Plants are much more than a green stamp that we add to our projects: they are living beings. But do we consider them as such? In this interview, Rosetta Elkin warns us about the dangers and misunderstandings that “plant blindness” entails, while inviting us to challenge the industrial parameters by which we understand, design, and work with plant life.

Stephanie Fell, Francisco Quintana: You have stated quite a few times that plants are motors of human life and lay at the intersection of several roles: as producers of oxygen and enablers of early planetary life, as structural components to soil both physically and chemically, as well as significant cultural symbols that are central to human narratives. However, throughout history plants have been kept in a background position, or have been chronically overlooked, while all human affairs are foregrounded. You use the term ‘plant blindness’ to describe this historical and ongoing condition. Could you explain where does it come from? What are its signs, causes and implications? And since you’re putting it in terms of a somewhat medical/aesthetic condition, does it have a cure?

Rosetta S. Elkin: Good question. Plant blindness is not something I made up, it’s something I uncovered. It has seemed in turn to grow, and over the past five years or so there has been increasing awareness. It was really only in the 1990s that biologists and educators James Wandersee and Elisabeth Schussler coined the term ‘plant blindness’ when looking at how plants
were taught to children. They claim that ‘plant blindness’ is the inability to see or notice plants in one’s own daily life and therefore rank them below other species. This is a very Aristotelian world view where there is a ladder of life in which the human is at the top; therefore, we don’t have what in ecology we think of as a system, where one thing feeds another, grows and starts to create diversity.

This area of study is very timely because we talk a great deal about extinctions now, animal extinctions for the most part. This has created what I call a ‘creature bias’, essentially a counterpoint to ‘plant blindness’, in which we can’t see the plants because of the creatures. Especially now, in a time of crisis due to the incredible loss of megafauna. But in fact, that ‘creature bias’ starts far earlier during early childhood education, as shown by Wandersee and Schussler. You learn to see and name dinosaurs and the dinosaurs are just surrounded by plants, but if it weren’t for plants, we wouldn’t have the rise of the dinosaurs. If we take our education as designers and our spatial responsibility to the outside world – be it public or private – we have inherited this inability to see plants within our profession. This is why the inclusion of plants might help change our practices. It’s really that simple. And it scales up very quickly if you want to study how we’ve turned the plant into a unit in order to continue to exploit resources. In turning a plant into a
unit, we don’t really need to think about the fact that it’s alive. This matters in a Euro-Western education because of ecological literature. If you look at a lot of the descriptions of plants and their habits, you have this abundance of terms between native and invasive: ‘exotic’, ‘introduced’, ‘non-native’. These are all dichotomies representing extreme ends of the continuum that fail to capture the grey area in the middle, where we actually live. ‘Native’ and ‘exotic’ are overly-simplistic and extremely judgmental. These terms enable us to further preference human environments, habitat function, and resource extraction, solely for our benefit. As soon as a plant grows without human intervention this tends to be called an ‘aggressive’ or ‘invasive’ species. But, if we have plants that perform well without us, we as designers could celebrate that. If we celebrate that, it makes us less reliant on the commercial nursery market because we don’t have to buy plants grown in plastic pots and order them by spreadsheets in hundreds of thousands in order to bring them into a site where we don’t want them to naturalize. We want them to stay well-behaved so that we can continue the maintenance regimes that keep that same ‘exotic vs introduced vs native’ dichotomy clean and clear.

This relates to modernism in architecture and landscape architecture; we need to ‘maintain the detail’, and that takes an intensive amount of maintenance. It perpetuates the human as the first predictor of the environment and actually contradicts our ecological aspirations as designers.

One of the things I say to my students – I teach studio courses that are at a territorial scale – is that we need all scales in landscape architecture, just as we do in architecture. What I try to teach is ecological change and in doing so I grapple with the tendency to use horticultural techniques for ecological scales. That tendency is exactly where
we come into friction with sustainability, when we have to maintain a formal aesthetic and control. We do all of this armored with ‘plant blindness’. I’m very curious about the spatial consequences if we didn’t bring that conservative, formal, judgmental, simplistic dichotomy into practice. As soils or rain patterns change, crop-harnesses shift, people move, water is far fuller of nitrogen from fertilizers, the designer is put in a position where we can make decisions about whether or not we want to work within this dichotomy or actually encourage plants to behave and grow in meaningful ways with a little bit less control.

