a loyalty oath, the bored National Merit Scholar Michael Kindman would found East Lansing, Michigan's *The Paper*, which would expose Michigan State

University's collaboration with the war effort. Back-in-the-day photos showed other paper revolutionaries in action.

Though perhaps over-crediting the organization's role, McMillian noted how many members of Students for A Democratic Society—the '60s' largest Left student group—influenced the underground press. In the case of Austin's *Rag*, this involved a participatory Prairie Power approach that manifested in a collectively run paper.

McMillian chose two episodes to illustrate insights and excesses. Promulgating smoking bananas to get high was seen as evidence of subverting mainstream drug paranoia and mixing local and national trends in its pages. McMillian also used the hoax to discuss how "the expressive, aesthetic radicalism of the hippies meshed with the strategic, political activism characteristic of the New Left."[29] Wisely, McMillian also notes how it reflected reader gullibility—all I ever got was a headache.

Still, the banana episode seems a fragile linchpin. And though McMillian illuminated the dance between "politico" and "hippie" protest, he used "New Left…maximally, to describe the whole constellation of predominantly white, nonconformist, college-aged youths of the 1960s who rebelled against American racism, imperialism and bourgeois social relations"[30] That choice would have been questioned in the offices of *The Seed*, the *East Village Other* and similar "flower papers," even after they declared themselves to be politically revolutionary.

McMillian reinforced the papers' shared ties by nicely detailing the overlapping histories of UPS and LNS. Headed by a mysterious Man In Black, Thomas King Forcade, UPS facilitated an anti-copyright policy that lives today in organizations like Creative Commons; a UPS contract with Bell & Howell created microfilm collections that contemporary historians still access. McMillian also discussed something UPS tried to stave off—prosecution of the papers.

McMillian noted the strengths of LNS' coverage while fairly recounting the struggle between its high-wire creators and more anti-imperial Leftists who desired less anarchy and more participatory democracy. At the same time, his account of the tussle demonstrated how the sheer velocity propelling handfuls of young journalists of varying ability could exhaust even the most committed souls.[31]

*On The Ground: An Illustrated Anecdotal History of the Sixties Underground Press in the U.S.,**[32]* embraced the oral-history recollections of numerous participants. Editor Sean Stewart, a native Jamaican who'd curated a 2009 underground press exhibit in the San Francisco bookstore/gallery he then owned, produced what his publisher said was "neither meant to be an official nor comprehensive history."[33] Stewart wanted to remain "faithful to the established historical narrative." But, as he said, "my focus is strictly on the atmospherics—trying to get a handle on what things were like day-to-day in the underground press."[34]

Stewart does succeed in re-animating the ethos of the underground press experience. A nice editing job distributed reminiscences by rough chronology and key topics: “participants or reporters,” design, distribution, sectarianism, repression, burnout and legacy. Interviewees accentuated the positive; few were disillusioned. There was nostalgia, and PG-13 eliding of coups and correctness—but also a sense of accomplishment and a continuing feistiness about having confronted war-makers and bigots. Here’s Thorne Dreyer of the Texas papers *Rag* and *Space City*—still an activist—summing up in Stewart’s “Legacy” section.

Everybody all felt like they were changing the world…There were phenomenal changes happening. We were also delusional in lots of ways. We saw revolution—a total revolution—and our goals were so large that anything that happened would have fallen short…

We created institutions that were reflective of what we believed…and the underground press was the most significant of those.[35]

On The Ground’s liveliness is reinforced by perhaps 100 covers, comix, illustrations and photos. As Jonah Raskin, a biographer of ‘60s Yippie activist Abbie Hoffman, has noted, these illustrations could be at once dynamic, sexist and violent. But, Raskin added, Stewart’s array “comes closer than [McMillian’s and Wachsberger’s books] to the spirit of the in-your-face underground papers.”[36]

2012: Chroniciling a Parallel Press

By 1970, the revolutions were coming so hot and heavy that a single issue of *The Seed* offered a joint Native American and Gay Liberation supplement. Some staffers were polymorphous perverse, but most gay staffers remained closeted.

Soon papers like *Gay Sunshine*, *Lesbian Tide, Killer Dyke* and *Come Out!* arose—themselves descendants of semi-stealth ‘50s magazines such as the gay *Mattachine Review* and the lesbian *The Ladder*. Moving at the speed of the stuff thrown at the cops when they’d raided New York’s Stonewall Inn—1969’s rebellion-debut of the modern gay liberation movement—they deployed the underground model of volunteers and seat-of-pants funding to cover the news and ask key questions. Cooperate with the larger political revolution or go one’s same-sex way? Unite gays and lesbians or recognize divisions by sex, race and ideology? And, more simply, where was the next meeting, the next party?

Gay and lesbian papers fought for their readers’ own survival in the Age of AIDS. As signs of acceptance in the larger society presented themselves, coverage ranged from celebrations of sexuality to working with the cops to avoid gay bashing.

On the book front, San Francisco’s *Gay Sunshine* was anthologized in 1991 and 1993.[37] In 1995, Rodger Streitmatter produced *Unspeakable: The Rise of the Gay and Lesbian Press in*

America.[38] A year later, Edward Alwood offered *Straight News: Gays, Lesbians and the News Media*,[39] a well researched look at reporting about gays and lesbians within changing mainstream media.

In late 2012, *Gay Press, Gay Power: The Growth of LGBT Community Newspapers in America**[40]*** encapsulated several generations of LGBT newspapers. Editor and guiding presence Tracy Baim, co-founder of two gay papers in Chicago and author of several LGBT-themed books, organized this compendium around history, 18 profiles of important LBGT journalists, portraits of 10 papers, examination of their unique business-side issues and their future in a digital era. Duplication ensued, but this is one comprehensive book, including a cornucopia of hundreds of illustration and reprints.

Baim's opening chapters set the need for LGBT papers. Traditional mainstream media saw women straight and gay as flowers in a hothouse of condescension, gay men as "perverts" capable of "dastardly and horrifying" crimes.[41] In the '50s, those in raided bars had their names published in the dailies.

Stonewall mobilized gay groups. Straight-media offices were occupied. Coverage—especially after AIDS hit—gained nuance (Ann Landers changed her tune, and Baim is kinder than I am to a 1979 series on gay life in Chicago that I co-authored as a *Sun-Times* reporter).[42] By the end of her timeline, Baim could write, "the non-gay press certainly has come a long way, with Fox News the outlier, not the norm."[43]

The book's heart beat inside the LGBT press itself. Whether growing out of organizations or publishing independently, papers saw no division between activism, journalism and community (as *Gay Community News* writer Maida Tilchen put it, "Our Readers Are Our Writers").[44] The '80s and '90s saw location-based gay and lesbian papers proliferate.

