

From the NYT

By Alex Rosenberg

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If the summer heat, followed by Hurricane Dorian, hasn't convinced you that climate change is real, probably nothing will. Those of us convinced will want to mitigate it if we can. Doing that requires understanding the different kinds of problems climate change presents. They are economic, political and philosophical. The three kinds of problems are inextricably intertwined. That's one lesson taught by the relatively new discipline of politics, philosophy and economics (PPE).

PPE has been the name for this subject since it was first introduced at Oxford after World War I. Now it's taught at a hundred or more American universities, combining intellectual resources to come to grips with complex human issues.

To recognize the problems facing any attempt to mitigate climate change, we need to start with a technical term from economics: “public good.”

Put aside the ordinary meaning of these two words. In economic theory, a public good is not a commodity like schools or roads provided to the public by the government. It's a good with two properties absent in other commodities, including schools and roads. First, a public good is consumed non-rivalrously: No matter how much of it one person consumes, there's always just as much left for others.

Street lighting is an example: When I consume as much as I want of the nighttime safety it provides, there is still as much left for you. We are not rivals in consumption of a public good. Public schools aren't public goods in this sense. The more attention your child gets, the less time the teacher has for mine.

Second, a public good is not excludable: There is no way I can consume street lighting without its being available to you at the same time. The only way to exclude you from

consumption is to turn it off. But then I can't consume it. Public schools are excludable goods. Your child can be expelled. So schools are not public goods.

The Paris climate accord set a target of keeping global temperatures from rising more than 1.5 degrees Celsius. That outcome would be a public good. I can't consume any of this good unless it's there for you too, and no matter how much of it I consume in personal benefit, that won't reduce the amount you can consume.

Of course, as with street lighting, some people will benefit more, maybe even much more from a public good, than others. It's regrettably true that women's lives are generally more improved by street lighting than men's lives are. Mitigating climate change isn't going to benefit everyone equally. But it can't benefit anyone without benefiting everyone, and no matter how much I benefit, there will be some benefit left for you.

This is where politics and philosophy come in. As with all other public goods, limiting climate change is subject to what is called a prisoner's dilemma: If the rest of the world's major polluters get together to curb emissions, the United States doesn't have to and will still benefit. On the other hand, if China, the European Union, India, Russia and South Korea do nothing, there's no point in the United States even trying. It can't solve the problem alone. It looks as if either way, the United States should do nothing to curb its own emissions. If leaders of these other governments reason the same way, the result is likely to be catastrophic weather extremes everywhere.

Is there any way to escape the prisoner's dilemma facing the provision of a public good? The problem was first noticed by the 17th-century philosopher Thomas Hobbes, seeking the justification of political authority. Hobbes's question of how to escape anarchy poses a prisoner's dilemma. The rule of law, he recognized, is non-rivalrously and non-excludably consumed, even for the weakest, the poorest. It's obvious of course that some laws are better for some people than for others. But Hobbes argued that any laws, even the laws of a tyrannical dictator, no matter how harmful they may be, confer some minimal non-excludable benefit on everyone that we can consume non-rivalrously.

The enforced rule of law, any law, at least gets us out of the state of nature, where "the life of man is solitary, mean, nasty, brutish and short." Hobbes argued that the only way to provide this public good is for each of us to surrender all power to the state so that it can compel obedience to the law. Hobbes's recipe for escaping the prisoner's dilemma of anarchy never attracted much support. The history of political philosophy from Locke to Rawls is a sequence of proposed alternatives to Hobbes's strategy. Each sought a basis on which people can credibly bind themselves voluntarily to provide the public good of "law and order."

Once the philosopher identifies the problem, the political scientist can approach it empirically: Try to identify the circumstances in real life where people have spontaneously solved the problem of providing themselves a public good, in their self-interest and without coercion.

