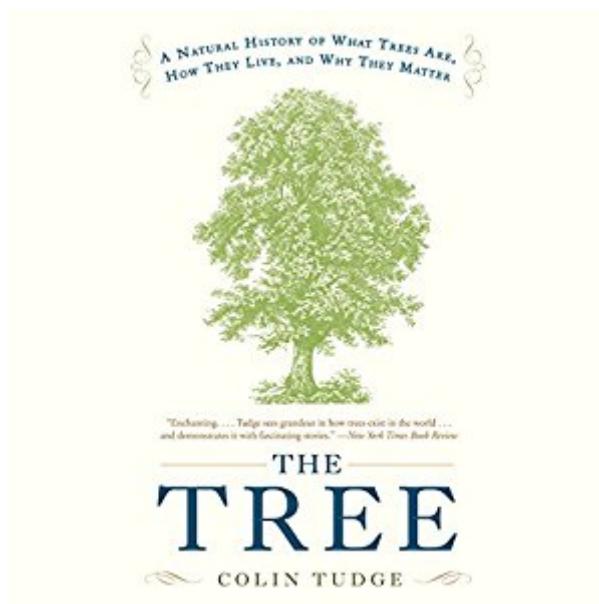The book was found

The Tree: A Natural History Of What Trees Are, How They Live, And Why They Matter

Synopsis

There are redwoods in California that were ancient by the time Columbus first landed and pines still alive that germinated around the time humans invented writing. There are Douglas firs as tall as skyscrapers and a banyan tree in Calcutta as big as a football field. From the tallest to the smallest, trees inspire wonder in all of us, and in The Tree, Colin Tudge travels around the world - throughout the United States, the Costa Rican rain forest, Panama and Brazil, India, New Zealand, China, and most of Europe - bringing to life stories and facts about the trees around us: how they grow old, how they eat and reproduce, how they talk to one another (and they do), and why they came to exist in the first place. He considers the pitfalls of being tall; the things that trees produce, from nuts and rubber to wood; and even the complicated debt that we as humans owe them. Tudge takes us to the in flood, when the water is deep enough to submerge the forest entirely and fish feed on fruit while river dolphins race through the canopy. He explains the "memory" of trees: how those that have been shaken by wind grow thicker and sturdier while those attacked by pests grow smaller leaves the following year; and reveals how it is that the same trees found in the United States are also native to China (but not Europe). From tiny saplings to centuries-old redwoods and desert palms, from the backyards of the American heartland to the rain forests of the and the bamboo forests, Colin Tudge takes the listener on a journey through history and illuminates our ever-present but often ignored companions. A blend of history, science, philosophy, and environmentalism, The Tree is an engaging and elegant look at the life of trees and what modern research tells us about their future.

Book Information

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Customer Reviews

Tudge writes much about the history of natural things. In the past I have read his books The Link and The Bird. Typically his books are well presented and with enough light humor to provide some whimsy while getting the facts and perspective that he offers.The Tree provided much of that but not without some consequences. The first half of the book is packed with details and minutae. At times his words shoot at the reader in a staccato sequence of Latin names, number of species, brief descriptions and often with the species former Latin name. For a general reader such as myself this is too much information. There is no way to catalogue all of the data in a usable fashion unless the reader carries the book with them into the field. At one point he cites a source who was guilty of much the same style and sarcastically suggested that the information was more than the reader needed to know. Apparently he was unaware of his own commission to the same. Unfortunately this style took about half the book to complete prior to getting to some meat that most readers could both enjoy and learn from.It was a well-researched book and it would seem that not only did he enhance his understanding of the vast scope of the world of trees but that he entered the project of writing this book already well armed. In a rather Humboldtian fashion he examined the flora called trees from many perspectives. That included the biology of reproduction. Not all trees sexually reproduce but most do. Of course that is with the mutual symbiosis that exists between trees and the fauna around them. Insects, birds and rodents all aid in the fertilization of seeds. Birds in particular but not solely aid in transporting fertilized seeds to spots sufficiently away from the parent tree in order for the latent sapling to grow with the sunlight and other natural resources whose access would be hindered under the canopy of the parent tree.There is a lot of physics involved. The system of rendering nourishment to these behemoths is critical. He discussed root structures and leaf construction for example, as methods of garnering enough water and sunlight to keep a tree healthy. He differentiated the different types of wood that each species lives with and how that affects their existence.He talked about genetics and described an event that occurs in plant life routinely (and rarely in fauna). That is double fertilization where a male sex cell from pollen, binds with a sex cell in the ovule in order to create an embryo. This sounds normal enough but in angiosperms another cell in the pollen fuses with another in the ovule. This creates a condition where the male is haploid and the female diploid thereby creating a triploid cell which divides to form an endosperm of the seed serving as food for the developing embryo.He also accounted for the cultural, economic and medicinal relationships trees have with the people that live with them. Often

