

**THE WIZARD AND THE PROPHET: TWO
REMARKABLE SCIENTISTS AND THEIR DUELING
VISIONS TO SHAPE TOMORROW'S WORLD**

(CHARLES C. MANN)

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This book addresses what is, as far as the material comforts of the modern age, the central question of our time—can mankind have it all? The author, Charles Mann, does not answer that question, though I think his answer would be, if forced, “probably yes.” What Mann offers, rather than canned answers, is a refreshingly and relentlessly non-ideological work, comparing two philosophies of human development, embodied in the lives of two men of the twentieth century. The first, Norman Borlaug, engineered the saving of hundreds of millions of lives and won a Nobel Prize. The second, William Vogt, prophesied a global doom whose arrival date has been continuously postponed for fifty years, and then shot himself, whereupon he was forgotten until this book.

Mann carefully profiles each man in detail. He characterizes Vogt's school of crying out the gospel of limitations as Prophet, and Borlaug's call for pushing past natural boundaries through hard work and ingenuity as Wizard, clever enough names for clear enough positions. Vogt, born in 1902 and died in 1968, was an abrasive man who found it difficult to keep jobs or friends, whose abiding passion was amateur ornithology, but who rose to prominence on the basis of a wildly successful 1948 book, *Road to Survival* (a copy of which I bought in preparation for this review). Borlaug, born in 1914 and died in 2009, was an agronomist with a smoother touch and much less interest in a public role. He wrote no books, but he bred plants, specifically new versions of wheat that multiplied the global harvest, essentially eliminating famine (because of Borlaug, all modern famines are purely the creation of political malefactors, most notably the Ethiopian famines of the 1980s). The Green Revolution that has fed the world for the past fifty years was inaugurated and, in many ways, led by Borlaug.

Vogt receives the first focus of the book. Mann expertly describes his life (Mann writes excellently; this book is long, but it reads like a short book), including his formative experience, being hired by the Peruvian government to analyze the ecology of the guano islands that provided

natural fertilizer to much of the world, before the Haber-Bosch process made artificial nitrogen fertilizer economically feasible. The guano, of course, was provided by birds, which had boom-and-bust population cycles, based on their food supply. Vogt's conclusion, after extensive study, was that any interference by humans with the natural cycle was ruinous; in the short term, production might be increased, but eventually natural limits of one sort or another would be reached, leading to total and permanent collapse—thus, the Peruvians should not interfere with the natural cycle of intermittent partial collapse.

Shortly afterward, a new publisher offered to publish a book by him (how and why this came about is not made clear), which was wildly successful. *Road to Survival's* basic claim was that, like the guano birds, only worse because of his abilities to manipulate nature, man was exceeding, or was going to exceed, the "carrying capacity" of Earth, which would lead to his destruction and that of the ecology of the Earth as a whole. Vogt's book was glowingly reviewed (other than by the Left, which condemned it as a distraction—prior to mid-century, proto-environmentalism was a cause mostly of rich cranks, and the Left was still focused on labor), sold 800,000 copies through the Book-of-the-Month Club alone, was translated into numerous languages, and used for decades as a college textbook. And it had a massive impact on the thought of others—for example, both Rachel Carson (*Silent Spring*) and Paul Ehrlich (*The Population Bomb*) explicitly cited Vogt's book as the inspiration for theirs. Whatever the flaws of his book, Vogt was undoubtedly the father of modern environmentalism (which Mann insightfully calls "the twentieth century's only successful, long-lasting ideology"). Vogt developed its patterns of thought, its focuses, and its obsessions. He exemplified static analysis of the globe—there is only so much to go around, and in such a zero-sum game, if we do not cut back our usage of finite resources, the inevitable result will be collapse, no different than fruit flies in a test tube given a limited supply of food.

