

Text of 'Stephen Schneider interview 19 June 2010'

Interview questions by Professor Bruno A. Walther for www.crisisoflife.net

Part 1

Stephen Schneider was one of the world's leading climatologists and an outspoken advocate of global treaties to reduce greenhouse gases.

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Walther: Would you describe how you imagine the world will change within the next few decades?

Schneider: In 2030, 2040, as long as we avoid the massive use of horrible weapons, I think we'll have a world that will be around, we're not gonna disappear in any way. There'll be parts of it that'll look great, parts of it that'll look medium and parts that'll look really bad. So I worry that what we're doing by increasing environmental stress on top of the usual human stresses is we're gonna take the already badly stressed places and make them quite a bit worse. So if you're living in one of the better places, you'll say 'What's the problem? It's just a little too hot,' but if you're living in one of the poorer places that's very close to sea level, that air pollution really matters associated with the warmer weather and the extra fires generated by global warming, it's gonna seem to be a pretty awful life. And if you care about some local species that are being driven off mountaintops and pushed towards extinction, you're gonna be pretty upset. Or if you're an Inuit, you can't hunt out on the ice anymore because the ice is too dangerous to go on, it's too thin, it's as if your 5000-year culture is melted out from under you. So what it's gonna be is looking really bad to small island states and people on the cutting edge of the vulnerability, and for those who are living fat and rich and using the atmosphere to dump their waste, it's not gonna look so bad at all, and they're gonna say 'What's the problem?' and I expect that to continue. But that's 2030.

Now if we continue on this dangerous path that we're on to a tripling of carbon dioxide by the end of the century then we're gonna make a commitment for then and the next century to warm up probably more than 3 or 4 degrees, and it's gonna be pretty hard to find places on the earth that won't be heavily negatively affected by that kind of change. So my worry about the political and emotional focus on a decade or two is it won't look that different.

On the other hand, what we do in the next decade or two commits the long-term future to a radically different status of sustainability that we are leaving to our children and grandchildren and the legacy for the rest of humanity and nature. So we have to have the vision to be able to see that

our behaviour in the next generation, even though it may not manifest itself as absolute, detectable disaster in that time frame, can be creating the problems that really are, in my opinion, immoral for us to leave to future generations. And getting people to pay attention to what they do now about how it influences downstream is politically and psychologically difficult to do but absolutely essential for proper planetary management.

Walther: We know that systems, such as the climate system, can be pushed for a while, and it seems like not much is happening. But once a threshold is crossed, the system tips to another state. Could you elaborate on this?

Schneider: The greatest concern that many of us who study the impacts of climate change on human-natural systems have is so-called tipping points. So what's a tipping point?

A point ... you go to the top of the hill, you come down, now all of the sudden you gonna keep accelerating until you go out of control and go off the road. So I like to, when I give my talks, ask the parents in the audience 'So do you worry about your kids going in a school bus when it hits the top of the hill and comes down that they might get killed because it's going out of control?' Of course they don't worry because the school board has hired a good driver, and they make sure they maintain the buses, and they have good brakes.

But what about the planet? In that analogy, the planet has no driver, just a bunch of teenagers fighting it out, and we don't even know if it has any breaks.

So the problem that we have is that you can cross some thresholds and then start moving toward a completely new, unfamiliar state, and you might not even know it for 50 years, but once you've crossed it, you can't say 'Never mind, I changed my mind, I don't like having five metres of sea level rise from irreversibly having melted Greenland' which we could very well be doing over the next 10 to 20 years by continuing business as usual even though we would not be certain we did it 'til maybe the end of the century after which we have now committed the next 500 generations to have to move away from the coastlines and move literally billions of people costing trillions of dollars of infrastructure, destroying all the cultural heritage sites associated with being within 5 to 10 metres of the ocean, all the wetlands that are there, and what are we doing it for? In order to dump our tailpipe and smokestack wastes in the atmosphere for free so that we can get richer and richer only 1 or 2 years sooner in a century. It's crazy.

Walther: One of the potential tipping points could be the effect of ocean acidification on ocean ecosystems, for example, coral reefs. Would you elaborate on this secondary effect of atmospheric greenhouse gases?

Schneider: Tipping points, of course, are very concerning because they deal with irreversibility, but some people correctly say 'Oh, but we're not sure where they are?' How many degrees warming to melt Greenland? How many degrees warming to push species off the top of mountains into extinction? How many potential partial PH point drops will it take when you acidify the oceans by putting CO₂ in the atmosphere before the coral reefs become largely destroyed.