there is a religious context and symbolism surrounding the plant. They also provide wood for the needs of the locals for art, canoe making, furniture and house construction as well. Many woods provide believed or genuine health benefits. They are important to the locals and have an immense heritage in their lore. Unfortunately that is one of the venues for corporate exploitation.There is much exploitation of trees for the sake of short term profit. If it is not obvious, this causes problems at many levels. It moves natives off of their land, it upsets the land by removing renewable ways of replenishing the earth with the nutrients it needs and obviously both erosion is increased while simultaneously reducing the sequestering of carbon dioxide. All of this becomes a positive feedback loop accelerating the deleterious effects of man-made design.Tudge is pretty certain in his opinions about what is going on, what and how things should be done. He is a firm cladist in the midst of much controversy over that form of systematics. It is a method of categorizing by looking at common ancestors rather than other methodology such as DNA similarity.He is also earnest in his suggestions about global climate change, how it affects flora and how it is caused. He does not tread loosely in his opinions. They are firm. His final chapter is all about the problems caused by humans and what can be done to at least stem the perilous path we tread upon in an effort to make short term comfort for our species.He is a good writer and provides much information about whatever species he describes. I have already indicated my problems with the over detailed beginning of the book. The second half was more in keeping with his usual style. He also provided a lengthy glossary at the end of the book which is very helpful for understanding much of what he wrote about as well as for future reading.Ultimately it is not a field guide. The reader will read it at a desk or easy chair and glean information that is valuable to them.

I've been a college science teacher for over half a century, and read a lot of science books. This is one of the best.The book can be divided into two parts. Unfortunately, the first part would is about all the kinds of trees that there are on earth, and, on the face of it, would probably turn readers off. But Tudge has made this immense catalog of types of trees interesting, even fascinating. He has traveled all over the world, and talked to people that work in forests, and seen many of the trees he writes about, from Latvia to Brazill to New Caledonia. (There are fine sketches, by a good artist, in the book. They show up well in the Kindle edition.)The second part is about how trees live, and how they are related to other organisms. Tudge is an optimist, and believes that changing the way we use the land, in many places in the world, so as to grow more trees, and less soybeans, and other mass crops, would slow down climate change, and uplift ethnic groups that are mostly left out of the global economy, and enhance the health and well-being of those who consumed the tree products

so grown. He also describes the anatomy and physiology of trees interestingly.There is a fine glossary, written so that lay people can understand it.One unfortunate aspect is that the book spends a little too much time on the way politics was when it was written, mostly in Brazil. Since then, much of that politics has changed. But that's a minor aspect.I'm glad I read this book. I'm looking at trees differently than before, for sure.

Always celebrating trees but never retreating into any kind of mysticism or excess of poetry, the author of this book gives the reader an interesting as well as exciting overview of the classification and biology of trees. For the most part the author remains scientific in his dialog, even though he sometimes has mistaken notions about some concepts. For example, he asserts that the theory of chaos (which is subset of the mathematical theory of dynamical systems) holds that some systems are 'innately' unpredictable. This however is not what the theory really asserts, but rather that the 'phase space' of a system, which is essentially the collection of its possible paths or trajectories, is very sensitive to the initial conditions that are chosen. Such systems are very complex (at least visually) but they are not 'unpredictable' as the author asserts. The author though understands fully the rigors of scientific thought, it being much more sophisticated than "common sense" reasoning and sometimes requiring long periods of time and sizable financial commitments. This is refreshing, since towards the end of the book he discusses climate change and the advantages that trees could bring as a strategy to address it.At least for this reviewer, the most difficult part of the book was Part II, since this part emphasized the classifications of trees, and can be dry reading at times, in spite of its importance. With some perseverance one can trudge through the pages, and be pleasantly surprised along the way because of the interesting facts about trees that are found. For example, it turns out that India does not have any native conifers, that avocado has a sophisticated strategy to prevent inbreeding, that there are over 2600 species of palm trees, and that aspirin is derived from salicin, which is found in the bark of willow trees. Things get much more interesting in Part III, where the biology, metabolism, and growth dynamics of trees are discussed.Surprisingly, the author leaves out any discussion of the genetic engineering of trees, a topic that is not only fascinating in itself, but also controversial. This is especially the case for the creation of transgenic trees, which can be used for phytoremediation, a cheaper method for producing ethanol or lowering lignin content. The latter would be very useful for the paper industry, because of the expense involved in separating cellulose from lignin. A natural place in the book to discuss genetically modified trees would be in the last part of the book, wherein the author discusses their social importance. Some trees, namely Sebertia acuminata, as the author points out, are able to grow in soils rich in metals such as nickel, and even

accumulate them in fairly sizable amounts. Given the electrical conductivity of nickel, and given the ultrafast switching (excitonic) processes that occur in photosynthesis, it may not be farfetched to think that the use of genetic engineering and other technological tools could produce a tree that is also a computer.Note:This book was read and studied between the dates of Jan 2011 and May 2011.

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