That said, *Road to Survival* is also a book that has been proven totally wrong in every regard (just like *The Population Bomb*, and, mostly, *Silent Spring*). Reading it now is painful because Vogt was so, so wrong. (It's also painful because of its simpering Introduction by Bernard Baruch, a man who, like a bad penny, keeps turning up, usually in the darker corners of history, making them darker.) Sure, as I discuss below, maybe

in the long run Vogt will be right in part. But “long run” arguments are inherently weak—it’s the same as arguing that Communism has never really been tried, so we should try again, just as soon as we finish bulldozing the bodies from the last attempt into a trench. More likely Communism is just wrong. And aside from the crashing inaccuracy of its predictions, Vogt’s book is equally painful for its shrill, hectoring tone and for its earnest demands for handing over global power to a new class of technocrats who will solve the problem—a million little Vogts, using their immense new power only for good, of course, we are assured. In 1948, perhaps, such ideas could be excused, but now, we know how they always end. We can see that Vogt was an ideologue from whose pages a voice can be heard, as Whittaker Chambers said of Ayn Rand’s *Atlas Shrugged*, “To a gas chamber—go!”

Leaving aside the fascism of his approach, if there was a core principle of Vogt’s, it was that, in his words, “mankind is a part of the earth’s biological system and is not a form of genii that can successfully provide substitutes for the processes of nature.” Along these lines, Mann profiles at some length, and keeps returning to, his own friend, the late Lynn Margulis, a well-known biologist, whose interpretation of evolution “is that *Homo sapiens* is just one creature among many . . . a briefly successful species,” which will pass from the scene like all others. But this is a very narrow vision, because humans are the only creatures with intelligence and the ability to think about the future. We may, in fact, pass from the scene, but if we do, it will be in a manner different in its essence from that of other past species, to which humans are only comparable on the most simplistic level. You’d think the Prophets like Vogt would agree with this—after all, they claim that man has unique abilities to exceed the earth’s carrying capacity, unlike animals such as the guano birds, who stay within their limits due to natural processes they cannot change. Why the converse, that man also has unique abilities to avoid these limits, by either self-discipline or technology, does not follow to these people, is unclear. Maybe it is because they are ideologically unable to regard humans as anything but animals.

Borlaug, on the other hand, was the father of modern techno-optimism, sometimes called “cornucopianism”—most visible in the Green Revolution he fathered and led, but more than that, a belief that with human ingenuity and intelligence, through hard work and technology

what we may have in many areas is not static. But it is up to us to ensure that there is enough for all. Born of Norwegian stock in far rural Iowa, he saw extreme hardship in the Depression, including fights over food, which affected him deeply. He wanted to be a forester, but was unable to, so he became an agronomist. He took a job funded by the Rockefeller Foundation, working in the desperately poor central Mexican lowlands to develop wheat that was resistant to stem rust, one of the most problematic North American wheat diseases.

The wheat he had to work with wasn't what we think of when we think of wheat—not only was it extremely prone to diseases, rust among them, it was inherently low-yielding, and also prone to other problems, such as “lodging” (where weak stems bent under ripening grain—wheat then was “the height of a tall man,” and much of the plant's energy went to the stalk). Moreover, each locality had to plant a different wheat. All these problems had existed for millennia. Like Vogt, Borlaug's reaction on seeing the poverty and lassitude of the local farmers was “We've got to do something.” But that “something” wasn't to tell the farmers to suck it up and have fewer children. Instead, Borlaug hand planted hundreds of thousands of different wheat plants, every single plant hand-pollinated, with the cross painstakingly recorded. He did this in both his original Mexican location and in others, against the wishes of his superiors, with whom he was often on contentious terms. Bulling his way forward and often pulling a plow by harnessing himself, he spent years trying to find plants that not only resisted rust, but had other desirable characteristics. And he got lucky (though as they say, luck is where preparation meets opportunity), finally finding and propagating a handful of ideal varieties that could be successfully planted not just everywhere in Mexico, but all around the world—whereupon he evangelized successfully for their acceptance in places like Pakistan and Uganda. It is on his work that modern agriculture, which has fed the world as it has grown, is based.