As in *On The Ground*, tribal elders often minimized low points, including the traps of reporting from within a movement. But Baim's overviews, her profile of the "newspaper war"[45] within Chicago's gay press, and her memories of encountering sexism and covering abuse, drugs and even spree killers, balanced the journalistic equation.

So it is not all parades and galas, bartenders and athletes that keep this gay world spinning. As a journalist, you can get pretty disgusted and burn out with the difficult stories…What always kept me going was the true heroes of our community."[46]

THE HIDDEN DIAMOND

All these books were important, but I still longed for one to reveal how so many of us had flown close to the sun, even at the risk of melting. Then I encountered *My Odyssey Through the Underground Press*,[47] a 2011 artifact by the now-late Michael Kindman that the indefatigable Ken Wachsberger had lifted out of *Voices From the Underground* into a stand-alone volume. Brutally honest, it's at once scary and lyrical.

Kindman would work not only at *The Paper* in East Lansing but also at *Grapevine*, in Palo Alto a decade later. One radically challenged the status quo, the second reported within the system. At each, Kindman cycled from commitment to burnout over too many tasks, too many internecine struggles.

But a third paper would dominate much of Kindman's life. Kindman barely worked at Boston's *Avatar*, but his encounter would stretch him between the twin towers of the '60s: a quest for freedom and a longing to belong.

At *The Paper*, Kindman's "higher loyalty" was "to the practice of imaginative, creative, thoughtful journalism…a spirit of editorial independence."[48] Four years into Michigan State, he'd marched for civil rights and against the war—and "had thrown standard college stuff overboard in order to have this revolution."[49] After an LSD trip, he and his girlfriend took off for Boston.

The Avatar and its *American Avatar* splinter were outliers in underground press history. Reason One: strikingly clean layout. More important, *The Avatar* was the star vehicle of self-professed "world savior" Mel Lyman. A moth to the flame of Lyman's "hypnotic style,"[50] Kindman helped with layout but was quickly sucked into the vortex of the paper's intentional Fort Hill Community. There he did meaningless manual labor, and was grilled and punched out by a resident "karma squad."[51] Power-tripping and atomization were the underside of the counterculture, found amid the ashes of Haight-Ashbury's Summer of Love and, most extremely, in the Manson Gang. When *Rolling Stone* did a book about Lyman, Manson and others, it was called *Mindfuckers*.

It took five years for Kindman to physically leave various Lyman communes, yet he never stopped communicating and critiquing with their members—his reprinted letters are Escher-like in their complexity, revelatory in their quest for "intimacy and growth."[52] Life in California led him to both a men's group and *Grapevine*. At the paper, he championed a rural commune involved in a property dispute:

I saw…a chance to make myself part of a functioning community that offered some of the benefits, and few if any of the authoritarian drawbacks, of the community I had left behind…It was clear I was compensating, and seeking a way to balance out my earlier experiences."[53]

Kindman poured his wised-up background into an open letter encouraging *Grapevine*'s staff to build a strong alternative voice and resolve internal tensions. "None of this was very well received," he recounted, "and we continued stumbling forward."[54] He soon left, "proud of our role…and anxious for a rest."[55]

His odyssey continued. In 1978, he came out and became part of the politically active "Radical Fairies." By 1985, he'd become president of a spiritual sanctuary for gay men that gained IRS

status. He found solace in this world, but learned that he was HIV-positive in 1988. He died of AIDS in 1991, two months after finishing this book.

So what's to celebrate amid mind control and illness? Nearing the end, Kindman called himself "a survivor and an optimist."[56] Over his activist life, he rolled back silly rules, raised antiwar and (his own) gay consciousness, defended the environment and ministered to the sick. He was "mad to live, mad to talk, mad to be saved." And his willingness to bear witness without revision makes *My Odyssey Through the Underground Press* a genre classic.

CLOSING THOUGHTS

Some of Tracy Baim's contributors extol the gray press' expansion into digital media, but the number of LGBT publications has shrunk from a peak of more than 200 newspapers[57] to 125 newspapers, regional and national magazines, digests and zines.[58] Baim's list of "whys" recalled the underground era: lack of money, political and personal volatility, new competition, key figures succumbing substance abuse—and now AIDS.[59] "I have to say that the status of the gay press is actually far worse than I originally thought."[60]

The concluding essays in *Gay Press, Gay Power* carried a somber tone. In "Do We Still Need Gay News Media?" writer and activist Yasmin Nair said that "much of what passes for gay media these days is of abysmal quality and probably deserves to die."[61] Nair challenged "a lack of accountability, an inability to engage in the simplest of questioning in the unrelenting quest for eyeballs and to drive traffic"—sins, she quickly added, that exist throughout today's media.[62] Gay papers remained relevant to cover issues that might be ignored or distorted. But "the problem is that they rest upon the idea that their readers are too focused on identity to care about quality."[63] Serving both masters, she said, will require paying good journalists adequately. Which in turn will require both creative and business reinvention.

Can the Internet's lower barriers to entry fuel a renaissance? John McMillian in the "Afterword" of *Smoking Typewriters*, hoped so:

The democratic sensibilities that Sixties youths brought to journalism, though, not only persist but also have already taken on a life of their own…Much of what the liberal blogosphere is already credited with—democratizing the media, rapidly circulating information, influencing the agenda of the mainstream press, and building communities among like-minded groups—was accomplished on a smaller scale nearly forty years ago by the brash and saucy, threadbare papers of the underground press.[64]

Those underground papers screamed. They could work backwards from their ideology. Too often they ate their own. But they envisioned what might be, held a mirror to a country that had failed to realize its own ideals and resisted an unjust war—often while having Big Fun. Not the total victory we sought. Not a bad consolation prize.

Notes

[1] Kerouac, Jack, *On the Road,* Viking Press, 1957. Quote retrieved from https://www.goodreads.com/author/quotes/1742.Jack_Kerouac.

[2] Mungo, Ray, *Famous Long Ago: My Life and Hard Times with Liberation News Service*. Beacon Press, Boston, 1970. Too late for this review, I've learned of a new book about Mungo's LNS faction: Slonecker, Blake, *A New Dawn for the New Left: Liberation News Service, Montague Farm, and the Long Sixties*, Palgrave Macmillan, 2012. Slonecker is a professor at Waldorf College.

[3] Goodman, Mitchell, *The Movement Toward a New America: The Beginnings of a Long Revolution,* Pilgrim Press/Alfred A. Knopf, 1970.

