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News that Inspires

Healing Civilization Nature's Way
by Tom Anderson

Humankind’s ability to thrive in a changing world depends on a major overhaul of the way cities are built and organized, and a dramatic increase in the amount of land protected for the sake of biodiversity. Those were key components of the Garrison’s Institute’s recent symposium, Pathways to Planetary health (April 17-19, 2018), along with regenerative economics and pervasive altruism.

In the third of our follow-up conversations, we talked to two of the leading thinkers and practitioners, Thomas Lovejoy and Jonathan F.P. Rose, about our cities and biodiversity.

Tom Lovejoy’s credentials are almost too numerous to recount. He did seminal work in the Brazilian rainforest, starting in 1965, and is credited with coining the term “biological diversity.” He serves as Senior Fellow at the United Nations Foundation. In 2010, he was elected University Professor in the Department of Environmental Science and Policy at George Mason University.

Jonathan Rose is a Co-Chair of the Garrison Institute’s Board of Trustees and founder of the Jonathan Rose Companies LLC, a multi-disciplinary real estate development, planning, consulting, and investment firm. Among his many awards are MIT’s Visionary Leadership Award and The Urban Land Institute’s global award for Excellence. Jonathan is the author of The Well-Tempered City: What Modern Science, Ancient Civilizations and Human Behavior Teach Us About the Future of Urban Life.

Tom Andersen: Jonathan, can you contrast what you consider “ecological civilization” with the western paradigm of conquering or dominating nature, and explain how the two differ.

Jonathan Rose: So it’s interesting because the western paradigm began with the idea of conquering nature and then moved on to the idea of ignoring nature. I think the western paradigm has become so arrogant and self-focused that it simply does not take nature into account.

And nature has within it so much beauty and elegance but also so much sustenance. And nature is the nature of life on earth, so we ignore it with enormous stupidity.

The Chinese have a very long view of civilization. They view their history over a 4,000-year period, which I think is a very useful perspective. Interestingly, in the Chinese past, their governance was deeply connected to nature. The role of the emperor essentially was to create harmony between humans and nature. And there’s a very interesting article that came out recently in Science Magazine that tied the change of dynasties to environmental disasters. So when the environmental disaster happened—whether it be an enormous flood or an earthquake—people felt the emperor was not maintaining his ability to balance

humans and nature.

The Chinese too have been rapidly developing their civilization and also been ignoring nature to a devastating degree. The negative impacts of that are profound, and my understanding is that there are more protests about environmental issues in China than any other issues.

So in their 2012 plan, they said we're going to look to some of the roots of our history, and we're going to look to being technological leaders and social leaders and city building leaders, and we're going to create this idea of being an ecological civilization with Chinese characteristics.

And even further in their 2017 plan, they said if we can do this really well, if we can create pollution-free, green-fuel, renewable-energy-powered cities that are pleasant, wonderful places to live, that becomes an export product.

Tom Andersen: Are there places where these principles are being followed now?

Jonathan Rose: I can't think of any that truly have created an ecological civilization. To me an ecological civilization is one in which by the very nature of its practices it is enhancing the generative power of nature, rather than undermining it. It is restoring biodiversity and systemic natural health of both nature and of its people.

Tom Andersen: Tom, can you give us examples of where you think exemplary biodiversity protection work is being done?

Tom Lovejoy: The short answer will be Bhutan and Costa Rica, but let me touch on China a little. Because, of course, they have adopted this phrase of an "ecological civilization," and after the Pathways to Planetary Health Symposium I went for three or four hours to meetings led by the chief scientist of the UN Environment Programme's Jian Liu, who is Chinese, and he's probably the best chief scientist I've ever experienced there.

He asked me on behalf of the Minister of Environment of China if I would be willing to advise them on the conference of the parties of the Biodiversity Convention which will be in Beijing in 2020; and on setting the goals for the subsequent decade, which in many senses will be the last decade of opportunity. And also to advise them on greening the huge Belt and Road program, which anybody who knows much detail about finds a very worrisome set of ambitions – but nothing that in the end can't be fixed by thinking differently about design.

About Bhutan and Costa Rica. Bhutan is quite a remarkable country because they decided they didn't really want modern style development. I've forgotten what percentage of the country is essentially in protected status. It's something like 60%.

Jonathan Rose: It's in the 70s.

Tom Lovejoy: There's no other country that even approaches that.

Jonathan Rose: For perspective, Bhutan has a population just a touch under 800,000 people. It has tremendous hydropower resources, and it sells 80% of them to India, which helps fund its education programs and some of its social services and health services.

