

Tree Morphogenesis; Book 1: Tree Reduction via Thinning

David Lloyd-Jones, 2012

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This interesting book sets out to challenge the reader to understand how they see and consequently deal with trees. It is written by a practicing “career arborist” and in a narrative tone throughout. The text is a playful mixture of business sense and strategy with many delightful observances on arboriculture, personnel management and tree admiration. As the cover proclaims, this first book in the series seeks to guide owners, arborists and even viewers alike in new ways to look at, see and understand trees. The book describes a method to simulate wind-pruning of trees –or rather to imitate the type of crown reductions that wind action carries out naturally. Interestingly, though clearly written from the perspective of a professional arborist to influence other arborists and tree surgeons, the author deliberately makes the point that tree owners and clients need such knowledge themselves to ensure that any professional work carried out on their trees is done as sympathetically as possible.

The central idea of the book is to consider the natural processes that give us the shapes of trees around us. He describes the biological background to the basic growth that gives a tree its characteristic shape and discusses the various parameters that affect and change the

growth phases of a tree as it matures. He holds late spring frosts and mid-summer droughts as the main causes of successive growth phase changes to trees in temperate climates. In other words, a tree's growth oscillates between "periods of apical dominance characterised by straight expansive and vigorous growth separated by periodic growth phase changes that allow branches to fork, twist and turn in an amorphous form." Following this is a discussion of the way a tree's structure is affected by its growing environment. As an example, a sycamore seedling is followed in a series of illustrated steps to maturity, its winter outline carefully and realistically sketched, leading to the discovery several pages later that the example was based on reality and a photograph shows the tree's bare silhouette against a clear sky. The point being, that a mature tree's morphology has been shaped by "the culmination of events affecting it throughout its life". The changed forms which result from such growth phase changes are often viewed as being weaknesses e.g. the acute forks or bent branches which can fail in high winds. However, the author describes how such apparent weaknesses act in the individual tree's favour by allowing a partial failure (instead of a catastrophic one e.g. the whole tree blowing down or snapping) during a storm.

There is a section about natural resonance in trees and how to measure it. Resonance, or its opposite dissonance, being the process that dissipates wind energy in a tree. There is a nice description of the author being high up in a tree during a strong wind and noticing the change of the resonance frequency as he tried to climb down. He discusses how resonances can be additive among various parts of a tree, to build to dangerous levels of swaying during high winds. Therefore, by subtly changing the structure an arborist can detune a tree and make it less likely to fail in a storm.

At this point the theory of "reduction via thinning" (RVT) is finally fully described as a methodology to simulate the types of pruning that wind would otherwise make to trees, though in doing so an arborist would make smaller cuts rather than rips which heal faster. Thus, the process of reducing a crown might be "more sympathetic than nature itself" as it involves the removal of a small number of carefully chosen primary foliage bearing branches back to natural pruning points. The aim being to subtly reduce wind resistance, confer structural strength to trunk and root systems while retaining the shape, functionality and character of the tree. There are a series of illustrated comparisons between RVT and some harshly treated and lopped specimens which make a compelling argument. The author ends a section advocating that where trees are concerned, "we should trust them more and prune them less".

What I really found interesting was a discussion of the idea of accessing a latent ability of humans to judge or assess tree symmetry – essentially to trick ourselves into bypassing conscious thought to reach and experience a primitive and instinctive reaction to a natural form. This ability was used by the author to help train groundsmen (and tree owners) to provide useful and succinct information to climbers in the course of a pruning job, to

inform about the effects of branch removal on overall tree (crown) symmetry. Apparently, with only a small amount of practice, useful information and directions could be shouted up to the professional. with the saw saving time spent descending and ascending again, or in the amount of training given to ground teams.

There were a couple of things this reviewer didn't appreciate about the book. It was a little frustrating to read through the background and theory of RVT, to be introduced to the practicality of how to go about it, only to be told to wait until the next book to be shown the full practical end of RVT, i.e. identifying and choosing points of cuts etc. The book has also been rather poorly produced and would have benefited from a professional editing. That said, the personal touch of the well-intentioned and extremely experienced author (as an arborist) is much closer as a result. The presentation of some of the photographs was poor and could easily been improved. The case studies included at the end of the book, however, were excellent to have. The author describes five real-life examples of applying RVT with a series of before and after photographs, and discusses the merits and difficulties of applying RVT in quite different situations and to a range of tree species.

Despite the irritations mentioned I am very much looking forward to the next book in the series, as apart from the professional expertise being discussed, David Lloyd-Jones comes across as a very down to earth, personable and entertaining author.

Brian Tobin