

## Paul Hawken: Solutions Man by Livia Albeck-Ripka

Livia Albeck-Ripka on Paul Hawken

On May 3, 2009, Paul Hawken stood before the graduating class of the University of Portland. He'd been asked to deliver a commencement address that was "direct, naked, taut, honest, passionate, lean, shivering, startling and graceful." No pressure, he joked to his audience. Rousing the spirits of a few hundred young people embarking on a century of climate change, terrorism and extinction was, he knew, no small feat. "You are graduating to the most amazing and stupefying challenge ever bequested to any generation," he told them.

When Paul was a young man, the world had other problems, many of which persist today: the war in Vietnam, civil rights abuses, racism. At just 18, he became Martin Luther King Jr.'s press co-ordinator, helping to organise the historic March on Montgomery. He photographed voter registration drives in Bogalusa, Louisiana and Florida. Later, in Mississippi, he captured images of the Ku Klux Klan—the group kidnapped Paul and held him prisoner.

At 20, Paul moved into business, opening one of America's first natural food stores, Erewhon. With every step he's taken since that time—whether as an author, entrepreneur or businessperson—protecting the environment has been his clear, committed path. He's set up garden supply and solar energy companies. He's taught organisations how to transition to renewable energy as head of the United States' arm of The Natural Step. He's consulted with businesses, governments and civic groups and written multiple books—one of which, *Natural Capitalism*, former President Bill Clinton described as among the five most important books in the world. His latest effort, *Drawdown*, is a handbook that, for the first time ever, lists and ranks the top 100 solutions to climate change.

Despite his accolades, Paul is softly spoken. He gives opinions tentatively and without bravado. Just a few days before we spoke, US President Donald Trump had pulled out of the Paris climate accords. I don't ask Paul whether this makes him feel pessimistic, because I know the answer. That day in Portland, he told the graduates, "When asked if I am pessimistic or optimistic about the future, my answer is always the same: 'If you look at the science about what is happening on earth and aren't pessimistic you don't understand data. But if you meet the people who are working to restore this earth and the lives of the poor, and you aren't optimistic, you haven't got a pulse.'"

**LIVIA ALBECK-RIPKA:** We are going through this moment of political upheaval—I was wondering, do you see any parallels between now and when you were young and involved in the Civil Rights Movement?

PAUL HAWKEN: Not really. In some ways, the environment has always been about human rights. Addressing climate is a human rights issue for sure. And the Civil Rights Movement was a human rights issue. So in that sense they overlap. But at that time, you had such violent responses to the assertion of voting and human rights in the South that it galvanised the whole country to support the Civil Rights Movement, pass the Voting Rights Act and more. Today, we have a divided country. That's a big difference. You have the alt-right and the birth of proto-fascism in the United States, and its roots are understandable. But the rise of a militant and violent right is very different to the rise of a leader like Martin Luther King, who spoke to a cause which was unimpeachable in terms of its justice and fairness.

So climate change and environmental issues seem to be a more difficult cause for people to get behind?

One problem with climate change is that there is no end to it in anybody's sense of the future. The science is extraordinary but the way the science has been communicated has been inept because the emphasis has been on fear, dread and gloom. And it's been communicated in a type of lingo and jargon that is remote from almost everyone. Limits have been described in terms of "2° Celsius," which just doesn't mean anything. It's an atmospheric measure and Americans particularly don't understand it because they don't use Centigrade. But putting that aside, it's abstract, a concept, a number.

The way climate change has been communicated is guaranteed to make most people feel like there's not much they can do—that it's too complicated.

In the Civil Rights Movement, when you saw people being set upon by German shepherds, fire hoses and truncheons because they wanted the constitutionally-guaranteed right to vote, it had a significant emotional impact: This was so wrong. Climate change doesn't have that defining moment. The moral weight of it is mostly invisible; people can't see it. I doubt that Syrian refugees understand that they are in the plight they're in because of the failure of the wheat crop caused by the drought that lasted over four years. You step back and you look at the deracination of the agricultural community in Syria causing tens of thousands of unemployed impoverished young men to go to the city. That's incendiary tinder for terrorism and demagoguery. Jobless, hungry youth looking for identity against a corrupt regime. But nobody can say absolutely that the Syrian refugee crisis was due to climate change.

You can only point out that what we're seeing conforms exactly to what was foretold by science with respect to impacts. Those predictions include patterns of drought, torrential rainfall, heat waves, disruption, changing ocean currents and 500-year floods every 15 years. All that was predicted, but you can't take any one of these events and say it is caused by global warming. All you can say is, "Global warming would cause these and this is the mechanism." So you can't relate weather directly to climate change, at least scientifically, on a case-by-case basis—which makes it very hard for the everyday person to relate to.

