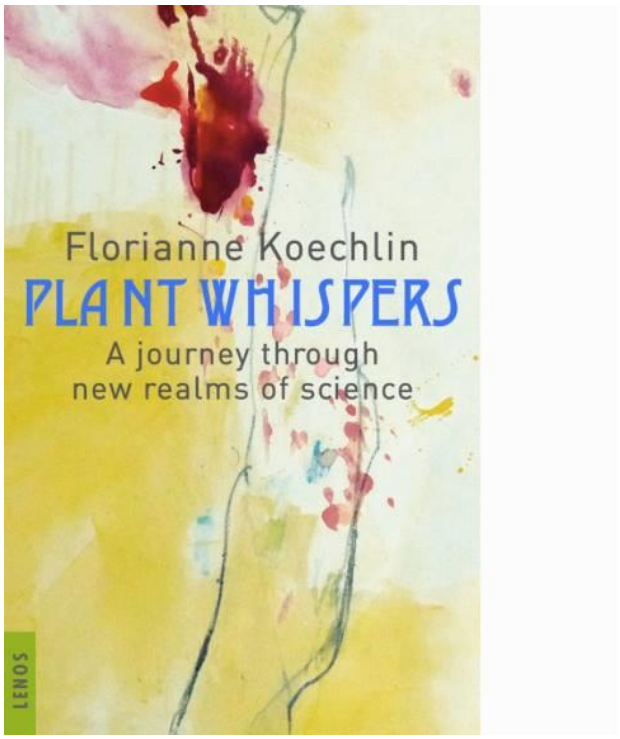


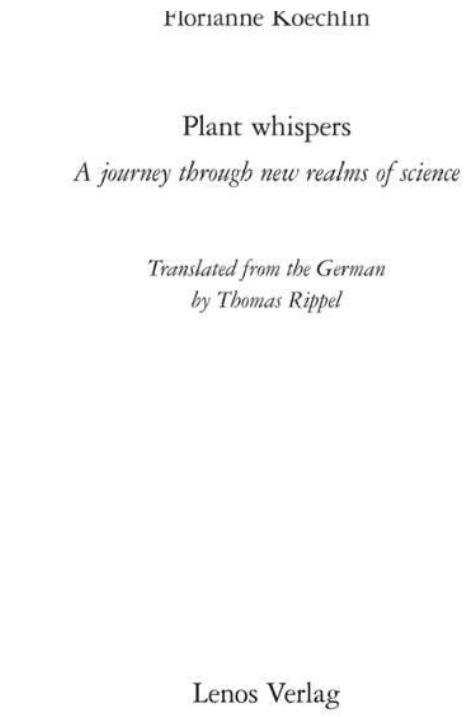


# Plants have dignity...? What does that mean?

Plants use fragrances to communicate above and below ground. With a language of “fragrances”, they warn each other of pests and drought and purposefully attract beneficial insects. They coordinate their own behavior and engage in lively relationships with the environment and peers. Not only do plants support relatives, harass strangers, and make alliances, they also learn from and remember their experiences. Information and nutrients are exchanged among plants through a vast, underground root and fungal networks – a plant internet of unimaginable size. Clearly, plants are more complex than we previously imagined.

How are we to deal with these new insights into the nature of plants? Is it not time to completely rethink how we relate to our plant relatives? I was given ample opportunity to discuss these questions in Switzerland – the only country in the world whose constitution demands respect for the dignity of living beings. Article 120 of the Swiss constitution says that “the Confederation (…) shall take account of the dignity of living beings (…)”.

And during the discussion about genetic engineering, the Swiss Parliament confirmed that plants are living beings and have dignity. But what does this mean? The Swiss government directed the Federal Ethics Committee on Non-Human Biotechnology (ECNH), of which I was a member, to determine the basis for this constitutional norm.

Ihad my problems with the word dignity. In former times, the word was often used in a religious connotation. Dignity was used to distinguish man from the rest of living beings. But dignity with regard to plants? An impossible concept!

The German word for dignity, 'Würde', comes from the Middle High German word 'wirdekeit' – meaning value or being valuable. So dignity for plants could be understood as a sign, a metaphor that plants are entitled to inherent value, independent of human interests. So our whole investigation focused on the question of respect for plants for their own sake, not because they are useful as food or visually pleasing.