I prefer to say ‘plant life’ and not just ‘vegetation’ because I’m trying to get away from the objectified cartographic outline. The word ‘vegetation’ comes from cartography, it’s on a legend with a little green square. That’s not the living plant, that’s a plant-based metric to try and differentiate land classification. It has nothing to do with plant relationship, and the connection between the living matter and the atmosphere. In saying ‘plant life’ we have to say ‘life’, and I encourage my students and clients to do so.

All of this was shifted into the post-human/ non-human ontological turn in academia and in the humanities only in the past couple of years. Jane Bennett writing a good decade prior – and other early scholars of the non-human turn – never talked about ‘plant life’. It was what we had left out. Only very recently have plants come into the conversation. And that’s fantastic, that’s huge progress, and it starts to link more directly to what we do as designers. Very simply, plants are one of our main collaborative materials: the soils we work with, the plants we work with, the atmospheres and climates we work with. We understand our lack of control when it comes to other creatures, but we don’t understand how to manage that dichotomy with plant life.

Tiny Taxonomy, Les Jardins de Métis, Quebec
Tiny Taxonomy clasifica las plantas a través de rasgos compartidos y comunes, derivados de micro características e inventando una taxonomía. El jardín está desempacado y representado para su consideración, ofreciendo 25 especies a la altura de los ojos para ver las pequeñas estructuras que los unen. Tiny Taxonomy classifies plants through shared and common traits, derived from micro-characteristics, inventing a taxonomy. The garden is unpacked and represented for consideration, offering 25 species at eye level for viewing the small structures that unite them. © Rosetta S. Elkin

The plants of the forest floor are some of nature’s most inconspicuous and often ignored players. By providing a partial inventory of some of the smallest operators of the boreal forest ecosystem and by elevating these species from their traditional position underfoot, their intricate nature is made evident. © Rosetta S. Elkin
SF, FQ: So, the underlying idea to what you’re saying is that to overcome this condition, plant knowledge cannot be a strictly human project. In other words, agency should not be limited to forces or creatures like animals and humans, therefore including plants. This of course, not only changes our philosophical understanding of ‘plant matter’ or ‘plant life’, but also directly requires a certain re-evaluation of concepts, particularly the concepts that designers, planners and government agencies use, as well as the set of criteria that designers consider when working in landscape projects. So, could you walk us through – maybe referencing your own professional experience which is quite vast – as to what are the main challenges in this regard, both in terms of vocabulary – the words or concepts chosen to speak about certain phenomena – on the one hand, and the normalized practices that need to be re-thought of, on the other?

RE: There’s a lot in that question, so I’ll orient it toward practice. Practice has to shift. It has to change with the times, and currently we’re working with outdated details and construction models. Very often people will say “research has to speed up”. But maybe, building has to slow down. Typically, planetary time-scales are much slower than what we have sped them up to be. Capitalism and the carbon economy push us towards ‘more, better, faster’, and to believe that somehow scaling up is always better. If a project has scalability, it’s a success.

You mentioned philosophy. I would call it the humanities or philosophical thinkers within the humanities. Anna Tsing wrote an article on non-scalability theory fifteen years ago. In conversation with Anna, she said “you as designers, do a much more difficult thing than we do. We highlight the issues, but we stop there”. The three of us sitting here talking, we have to pick that up and then bring it to the material world. When she talks about non-scalability theory I’m inspired because there are some things that just don’t scale-up, and we have left those out of our models because they’re too difficult to objectify, draw, repeat, offset, copy-paste, etc. All of our operations suddenly break down.

Plants are non-scalable. You can scale a ‘unit’, which is why you have to break a tree into a unit before you can scale it. This is the basis of scientific forestry. But if you really look to the living-growing plant it doesn’t scale. Sometimes plants get smaller and more adapted, and sometimes more is not better when it comes to evolution; bigger is not better. Therefore, taking on faster building procedures at larger
scales might not be ‘progress’, and it might not be progress especially in these times. If we can push back on our clients and push back on our timelines and push back on certain practices, and just find the control point in any project where you can change one of those scales, time-scales or spatial-scales, then I think you’re working within a non-scalability theory. That is very promising to me.

The commercial nursery market is built by reducing plants to units, and then ensuring that we buy native species and use predictable plants. If plants are unpredictable, aggressive, invasive, or don’t perform ecosystem services like carbon offsetting and survivability rates, then we can’t use them. Ecosystem services do not measure how we bring materials from markets into our projects. We’re not calculating how much petroleum is used to get materials growing, to make sure they’re weed-free, to encourage maintenance activities from mowing to bisulphate. If you calculate those costs, they don’t balance out the CO₂ removed by the landscape that you’re maintaining. Ecosystem services actually start to encourage a less than ecological approach. You are just planting trees, not growing them. And there’s a big difference. If you really want to grow trees long term then the soils, the seeds, what is already on site, and what you can cultivate are critical. There is a different aesthetic that comes from this way of working.

