

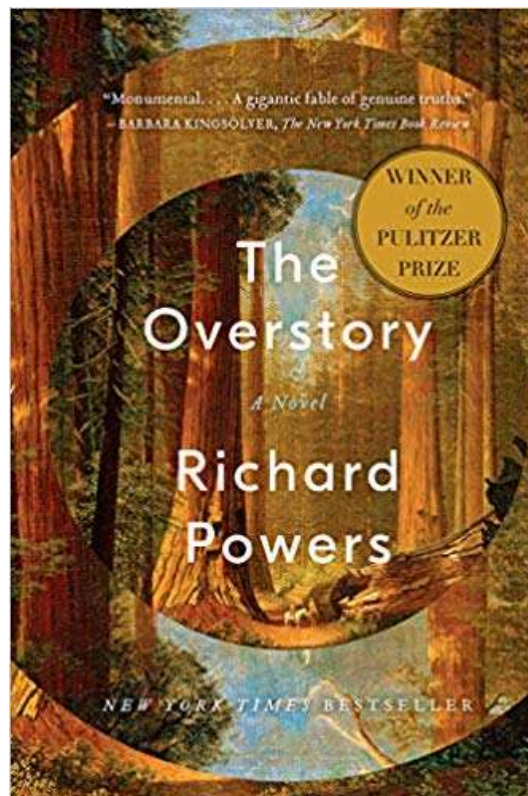
Plant Life and Richard Powers' *The Overstory*

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Abstract

The paper looks at the contribution of Richard Powers as a novelist who blends genres and disciplines with the consummate ease of an artist combining various colours and shades to lend magical touches to landscapes. An abiding strength and theme running through Power's novels is the delicate mixing and inter-mixing of disciplines and the inevitable

overlapping of science with arts, imagination with scientific temperament and artificial intelligence with natural. In one of his novels, he lends his surreal touch by combining the natural sciences with environmentalism and the bigger issues of our time – racism, sexism, gender disparity, discrimination against women in scientific establishments, etc. and shows himself as another Rachel Carson, whose spring of ideas is not silent this time.

Keywords: Richard Powers, *The Overstory*, fiction, plant life, eco criticism, ecology, science

Introduction

Perhaps few writers/novelists are as under rated as Richard Powers whose novels span a whole gamut of genres from eco criticism to quantum physics to computers science. A physicist by profession, Powers is nevertheless the proverbial jack of all trades and master of all that he writes as he wields that pen with the finesse of an astrophysicist working on partial differential equations detailing the fate of the universe and beyond.

Powers is in many ways the Einstein of science fiction with his abstract and sensuous themes. straddling a landscape that only those who are as academically brilliant as he is, would find relevant or even comprehensible.

In fact, in *The Over story*, environmentalism manifests itself as a powerful narrative. The narrative focuses on

“... the interconnected lives trees lead. Their behaviour – the ways they help and provide for each other, and other living things too numerous to count – is a direct rebuke to the way we live today. It would be easy, watching him identify the plants, fungi and mosses around him, to think he had been a botanist all his life, as opposed to a man who spent a frustrating 12 months learning to tell oak from ash” (16 June 2018, Emma John in an interview with Powers for *The Guardian* newspaper).

The novel deals sympathetically with the lives of plants and trees and the feelings they exhibit just as humans do. This is captured so well in the chapter that has a very imaginative and lively character Patricia Westerford. In fact, this is where the novelist brings about the grand alliance of science, spirituality, environmentalism and eco criticism. In every sentence and paragraph, the lines come alive with the spirit of humanism and concern for Nature, making Powers a spokesperson for ecology and eco system.

One of the protagonists of the novel, Patricia Westerford, her precocity brimming through, wonders thus:

Which is more numerous- the stars in the Milky Way or the chloroplasts on a single leaf of corn? Which tress flower before they leaf and which flower after? Why are the leaves at the top of the trees often smaller than those at the bottom? If you carved

your name four feet high in the bark of a beech tree, how high would it be after half a century? (p.115, 2018)

This is symptomatic of how well the writer knows his environment and of how he wants every human to appreciate life around him, which he believes is not restricted to just humans but all living things which humanity too often ignores or chooses to turn a blind eye to because of their own restricted definition of what constitutes life.

As Westerford grows under the caring and compassionate eyes and ears of her father, she learns to appreciate the environment much better than anyone in the neighbourhood. She appositely observes: "... human wisdom counts less than the shimmer of beeches in the breeze," echoing very hauntingly the words of Wordsworth:

To see a World in a Grain of Sand
And a Heaven in a Wild Flower
Hold Infinity in the palm of your hand
And Eternity in an hour
A Robin Red breast in a Cage
Puts all Heaven in a Rage
A Dove house filld with Doves & Pigeons
Shudders Hell thr' all its regions
A dog starvd at his Masters Gate
Predicts the ruin of the State (Auguries of innocence)

Patricia is fed on a diet of Greek and Roman myths and legends about trees, angels, fairies, and of man's intimate relations with Mother Nature. As botany major, she quite sees the disconnect between what her science professors tell her and what she has actually observed: the professor wants deadwood removed while she sees the necessity of their presence for keeping the forest alive.

A healthy forest must need dead trees. They have been around since the beginning. Birds turn them to use, and small mammals and more forms of insect lodge and dine on them than science has ever counted (pp.121-122).