So far, the distinction between Wizard and Prophet is clear. But, if you think a little, there are really two threads among Prophets. One is the warning that we will run out if we overuse resources, and so we must find the best way to maximize utility to benefit humans. This is the minority view, and shades into Wizardry, in that maximizing utility implies openness to new solutions, rather than just management of what exists now. The other Prophet view, by far the majority, and

Vogt's view, is that we are damaging our world, and that damaging is bad in and of itself, totally aside from its impact on utility. The goal is to satisfy the supposed claims of Gaia, not to help humans. These are really separate philosophies, ones that Mann does not adequately distinguish. The former is a practical claim; the latter, a moral claim.

What follows is that most Prophets are fundamentally anti-human; and essentially all Wizards are profoundly pro-human. Soon enough an objective observer realizes that most Prophets' goal isn't achieving a balance between humanity and nature, it's eliminating humanity itself, which they wish would just go away (other than themselves, their friends, and favored groups), so that the abstraction of "Earth" can flourish in its own way. Thus, to nobody's surprise, or at least not to mine, Vogt quickly turned from espousing limitations to advocating extermination. His second act was to become a shill for Margaret Sanger's infamous racist and eugenicist organization, Planned Parenthood. As Mann says, Vogt changed from being an environmental advocate who thought population control would benefit the environment, to a population control advocate to whom the environment was secondary. "The means had become the end." (In fact, the title for Vogt's *New York Times* obituary was "William Vogt, Former Director of Planned Parenthood, Is Dead," giving primacy of place to that part of his life, not his environmentalism.) He wrote, in 1960, an even shriller book, *People! Challenge to Survival* (which I also bought), an unhinged rant demanding ultra-aggressive global population suppression, where the "People" of the title are the causes of the challenge, and it is not clear whose survival is at stake, but probably not people's. This is the sort of evil tripe common among Prophets to this day, which they reveal in their less-guarded moments. About a decade ago, there was a vogue of such wishful death-focused thinking in the popular media, led by the book *The World Without Us*, which described in loving detail what would happen if all the humans conveniently just disappeared. It was actually quite interesting, and followed by various related television specials and similar media events, but the reader and viewer was quite aware that this was, for many environmentalists, aspiration, not explanation.

On the more practical level of policy, we live in a time when Wizards and Prophets are roughly evenly matched in mindshare of the public, but the Wizards are firmly in control of actual policy, certainly

of agricultural policy. It is hard for us to remember that not so long ago, Prophets were the only game in town. All right-thinking people of 1970, in a way that we cannot comprehend today, wholly bought into "The Limits of Growth," in the Club of Rome's infamous phrase, and as Mann notes, for much of his life Borlaug was the target of coordinated vicious abuse by the powerful and famous. But the failure of their prophecies gradually led to the loss of part of Prophets' policy power, even if they are still given platforms by various outlets. It is not coincidental that Prophet hysteria reached its peak just at the time that the movement for legalized abortion also reached its peak. The public frenzy over supposedly direly needed "limits" to humanity dictated much of the thinking of the Supreme Court in the high water mark of the pro-abortion movement, the handing down of *Roe v. Wade*. In fact, recently Ruth Bader Ginsburg (who was not part of the Court in 1973) noted with approval that *Roe v. Wade* invented a constitutional right to abortion out of whole cloth in part because of "concern about population growth and particularly growth in populations that we don't want to have too many of." The age of Prophets may have crested, but we're still left picking up the pieces, and many of their acolytes still occupy positions of power, still hewing to that old time religion of doom and hatred of humanity.