I’m currently working with the Robert Rauschenberg Foundation on their 20-acre site on Captiva Island, a tiny barrier island on the Gulf Coast of Florida. A barrier island has no soil. This might be hard to imagine, but there are about three inches of topsoil before you hit lithic limestone, this means there is no growing medium. To address this, you could import soils.
from hundreds of miles away to put on a sandy salty barrier island. We know we can’t do that. You could also blast a hole to plant an imported nursery plant, but because of the thin topsoil we would then have to water-fertilize in a continuous loop in hopes that the imported plant holds on. And once a storm or hurricane comes along the plant you’ve imported is going to be lifted right up and out of its spot. This leads to great repeat business because you have to call the maintenance crew again, call the commercial nursery again, and get the same plant again to maintain the same design. What we’re doing instead is experimenting with gap-ecology, anthropogenically making gaps in the existing hammock forest. For instance, opening an area by carefully coming in and removing one plant that might be aggressive – whether native or non-native – and then managing what grows from there.

What matters is what is happening ‘below’ ground, not above. Because the very smallest plants have the deepest roots and these first roots are going to hold on. Once a plant is holding on it can flourish and it is then that we can clear the plants around it and allow it to be horticulturally-distinct, not designed in the nursery. We purposefully call this ‘adaptive management’ instead of ‘maintenance’, because maintenance tends to use a design that is formal in some respect. A formal design is needed sometimes when it serves a very clear public recreational or cultural purpose, but generally you maintain to constantly go back to an original state.

But, what if you’re actually maintaining to move forward, to adapt to the change that you’re seeing? It is the humans that need to adapt, it’s the management techniques that need to adapt, it’s not the plants. Maintenance assumes cutting, mowing, blowing, etc., in order to uphold a cultural and anthropogenic image, but adaptive management is humans adapting our management practices by virtue of what we’re noticing. This is still design because when five different plants sprout up we’re going in and taking out what we don’t want – because they don’t fruit, because they don’t flower, or because they won’t make a gorgeous canopy one day – it’s absolutely aesthetic. It hopes to be beautiful, it’s going to be slow, we’re going to learn a lot, and those plants are going to hold on. It also allows us, the designers, to walk away at a certain point. Now, is that scalable? No, absolutely not. Does that make it less valuable? I hope no, not at all.

SF, FQ: You touch many topics like commodification, adaptability and nostalgia that we would like to discuss. There’s this kind of contested concepts that come up when we read your work, and particularly one seems to be resilience and
its understanding as related more to human nostalgia than to plant behavior. Or how retreat is perceived as a loss of dominance, therefore, a kind of threat, when dealing with coastal or risk-prone landscape; and how much of that is related to how plants are introduced into the matrix of human progress and how that affects how we come to understand and treat these concepts.

Re: A lot of people ask me, “you’re interested in retreat and climate adaptation, and you’re interested in plants. How do you consolidate those agendas?” I’m trying to, and one of the clear ways to do it is that the plant itself is the only living organism that connects the soil to the atmosphere, the climate to the ground. Plants condition the atmosphere so that creatures and humans could evolve. One of the ways I do that is to talk about the land that’s left behind. Very often when you talk about risk, whether it’s flood, earthquake or sea-level rise, there’s certain defeatism, “ok, we have to leave, and therefore the land that’s left behind is no longer our concern”. This is what I mean with nostalgic, a notion that it “goes back to nature” or “it goes into the sea” but in fact that’s rarely the case.

The issue with a lot of coastal environments, is that as people move away from the coast, they’re not responsible for what they leave behind. They can leave behind their sceptic tanks, foundations, their nitrogen-filled gardens, and everything that goes with it; they can just accept a buy-out and leave. As a landscape architect that is an incredible amount of public space and an incredible responsibility. You can relocate a building, you can relocate an object, but you can’t relocate a glacier, they don’t relocate. Relocation is a very anthropogenic idea. I understand it with architecture, but you cannot relocate a landscape. When I talk about ‘retreat’ it is about the land that is left behind. It