If something has inherent worth, a value of its own, then it has something we could call dignity. But do plants have a value of their own?

We had no precedence for this discussion and could not rely on the literature. We soon discovered that intuition and "common sense" were necessary, but not sufficient. The Committee disagreed on nearly all points, and some members thought dignity could not be assigned to plants.

For a start, we looked at new scientific findings in plant biology. We learned that plants sense numerous parameters in their environment, interpret and react to them appropriately, actively communicate, and interact extensively with their surroundings. We learned that plants are capable of choosing between different possibilities and changing their behavior accordingly, as described in previous chapters.

We also learned that plants and animals share a developmental history lasting three billion years and fundamentally similar processes and reactions at a cellular level. These similarities are far greater than previously assumed, such as communication with electrical and molecular signals and vesicle trafficking, to name a few.

How do we move forward and apply these insights to our question – do plants have dignity? What ethical positions would permit us to consider plants for their own sake and apply the right to the dignity for all living beings to include plants?

Some of these positions were:

Theocentrism: Plants are created by God. All organisms deserve dignity because of their relationship to God.

Pathocentrism: Plants have to be considered for their own sake only if they are sentient and are therefore able to experience something, in some way, as good or bad.

Biocentrism: Plants count morally for their own sake because they are alive.

No member took the theocentristic position, so we struggled with the remaining two. The majority settled for the biocentristic viewpoint while a minority for pathocentrism. I myself suspected that the two categories could be combined if we assume that sentience is intrinsic to all living being.

The next important question was – do plants have the capacity for sentience? If we attribute sentience to plants, we mean: they are able to experience something as good or bad and react according to some internal, subjective perception. We could then infer that plants have their own interests, could be harmed, and could perceive the injury. In contrast, a watch cannot.

If plants are not sentient, they have no ability to perceive stimuli as positive or negative and simply react to environmental stimuli. They are like living automatons exchanging signals, although in a very sophisticated way. With no sentience, plants would be following the laws of action and reaction as dictated by their genetic program. If injured, they would not perceive the injury as harmful.

Now if we look at plants as simple things, living automatons following set programs and satisfying our interests and demands, the attribute of dignity seems absurd, it does not make sense. But if instead we view plants independent of humans and as active, adaptable living beings, capable of subjective perceptions and with the capacity to discriminate harmful from beneficial – then we have good reasons to accept the notion as valid: Plants have dignity. The problem is that we don't know if plants are sentient, as Dieter Volkmann explained (see chapter 8). We do not know

if plants are capable of subjective sensation. Even though scientific findings currently cannot confirm that plants feel pain, we cannot simply rule it out. We have pieces of evidence, but no complete chain of evidence. Claims that plants do not experience subjective sensations are just as speculative as the opposite. We simply do not know; however, it is certain that the plant's ability to perceive her environment has been widely underestimated thus far.

Today, we assume that animals are sentient, that they possess a subjective perception of the world, that they have individual preferences and can integrate and process different sensations. These criteria we put into the concept of sentience. Normally that needs a central nerve system – but is this really necessarily? Again we do not know.

Gustav Theodor Fechner (1801–1887), a great philosopher and apologist of the plant-soul, once remarked that we could compare our body with a violin that feels the inner play of the strings within itself. But a flute also produces sounds and objective sensations with no strings. He writes: "so I do not know why plants could not also produce subjective sensations, without having nerves. Animals could be string instruments, and plants flute instruments of sentience."

Certainly man has considered animals as soulless machines in the past. In recent decades, however, they have – at least partly – escaped from this mechanistic trap. Perhaps. In January 2015(!) the French Parliament declared that "les animaux ne sont pas des meubles" but "des êtres vivants doués de sensibilité" – animals are not furniture but living beings capable of sensitivity. A symbolic act, I read, but nevertheless against fierce opposition from part of the UMP.

But in general we have probably begun to acknowledge that animals have a right to dignity and respect. Animals are not considered things – or furniture – anymore. As a result, regulations for species-appropriate care of farm animals have been developed in Switzerland and elsewhere.

A discussion on the dignity of plants is miles from that of animals. Anything and everything is done with and to plants today – with no ethical considerations or awareness of it being a problem. Such attitudes towards plants, however, are slowly becoming harder to justify.