On the other hand, the solutions to global warming have been remote, like solar farms and wind turbines. People don't feel they have agency. The solutions to climate change have never been put forward in a graspable way so people could understand their role. Things like, "Eat smart, live closer to home, forgo fossil fuels, eat less meat" are what you will find if you Google the top solutions to climate change. These are proverbs, not solutions, and it doesn't mean they're not good things to do. Proverbs generally are. But

they don't give anybody a sense that their action is going to accumulate into a sufficient difference that will counter what is being predicted.

So given this moral weight is, as you put it, often "invisible"—when did it become visible to you?

I grew up outside and felt very safe there. I felt protected by nature. When I saw things like a new development, trees being cut down, a road scarring the landscape, the first RV camper in Yosemite, it was shocking. I would go, "Whoa, what's that and why is it here?" I grew up with this sense of, "Don't touch it, don't do that." A child can often see harm and damage where adults may see development or progress. An environmental way of seeing the world was imbued in me by my father's friends. I grew up as a member of the Sierra Club and met David Brower when I was young. In my twenties I went into the natural food business which was all about the environment—the relationship between human beings and land practice and linking them together, the human health benefits of eating food grown in a healthy environment. My business made the connection between human and environmental health. That intention or purpose remains with me to this day. What's interesting about Drawdown is that, with a couple of exceptions, all of the solutions regenerate human, ecological and economic wellbeing. They're the same thing. Regenerating atmosphere is what happens when you regenerate a village, a fishery, a forest, a farm, a city, a transport system and the ocean. They're all interconnected. We would want to do virtually every one of the solutions detailed in Drawdown even if there was no climate science, because they make things better on all levels.

You do talk about climate change as an opportunity.

Well, it's a prepositional question. The despair and pessimism about climate change is a state of mind. And that state of mind comes from a preposition to: "Global warming is happening to us," as if you're the object, got the short end of the stick, are a victim. If you feel that way then you're going to feel bad, you're going to blame, be resentful, litigate, criticise—but is that where you want to live in your heart and mind? Is that helpful in the long term? The actual science created by the Intergovernmental Panel on Climate Change is an impeccable problem statement. And headlines and stories about climatic impacts validate the problem statement. Given that, the question is, "Okay, what do we do?" What we do at Project Drawdown is map, measure and model the 100 most substantive solutions to global warming, share what we discover, describe how these solutions are being done and measure how fast they are scaling.

The way I look at it, climate change is an offering, a gift, feedback from the atmosphere. All feedback is an instruction sheet on how an organism or system can change and transform.

That's what climate change is offering us—a new story about how human beings should interact with each other in this heavenly home called Earth. Virtually everything we model in Drawdown (with two exceptions) makes this a better world on all levels—social, health, resources, economies, jobs. Consider this: we're the only species on Earth that doesn't have full employment. Yet there's never been a time when there's more work to be done, and not just work but good work, meaningful work, restorative work, regenerative work. Somehow we've gotten our shoelaces tied together such that we can't imagine an economic system that offers full employment, that provides a sense of value, self-worth and dignity to every human being. Climate change offers us that possibility.

But sometimes human beings don't like negative feedback, do they?

Well negative feedback isn't necessarily negative. Negative feedback is information that modifies a harmful effect or activity from increasing. Positive feedback reinforces something that you may not want to enlarge. Positive feedback loops are already occurring due to climate impacts. Hotter, drier regimes increase forest fires and die-off, which releases more CO2 into the atmosphere, causing more heat, more fires. All systems require negative feedback in order to survive, live, grow and evolve. So negative feedback is what we want here. It is the guide to course correction.

That's easy for us to say in places where climate change is not yet wreaking havoc. But what about the human toll in places where climate change is already making life very difficult?

The momentum of climate change is enormous and so too are the lag times. The atmosphere doesn't care what we think or say. We know that climate disruption will increase in severity over the next 30 years. And even should we achieve drawdown, that point in time where greenhouse gases peak and decline on a year-to-year basis, it takes at least 20 years before cooling starts to happen. And at the outset it's very slight. So humanity is in for the ride of our life, there's no question about it. It is a perilous journey. So the question is, "Who do we want to be to each other and to ourselves on this journey? Because whoever I am to somebody else, I am to myself."

And I'm writing a book called Carbon, I actually started it before Drawdown. Carbon is not about climate; it is a love story about life, about living systems. The first line of the book is, "Carbon is the element that hold hands and collaborates." As an element, it's gregarious. A shape shifter too—from diamonds to French fries to grasshoppers.

It reminds me of Primo Levi's "Carbon" chapter in The Periodic Table.