In any case, Mann does not make any of these distinctions, but after discussing Vogt and Borlaug, he turns to offering a further lengthy (and fascinating) history revolving around their ideas, focusing in turn on four different areas where Wizards and Prophets have contended over the past seventy years: food, water, energy, and climate change. Here Mann fills in many large and small details relevant to both Vogt's and Borlaug's lives, such as the invention and rise of artificial fertilizers, the early twentieth-century organic movement, the science of soil and humus, and the process of photosynthesis and its susceptibility to engineering. The latter involves today the C4 Rice Project, a massive ongoing attempt to "change the biophysical structure of the rice plant, making it a much more efficient user of energy from the sun," funded by the Gates Foundation with any positive results to be given away free. On water, Mann focuses on the difference between Wizard projects to desalinate and move massive quantities of water, and Prophet projects to reduce the need for water. (It is sometimes easy to see a little bit too

much of James C. Scott's "high modernism" in Wizard projects, as Scott narrates in *Seeing Like A State*, but not all grand projects suffer from the defects Scott identifies in his examples of deficient grand plans. It is all in making sure the premises are based in reality and that the execution stays cognizant of human nature.) On energy, Mann notes that predictions of imminent "peak oil" have been urgently made for, and have been decisively falsified for, more than a century. He criticizes these predictions not only for being wrong, but for being the driver of many bad policies, from our own desperate focus on controlling oil flow from the Middle East to endless wars in Africa.

The premise, or thought experiment, or waking dream, that drives Mann's book is the idea that by 2050, there will be ten billion people on earth, all reaching toward affluence. For current purposes, we can accept that, but really, there is much to suggest the dream is mere fantasy. Affluence is not something that automatically arises; it is driven by culture, by age demographics, and by many other factors. There is no reason to believe that the entire world will develop to "Western affluence," with consequent further stretching of resource needs, and much reason to believe it will not, whatever people lacking that affluence may want. Furthermore, those societies that have created and still drive that affluence are dying due to failure to reproduce, and most other global societies are following closely in their insane footsteps. That will not only prevent ever becoming affluent, but put even more of a damper on development and progress, which is driven almost exclusively by the young. China will be old before it becomes rich, and its problems are only the most prominent example of the catastrophic damage caused by the population control programs pushed by people like Vogt and his long-time ally, the odious Julian Huxley, though none of their advocates have ever apologized, since the Left never does.

But let's assume that Mann is correct—we will soon enough have ten billion people, and they will all have a much higher standard of living than the current global mean. The truth is that, so far, the Wizards have always been right that the future can be managed, and the Prophets always totally wrong. The Prophets preach on, though, for a variety of reasons, ranging from financial gain to the pleasure of power over others to the search for personal transcendence. Still, as has been said, all apocalypses are falsified, except the last. So the Prophets may yet

be proved right, if not on resource availability (Mann quotes an expert who says, for example, the best answer to “when will we run out of oil” is “never”), but on some of the consequences of our actions, specifically with respect to global warming. This is the final topic Mann discusses at length, handling it expertly in order to make sure a discussion can be had that does not drive away either the skeptics or the alarmists. In essence, he asks skeptics to assume, for the purposes of discussion, that anthropogenic global warming exists and is a problem, and he later offers an Appendix outlining evidence for that position.

However, even if that is true, it does not mean that the Prophets are right in their solutions to climate change—after all, the position of a Prophet consists not only in prediction of the future, but in the embedded assumption that nothing can be done other than restrict human activity. A Wizard can, and often does, agree with the specific prophecy, and with its likely accuracy if nothing is done—but his solution is different (and that is why the pro-human Prophets usually shade into Wizardry). That is the real difference between Wizards and Prophets. And it is the real difference here as well—many Wizards think that global warming has a technological fix, just like every other problem mankind has faced. This may be false optimism—under certain scenarios, global warming could result in extreme consequences that cannot be countered (although that is always a possibility, elevated to a near certainty, in Prophet scenarios, isn’t it?). But coordinated political action is in practice impossible. If anthropogenic warming is real and a real problem, its solution is therefore likely to be a Wizard solution, not a Prophet solution.