The Ethics Committee consisted of experts in philosophy, ethics, molecular biology, science, and theology. Our opinions were often controversial, yet the majority was convinced that not-knowing is morally relevant. We then agreed on one point: Plants should not be harmed in an arbitrary way because we cannot exclude that they are sentient and have their interests – which we call

dignity. Arbitrary injury or destruction of plants violates their dignity and should not be permitted. However, the Committee could not agree on the meaning of 'arbitrary.' While some thought arbitrary meant the senseless picking of a roadside dandelion, others, including myself, considered it to mean massive total instrumentalization and industrialization of plants.

A majority of the Committee agreed that we should consider the idea of dignity for plants in proportion. Dignity of plants is not an absolute value, but determined by balancing morally relevant interests. The interests of a plant should weighed against the interests of humans. And similarly, the interests of plants must be valued differently than those of animals.

The conclusions of the ECNH were general with no specific demands or requests.

After four years of discussion, in 2008 we published the final report: *The dignity of living beings with regard to plants. Moral consideration of plants for their own sake.*

The press response was immense. Some media outlets carefully reviewed the report while others showered mockery and malice reporting from the dignity of cacti to the notion that weeding dandelions should be ethically reprehensible.


Press reactions to the report of the ECNH, The dignity of living beings with regard to plants (photo: Florianne Koechlin)"

"Nevertheless, I was happy a public debate on the status of the plant had taken place at all. For this report we received the Ig Nobel Prize – Ig comes from ignoble, an ignoble Nobel Prize. It is a prize for particularly ridiculous research, which makes people laugh – and then think. A member of our Committee went to Harvard to receive the prize.

I was inspired to discuss the topic further with experts and friends. We launched the “Rediscover Plants” project with fifteen individuals including farmers, botanists, philosophers, gardeners, biologists, and activists who met regularly for all-day discussions.

The plant remained at the center of our discussions. With a newly established view of the plant, we tried to approach her carefully from different sides and redefine her boundaries. We formulated theses and proposed the idea of plants having rights.

Allocating rights to plants seems far-fetched, but we were convinced that we must urgently set some limits to protect plants against total industrialization and instrumentalization. That we humans have some responsibility to plants. That mere appeals to show more respect are not enough. That plants need something more binding – yes – rights. You only endow somebody with rights when you care. A watch does not need rights.

Rights for plants does not mean we should not eat, cut, mow, graft, or conduct research on them. Similarly, rights for animals does not mean we should remove them from the food chain or forbid animal research.

We formulated our declaration and, throughout the process, remained focused on what rights plants should have, not what rights would be socially acceptable or enforceable. The result was the *Rheinau Theses on the Rights of Plants*.

By giving rights to plants, we broke new ground. Plants should have a right to be independent, in regard of propagation and adaptation for example. Next we formulated rights for survival of their own species and the right to remain unpatented.

Of course it is difficult to define where our actions cross the line. Plants can adapt to excessive manipulation, without giving signals of their limits. After all, a head of lettuce does not cry. But is this so different for animals? Until only recently, when we began observing animals in the wild did we realize that we had crossed the line in our treatment of them. By monitoring animal behaviour in the wild, we understood the conditions for species-appropriate animal welfare.

As a kid I spent many hours during vacations in a nearby stable watching how the farmer milked his cows. To me, the cows seemed happy and content – even though they were chained in the stable all winter long. They did not know that regular movement in open air was a part of their “species-appropriate behavior”. We found the reference point and stop signal only after watching

animals in open air. Experts in animal behavior deduced criteria for species-appropriate cow keeping. Cows in Switzerland now have the right to be outside in winter regularly.

Equally, plant behavior differs between the laboratory and the wild. Once researchers moved their workplace from laboratories into nature, they discovered the complexities of plant behavior. Hopefully, the more we learn about plants, the more we will find the limits of exploitation – or even rights. We are at the very beginning of this discussion.

During the many years of discussing plant dignity, I came to love the expression – dignity is more than respect or value. If we claimed more respect, nobody would object or bother. But dignity provokes discussion and creates disturbance, which is good. Who knows, maybe in a few years we will be laughing together as predicted by the Ig Nobel Prize – but maybe that laughter will be about our arrogance as humans instead.

These are excerpt from the book “Plant Whispers | A journey through new realms of science.” (Chapter 10) by Florianne Koechlin, translation to English by Thomas Rippel.