Then the balance is used to provide very inexpensive electricity to the country so that, for

example, farmers can use it to heat their homes instead of having to cut trees for fuel. So they have a unique combination of incredible and preserved biodiversity, the right decisions, and income source.

Tom Lovejoy: Costa Rica, interestingly, was the world leader on a whole lot of things involving conservation and environment, but also simultaneously became a major country for deforestation, which they are well underway to reversing, becoming the first country to have an environmental services law which basically taxes fossil fuels and puts it into reforestation.

They also have a new president who is as green as could be. I think we'll see a whole new wave of advances by Costa Rica, particularly in truly phasing out fossil fuels.

But almost every country in the world has been increasing the amount of protected areas – not sufficiently, but dramatically. Not perfectly in the sense that sometimes they're more on paper, but even though that's not enough, it's dramatically different from 30 years ago.

Tom Andersen: How much awareness is there among urban planners and developers of the need for regional biodiversity protection and their role in it, or the urban area's role in it?

Jonathan Rose: So Singapore, an island nation — one of the things about being an island nation is you recognize the limitation of your resources—has deeply integrated increasing density, mixing uses, mixing incomes, mixing races so that they can create higher density, transit-oriented, car-free, walkable communities.

With the land that they free up by those higher densities, they're infusing it with nature and intentionally creating their parks to be of higher biodiversity. So actually, we do have a city in the world that's a high technological and highly advanced city that is trying to maintain or to evolve towards that balance.

Tom Andersen: Does that not meet your criteria for a place that is following the principles of an ecological civilization?

Jonathan Rose: It may be the most advanced in moving towards it. But to me, to be a truly ecological civilization we have to be completely fossil-fuel free. So here's my view of an ecological civilization. Currently we build our buildings out of concrete and steel and glass and copper and plastic. All these are mined from the earth and are extremely energy-intensive and pollute when they're made, etc. We're going to have to evolve towards biological systems. I mean, as nature creates a forest out of the combination of soil and carbon monoxide and water and sunlight and all the elements, it does it in a way that is regenerative rather than destructive. It does it in a way that is recyclable. It does it in a way like—except from the external energy system, the sun—that has systemic balance.

And our building systems don't. So what we're doing in Singapore is a lot better than what we're doing in other places, but we need a systems change to get to what I call biological buildings where we can actually grow, restore, and ultimately recycle our building component.

Tom Lovejoy: It is a really serious problem because it's basically about a limited set of resources that are very expensive to acquire and then convert into useful forms. And

some of them are toxic, and you're going to run out of them anyway–so it's about time to start thinking about a different way to actually approach all of that.

Tom Andersen: Among the people doing important biodiversity work how much awareness is there of the need to remodel or reform urban areas under the ecological civilization model?

Tom Lovejoy: It's a good question, and it's a tough question because so many are driven by the last opportunities to protect wild areas and to reconnect isolated pieces of nature that I don't think there is sufficient attention to how to "green" cities. That has a really serious consequence because it's not only the quality of life, it's people's opportunity to react with a little bit of nature.

Jonathan Rose: What's very interesting is if you look at images of the future that came out of what I'm going to call the conquering nature period of time – from the late 1800s through World War II – they were all entirely gray, dark, concrete buildings, tall, swoopy, curvy, lots of roads, helicopters flying around and not a tree to be seen.

When I engage in urban planning workshops and I ask people to imagine the future, the future is always of a much greener city. It's denser. It's walkable. There aren't cars. It's quiet, and there's richness of nature.

It's going to take time to evolve our cities to be places where people have deep contact with nature, and the question is just how quickly we can get there.

Tom, I have a question for you which goes to carrying capacity. We are moving towards 10 billion people, and the 10 billion people are becoming more prosperous, which is a good thing, but that means they're consuming a lot more. Do you know of any serious biological work on what the carrying capacity of a healthy human society is on Earth?

Tom Lovejoy: There are two scientists who looked at the question in a little narrower way than how you've just phrased it, but it's basically how can we feed all these people without destroying any more nature. They actually are able to demonstrate that you can do that through a combination of improving productivity and improving very poorly-productive agricultural practices, without the pollutant side effects; eliminating food waste, which is like 30-40% of all food; and basically changing our diets, which our doctors are telling us to do anyway, right?

It doesn't address the larger question of what happens about all the other ways that we're modifying the planet in support of people.

Jonathan Rose: So in 1980, essentially Ronald Reagan and the theoretical "revolution" that he represented said that there was a conflict between the economy—which people interpret as meaning human well-being—and the environment, and that when in doubt he was going to prefer the economy versus the environment. Interestingly, the environmental community actually believed the same thing. They believed it from the opposite point of view, but they actually also believed this conflict.