Well, nobody knows the exact number, so the optimists and the polluters and the deniers say 'Well, let's study it until we know' and of course those people who care about the sustainability of our planet say 'Wait a minute, we have to be pre-cautionary.' We're talking about the life-support

system of the earth being potentially threatened by small changes which, once you cross that point, you go irreversibly toward destroyed systems.

Reefs are already in trouble from the release of toxic chemicals and fertilizer runoff, from people who fish inappropriately with things like dynamite and poisons, and they're in trouble from the warming of the oceans which is bleaching them. Now you're gonna add what we call a synergism, an additional factor that goes at the same time, and all that's gonna do is make the threshold of concern even lower. So the synergism of warmer oceans, assaults on reefs just from the normal pressures of humans exploiting the resource and acidification is gonna make whatever the tipping point is happen sooner and at less stress.

And the fact that we scientists have to tell the truth and say we don't know if that's five years from now or fifty doesn't mean that we should be taking a gamble. What are we gonna do? Wait around and see?

Just think if an X-ray found a spot in your lungs, and you don't wanna do the surgery because it might be a little painful, well, and expensive, so let's wait and see if the spot grows: if it grows, it's probably cancer, better take it out, but supposing while you wait and it grows, it metastasizes, grows all over your body, now it's too late to do anything: you're gonna be dead.

So the problem that we have is, it is not cost-free to wait around to find out exactly where these tipping points are: do we have one degree warming, do we have two, do we drop acidity by 10 percent or can we go all the way to 50 percent? If we're gonna sit there and wait for scientists to be sure of that, then we're performing an experiment on laboratory earth with us and all the other living things along for the ride.

My own personal view is: that's just insane because why would we take that kind of chance on this planet for what do we get? A little bit richer, a little bit sooner on the timeframe of a century. That's not worth the risk.

So therefore what we have to do is say these tipping points, these so-called non-linear events, what they tell us is we've gotta get on with the job now that we should have gotten on with 30 years ago, and we have to do a little panic buying to be able to prevent the really dangerous outcomes that we're much closer to because we dropped the ball 30 years ago by saying it's too expensive, and now the same old forces of darkness are saying it's too expensive and we don't know because they don't wanna lose market share and using the atmosphere as a free sewer to dump their junk. So in order to make them rich, they are perfectly willing to take the risk for the rest of the planet about its long-term sustainability. The only way we can stop them is to say no through government rules.

Walther: Because the risks of global change are so large, is it not immoral to base our decisions on purely economic cost-benefit analyses?

Schneider: Well, not everything that we're gonna do is gonna be bad, I mean, after all, if you're in the shipping industry, you can't wait for the Arctic sea ice to melt because you've got a shorter route across the Arctic. It's gonna save fuel, in fact, it's gonna even reduce a little bit greenhouse effect by having a shorter route, and so you save money, plus there's gonna be all those tourist ships going up to Greenland and viewing those beautiful spots up there in the Arctic. So if you're an economist,

you're gonna weigh the millions of dollars gained, and my God, we can look for oil! Look, how much that's worth! Never mind the spills, so they're gonna go out and they're gonna say it's a benefit.

On the other hand, what happens when we melt the ice: you have a 5000-year Inuit culture which hunting on the ice will be destroyed. How do you run a cost-benefit analysis weighing Inuit culture against shipping industry and fuel expense? They're incommensurate. They're not tradable in markets. What about the polar bear ecosystem? How much is that worth? I once heard an economist tell me: as many dollars as people are willing to spend to visit them as tourists. Well, I think that's immoral. This guy thinks that's a professional judgement, I think he oughta look in the mirror and see if there's a moral person looking back at him.

I mean these are people locked in a profession that is heroically struggling to try to dollarize and discount everything as if everything in life is a cash flow transaction. Well, it isn't. There are moral judgements. We don't pick our family budget or even our country's budget based on a cost-benefit analysis. How much we spend on defence, on education, on health, on national parks, you know, on infrastructure: it's a value judgement about what society thinks is important.

Now, once we made the value judgement, please bring me the economists, because they can tell us how to do it cost-effectively, and it's completely stupid to throw money away. You wanna achieve that goal that society set on values as cheaply as possible. So we want the economists: we just don't want them making decision on what to do because it's not an economic judgement. It's a value judgement about what kind of society you like.

If you're making a medical choice between a serious treatment with bad side effects and a serious disease, it's not the doctor's job to make that choice. It's your job to decide which poison you wanna take. So the doctor's job is to tell you what the consequences are of alternative behaviours, your job to figure out what to do.