Other than these discussions, Mann does not explore a variety of ancillary considerations that flow from the conflict between Wizards and Prophets. So I will explore them myself. Some are philosophical, some are practical. To me, the biggest philosophical problem is that Wizardry knows no inherent bounds. As applied to agriculture, it pretty obviously is necessary to feed the world. But if a new wheat is good, why not a new human? For example, Wizardry has already led to the creation of human-animal chimeras. Sure, they were killed at the embryonic stage (another moral problem), but when you pull the focus back to a wider view, and think about some possible futures other than

feeding the starving, Wizardry starts to seem a lot less appealing, and a lot more potentially dystopian.

A practical problem with the Borlaugian approach to agriculture is the problem of monoculture. Before the Green Revolution, as Borlaug found in Mexico, there were thousands of wheat varieties planted around the globe. Now, with the successes of specific hybrids, there are far fewer, which necessarily increases the chances of catastrophe—the exemplar being the Irish potato blight and subsequent famine. Mann does not address this problem; I imagine that the Wizard response is that we can deal with that problem when it arises, just as we've dealt with all the other problems that have arisen since Borlaug's first new varieties were given to the world. But it is nonetheless a possible cost to the approach of increased yield through mass standardization.

Moving back to philosophy, the dispute between Wizards and Prophets poses difficulties to conservatives. (It also poses difficulties to left-liberals, with obvious divisions arising between the neoliberal Left and the progressive Left, but this review is long enough already.) On the surface, the constrained vision of the Prophets seems as if it would appeal to many conservatives. I think, though, that is a superficial analysis. One can easily support Wizards while still seeing that the world is one of limits. The goal of Wizards is to bend and expand those limits, not to pretend they don't exist. Thus, Wizardry can be just as conservative as Prophecy, and hew to a constrained vision, if Wizardry stops itself from making overweening claims or removing limits that it should not disturb. But who is going to draw the line, and who is going to enforce it? Wizardry has its own internal dynamo, and it is unlikely to stop its "advance" at any point, especially in our post-Christian world, which rejects that there is a natural order at all. This suggests that most conservatives are going to be suspended between Prophet and Wizard, seeing the problems with both, and therefore choosing incrementally and on a case-by-case basis between them, which is, after all, a most conservative approach. I suppose I fit in this category.

To the extent that there are pro-human people who are purely Prophets, they are mostly or all conservatives, often with a religious bent. Maybe the best example is the well-known Shenandoah Valley farmer Joel Salatin, whose focus is not on the carrying capacity of earth but on the natural order of things, the teleology of all types of life. For

example, Salatin has long viewed feeding cattle products to cattle as offending that order, regardless of its provable practical drawbacks—and he was proven right by BSE. He writes books on the distinctiveness of pigs, and other animals, and how this means humans have obligations to them—not to not eat them, but to maintain their place in the order of things, and to respect them. (I butchered my own rooster, who made too damn much noise, using a Salatin video to teach me how. He was tasty, though tough.) Therefore, factory farming is an abomination, because it treats animals as no different than plastic dolls. To Salatin, it is irrelevant that, as Mann points out, much of the “grain” meat animals eat is actually byproducts that would otherwise go to waste. The problem is the approach to animals; with what grains they are fed is a secondary issue. Factory farming, in fact, is an excellent example of a problem that, because of Wizardry, does not on the surface seem like a problem—we see that we get cheap meat, and the problems are invisible, either hidden or abstract, so it seems like a Wizard success, when really it is a horror, and one that not only doesn’t save human lives, but harms them through overconsumption of artificially cheap meat and the overuse of antibiotics. On that issue, at least, the pure Prophets have the better of the argument.