[4] Other period anthologies include: Samberg, Paul, Jon, Charlotte, *Fire! Reports from the Underground Press.* E. P. Dutton, 1970; Howard, Mel and Forcade, Thomas King, *The Underground Reader*, New American Library, 1972; *Our Times is Now: Notes from the High School Underground*, Birmingham, John, Praeger, 1970; Kornbluth, Jesse, editor *Notes from the New* Underground; An Anthology, Viking, 1968; Katzman, Allen, Our *Time: An Anthology of Interviews from The East Village* Other, Dial, 1972,. Thanks go to Ken Wachsberger for amassing an extensive bibliography for his own work, and for his kind words about my own book.

[5] Leamer, Lawrence, *The Paper Revolutionaries,* Simon and Schuster*, 1972.*

[6] Robert J. Glessing's *The Underground Press in America* (Indiana University) and Ethel Grodzins Romm's *The Open Conspiracy: What America's Angry Generation Is Saying* may be less read these days, but these 1971 surveys are worth recalling.

[7] Neville, Richard, *Play Power: Exploring the International Underground*, Vintage, 1970.

[8] Armstrong, David*, A Trumpet To Arms: Alternative Media in America*, J.P. Tarcher*, 1981.*

[9] Ibid, page 255.

[10] Rips, Geoffrey, *Unamerican Activities: The Campaign Against the Underground Press*, City Lights, 1981.

[11] Kessler, Lauren, *The Dissident Press: Alternative Journalism in American History,* Sage, 1984.

[12] Streitmatter, Rodger, *Voices of Revolution*; *The Dissident Press in America,* Columbia University, 2001.

[13] Peck, Abe, *Uncovering the Sixties: The Life and Times of the Underground Press,* Pantheon, 1985 and Citadel, 1991.

[14] Peck, ibid, page 149.

[15] Not all titles have endorsed the papers. Francis Watson in *The Alternative Media: Dismantling Two Centuries of* Progress, Rockford College Institute, 1979, attacked "a force for self-indulgence in art and lifestyle that runs counter to the values of self-discipline and economic self-reliance associated with capitalism and liberty." The book is currently unavailable.

[16] Wachsberger, Ken, *Voices from the Underground: Insider Histories of the Vietnam Era Underground Press*, Mica, 1993.

[17] Wachsberger, ibid, page xix.

[18] Wachsberger, ibid, page xix.

[19] Wachsberger, ibid, page 166.

[20] Brownmiller, Susan, in Wachsberger, *Insider Histories of the Vietnam Era Underground Press (Voices from the Underground)*, Michigan State, 2012, page xi-xii.

[21] Wachsberger, 2011 edition, page xiii.

[22] Ibid, page xv.

[23] Ibid, page 266.

[24] Lewes, James, *Protest and Survive: Underground GI Newspapers during the Vietnam War*, Praeger, 2003.

[25] Hilliard, David, editor, *The Black Panther: Intercommunal News Service 1967-1980, A*tria, 2007.

[26] Grant, Joseph W., *Stop the Presses! I Want to Get Off! A Brief History of the Prisoners' Digest International*, Michigan State, 2012.

[27] McMillian, John, *Smoking Typewriters: The Sixties Underground Press and the Rise of Alternative Media in America*, Oxford, 2011.

[28] Ibid, page 38.

[29] Ibid, page 79.

[30] Ibid, pages 11-12.

[31] Ibid, pages 146-148 and beyond.

[32] Stewart, Sean, *On The Ground: An Illustrated Anecdotal History of the Sixties Underground Press in the U.S.*, PM Press, 2011.

[33] (https://secure.pmpress.org/index.php?l=product_detail&p=368).

[34] Stewart, page 1.

[35] Stewart, page 179.

[36] (https://theragblog.blogspot.com/2011/12/books-jonah-raskin-sean-stewarts.html).

[37] Leyland, Winston, Rechy, John and ritscher, Jack, *Gay Roots: Twenty Years of Gay Sunshine: An Anthology of Gay History, Sex, Politics, and Culture*, Gay Sunhine, 1991 and 1993.

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[39] Alwood, Edward, *Straight News: Gays, Lesbians and the News Media*, Columbia, 1996.

[40] Baim, Tracy, *Gay Press, Gay Power: The Growth of LGBT Community Newspapers in America,* CreateSpace, 2012.

[41] Ibid, page 24.

[42] Ibid, pages 45-46.

[43] Ibid, page 54.

[44] Ibid, page 237.

[45] Ibid, page 359.

[46] Ibid, page 275.

[47] Kindman, Michael, *My Odyssey through the Underground Press*, Michigan State, 2011.

[48] Ibid, page 9.

[49] Ibid, page 27.

[50] Ibid, page 38.

[51] Ibid, page 73.

[52] Ibid, page 155.

[53] Ibid, page 159.

[54] Ibid, page 156.

[55] Ibid, page 163.

[56] Ibid, page 188.

[57] Baim, page 114.

[58] Ibid, page 440.

[59] Ibid, page 114-115.

[60] Ibid, page 441.

[61] Ibid, page 434.

[62] Ibid, page 434.

[63] Ibid, page 435.

[64] McMillian, page 190.

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Christopher Hayes, Twilight of the Elites: America After Meritocracy

By | 2013: vol. 12, no. 2

Christopher Hayes, *Twilight of the Elites: America After Meritocracy* (Crown Publishers, 2012)

Twilight of the Elites is a book intended to influence progressive understanding and action and has been positively received as such by influential progressive celebrities among others. Such positive evaluations are quite at odds with my assessment of what Hayes has wrought. Although I allude in passing to certain other flaws, my main intent is to identify and criticize the core political thrust of his discussion.

Hayes is evidently an engaging, intelligent young man (see, e.g., the discussion at https://www.thenation.com/video/168407/chris-hayes-and-katrina-vanden-heuvel-conversation), out there waging the struggle on the ideological terrain. But he is only one of a now sizeable cast of progressive political commentator/entertainers. He is therefore part of a contemporary social phenomenon about which, as with every social phenomenon, one should ask questions. How, for instance, is it determined who will be given such a prominent role? And what might be the political consequences of that phenomenon?

The answer to the first question may be found in Hayes's book itself: the processes of meritocracy elevate a chosen few. Since his publisher's publicity material, which presumably Hayes approved, describes him as "A proud product of the meritocracy himself," I imagine Hayes would have no quarrel with this explanation of his rise to relative prominence. The problem is, however, as his book again instructs, there is no guarantee that those whom the processes of meritocracy are elevating are truly worthy of our trust. Hayes exposes the flaws of a great many who have been so elevated. Are we to assume that the media, including the progressive media, are exempt from the same systemic problems?