“Ecosystem services do not measure how we bring materials from markets into our projects. We’re not calculating how much petroleum is used to get materials growing, to make sure they’re weed-free, to encourage maintenance activities […]. If you calculate those costs, they don’t balance out the CO₂ removed by the landscape that you’re maintaining. Ecosystem services actually start to encourage a less than ecological approach. You are just planting trees, not growing them. And there’s a big difference.”
pairs with relocation, it doesn’t contest it. Plants tend to take over in the land that is left behind. If we leave behind an absolute chemical mess with foundations that have crumbled, leaching, wall details, below-ground pools, what grows there? It’s not going to be native species because the soils are no longer native. I see an interesting potential in the land that’s left behind for more recreation or public space. This design space is going to be designed differently: self-sustaining and less maintained. An ecological lexicon allows us to understand plants that grow without human intervention. These plants are sometimes called ‘disturbance adapted’; if we have areas of grave disturbance, and plants that can take that high level of disturbance, whether the plants are native or non-native they’re ecologically significant.

**SF, FQ:** We would like to relate it to the eco-political climate we’re in – if we could call it that – where words like ‘extinction’ and ‘urgency’ seem to be on every headline. How do you deal with these agendas? Maybe what we need to do is slow down construction, or take the route of adaptive management. But, how do lines of work that demand time engage with this contemporary condition of ‘urgency’? Maybe you could relate to how the sense of urgency has played out in afforestation projects like the North Shelterbelt Program in China, or The Great Green Wall in Africa.

**RE:** There are chronic and episodic risks in ecology, but it seems that our society has conflated those terms.
Essentially, climate change is a chronic risk: it’s slow, hard to notice, it comes in and out of our lives. Imagine your basement floods and you get a pump. That works for a few years and you don’t think about it anymore. Then your pump has to be on twice a week and not once a week, and you don’t think about that either. And then, all of a sudden, you’re living with a pump going full time, and you haven’t really noticed those years of the water table coming in. Architecture and landscape architecture and urbanism do need to work at different time scales. Certainly, architecture is of incredible humanitarian value in reconstruction processes, but landscape architecture can take on a much more pre-emptive role if we acknowledge the slow change. That’s precisely where we could do more.

I work with very slow risk. In cases of afforestation we’re essentially imposing forested lands on non-forested environments. It is a speed issue: we need to offset now because we’re burning the Amazon and we have to plant trees to keep up. It is so perverse. We should be fighting deforestation, period. We should not be fighting deforestation with afforestation. You can’t replant a forest. A forest is its trees and a series of relationships of different ages and multispecies associations. We get caught up in that same simplification of planting that commodifies and speeds up the process. For this reason, I’m interested in massive ‘green projects’. If you’ve ever seen one it just stops you in your tracks. There’s a feeling of synthetic overlay mismatched with the habitat and biome. It’s like a rhino blanket with no attention paid.
to north or south slope, or to the distance of planting; just the same plant gridded over and over. Why aren't we complicit if we're landscape architects with aspirations for the ecological and territorial scale? Massive afforestation projects are precedent projects, and they are precedent projects even though designers weren't involved. It's important that we grow our precedents not just to include design precedents.

**SF, FQ:** Would you say that the ‘working with’ approach that you mentioned at the beginning, is a way to tackle this chronic issue? That on one part, and on the other, when you talk about the commodification of nature, you're not referring only to economic exploitation, but also to governments and supra-national institution’s discourses, like the UN giving millions of dollars to developing countries to plant trees.

**RE:** Well, the concept of ‘working with’, which I borrowed from Isabelle Stenger, is truly a kind of antithesis to how we've been 'working against'. When you ‘work against’, it sets into motion the whole economy that I was describing earlier because you have to protect, maintain, drill, excavate, operations that pacify the land. We're so used to just redirecting rivers now. As opposed to ‘working with’ the conditions that are actually there. When you work with the landscape, when you work with other living organisms, you're incorporating their nature into your decision making. Again, if an aggressive species continues to want to grow, over and over and over again, perhaps you should work with that logic and not against it, because to work against it would be to inject it with chemicals. A lot of these massive players from the World Bank to state-level organizations, or what Keller Easterling calls “the NG0cracy”, are conditioned toward humanitarian practices, to take the humans first, which very often means ‘working against’ the landscape conditions. That has been a model that, for better or worse, has failed us. **ARQ**
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La evolución de una ideología /The Evolution of an Ideology
El encuentro de las Naciones Unidas sobre el cambio climático, dentro de la Conferencia de las Partes [COP], revisa y evalúa los avances realizados en materia de cambio climático. Desde 2001, estas reuniones se han diseñado con un logotipo, el gráfico ilustra la evolución de la marca, desde el marco de un problema global interconectado representado por el planeta, hasta la idea de una posible resolución local, representada por el árbol simbólico.

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