David George Haskell: Songs of Trees
by Preeta Bansal

A while back, Pavi and I had the privilege of hosting an Awakin Call with David George Haskell. I was recently reviewing this beautiful call, rich with insights and poetic wisdom, and wanted to draw out some of his excerpts from it.

David George Haskell is an ecologist and evolutionary biologist whose work is located at the throbbing intersection between science and poetry. He integrates rigorous research with a deeply contemplative immersive approach. His subjects are unexpected and unexpectedly revelatory. His widely acclaimed book, the Pulitzer finalist The Forest Unseen: A Year’s Watch in Nature (Viking 2012), chronicles the story of the universe in one square meter of forest ground in Tennessee. His follow-up book in 2017, The Songs of Trees: Stories from Nature’s Great Connectors, encompasses a study of humanity’s varied roles within biological networks as heard through the acoustics of a dozen trees around the world that he visited regularly.

An author poet, professor, researcher and conservationist, David’s innovative approaches to teaching and fieldwork, his radical commitment to a whole-bodied study of the natural world, and his remarkable lyrical gifts have yielded a lush and illuminating body of work that returns us to our place in the web. As one reviewer put it, “With a poet’s ear and a naturalist’s ear, Haskell re-roots us in life’s grand creative struggle and encourages us to turn away from empty individuality. The Songs of Trees reminds us that we’re not alone and never have been.

Below are highlights of Haskell’s insights shared during our conversation.

About His First Book The Forest Unseen:

That project was a place where I tried to integrate different strands of my life, so part of my life was as a teacher and as a scientist sharing ecological stories with my students, and then trying to understand those a little more deeply through my own research. I also had a practice of meditation of just being being quiet for several times a day, and also I just took great deal of enjoyment in walking in the forest and opening my senses without any particular goal in mind, and so for many years these were all present in my life, but they weren’t really interconnected in any particular way.

So when I undertook the work that led to this first book The Forest Unseen I tried to draw those strands together to ask, "What would it be to take a meditative approach to just one tiny little patch of forest?" And as you described, I went to the same square meter or forest over and over again, and gave my attention to it through a year, and now through many years. And at that place to ask questions that come from my life as a biologist and as a naturalist, and as a teacher, so not to divide these different parts into different
And I think one of the big messages from the contemplative traditions, whatever religious traditional, philosophical tradition, is that through the contemplation and study of what at first seem to be rather small things -- it might just be attending to the breath, or directing one’s gaze again and again to particular piece of visual art, or returning again and again to a particular pathway to walk or to a particular passage of music or prayer or poem -- that on the face of it seems, well an experience that would be quite limited in what could offer us, but instead and this is apparent in contemplative practice, instead the practice of repeated attention to these places unfold more layers of the story, more layers of experience to us, so that we see perhaps further and deeper by restricting the gaze.

And I applied this approach in the forest by returning again and again to a tiny little patch of forest and trying to pay attention to it, and tell the stories of that forest rather than rushing around all over the world and trying to grasp the ecology of forests through shallow attention to thousands of different places. And there's a place for that -- for example, many textbooks take that approach, where they jump from one location to another and by the time one is finished reading a biology textbook for example, one has traveled to thousands of thousands of places around the world, lots of different stories. I wanted to take a an approach that was most definitely in a very different direction. ...

My rules were to just show up and try to open my senses to the place. I had a notebook and a pencil, occasionally I used a small hand lens or a pair of binoculars, so I had a little optical help, but otherwise it was just me and my senses.

About His Second Book, The Songs of Trees

But in doing that [helping my students listen to different bird sounds], I started to notice all the trees are making different sounds here. For example, the sound of the wind in a white pine tree is very different from the sound of the wind in a sugar maple tree or in a red oak tree. So each tree has its own sound, its own wind song if you like, its own sound evoked by air moving through its needles and leaves and branches. And those different sounds allow us to appreciate and interact with trees with a different sense than we normally do. Of course mostly we see trees through our eyes, but we can also listen to them and learn something about their biology through that listening.

The other thing that emerged from that listening is I realized wherever I went that part of the sound of the tree was the tree’s interaction with its environment. So every tree has its own sound and that sound mostly emerges from its interactions with the wind and so forth, but also the tree sounds emerge from the trees’ interactions with people and those interactions take very different forms in different parts of the world. In the Amazon rain forest, people’s relationship with trees is different from, say, outside the gates of Jerusalem, or on the streets of Manhattan. And I sat with trees in in each of these places to try to discern what its sounds were telling me about how people and trees were interconnected. ...