With respect to the second question, leaving aside the tendency for the progressive political commentator/entertainer elite to form a mutual admiration society, though that is surely one of the ways meritocracy constitutes and maintains an elite, it seems to me at least arguable that this phenomenon of our times, this progressive political commentary/entertainment, may often actually be politically harmful. What is offered may too often be little more than entertainment. And we? Only an audience which as it listens, and watches, and laughs, vicariously imagines it is storming barricades. Let me, nevertheless, give Hayes's book the critical attention it deserves as an intervention in today's politics, no matter that such success as it enjoys may flow in part from the fact that he is a 'progressive celebrity.' I will say little of his style, which understandably is journalistic, but which also involves many sweeping statements about crucial

matters which deserve more careful presentation. An example:

> Whether we think about it much or not, we all believe in meritocracy. It is embedded in our very language: to call an organization, a business, or an institution “meritocratic” is to pay it a high compliment (p. 31).

“We all”? Is it really so, that meritocracy is not contested in the United States? I certainly know many people, myself included, who hold meritocracy in quite low esteem. Is this assertion–are the similar assertions about meritocracy Hayes scatters throughout his book–politically innocent, or is its perhaps unconscious function to shape readers’ perceptions, to lead them to see the world as he sees it?

I will also quickly pass over his parochiality, by which I mean his too narrow focus upon the United States. Hayes himself acknowledges, when he makes a point by referring to Janine Wedel’s book, *Shadow Elite* (p. 175), that there is a global elite out there of which the American elite is a part. But at no point does he consider how that might be relevant to what is going on here or how it might affect future developments here, including how it might affect the outcome of challenges to the present state of things. (Unfortunately, Hayes is far from being alone where this sort of parochiality is concerned.)

Hayes is parochial in another troubling way. To be sure, he does mention the injurious inequalities experienced across the American social spectrum. But they are not interpreted as the consequence of underlying, deeply hidden processes. As he seems to see it, these injurious inequalities arise among a fragmented, structureless mass dominated by the 1 percent (or is it by the 0.01 percent, or the 0.0001 percent, in a society where “fractal inequality” reigns? (p. 156)). The injuries people now suffer arise, in part, from the increasing maldistribution of power, which is itself the consequence of the increasing maldistribution of wealth. But for Hayes that is only part of the problem. For him, the real problem, the truly vexing problem, is that wealth and power have more and more been falling into unworthy hands: “three decades of accelerating inequality have produced a deformed social order and a set of elites who cannot help but be dysfunctional and corrupt” (p. 16), elites among whom “destructive intelligence flourishes,” and a “fractal” society in which these disorders are replicated at every level from top to bottom (pp. 168-175). Turning from the actual injuries to their evaluation, the recent setbacks suffered by the fairly well-to-do non-elite seem to count at least as much with Hayes as does the suffering of those who have lived a lifetime of injury; he certainly regards them as politically much more significant–I return to this point.

To this disordered American system Hayes juxtaposes two preceding ‘eras of equality.’ During the first, post-WW Two, era, material and cultural well-being became more widely distributed (pp. 218-9). But some, for various reasons, were left behind. And that, Hayes suggests, brought on the second era, during which “the legal and cultural structures that regulated and enforced [the] brutal inequalities of race, gender, and sexual orientation” were reformed (p. 220). It is noteworthy that of this second era he has already observed,

> The areas in which the left has made the most significant progress . . . are battles it has fought in favor of making the meritocracy more meritocratic (p. 48).

Again, this is not, perhaps, just a stray, careless remark, though it may be an unconscious reflection of his own worldview. And so it needs be challenged: while it may be true that *some* who participated in the various struggles of the 60s and beyond were only seeking access to the meritocratic competition, that was by no means true of all. Certainly, the left was not fighting merely to make the meritocracy more meritocratic. The outcome of these struggles should, however, remind us of William Morris's admonition, that what we fight for will turn out to be not what we meant and that we'll have to fight for it again under a different name.

So where precisely does Hayes stand in the struggle now underway? By and large he has no problem with meritocracy so long as it's *the right kind* of meritocracy. Consider the view of the human world with which he begins his argument:

> On all things auto-related, your mechanic is an authority. In public life, our pillar institutions and the elites who run them play the mechanic's role. They are charged with the task of diagnosing and fixing problems in governance, the market, and society. And what we want from authorities, whether they are mechanics, money managers, or senators, is that they be competent . . . and that they not use their authority to pursue a hidden agenda or personal gain (p. 13)

Socrates argued pretty much the same sort of thing in the course of constructing his Ideal Republic. But Hayes does not mention Plato, who might be termed the first theorist/advocate of meritocracy. He does, however, quote Aristotle, another early meritocrat:

> So then: What makes the elite the elite? "From the hour of their birth," Aristotle once observed, "some are marked for subjection and some for command" (p. 139).

(Hayes did not, by the way, go to Aristotle himself, but to Will Durant's *summary* of the notorious chapter on slavery in Aristotle's Politics and to Durant's rendition of Jowett's translation of that particular passage [see Hayes, note 139, p. 263]. Similarly, when quoting Pareto he went to Joseph Femia's account of Pareto and Political Theory rather than to Pareto himself [see note 45, p. 250].) Although noting that "modern democracy represents the single most durable challenge to this immutable logic" (p. 139), Hayes also does seem to accept Aristotle's view of humanity, for not only does he term it "immutable," he continues, "For nearly all of human history the former [i.e., those marked for subjection] have vastly outnumbered the latter [i.e., those marked for command]." Again, his failure to distance himself from such an extreme view of human nature is, perhaps, inadvertent, but would not that in itself be a reflection of–and a reflection upon–his own meritocratic beliefs? But perhaps I am being blind to his irony?

Consider next his discussion of two possible justifications of meritocracy, justifications which he takes to be "compelling." First,

> The moral justification . . . is straightforward: the meritocracy gives everyone what he or she deserves (p. 51).

He asserts that the force of this principle derives from its "[appeal] to some of our most profound moral intuitions about justice and desert" (p. 51) and that it requires that we be able to distinguish between an individual's contingent and essential features. To appeal to such profundities is, of course, problematical. How our "profound moral intuitions" arise, what they may be founded upon, these are surely things about which philosophers disagree. I see nothing compelling as a justification in a 'principle' that is, at best, the beginning, but only the beginning of an argument. But in some respects this is beside the point since Hayes goes on to observe that the distinction between the contingent and the essential is so blurred in practice that it becomes difficult to ascertain who actually deserves what (pp. 51-2). (Which some of us might say is precisely the moral point.)