Yes. When people finish the book, I hope they realise that in order for us to reverse climate change, we have to hold hands and collaborate! [Laughs]. We have to be like carbon. We have to be like life itself. What does life do? In the words of Janine Benyus, life creates the conditions conducive to life. Those are humanity's marching orders. Our view of life has been a story of competition, dog eat dog (where did that phrase come from? Dogs do not eat dogs). What science knows now is that nature and living systems are pretty much one big co-op. What is actually happening is extraordinary symbiosis and support going on between organisms. Things which we thought were competitive have been revealed to be mutualistic. Science is revealing a kind of intelligence in life that we would do well to emulate.

I've heard you make this distinction between dualism and non-dual mind before. I think every person has the capacity for both within them, just as systems do. Do you find yourself struggling with that?

I'm dualistic every day. That's the nature of the mind—to see itself as separate and distinct, and the rest of the world as other. The climate movement continues to speak of climate as if it's other, something separate. It uses military words we apply to an enemy or foe: we're fighting or combating climate change. I'm fascinated by that. Both linguistically—I'm an English major—and scientifically. The atmosphere is not the enemy. Our thinking is the problem. The atmosphere is just doing what atmospheres do. Saying you want to fight climate change is like saying you want to fight oceans, sunshine or the wind. That's dualism on steroids. And that language isn't helping us. It's also incorrect, because you can't fight change. Change happens every nanosecond in our universe, in

nature and in our body. What we can do is work together to change our practices here on Earth. Carbon's our ally, not the enemy.

You change your language, you change your mind. You change your mind, you change the world.

In Drawdown, you describe how the build-up of greenhouse gases occurred in the "absence of human understanding" and that, therefore, to blame previous generations is wrong. Now we have the science, we have the facts, but we live in a world where people are still resistant. I think that's the real "fight" we are in—one against the truth itself.

You can't fight truth, or untruth either. You embody truth. And for sure, in the age of the Internet, "A lie can go halfway across the world before truth can put its pants on." That quote from Winston Churchill is based on a much older Arab proverb: "A good lie can walk from Baghdad to Constantinople while the truth is still looking for its sandals." Either way, that's the world we live in. It's susceptible to enormous distortions; the United States is the most anti-science country in the world. If you poll the population as a whole, between 40 to 50 percent don't believe in evolution. As an aside, we are not supposed to believe in science. Science is evidentiary. That being said, we are not going to make much headway telling other people they are wrong. It doesn't work.

Hopefully it should be a conversation rather than a kind of polemic.

Yeah, it should be. A true conversation is one where you want to truly understand what a person thinks and believes, and that means listening. It's very instructive. You learn more by listening than when your mouth is open. I think the deepest human impulse is to want to understand and know. Most of the science communication around climate change is fear-based. Fear is great for soaking the news cycle with adrenalin, but it is a lousy way to create a movement to solve global warming. I think the climate movement has been its own enemy in using fear and righteousness as a means to motivate.

When you say "the climate movement"—who is that?

NGOs, activists, science writers. Ninety-nine percent of the communication has been about what's going wrong and how fast it's getting worse.

I do think that it's an especially delicate balance in a world where the very act of putting truthful information out there has become radical. What should communicators do with information that is true, but might create fear? Should they not share it with the public?

Putting more science and facts into people's heads isn't going to change people. The theory is that if people knew more facts they would change. It is the opposite. More facts harden people's positions. I was in Europe during the finals of Eurovision. There were more people in Spain who watched the finals of Eurovision, one of the worst singing contests in the world, than there are in the entire world climate movement. What does that tell us about how effectively we have communicated?

Hey! [laughs] I love Eurovision. So do you see yourself as part of the climate movement?

I see myself as a journalist, a researcher, a father, a husband, as somebody who's always been curious. I've never been part of the climate movement as such. I'm a writer. I do what you do. I share stories.

Are you an activist?

If an activist means I want to sue Exxon, no I'm not an activist. Being a researcher and writer is a type of activism.

People need solutions. They don't need data, they need narrative. We should be in the culture business, not in the science business, because we're overwhelmed by the science. We're scaring people shitless. It doesn't give people a positive vision of the world. The only way we're going to get out of this is to have a practical vision that we can all work towards.

So in Drawdown, you lay out these solutions—in a very data-driven way, in fact.

Right.

So it's interesting to hear you talk about narrative—which was so strong, by the way, in the commencement speech you gave in Portland in 2009. Maybe we need both? All of it? The data? The empathy? The narrative?

Everything is needed. Although Drawdown is fact-based and laden, it is full of stories about real people in the world, like the man who stopped the desert, Yacouba Sawadogo in Burkina Faso. There's Andrea Wulf on *The Invention of Nature*, the story of Alexander von Humboldt who first described climate change in 1831; stories about the first solar panel being installed in 1884 in New York City. If we didn't have facts it wouldn't be credible, however facts provide structure for narratives.