So what we have learned over the last few decades from ecological science and evolutionary science and studies of the physiology of plants, is that when we walk into a forest, we’re not walking into a place that is full of separate interacting individuals. That was the old view of of ecology. Instead we now know that we’re walking into a living network, a place where every creature exists only through relationships with others. And so for example, a tree is not just one species, one
individual, but a tree is a living community. Every leaf on a tree has hundreds of species of bacteria and fungi living within its leaves. Without those other species, the leaf cannot function; it gets overrun by pathogens, it can’t protect itself from drought.

Likewise the roots of trees are also living communities, interconnected with fungi and bacteria and other creatures below ground. And so the life of the tree emerges not from individuality but from network relationship. And that tree is therefore connected to the trees next to it and to the trees further on, and not just connections among trees, but connections among multiple different species within the forest. So a forest or a grassland or a garden -- even a city street -- these are not collections of individuals, they are living communities.

And so network relationships then produce a kind of intelligence within the forest, just as our brain is made out of interconnections among parts that have their reality, have their life only through connection and relationship with others. And we call those in biology nerves and neurons. There’s an analog of that in the forest. Incredible level of complexity of connections through billions and billions of bacterial cells in just one teaspoon of soil. So think about that -- one teaspoon of soil in your hand contains as many bacterial cells as there are humans over the entire globe. And so a few square meters of forest soil, or a whole mountain side of forest soil, has easily the number of cells and interconnections that is the equal of the human brain.

Now, the forest is not connected in a way that is directly analogous to the human brain. Of course the human brain is a very centralized structure, a centralized way of organizing intelligence. In the forest the intelligence and the thought process and the memories and the decision-making is a lot more diffuse, is a lot more spread out throughout the entire network. It’s not knotted up into one little one small brain. And of course animal brains are part of that network, the forest network, but as I say in the book, they are just one part of it.

Biology has been culminated now for 100 years by an atomistic view, and what I mean by that is -- that view says that the fundamental reality is that we are separate individuals and that the atom is the fundamental unit of life.

And we now know that from all kinds of levels in biology -- whether it’s genetics or physiology or ecology -- that that model, that metaphor for life, has a certain power to it; it helps us explain certain aspects of life. But it’s limited. It’s incomplete, and a complementary model is that life is made from network relationships. Each one is a metaphor, each one is a simplification, neither one can fully encompass all the different realities of life. And yet our thinking and our language has been dominated by the first -- the atomistic view, and now we need to make space for the view that says that the individual is in fact an illusion, the individual is a temporary manifestation of relationship. So if that indeed is the case, or at least is a good model for a large part of the living world, that does change how we think about our selves as human beings.

Of course, what is true for a tree is also true for an individual human. Our bodies are made of dozens and dozens of interacting species -- not just human cells, but bacterial and fungal cells and viruses and microbial components and so forth, and without the interconnections among all those members of the community, our bodies don’t function. But it’s also true at the level of culture. Culture is an extension of that network. So most of the ideas in our heads, and everything from the fundamentals of language to very sophisticated intellectual ideas, emerge from connections with other people. So our brain is a temporary locus, a temporary manifestation of a broader
phenomenon, and that phenomenon is culture that connects across space and time.

One of the more remarkable inventions of life, of course, is human culture, particularly written culture, where in picking up for example a piece of literature that was written a thousand years ago, our mind is connected directly to the mind of someone whose body has been dead for a thousand years, but who is still alive -- those words are still alive because they are coming alive within us. And that, you know, all sounds very mystical but I meant it actually in a very physical direct way, in that those ideas exist in human minds and that passed through the generations from one nervous system to another through these externalized connections that we call culture and literature. And so any particular book of course is one tiny portion of that larger living network. ...

Living networks, at least in ecosystems, are not places of benevolence. They're not places where it is all joy and good feeling. Instead living networks are the places where both cooperation and conflict are present. And in fact part of what animates life, and certainly what drives evolution, is the tension between cooperation and conflict that is present in any set of relationships. And I think we understand that very clearly from our own lives as people -- whether it's within families or local economies, or even more so the global economy. There is this great opportunity, and not just opportunity, this great practice of cooperation, but there are also all sorts of parasites and conflicts and tensions and so forth. So living networks are places where those tensions of played out, and creatures within the networks have to find ways of moving forward. And the traditional way in which biologists have talked about this is that, "Well, it's a very competitive world out there and evolution is just going to favor those creatures that look out for themselves that have a very individualistic look out on things."

Well it turns out that's not at all the case. Every single major evolutionary transition -- from the origin of life to the development of large cells, to the evolution of of large complex organisms like humans and trees to large sophisticated ecosystems like coral reefs, prairies grasslands, forests -- all of these took place through separate organisms that first have quite separate lives, joining together in unions, in very tight relationships, cooperative relationships, in order to deal with the rigors and the difficulties of the place that they've found themselves in. And so it turns out that cooperation is one of the great emerging themes from the grand drama of of evolution. So that's one of the things that I see standing back from this, looking at the larger picture. ...