His second, and to his mind even "more compelling" justification for meritocracy "is not that it is necessarily fair, but rather that it is efficient" (p. 52). As a principle, he clearly takes this to be unexceptionable. In practice, however, "The most fundamental problem with meritocracy is how difficult it is to maintain it in its pure and noble form"–which is where, he suggests, "Michael Young's prophecy got it wrong" (p. 53). Has he forgotten that only a few pages back he told us that Young wrote his book, *The Rise of the Meritocracy*, "to conjure a grim dystopia," and that Young himself had said of it that it "was a satire meant to be a warning" (p. 42)? Since Hayes has described in detail just such a grim dystopia, how can he now he present Young as getting wrong some prophecy about something "pure and noble"? Hayes concludes this section of his book thus:

> In reality our meritocracy has failed not because it's too meritocratic, but because in practice, it isn't very meritocratic at all (p.51)

We're back in a way, I suppose, to Plato again, to that part where Socrates explores the fall of the Ideal Republic. The wrong sort of people, that's the problem. We are also here being given a glimpse of Hayes's own political project. Hayes spends much of his book lamenting just how awful is the society impure, ignoble meritocracy has created. As to why meritocracy has failed "to live up to its ideals," Hayes's explanation follows from the principles he presents as fundamental to a meritocracy that "live[s] up to its ideals":

> The. . . Principle of Difference. . . holds that there is a vast differentiation among people in their abilities, and that we should embrace this natural hierarchy and set ourselves the task of matching the hardest working and most talented to the most difficult, important, and remunerative tasks (pp. 56-7).

Again, I see no sign that Hayes anywhere distances himself from this most illiberal notion of human nature, nor would I, in fact, expect "a proud product of the meritocracy" to find any fault with it. Still, Adam Smith was, I think, much closer to the truth when he opined that "The difference of natural talents in different men is, in reality, much less than we are aware of,"

and that it is only “the vanity of the philosopher” that allows him to imagine that he is intrinsically different from “a common street porter” (*Wealth of Nations*, Bk. 1, Ch. 2).

> But back to meritocracy’s foundational principles:
>
> The . . . Principle of Mobility [holds that] there must be some continuous competitive selection process that ensures that performance is rewarded and failure punished (p. 57).

Only, sad to say, “the Principle of Difference will come to overwhelm the Principle of Mobility (p. 57).” Those who rise will try to ensure that they and theirs always rise, never “trickle down.” The “Iron Law of Meritocracy” ensures that a society based on meritocracy “will grow both more unequal and less mobile” (p. 59). But I fail to see how these two principles alone give rise to this “iron law.” There has be some other principle at work here, some other aspect of human nature driving them on to preserve and pass on their privilege, only Hayes does not say what that might be. Perhaps it is too obvious to mention? Selfishness? Our ‘selfish genes’?

But then there is so much that Hayes does not deign to mention. No suggestion as to what might be the nature of the complex economic, social and cultural structures that people move through as the operations of meritocracy direct; no suggestion that we inhabit anything other than a neutrally organized and functioning space. For Hayes, it would seem, meritocracy and meritocracy alone defines both our political predicament and its solution. But before I conclude with his views on that, on how “the meritocratic dream,” as he terms it (p. 63), might be saved from its “slow death,” I must put one more piece of his thinking on the table, for it is a key part of his political project. It has everything to do with what he terms “the paradox of meritocracy”:

> It can only come to flower in a society that starts out with a relatively high degree of equality. So if you want meritocracy, work for equality (p. 221)

This claim he justifies by painting a rather idealized picture of post-WW Two Britain interwoven with a too uncritical acceptance of Tony Judt’s rather uncritical delight in his own education (p. 221). Since I underwent a somewhat similar education to Judt’s, governed by the same principles and at about the same time, let me note that what Hayes refers to as “the rigor and seriousness of [Britain’s] ancien educational regime” came with a lot of baggage. Partly by design, and partly, perhaps, from some failure on the part of the educational reformers to perceive and do something about education’s hidden dimensions, the education we, the meritocratically selected five percent of our age cohort, received was, in my judgement, deeply conservative. It certainly did not encourage us to think deeply and critically about our society; it did not, for example, encourage us to care that much for the other 95 percent, the children among whom we’d grown up, our childhood friends, who were being cast aside. (Michael Young had something to say about all this.) And since Hayes has made the British connection, it is surely not amiss to note that what he advocates is terribly “New Labour,” isn’t it?

To be sure, Hayes vigorously asserts that it is equality of outcomes, not just equality of opportunity, that must be struggled for. But it seems very evident that he desires a more equal

society of the sort he fancies Britain had in its "meritocratic honeymoon period," which I actually experienced as painfully unequal, because he wants the United States to cease to be a perversion of a meritocracy and become an authentic one. Remember, *if you want meritocracy, work for equality* (p. 221). Perhaps he thinks it unrealistic to want anything better? Meritocracy corrected of its excesses is the goal of the struggle he is urging people to join (p. 218). But ever the meritocrat–or am I again failing to perceive that he is being ironic–he does not see that struggle for equality as something *everyone* is fit to join. His agents of change are those whom meritocracy has selected:

> In order to actually effect deep and lasting change, those opposed to the current social order must locate another base of power that can credibly challenge the power of incumbent interests. I think the answer lies in a newly radicalized upper middle class . . . people with graduate school degrees, homes, second homes, kids in good colleges, and six-figure incomes (p. 230).

–seemingly no one other than the well-to-do non-elite is going to be invited to the party, a point emphasized a page or so later when he talks about the need to build "a potent coalition of the radicalized upper middle class" (p. 233)–not, note, a coalition *with* such people. The coalition he envisions is one linking the liberal and conservative elements of that upper middle class (pp. 230-233). But why should we expect the 'purer,' 'more noble' meritocracy they create to serve any interests other than their own?–though with an eye to system maintenance, their enlightened self-interest might cause them to throw some crumbs at those much less fortunate than themselves. Besides, why should we expect that sort of meritocracy not to succumb too, almost immediately, to that iron law of meritocracy? Hayes expresses some hopes, but does not explain. The cycle will be repeated (p. 240).

The progressive personalities who praise him seem so overwhelmed by delight to see so well recounted in cognate fashion so many of America's recent scandalous ills that they fail to consider critically the diagnosis and the cure they are being proferred. But when one clears away the underbrush, all the ambient corruption and the viciousness and the stupidity that we didn't really need Hayes to tell us about, for it's all pretty stale stuff by now, his political project can be seen standing clear: not to repudiate "our shared social ideal," "our [foundational] meritocratic ideal" (pp. 42, 51); to rescue the system, not replace it. And so, despite the praise he has received, I hope that project will come to be seen for the non-progressive, decidedly non-left thing that it is–unless, that is, progressivism and leftism have become as debased as everything else in this meritocratically debased age. Or is it that, all appearances to the contrary and in a fashion that escapes me, Hayes has written another satire on meritocracy, another warning?