While researching the behaviour of trees, she stumbles on a truth that one of India's foremost scientist had discovered nearly a century ago – that plants and trees indeed have "emotions", and process in their own way threats, pain, loss and joy.

Jagadish Chandra Bose was very famous for his experiments with plants which he believed had the same capacity for experiencing pain and pleasure as humans.

Sanchari Paul (2016) suggests that Bose strongly believed that plants had a sensitive nervous system, not unlike that of animals, and that their responses to external stimuli could

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be measured and recorded. His belief was strengthened by the results of his experiments. For instance, in one of his experiments, the plant was dipped in bromide (a poison). The pulse beat of the plant, shown as a light spot on the smoked plate, became unsteady once the plant started taking in the poison, proving that plants have life.

Westerford invests her theories with anthropomorphic thrust which her fellow students apparently won't believe or regard with respect. Yet she persists in what she does and in using very scientific methods to probe deeper into plant life. She comes up with revelations that trees have a social life and that they warn each other of impending threats to their existence and that they communicate through release of chemicals and gases.

She achieves this using the very scientific methods that her professors used. However, her professors ended up botching her attempts to bring these facts to light to humanity.

Westerford employs "gas chromatography – mass spectrometers" (p. 124) to carry out her experiments. She discovers that trees protect each other and warn other trees of any imminent threats like humans in a colony do.

The trees under attack pump out insecticides to save their lives. That much is uncontroversial. But something else in the data makes her flesh pucker: trees a little way off, untouched by the invading swarms, ramp up their own defenses when their neighbour is attacked. Something alerts them. They get wind of the disaster, and they prepare. She controls for everything she can, and the results are always the same. Only one conclusion makes any sense: The wounded trees send out alarms that other trees smell. Her maples are *signaling*. They're linked together in an airborne network, sharing an immune system across acres of woodland. These brainless stationary trunks are protecting each other. (p. 126)

Westerford proves through rational and very logical means that trees indeed are living beings blessed with the same capacity for pleasure and pain as humans and that one cannot take their presence for granted or view them as lifeless automatons with little or no ability to appreciate what is happening around them.

It is here that Powers shows how science and religion intermingle: Hindus have always worshipped trees as beings with special powers. In the Bhagavad Gita, Lord Krishna declares that among trees he is the fig (asvattha) tree.

*asvatthah sarva-vrksanam/devarsinam ca naradah
gandharvanam citrarathah/siddhanam kapilo munih*

"Of all trees I am the holy fig tree, and amongst sages and demigods I am Narada. Of the singers of the gods [Gandharvas] I am Citraratha, and among perfected beings I am the sage Kapila." (Bhagavad Gita, chapter 10, verse 26)

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This is how in chapter after chapter and story after story, Powers brings to bear his love of nature while also simultaneously showing how scientifically one may attest to the presence of life and humanity in all beings, plants and trees included.

Powers wants humans to respect Nature and preserve her against depredations and mindless slaughter in the name of technological advancements.

Westerford knows fully well that her study has far-reaching implications for science and human existence. Yet, as it often happens in academia and institutions of higher learning, her conclusions are dismissed contemptuously as the conclusions of a dreamer even though no scientist makes an effort to replicate her study or even try to establish if the conclusions have a valid scientific footing.

The fate that befalls Westerford is akin to that of scientists and environmentalists whose warning bells to climate change deniers and global warming deniers have gone unnoticed and ridiculed. Westerford is the unlucky victim of a double whammy – being a scientist and being a woman in a male dominated and dictated profession. She finds it very hard to even gain a respectable job or career after publishing the results of her study. Powers thus alludes very subtly to how while trees and plants try to protect each other and warn each other of a possible calamity, humans distrust each other and try to pull each other down for the flimsiest of reasons, be it in terms of race, gender, caste or competition.

Eventually, Westerford's career has parallels with that of a famous Israeli materials engineer and scientist Dan Shechtman who was considered a charlatan by the scientific establishment which derided his discovery as that of a pseudo scientist. Dan Shechtman had discovered the existence of quasi crystals, a phenomenon thought impossible by scientists until then because that would go against some of the dearly held beliefs about the nature of matter and crystals.

A Nobel laureate himself, Linus Pauling is reported to have said – “Danny Shechtman is talking nonsense, there are no quasi-crystals, just quasi-scientists.” Dan Shechtman was in the wilderness for over 30 years until he won the Nobel prize for exactly his momentous discovery of long ago. Westerford finds herself staring at the bottom of the barrel and wins the battle while losing the war.

Powers finds enough fire power to fire such shots at the Establishment for being cynical and ruthlessly prejudiced in its approach, ironically, to matters concerning science and scientific discoveries. He also makes a point of subtly hinting that science needs evolving from being strictly soulless to having a soul breathed into it by looking at sources other than science alone.

Powers also points to how science is yet to grapple with issues of a metaphysical nature which instruments and devices, equations and assumptions are simply too underwhelmed to handle. Einstein is reported to have said: “Science without religion is lame, religion without science is blind.” Powers reinforces this albeit with a different focus: science needs literature and humanities while humanities need scientific approach.

As a student of literature and later a student of physics, Powers only knows too well the pitfalls of subjecting everything to scientific scrutiny while ignoring the moral, ethical and emotional dimensions to research.

The novel *The Overstory* is a rich and fitting tribute to the genius of Powers who is at home dealing with themes and thematic concerns as disparate as religion, literature and science.

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