For answering this question, the political scientist Elinor Ostrom won the Nobel Prize that was supposed to go only to economists. She spent a career identifying the conditions, all over the world, including the developing world, under which groups manage to solve the prisoner's dilemma by voluntarily creating institutions — rules, norms, practices — that every member benefits from, non-rivalrously and non-excludably. In doing so, Ostrom provided a recipe for how to avoid the prisoner's dilemma that a public good presents.

The ingredients needed are clear: The participants have to agree on who's in the group; there's a single set of rules all participants can actually obey; compliance is monitored effectively, with graduated punishments for violation; enforcement and adjudication is affordable; and outside authorities have to allow the participants to obey the rules. Finally, in the long term, the group providing the public good to its members has to be nested in, authorized by higher-level groups. These in turn persist when they can provide themselves a different set of nonexcludable, nonrivalrously consumed, mutually beneficial rules, norms, laws and institutions.

It's not rocket science to see how hard it would be for the 200 or so nations of the world to satisfy these conditions. The Paris agreement is a far cry from Ostrom's recipe. The main obstacle to carrying it out will be the unwillingness to surrender national sovereignty.

But now at least we have a good idea of what we are up against, and even some tools to get closer to a solution. For example, citizens and nested groups of citizens can employ Ostrom's recipe to build increasingly more global responses to climate change, thereby providing at least some of this public good to many people.

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PPE approaches climate change with the economist's concept of a public good, the philosophical project of grounding the political authority that provides these goods in

our rational self-interest and the political scientist's discoveries about the conditions under which people actually provide themselves these goods.

This analysis of how hard it is to solve the problem of climate change makes clear that the United States needs to take seriously the search for a technological solution to the challenge it poses.

Consider the problem of street lighting in the 19th century. Suppose you are so much wealthier than everyone else that you have more to lose walking city streets at night than anyone else. You've got so much to lose that it's worth it to you to pay for street lighting all by yourself, even if everyone else will also be able to enjoy it, free. In that case it would be economically irrational of you to refuse to pony up for the full cost of the public good.

What if there is no good street lighting? If you're so much richer than everyone else, what should you do? Subsidize Thomas Edison's research of course. He's searching for a technological fix — good, cheap, reliable street lighting — maybe cheap enough that you'd be willing to pay for it all.

Countries and corporations convinced that their gains from mitigating climate change can outweigh the costs to them will provide the public good to everyone as a byproduct, a side effect, of what they buy for themselves. The catch is that the costs to the individual country or corporation will have to be low enough to be swamped by its benefit to that country or company.

This is where science and its technological spinoff comes in. Solar panels, wind turbines, safe nuclear energy, geoengineering the atmosphere or the oceans or the rain forests — any of these, all of them or something no one has thought of yet might become cost effective for one or more countries or corporations. The public good of climate change mitigation would become so valuable for at least one consumer — a country or corporation — that it would buy it for itself. The rest of us could free ride.

Will it happen? Can it happen? Could its arrival be hastened? Philosophers have spent a lot of time studying science. They've come very firmly to the conclusion that there is no logic of scientific discovery, no recipe for the next breakthrough and so no algorithm for improving our technology. Scientific discovery is serendipity. All we can do is enhance science's chances of getting us out of this mess: Educate scientists, support pure research, disseminate it freely and reward it with immortality, not just money.

Ostrom's Principles

1. Clearly defined (clear definition of the contents of the common pool resource and effective exclusion of external un-entitled parties);
2. The appropriation and provision of common resources that are adapted to local conditions;
3. Collective-choice arrangements that allow most resource appropriators to participate in the decision-making process;
4. Effective monitoring by monitors who are part of or accountable to the appropriators;
5. A scale of graduated sanctions for resource appropriators who violate community rules;
6. Mechanisms of conflict resolution that are cheap and of easy access;
7. Self-determination of the community recognized by higher-level authorities; and
8. In the case of larger common-pool resources, organization in the form of multiple layers of nested enterprises, with small local CPRs at the base level.