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PS. For an interesting review, written in 2048 C.E., of the original warning satire by Michael Young, which also reflects on this era, the early 21st Century, see https://home.uchicago.edu/~aabbott/barbpapers/barbmerit.pdf

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Amy J. Binder and Kate Wood, Becoming Right: How Campuses Shape Young Conservatives

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Amy J. Binder and Kate Wood, *Becoming Right: How Campuses Shape Young Conservatives.* Princeton: Princeton University Press, 2013

One picks up *Becoming Right* with high expectations. Perhaps we will see the roots of the conservatism, incubating on campus, laid bare. Maybe the larger mechanisms of this wholly misnamed ideology will be exposed. Certainly the authors have done a good deal of work, talking to conservative students on two major campuses — one on the East Coast, one on the West — and getting their candid assessments of why they are what they are and why they do what they do. Yet when all as said and done what we have here is a highly generalized analysis about differences in conservative styles, and the political socializing importance of the college experience, along with the banal assertion that "political actors are made not born." The larger concerns of where this phenomenon is coming from and will it ever go away – which, given the onerousness of this ideology, are valid questions — are left for others to sort out. True this is a work of sociology with a particular schema and focus, yet given its subject matter the level of disinterest and neutrality ("we are neither condoning nor condemning their perspectives") is maddening.

The first sign of trouble is right there in the Introduction. Here we learn we will not be told what schools are the subjects of the study. Instead we get a long discourse on the sampled universities, euphemistically called, "Eastern Elite" and "Western Public." What follows is a confounding attempt to obscure the institutions' true identities while somehow making them come alive as distinctive experiences. The authors tell us they did this in order to garner the support of the universities while conducting their research. Not surprisingly the ink barely dried on the published book before one conservative website claimed to have outed the two schools as Harvard, and Colorado State. [https://www.nas.org/articles/the_schools_of_becoming_right] That the authors think actual places can or ought to be turned into composites is highly problematic, but it is part of the peculiar methodology here.

In their chapter on "Who are Conservative Students?" we get a detailed look at UCLA's Higher Eduction Research Institute report on student makeup with the conclusion that conservative students come from 'all' types of backgrounds, albeit they are mainly white men – a matter of

no small significance. We learn that even though conservative student organization are heavily funded by groups like the Young America Foundation and benefactors like the Koch brothers, conservative students constitute only about 20% of the student body on any given campus.

The authors main interest, however, is in the different styles conservatives utilize. In the West we learn things are quite consciously confrontational, with such activities as “Affirmative Action Bake Sales,” “Catch an Illegal Alien Day,” and “Global Warming Beach Parties.” At such locales they say things like, “I blame the next campus rape on the [university system administration] for not repealing the gun ban,” so as to provoke argument. In the East we learn there is more ‘civilized discourse,” principled debate, and disdain for the coarser method of conservative bomb throwers. As one Eastern student explains, “I can’t be nasty, and they have to respect you because you have done the extra work.”

Overall, there is much emphasis by the authors on culture and mere form: “Style matters, and researchers to date have not adequately addressed the point.” The authors even conduct a thought experiment about what would happen if a student from Western Flagship “transferred to Eastern Elite.” Could they induce civil conservatives to take up the more provocative style? (The authors guess that style would not travel well West to East, but in the opposite direction, maybe). This is not an especially difficult scenario to play out. At New York University in 2007 [https://www.nytimes.com/2007/02/23/nyregion/23illegal.html] ‘indigenous’ college Republicans sponsored a “Catch an Illegal Immigrant Day.” The result was that more protestors than attendees showed up. The reason for this is grounded in the fact that New York is a multi-cultural city with a huge immigrant population (Western Public, is 85% white), which has a pronounced effect in how immigrants are viewed and treated. That very physical fact would seem to trump style and culture by miles.

For a satisfactory treatment, the authors needed to undertake a more dynamic examination that better comprehends the larger changing world and its impact on these students along with a deeper examination of the myriad way conservative students are cultivated and funded by some of the most powerful people and organizations in the country. The real question is, how does this relatively marginal view exercise such an outsized influence? Of course that is not the book they wrote. Instead the focus remains tight on the disparate forms of expression of conservativism on just two campuses. This leads to specious analysis. For example, in conclusion we are told that after the 2012 Republican primaries (when the book was being finished). “Tea Party politics have put the style of provocative action practiced by groups like the Western Flagship College Republicans in much higher demand.” This now seems shortsighted, with no substantial argument to support it even at the time. Leaping from there we are told “political style,” instead of ideology and political program “has become perhaps the most important way that candidates, pundits and activists, and others position themselves in political discourse.” This is standard cant, albeit in academic form, one hears in the established media and from much of the political punditry. It is as superficial as it is wrong. At the end of the day all this rests on something else. Further, if one is to talk about conservatism they need to talk about what it mainly promotes, capitalism – a word largely missing from this book.

Therein lay a critical shortcoming, a lack of a truer definition of what this conservatism is. Beyond matters of style — whether boisterousness or enlightened discourse — lay something else. Conservatism at its core is an unapologetic promotion of unbridled capitalism. The array of social issues aligned with it or in contradictory association to it, are there mainly to reinforce this ideological battering ram of naked accumulation (which is not to say they don't have elements of a life of their own). Of course liberalism has its own way of promoting capitalism and there have been moments when conservatism has been so 'out there,' that it seems to exists only to make liberalism look good. Regardless, without that as a stepping off point, one would seem ill equipped to truly understand what it is to become right.

Nostalgia for the Natives: Meditations on Napoleon Chagnon's Noble Savages

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Napoleon Chagnon, *Noble Savages. My Life Among Two Dangerous Tribes—the Yanomamö and the Anthropologists* (New York: Simon & Schuster, 2013)

What is the public image of cultural anthropology today outside of the halls of academia itself? When pursuing this question, the controversial figure of Napoleon Chagnon looms inevitably large. In the lead-up to his new book, *Noble Savages*, Chagnon received a laudatory profile in the 13 February 2013 *New York Times Magazine*, titled "How Napoleon Chagnon Became Our Most Controversial Anthropologist."[1] My first reaction to the title was a sort of queasy bemusement. I recalled a trenchant piece of wisdom that my own first anthropology professor passed on to me, having to do with personal pronouns: a speaker or writer's commitments and assumptions are often embedded in these small words. And so the "our" in Emily Eakin's profile of Chagnon begs interrogation—who is the "we" it invokes? Anthropologists? Academics? *New York Times* readers? Some abstract, critical American public in general? As a post-doctoral fellow at Georgetown University with a PhD in anthropology from the University of Chicago and a subscription to the *Times*, I belong to all of these categories, yet I feel absolutely no sense of proprietorship or affinity with Chagnon. More importantly, I have only come to read Chagnon's work in order to perform a sort of disciplinary triage beyond anthropology itself. Napoleon Chagnon and his work are not especially read or debated by cultural anthropologists in general. If anything, I only encountered his name during my graduate studies as a sort of bugbear, a placeholder for the treacheries that unprincipled anthropologists might unleash upon their interlocutors in the field. And yet, Chagnon is "ours" in a sense: well known beyond the classrooms, conference halls and journals of cultural anthropology itself, a representative of the discipline to a broader public, whether his colleagues like it or no.