Exactly the same thing in the area of the environment: how do you weigh the protection of a species versus the development of an economy? Well, those are legitimate trade-offs, and we need to do both, and there are tricks to try to do both, but we have to become aware of them and make trade-offs and make them explicit.

And it's not only one way, and it's been dominated by one way: costs! That's been everything politically over the last few decades, and we've got to start changing that mentality and saying what's important – now let's get there cost effectively. That takes a mental change that's been evolving over a generation, and we've gotta to do it really fast or we're gonna run out of time to prevent a lot of dangerous thresholds being crossed with irreversible tipping points.

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Part 2

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Walther: Should we focus more on quality of life than on continuous economic growth, which on this limited planet starts to look more and more like cancerous growth?

Schneider: The political and social philosophy has been 'improve your standard of living through material well-being'. Well, if you're in poverty, that's true. I don't think most people would volunteer for poverty, so we definitely have to improve our economy. I've never said that was a bad value.

But when you have so many people, and you improve your economy by using cheap, dirty means like internal combustion engines and extensive land use and burning fossil fuels and dumping them in the atmosphere, sending kids to hospital with asthma and changing the climate, then the very quality of life that you use those technologies to improve starts to become degraded because you fouled your nest to such an extent that it's a cure worse than a disease. So what we have to do is leapfrog over those old, industrial revolution technologies, like the sweat shops and the coal burning and the dirty, polluting cars to high technology, to renewable energy.

And we have to take a look about that and we have sit and basically say: the object of growth is not growth itself, it's improved quality of life, and when there is a contradiction that the growth has so many negative side effects that we're driving tenths of percent of species into extinction, we're threatening coral reefs, the food chain, and the quality of our own life, well, then that's really worse than nothing.

So the question then is: get off the old paradigm of doing it the old way, and it's not growth per se, it's quality of life that matters! And we have to find the means to continue improve our quality of life, particularly for people at the bottom of society, but that doesn't necessarily mean more of the old way, that could also mean finding new and better ways to do it. But new and better ways mean different winners and losers in the economic system, and the old way people, the losers, will be screaming and yelling and fighting politically, and the winners, the new way, they don't know it yet so they're not becoming enough of a political force. So what we have to do inside of the environmental movement is remind people that they are potential winners from clean technology. And it's not just about green, it's also about jobs, but they don't know it, they've got to know it to be able to get onboard and send the signals to the politicians to change behaviour because without that we're gonna go headlong down the hill with very shaky breaks.

Walther: Climate and biodiversity researchers have suggested that protecting rainforests is a win-win strategy. Could you elaborate on this?

Schneider: Ironically, some people blame corporations for causing trouble because they're only motivated by short-term economic gain and they are not charged for their pollution and their destruction of land and there's a lot of truth in that. But corporations have also taught us something that we have to remember which is what is called a high-leverage strategy of multiple benefits: that is if you can take an activity and your change is gonna bring you more than one benefit. So when a company, if they can improve the efficiency of their production process, they gonna have less pollution, buy less materials, not have the environment as degraded, and lower costs: of course they're gonna do that!

Well, the society can do the same thing: and one of the places where we can use a high-leverage, multiple-benefit strategy is by protecting primary forests, in particular tropical forests with very, very high biodiversity. There is a lot of carbon in there.

If only we could take the hardhead and the chainsaw out of the hand of the poor person who lives in the forest cause right now that's their easiest way to make an income, feed their families and improve their quality of life. But they can't do that sustainably because once they cut the trees down, now what are they gonna do? So they have a short term benefit, and in the long run, their children will be left with nothing and a degraded forest.

So [what] we wanna do is we wanna put a ranger hat on them, give them a pair of binoculars and protect the forest and pay them to become stewards of the land. Well, in order to do that, we gotta get them some money. That money then is used to keep the carbon in the ground because those trees represent carbon which have values of hundreds of dollars a ton. So if we could get international agreements to protect the climate that would get a prize on carbon, we'd have money available to keep those people living in the forest working to protect and sustain for their children, grandchildren and everybody the existence of the forest, maintaining the biodiversity of the forest and keeping the carbon in the ground.

It's a win-win-win, but in order to do that, we first have to have a price for dumping junk in the atmosphere which requires international agreements with real charges for the polluters who are fighting it, you know, and clawing and scratching to prevent, using every political argument, including lying and deceit and threats of how the economy will collapse, any scare they can use to try to prevent a loss of market share. And as long as that continues, we don't have the cash available to try to pay people to protect the forest rather than to destroy them.