So we have lived in a culture that for almost 40 years now is of the belief that environment and economy are in conflict. So this issue of preserving nature has fallen to one realm, scientists and political activists and people who focus on buying and preserving land, and the idea of developing cities has fallen to another.

And the camps have been separated for a long time. I believe with those two separate world views we will never be able to achieve an integrated solution.

One of the things that we put forward at the Pathways to Planetary Health conference was that you needed an economic system that John Fullerton calls regenerative economics that rewards investments that regenerate humans in nature and dis-incentivizes those who undermine humans in nature.

Tom Lovejoy: I think that's correct, and I think there's a fair amount of work that has been going on focusing on that, but it hasn't really become mainstream yet. Having said that, the United Nations Sustainable Development Goals – with all their imperfections – which loom much larger in most countries than they certainly do here is a really good-faith first attempt to integrate all of this. There are 17 of these goals. Anything you ever cared about the environment is in the 17, in one place or another, and most of the nations on the planet have agreed to pursue them and pursue actual targets.

That trickles into government planning ministries where it actually has a significant effect.

Jonathan Rose: Remember I said earlier we don't really have an integrative framework to think about how cities and nature and human development all fit together, and I was wrong. You were right. The Sustainable Development Goals are.

Tom Andersen: What do developers and urban planners need to learn from the biodiversity people, and what do the biodiversity people need to learn from people trying to create ecological civilizations? That was one of the points of the symposium, to bring people from different disciplines together so they could talk to each other and learn from each other.

Jonathan Rose: So I think what the urban development world needs—and it is progressively moving towards this—to learn from ecologists is to really understand how whole systems work and to recognize and continue to evolve our practice to be as whole-system as possible and as integrated as possible.

We know so much of nature simultaneously is improving the well-being of the whole system as it's also improving well-being for itself. I think we need to learn how to do that, and I don't mean that just in the conceptual way. Paul Hawken says that nature intrinsically knows how to heal. So imagine that there's a forest fire and avalanche and the landscape gets burnt or ripped asunder, and then it goes through a very wonderful, natural process where first come weedy plants, and then comes small bushes and thorns, and it goes through a cycle. Pretty soon it's a fully restored mature and stable landscape. May take a couple hundred years, but it completely knows how to do that without anybody instructing it.

There's a lot of trauma and despair and unhappiness in our urban places, in addition to joy and culture and civilization. So we need to also figure out how we can create urban places that naturally know how to heal themselves from a nature point of view and from a human point of view.

Tom Lovejoy: I think at the same time it's really important to try and bring more of the value of nature and natural systems into our economic decision-making. There are people in environmental organizations who find that a very deeply offensive thing to say. Basically, they look at it – incorrectly in my view – as putting a price on nature, when it's not. It's simply recognizing some of the value in nature.

But as my good friend Pavan Sukhdev, who did The Economics of Ecosystems and Biodiversity, says, if you don't include that value, then you're valuing it at zero. So I think there needs to be a continuing exercise to find ways to recognize those values in the way economic decisions are made.

Jonathan Rose: So Tom, what gives you most hope?

Tom Lovejoy: So I'm actually hoping that particularly when the ecosystem restoration part of the solution to climate change really takes off, it will change people's perception of the planet on which we live. They'll see that it is in fact a linked biological and physical system, and that we are far better off embracing nature rather than turning our backs to it. That will get people to buy in at the abstract level, but the other really important thing to do is just get people out in nature, whatever it may be, so that they actually experience the wonder of it firsthand. So that's my wild dream.

Tom Andersen: How important are underlying values to creating ecological civilizations and doing a better job with biodiversity protection?

Jonathan Rose: I think that's actually an essential component. I've been using this phrase "pervasive altruism," and I actually think it's too intellectual a phrase, but it's been getting an extraordinary response. And often in a meeting that may take a few hours and have many voices in it, the person who's summing it up will say, "And the most important idea that emerged today is we can't achieve any of these things, whether they're goals for nature or goals for humans, without pervasive altruism."

But what's also interesting to me is one of the most beautiful descriptions of the integration of pervasive altruism for humans in nature is the Pope's Laudato si in which he described the environmental issue. He's described the social poverty issues, and he described the failure of the economic system all in one document.

His Holiness, the Dalai Lama, has done the same with different language in what he calls Secular Ethics. So there are these voices that are emerging that a lot of people pay attention to that are beginning to put the idea of the value system we need to be driving culture, driving ecology – they're putting them out there and hopefully they will grow and spread.