Chagnon is certainly a "controversial" figure. As a graduate student in anthropology at the University of Michigan in the mid-1960s, Chagnon aspired to conduct fieldwork among a "primitive," "pristine," small-scale society, as "untouched" as possible by the modern world and therefore still in a "state of nature," a hypothetical origin point from which more complex societies and cultures are taken to have developed. As my scare quotes indicate, the primordialist logic of primitiveness and the argument that all human societies can be mapped along a single axis of development, from primitive and simple to modern and complex, are by and large eschewed by contemporary anthropologists. Ultimately, Chagnon settled on the Yanomamö people, a linguistically- and culturally-distinct group that resides in scattered

villages in the Amazonian and Orinoco basins along the Venezuelan-Brazilian border.[2] Chagnon first arrived in Venezuelan Yanomamö-land in 1964, an experience of radical alterity that he describes in vivid, lurid detail in *Noble Savages*.[3] In spite of the horror and disgust that marked his first reactions to the Yanomamö, Chagnon eventually acclimated to life among the "savages"; over the following four decades, he dedicated his career to studying the Yanomamö, with particular focus on kinship, warfare, and their relation to questions of genetic diversity and social evolution (more on this below). Chagnon published a variety of book-length monographs on the Yanomamö, most notably *Yanomamö: The Fierce People*, which was first published in 1968 (in later editions, the controversial subtitle was dropped).

As his scholarly profile rose, Chagnon became the target of serious accusations related to his fieldwork methods and the deleterious consequences of his research and publication on the Yanomamö themselves. The most severe allegations focused on his collaboration with University of Michigan geneticist James Neel and the outbreak of a measles epidemic among the Yanomamö in 1968. Chagnon was also accused of fomenting strife among different Yanomamö groups to forward his own research agenda. This cauldron of suspicions and accusations finally came to a boil in the year 2000 with the publication of *Darkness in the El Dorado. How Scientists and Journalists Ruined the Amazon*, journalist Patrick Tierney's sensationalist account of Chagnon and Neel's work among the Yanomamö. Most notoriously, Tierney asserted that Chagnon and Neel introduced measles among the Yanomamö in order to conduct epidemiological research on the effects of a disease among a population entirely lacking antibodies to it. Tierney's book was an immediate scandal for cultural anthropology, both an interrogation of the ethics of ethnography and a public relations crisis for the discipline a whole. The American Anthropological Association (AAA) convened a task force to investigate Tierney's allegations. While the task force ultimately found no evidence that Chagnon and Neel had caused or exacerbated the measles epidemic, it did express concern over Chagnon's research methods (in particular in relation issues of informed consent) and the negative consequences of his representation of the Yanomamö as a "fierce people." Now the controversy over Chagnon has reignited due both to the publication of *Noble Savages* and Chagnon's election to the National Academy of Sciences. In response to Chagnon's election, Marshall Sahlins, a prominent University of Chicago anthropologist and longtime critic of Chagnon's, resigned from the NAS.[4]

Chagnon responds vociferously and exhaustively in *Noble Savages* to the charges against him. Indeed, as its subtitle suggests, the book is a strange beast stylistically, veering between detailed narratives of his ethnographic adventures with the Yanomamö and incensed diatribes against cultural anthropology in general and a variety of Chagnon's detractors in particular. I have neither the inclination nor ability to evaluate the accusations that Chagnon so stridently attempts to refute; others with far more knowledge of Amazonian anthropology and the Yanomamö specifically have already done so.[5] Certainly, Chagnon seems to have been the target of much panicked exaggeration and ad hominem denunciation; this may partially account for his own tone of dyspeptic, self-righteous irritation. I am fascinated, however, by the logic and thrust of Chagnon's response to the accusations against him. This response, which weds the old anthropological myth of pristine "primitiveness" to a romance of empiricist

science as the unique arbiter of truth, simultaneously dismisses cultural anthropology as it is understood by most of its professional practitioners and reinscribes a clichéd, nostalgic image of anthropology as the "study of natives," an image that only has traction today *outside* the academy itself.

Over the course of *Noble Savages*, Chagnon meticulously cultivates an image of himself as a voice of scientific reason in the wilderness of unreason that is, in his estimation, contemporary cultural anthropology. He presents his research on the Yanomamö—inspired by Edward O. Wilson's hybrid discipline of sociobiology and aimed at explaining social and cultural institutions on the basis of evolutionary, biogenetic imperatives—as objective, nonpolitical science, and, therefore, anathema to the anti-science philistines who have supposedly stormed US Anthropology departments. Chagnon explains away all criticism of his research on the basis of three distinct trends, which together constitute what he calls "twilight in cultural anthropology": 1) *biophobia*, "the chronic opposition in cultural anthropology to ideas from biology that purported to help account for what humans in all cultures did (2013: 402)"; *postmodernism*, "the notion that 'facts were merely 'constructs' of the human mind and, consequently, that there was no 'real world' independent of the observer (Ibid.: 403)"; and, *activism and advocacy*, "the act of using your accumulated knowledge, prestige, education, deep commitment to some cause….to advocate some *political* cause (Ibid.: 403; emphasis in original)." According to Chagnon, cultural anthropologists are little more than a "tribe" of fundamentalist-Marxists—at one point, he exclaims that "it was as if the last two bastions of opposition to the theory of evolution by natural selection were fundamentalist fire-and-brimstone preachers and cultural anthropologists (Ibid.: 384)!"—who have dismissed his research because it does not pass muster as political advocacy. And yet—regardless of the claims that have been made against him—Chagnon's criticisms of cultural anthropology amount to little more than hogwash.

The cardinal concepts that have defined anthropology over much of its history belie Chagnon's first charge of biophobia. For instance, notions of social structure and function, which dominated anthropology during the mid 20th Century and still undergird anthropological argument in significant ways, developed in relation to analogical biological concepts such as morphology. Contemporary cultural anthropologists by and large *do* reject a direct analogy between scientific and anthropological objects of study (even as the burgeoning field of Science and Technology Studies underscored social processes through which scientific objectivity is produced). The definitive method of cultural anthropology, ethnography, implies and demands that the anthropologist and her object of study mediate and determine each other; there is no petri dish ethnography. While Chagnon would surely reject this contention as postmodernist mumbo-jumbo, anthropologists since Eric Wolf (1982) have amply demonstrated that Chagnon's ostensible object of study, "primitive man in the state of nature," is a political fiction in its own right.