So Salatin’s view sounds attractive. But it poses an ongoing challenge to conservatives, again requiring a case-by-case analysis. For example, Salatin also opposes GMO crops and views Monsanto as the Devil. This is illogical on a number of levels, as Mann points out (not mentioning Salatin). There is no evidence whatsoever that GMOs have bad side effects. To Salatin, though, they violate the natural order of things, whether we know what the ill effects will be or not. This is philosophically coherent, but what is not philosophically coherent is his implicit denial of the costs imposed on the mass of people who are not selling their produce to wealthy District of Columbia suburbanites. Take, for example, the C4 Rice Project. Unlike Monsanto, which profits from patents (which are, please note, not permanent and enter the public domain within a few years), the results of the Rice Project are being given away. If successful, it will immeasurably improve the lives of millions, if not billions (the idea is to increase the efficiency of photosynthesis, which would have clear effects far beyond rice). It may violate the order of things, but it has huge benefits. Another way

of phrasing the question to someone like Salatin is, at what point does cost-benefit analysis outweigh the philosophical objection? I don't know the answer, but it can't be "never." (And, as Mann also points out, GMOs are the basis of many critical modern medicines—do GMO crop opponents also object to those medicines?)

Another way, more abstractly philosophical, of looking at the Wizard-Prophet debate is that, on the conservative side, it is a conflict among two types of conservatives. Classical liberals, today considered conservative, rest their core assumptions upon Enlightenment values, among which are the pursuit of individual contentment as the highest good and the idea that no action can be morally wrong which does not harm others. On those premises, as long as Wizardry can prevent environmental catastrophe, it is the only possible moral choice. Demanding that others restrict their freedoms in the name of a higher good is itself immoral. On the other hand, conservatives who harken back to an earlier tradition, a group that until recently has been miniscule in America but is rising in relevance, if not yet power, reject the premise of unbridled autonomy, and thus are more comfortable calling on limits to growth, and to consumption, not because the doom of shortfall is on the horizon, but because placing limits on appetites, and achieving freedom through a rightly ordered life, is inherently the moral course. At the extreme, such conservatives are viscerally opposed to many Wizardly actions, believing, in essence, that Gregor Mendel was fine, but modern genetic engineering is not. But as with Salatin and GMOs, the latter group of conservatives is caught in a bind of costs and benefits. And it is further caught in another, less obvious bind—it is difficult to coherently call for strict limitations on growth and for sustainable consumption while not calling for restrictions on population, which is rightly anathema to essentially all such conservatives. Someone who is backed down this path soon finds himself bumping into the ghost of William Vogt, on furlough from Hell, carrying a sheaf of Planned Parenthood propaganda and a glass jar packed full with aborted children.

Finally, I found *The Wizard and the Prophet* especially interesting because it helps answer one of my own current questions—if, as many conservatives have come to believe, the Enlightenment was a mistake, and it should partially or wholly be vaporized, what does that imply for non-political aspects of modern life? Most importantly, what does that

imply for the development of the world that was created by Wizards? Does the core Enlightenment principle of ever-greater personal autonomy underlie the basis of Wizardry, and thus the technology and many of the benefits of the modern world itself?

Probably not. Upon even a little examination, the Enlightenment has very little to do with the two key developments that made the modern material world: the Scientific Revolution and the Industrial Revolution. The basic framework of the West, from individual freedom to the rule of law, which nurtured both, came far before both, and resulted from the interplay of Christianity with the secular structure of the West. The Scientific Revolution occurred long before the Enlightenment (along with numerous other peerless accomplishments, such as the vast majority of great art in the world), and in all likelihood the Industrial Revolution would have occurred in the West (and only there) without the Enlightenment ever happening. And as Niall Ferguson has recently pointed out, there were few scientists involved in the Enlightenment, which was created by pointy-headed intellectuals. So-called Enlightenment principles of increased autonomy, as advocated by people like John Stuart Mill, have no perceptible connection to the Industrial Revolution. After all, it originated, in England, under a relatively strong monarchy with a sharply restricted franchise and none of the extreme autonomy we have been coerced into in the twentieth century, and spread, in Europe, into systems with even less focus on individual autonomy. No, the idea that Enlightenment philosophy drives our material success is a mirage, and I conclude that to the extent we choose Wizardry, changing our political system in a sharply reactionary direction (for that is my focus and desire) will have no effect on our ability to execute that Wizardry (and may, in fact, greatly enhance it), as long as we retain the rule of law and the free enterprise system, both of which long pre-date the Enlightenment.