When you were putting it all together, which narrative moved you most?

They move me in different ways. The research we did on farmers moving to regenerative agriculture is good. These guys show you that addressing global warming is not a liberal agenda, it's not a conservative agenda, it's a human agenda.

I read a piece today about the fact that the majority of American states investing in clean energy are Republican—just because it's smart, economically. It makes sense.

Yeah, absolutely. The book makes sense economically. Donald Trump is swimming upstream, Scott Pruitt's mistaken too. But then what? What are you going to do? We need to focus on the solutions, and the red states in the middle of the country have the best wind regimes. That is where turbines are being made, sold and deployed.

So what can individual people do?

What people need is a menu; a sense of possibility. That's what's been lacking. The research we did has never been done. I get this question all the time—people raise their hand, "What should I do?" I think, I don't even know this person. If I tell the person the answer to that question, they should run. I have no idea what you should do. Each individual is special, unique, has talent and ways of knowing the world and being in the world. What should you do? Depends what lights you up, what resonates. That's what you should do. What should we do? Hold hands and collaborate; in other words, make a movement about solutions.

So what about you? What do you do?

I do this interview [laughs]. I ride my bike but barely used it during the last few months due to the deadline on the book to be honest. My house has been solar clad for a long time. I have an old hybrid car, a gift. I am a vegetarian but eat pasture-raised eggs. I have an organic farm. I can go on but Drawdown is not about me. Every person has to figure what they're going to do. What I do right now is try to change the conversation around climate change to solutions. I work with the Commonwealth of Nations, which is adopting Drawdown as a template for what may become the biggest climate initiative in the world.

Tell me a bit more about your next project—Carbon.

Carbon coincided with Drawdown as an idea. The idea for both occurred at the same time. Carbon got sold before Drawdown however once it was sold my editor didn't want to do Drawdown because climate and environmental books don't sell. And that has been true. They thought the Carbon book would sell because it's about nature. What turned them around about Drawdown was they talked to university faculty who said their students were longing for science-based books on solutions. So it was really the demand of younger people in educational institutions that caused Penguin to decide that it was the right book to do.

And as it turns out, it hit The New York Times bestseller list in its very first week. The Carbon book is very different. The cover looks like a blackboard and says, "A book about princes, frogs, fullerenes, fungus, fusion, biophony, beetles, voyages, stiction, fiction, drawdown, chirps, meshing, plasma, princesses, carbon seeds, highlines, sugars, anthromes, rewilding, resonance and earthlings" and, in parentheses, "and the future of civilisation"— with a smiley face. It's actually a fantastic voyage. It is not a polemic.

And you said it was a love story?

Yeah, absolutely!

Between... you and carbon?

Not me and carbon per se. You can't love a molecule. You love what happens when carbon molecules mix it up.

[Laughs].

It's about the gregariousness of carbon as an element and all the things that are made of it; how life interacts. We're carbon life forms. We know that but we forget that. I sometimes wonder about why pessimism has become so embedded in our culture. Why is that? Is that about identity?

So you've been noticing this kind of embedded pessimism lately?

I am seeing how attached people are to the pessimism and cynicism: "Game over, can't be done." It's not that they are right or wrong so much as they're so emotionally attached to the identity that cynicism gives them on this issue. I don't see that in the Midwest. I don't see it in the South. I see it here in the San Francisco Bay Area where, arguably, you've got great literacy.

Do you hope that you will see changes in your lifetime? Do you believe that you will?

I see change every day. I don't have a threshold that defines change in a bigger way. I think we're going to be shocked at how fast some of these solutions grow and displace fossil fuels. I think it's going to cause economic dysfunction both on the positive and negative side. I think the rate of change is exponential right now with respect to many of the technologies. I think we're going to surprise ourselves with how quickly we're making this transition from non-renewable to renewable. The International Energy Agency has underestimated the growth of solar and wind every single year for 20 years. Nuclear energy and coal are no longer economic. When it comes to mobility, Apple, Tesla, GM, Ford, Daimler, Toyota, Google are all focussing on advanced vehicles. It's going to be one of the biggest businesses in the world. They're not fools. Tim Cook is not a fool. Lyft knows, Uber knows, they all know what's coming. It's kind of like the beginning of the PC revolution. So many companies vying to be the winner. Who is going to win the electric vehicles versus advanced vehicles race? No idea. Nobody thought IBM would lose. The electric grid companies are looking a bit worried because their business model may be gone in 10 years due to home energy storage combined with solar. Let's say you live down the street from other people who are generating their energy. If they decide to link their systems together, swap each other's energy as needed, the utility business is gone. That's what's coming.

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