Chagnon's caricature of postmodernism is equally unpersuasive, based as it is on a simplistic dichotomy between empirically-verifiable "facts" and nonsense. This comfortable—and remarkably American—polarity avoids urgent epistemological and ethical questions by

dismissing them tout court as outside the domain of "science." However, if one regards cultural mediation as inherent to the construction of anthropological knowledge—as most cultural anthropologists do—Chagnon's empiricist conviction seems naïve indeed. Chagnon's object of study, "primitive warfare among the Yanomamö," is not a simple "fact" to be discovered and explained by the scientist. To the contrary, both events of violence among the Yanomamö (Ferguson 1995), and, more importantly, the very category of "primitiveness" itself, require explanation *in relation to* the interventions and assumptions of anthropology in general and Chagnon's activities in particular. To study warfare as a pre-given social fact that directly indexes the evolutionary state of a society, as Chagnon claims to do, is impossible.

This point unsettles the principal argument that Chagnon makes in *Noble Savages*, namely, that "primitive warfare" is a result of male competition over "the means of reproduction—women (2013: 333)," rather than competition over scarce resources. Chagnon contends that his fieldwork demonstrates the viability of this hypothesis, yet his ethnographic account contradicts this very claim. He spends many pages describing the cycles of mutual violence, recrimination, and revenge that often define relationships among different groups of Yanomamö. In spite of the interpretations of the Yanomamö themselves, who clearly have a sophisticated understanding of the history and politics of their conflicts, Chagnon insists that all of this fighting is solely about competition over women. The values that the Yanomamö assign to warfare are irrelevant. This denial, in turn, is essential to his argument that both violence and kinship relations in "primitive" society are means of assuring genetic success and, consequently, increasing genetic diversity. In order to make this argument, Chagnon must first construct his mass of ethnographic material as solely a record of "conflicts over the possession of nubile females (Ibid.: 316)"; by introducing warfare over women as a primordial social fact, he necessarily eschews his own interpretative role in constructing this image of Yanomamö violence.

Politics also necessarily enters the picture here. Chagnon has amassed immense ill will among fellow anthropologists by flatly denying that his research has any relationship to politics whatsoever. This denial hinges on an oil-and-water image of the relationship between politics and science—as Chagnon puts it, "Science as such (does) not advocate anything at all (Ibid.: 59)." Of course, Chagnon is under no obligation to advocate on behalf of the Yanomamö (though at one point he rather dubiously claims that he was the sole voice for the Yanomamö's best interests in a dispute involving the Salesian Catholic Mission in Yanomamö-land). Advocacy, however, does not exhaust politics. As I read *Noble Savages*, I constantly wondered when Chagnon would reflect on the *political consequences* that his patronage had on the Yanomamö, especially considering the fact that his troubles with his major Yanomamö antagonist, a headman named Moawa, focused entirely on the dispensation of Chagnon's largesse. I waited in vain for such reflection. For Chagnon to acknowledge that he had effects on the Yanomamö would be tantamount to introducing an ethnographic Heisenberg uncertainty principle, one that Chagnon's own nostalgic romance of social *science* cannot accommodate.

Finally, then, we must return to the question of what Chagnon and *Noble Savages* mean for the public image of American anthropology today—indeed, it is only possible to understand

Chagnon in this light. Because Chagnon *is* important to the public image of anthropology, despite the fact that his arguments and research largely lack disciplinary consequence. I contend that Chagnon's notoriety stems from and reinforces a "nostalgia for the natives" that remains appealing and persuasive for the American public, even as anthropologists continue to inveigh against it. In one stunning passage early in *Noble Savages*, Chagnon scoffs at a colleague who does not conduct research with the "wild primitives": "Some years after I had gotten my Ph.D., I met a prominent American anthropologist who had done his fieldwork in India using native informants who were fluent in English. He casually mentioned that his major informant decided to earn his own Ph.D. in anthropology at Cambridge University. *His informant, no doubt, had long since lost the glint of wildness in his eye* (Ibid. 2013: 42; my emphasis)." This brief passage, I think, contains the key to the phenomenon that is Chagnon. There is a certain self-satisfaction, a certain reassurance, and a certain *jouissance* to be gained from casting distant others in the "savage slot" (Trouillot 2003).

As anthropologist Elizabeth Povinelli acidly observes in her scathing *New York Times* review of *Noble Savages,* "If your belief in your culture's superiority is founded on thinking of other societies as prehistoric time capsules, then you will enjoy this book. If not, say a requiem for the trees and make an offering to the pulp mill."6 Alas, Chagnon's readers do not seem to have accepted Povinelli's invitation to the mill: as of this writing, *Noble Savages* has received an average rating of 4.3 stars out of 5 on the basis of forty-two reviews on amazon.com (far more than most anthropologists ever expect to receive).7 This fact only serves to confirm that Chagnon's ambition to establish scientifically the sociobiological truth of the "savages" and "natives" remains terribly appealing. Ironically, Chagnon's popularity and notoriety—the fact that he is "ours"—derives from the fact that the public at large still thinks, absurdly, that this is what anthropologists do. Until more cultural anthropologists take up the challenge of communicating otherwise to this broader public, a tiresome, disquieting nostalgia for the natives will surely continue to shape public notions of what anthropology is.

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Notes

1 https://www.nytimes.com/2013/02/17/magazine/napoleon-chagnon-americas-most-controversial-anthropologist.html?pagewanted=all.

2 In *Yanomamo Warfare*: *A Political History* (Santa Fe: SAR Press, 1995), anthropologist Brian Ferguson thoroughly interrogates the founding fiction of Chagnon's argument, namely, that warfare among the Yanomamö is representative of a pristine "state of nature." As Ferguson writes, "Yanomami warfare is tightly connected to changing circumstances of Western contact…the great majority of cases (of war) occur shortly after a major change in the Western presence and involve those who have better access to Western goods fighting those who were

more removed from Western sources (1995: 275)."

3 Consider, for example, the following passage: "I felt goose bumps on my arms. I imagined myself being present at a time ten thousand years in the past and thought about how utterly strange that I was to be one of the last members of my profession to experience an event that had, by the 1960s, become nearly unique. These were the last of the Stone Age warriors assembling to wreak mayhem and death on distant enemies. Their enemies waited anxiously, not knowing when they would come, but anticipating their terrible wrath (Chagnon 2013: 82)."

4 https://www.insidehighered.com/news/2013/02/25/prominent-anthropologist-resigns-protest-national-academy-sciences

5 See, for instance: https://www.livinganthropologically.com/2013/03/16/brian-ferguson-napoleon-chagnon

6 https://www.nytimes.com/2013/02/17/books/review/noble-savages-by-napoleon-a-chagnon.html?_r=0.

7 https://www.amazon.com/Noble-Savages-Dangerous-Anthropologists-ebook/dp/B006VJN2FE

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