And in both books, I tried not to put myself in the foreground, but really talk about these fascinating other creatures with whom we share our lives. And then it turns out as I was researching those stories and listening to these species, what I learned was that they themselves also are not in the foreground, if you like -- they too emerge from all sorts of interactions and stories that far transcend themselves.

So indeed that was one of the themes that emerged from the book, was the limitations of any one organism, whether that organism is me or a tree -- the limitations of that perspective. And yet paradoxically by studying, for example, one tree on the street corner in Manhattan over several years, I came to understand a lot about that particular city by returning again and again through that very focused lens. So there's a paradox in which indeed the individual fades into insignificance when we truly come to know that individual well and so forth. But also paradoxically, through that particular individual we come to see maybe not the whole ecosystem but a large portion of the ecosystem. ...

One of the trees that I returned to again and again for my second book was a very large ash tree -- a green ash tree that had fallen down and was starting to decompose. And
through that ash tree, I came to realize that for trees at least, the line between life and death is actually not so clearly drawn. The tree in its life is a being that catalyzes and regulates conversations in and around its body, and after death, that process continues on. It continues to be a member of the community, and in the case of a very large tree in the temperate forest, that process can go on for decades and decades.

So indeed when that large tree falls, there is an ecological analog of grief in the forest -- that species whose lives are very tightly bound up with that tree lose something. Sometimes they lose very important things, but in another way, the network is reconfiguring itself through that tree's death and new life is emerging from that. And that sounds like a cliche, but in fact a cliche that emerges through the actions of tens of thousands of species. And it was extraordinary for me to see how many species were drawn to that old dying tree and had gained new life from it, and I think that's also in a much shorter time frame, and then some quite different ways, mostly through cultural ways, what we're contributing as we pass through this life.

And I don't want to draw the analogy too tightly here, of course there are differences between how trees contribute to the forest, and how we as individuals contribute to our communities, but I do think that a dying fallen tree in a way helped me see my own life and the life of other people around me in a different way -- in a way that made me think that human culture is a lot more, and human lives are a lot more like the processes of ongoing life within the forest, which is always a process of loss, but also then of new creativity emerging from that. And the two are present together at all times -- that for me at an emotional level, when I'm studying forest, that manifests in my emotions as a sense that the forest is a place of incredible and inexpressible beauty and complexity and joy, but also of just unfathomable brokenness. And those two things for me both are very true, both present paradoxically at the same time. ...

With the second book I really wanted to place myself in a number of spots where it seemed that what we call nature wasn't really present, in the middle of cities and industrial zones and so forth. And I wanted to do that because the first book was set in an old growth forest and there were many wonderful stories of course in the old growth forest, and people's lives are also present in that forest, but I wanted to in some ways swing the pendulum of experience the other way and see what I might learn from that. So that was a set of planned experiences to challenge myself out of a particular mode that I've been in for several years, in the old growth forests. And through that I came to understand that the city street and the many species that are present in and around city streets have many ecological stories present within it as an old growth forest, partly because the city street was created by people and people are members of the ecological community just like any other members of an ecological community. There is no sharp division between humans and everything else -- as at least some of our religious tradition sometimes taught. That I really think is the insight from Darwin and from ecological science is that division is an illusion. So that emerged for me as a very key insight of studying trees within cities is understanding how deep the connections between people and trees and other species can be, even in places where those relationships don't get a lot of press and don't seem to be present on the surface.

In ServiceSpace, in this ecosystem, we focus a lot on the idea of small acts at the individual level that can have ripple effects on the network, and that as individuals the most we can do is these small acts that begin these ripples because of the networked nature of our world. I wonder what you think about that as a kind of a view of social change -- is it enough, in your opinion, when we're talking about issues like climate change?
Yes, so we never know what will be enough. We don’t know the future. What we do know, though, is in network communities, what seem like small actions sometimes indeed are small actions that don’t have great consequences, but in other times small actions, even if they don’t add up with lots of other small actions, but a few small actions can have enormous consequences for the network. But from no particular part of the network is that predictable. So I think that’s one of the main lessons from studying networks within forests and within human social change is the great unpredictability of cause and effect, and to not diminish the import of small actions within networks. In fact, small actions really can and do transform networks.

The other thing is if we realize that we’re acting within networks, a really important part of any kind of social change has to be linking up in relationship with others within the network. And through doing that, we open all sorts of unimaginable possibilities for the future. If we do not put effort into forming those relationships, into forming those interconnections, then we’re not making the full use of the network. We’re not even really inhabiting it in the fullest possible way, so I do think social change, of course, does emerge through all sorts of network connections.

Whether that will be enough to, for example, tackle the great questions of poverty and of inequity and of climate change and extinction we don’t know ....

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