So we need the win-wins, but that's only gonna happen when we have a planetary climate regime that is charging for carbon that makes funds available that allows us to get the win-win with primary forest protection for carbon, biodiversity and sustainable jobs. We can do it, but we've gotta take some global action to get there.

Walther: How can people be convinced that we need some global rules, some global agreements, without being accused of wanting to establish an all-powerful world government?

Schneider: Being in favour of having global rules is not necessarily being in favour of global government, it's about global governance. Those are not the same thing. There already is global governance.

We have air traffic agreements across every country. The way each country handles air traffic is based on a negotiation where we've given up some national sovereignty in order to have our airplanes land safely somewhere else. Their airplanes have to land safely with us. We make a set of rules.

We have shared extradition treaties with other countries: we've made an agreement if their person did something bad to us, we want that person prosecuted in our country so we give up and give our people to them. You get something for giving something.

Every time you agree as an individual to have a traffic light, speed limit, to have doctors regulated, to have airline pilots regulated, you're giving up some degree of personal freedom. This is not exactly a new idea: it goes back to Locke and Hobbes and Rousseau. You know, 200 years ago it's called the social contract. It is not absolute freedom to have total capacity to do what you want because if your neighbour does what they want and they are more powerful than you or more polluting than you, they're gonna hurt you more than the rules are gonna hurt you.

So you've got to set up rules that protect the commons, for health, for environment, for sustainability, for security. This is not a new idea, this is what we've been doing for hundreds of ideas, why we have treaties and alliances.

What's new is that it's a side effect of our economic development that's creating pressure at a global scale that now requires global-scale governance. You don't have to have everybody turning all their power over to a central government. What you have to have them do is agree to a set of rules where they'll pay into a central pot of money, there are pollution fees where they'll agree to help transfer income to allow poorer countries to leapfrog over the industrial revolution to high technology. That's governance.

We're still gonna have our own culture, we're still gonna have our own laws, we're still gonna have our own rules. What we're gonna say is: we don't want somebody else's pollution destroying our climate anymore than they want our pollution destroying theirs, so we both agree to give up a little sovereignty just like we agree to step on the brakes at a traffic light, even though it's violating a little bit of personal freedom because if we didn't have those traffic lights, the carnage rates on the highways would be a disaster, and imagine what they'd be like if there were no cops and judges.

So you have to have rules, the rules have to be enforced, they have to be enforced at a larger scale than the national entity. But it's not the whole country's lifestyle! We are talking about protecting commons that we get back even more than we gave up as does somebody else. It's just planetary hygiene, it's good management.

Walther: Talking about global governance, what would be your priorities, especially concerning biodiversity?

Schneider: I don't think that global governance involves a single thing. I think the first thing you have to do from the biodiversity point of view is protect your local assets to the extent you can. That means make certain you're managing systems that can be managed. Got your monitoring to find out what's in trouble. That's more of a national, local thing. The global part is that other people with perhaps better resources and skills than some of the stewards in the very poorest countries with a tremendous amount of biodiversity who would like to protect it but have neither the skill nor the

resources to do that, I think they have the right to ask for foreign assistance without too many strings attached, some, make sure that the money isn't stolen but you have to have some strings but not too many. So that's number one.

Number two: we have to take a look at where the hotspots in the world [are], and how can we try to get financing to keep them reasonably protected. We have to say as the climate changes, how will those hotspots move out of our protected reserves, and again, we have to try to set up corridors of migration as ecologists have already told us. We have to try to fund ways to do that, we may have to pay people whose property has to be specially set up so that they can allow those migrations, and that probably requires some international actions.

And then finally, we have to stop dumping all our wastes in the atmosphere because if we keep changing the climate, then any reserve you set up is only temporary before it no longer houses the species you're trying to protect. And that's gonna require global-scale governance where there's a price on carbon. But in addition to a price on carbon, we have to help people adapt, we have to help species adapt, we have to have public-private partnerships to fund the new technologies, and that's gonna involve loan guarantees and a number of other things that can be both national and international.

So there isn't just one thing: there's a whole sequence of steps that we can take. In the end, we have to have polluters paying for what they're doing. But the poorest countries who can't afford that, so we have to help them for a period of decades by insisting that they'd be cleaner but we probably have to pay for it at the outset. So all those multiple factors have to fit together in a world that has nobody in charge. So we have to realize that if we don't make deals with other countries, then we're gonna just end up going down, down, down in terms of biodiversity and the safety of our environment. And I think giving away a little bit of sovereignty in order to get back planetary sustainability is a good bargain at twice the price.

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