An Exploration of Landscape Architects’ Perceptions of Trees

by

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A Thesis
presented to
The University of Guelph

In partial fulfilment of requirements
for the degree of
Master of Landscape Architecture

Guelph, Ontario, Canada

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ABSTRACT

AN EXPLORATION OF LANDSCAPE ARCHITECTS’ PERCEPTIONS OF TREES

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This thesis is an exploration into how trees are perceived by professionals associated with landscape architecture. It is argued that perceptions influence the decisions that we make, therefore the aim of this study was to explore the range of perceptions of notable landscape architects selected for their varied expertise. Fifteen participants across North America were interviewed using a semi-structured interview method. Interview transcripts were analyzed using content analysis and responses were categorized into three themes: influence, perceptions, and action. The results suggest that participants have a wide-range of perceptions of trees in their scholarship and practice. Most notably, perceptions ranged from a tree as a tool, to a tree as a living thing, to a tree as something personal. Based on the results of this study, it can be concluded that a range of perceptions of trees may influence professional practice in the planting design decisions that landscape architects make.
ACKNOWLEDGEMENTS

I would like to begin with thanking my family. None of this would have been possible without their constant support over the many years of education I have put them through.

I would like to thank my advisor, Nathan Perkins, without whom I would still be debating thesis topics. To Nate and my committee members John Fitzgibbon and Sean Kelly, thank you for your guidance.

To all of my participants and key informants, I can not thank you enough. This study would not have been nearly as insightful or delightful without the personal stories of trees that you graciously shared with me. To the following whom I had the honour and pleasure of speaking with, I will forever be grateful for the time you took to share your love of trees and knowledge with me to that I could share it with others.

Michael Ormston-Holloway
Karen Landman
Hank White
Naomi Sachs
Sophie Beaudoin
William Russel Howe
Diana Beresford-Kroeger
Karen Houle
Ryan Wakshinski
Linda Laflamme
Emily McCoy
Mark Steele
Colleen Mercer Clarke
Chuck Hemard
Jeremy Williams
Marie-Paul Godin
Julie Michaud
Virginia Burt
Robert Wright
Jim Vafiades
James Melvin
Nathan Langley

In honour of the generosity of time and knowledge provided by my family, participants, advisor, committee members, and influential people I’ve met along the way, a donation of fifty saplings has been made to contribute to the global canopy cover.

Finally, thank you to the maple tree with the crooked trunk that was the inspiration for this study, and a most loving thank you to my Nonno who planted it many years ago so that I could play and learn in its shade.
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LIST OF ABBREVIATIONS

OALA – Ontario Association of Landscape Architects
CSLA – Canadian Society of Landscape Architects
ASLA – American Society of Landscape Architects
CHAPTER ONE | INTRODUCTION

What do you see when you look at a tree? That is the question that drives this study into the range of perceptions of trees within the profession of landscape architecture. Perceptions shape the way we see the world and how we react to it. Every perception is different, as individual perceptions are formed through the collection of experiences one has over a lifetime, which naturally keeps changing as new experiences are had. As landscape architects typically come from a range of backgrounds, and specialise in various sub-disciplines within landscape architecture, it follows that their diverse experiences and expertise would lead to a range of perceptions within the profession. It follows also that this variety of perceptions would lead to diverse actions and decisions within the profession regarding trees. Therefore, there is a possibility that diverse perceptions within the profession could lead to a variety of results; from the selection of which trees to plant, to the care of those trees, to the decision to protect existing trees.

When it comes to trees, landscape architects play an influential role for two reasons. Firstly, landscape architects are highly involved with the selection and care of trees that the public enjoys, as trees are one of the most commonly used materials in landscape architecture. Secondly, landscape architects have the capacity to influence the longevity of a tree based on the decisions that they make regarding trees, including to retain or remove trees, how and when to plant trees, and which trees to specify. Trees are complex and provide a number of benefits to both people and the environment. Therefore, the selection and specification for trees can have a profound influence on the health of people, social and community functions, environmental vitality, and economic value. It follows that the decisions landscape architects make regarding trees based on their perceptions is a worthy area to study.

So what are these perceptions that are guiding the decisions that landscape architects make with respect to trees? What does a landscape architect see when they look at a tree? What formed that perception of trees? How does that perception influence the decisions that they make? Who or what is being influenced by these perceptions that landscape architects have of trees? What are the implications for the range of perceptions of trees held by landscape
architects? These are all questions that were posed to a sample of leading landscape architects and are answered in the subsequent chapters of this thesis.

Research Goal

The research goal for this study was:

- To discover if landscape architects have different perceptions of trees, and if so, what might those perceptions be?

Perceptions are the result of number of elements from attitudes to experiences to beliefs. While the goal of this study was to explore perceptions, more broadly the goal was to uncover the influences on the perceptions of individual landscape architects, and the personal reasons for choices landscape architects make regarding trees. While the literature is extensive on the benefits of trees to the environment and people, individual landscape architects still have many choices concerning trees on a given project and it is argued that these personal choices should be explored.

To address the research goal a number of objectives were formulated and are described below.

Research Objectives

The objectives of this study addressed the goal and are listed below:

- Understand the various dimensions of human perception by conducting a review in the relevant literature.
- Develop an understanding of a landscape architect’s perception of trees
  - by exploring the influences on the formation of individual perceptions,
  - by exploring the range of individual perception of trees, and
  - by exploring how those perceptions influence the actions of individual landscape architects regarding trees.
Categorize participant interview data by analysing for themes in order to create a narrative to explain the range of perceptions of trees within landscape architecture, influences on perception, and how perceptions influence actions regarding trees.

Summary

The goal of this study is to explore the range of perceptions of trees of those associated with landscape architecture, and the following chapters expand upon this goal. The thesis is organized so that the literature is discussed in Chapter Two. Chapter Three presents the Methods used to create a sample, develop interview questions and conduct interviews with participants. Chapter Four presents the results of the analysis of interview data and Chapter Five is a discussion of those results.
CHAPTER TWO | LITERATURE REVIEW

OVERVIEW

The aim of this thesis was to study the range of perceptions of trees within landscape architecture. First, it is useful to understand what perception is, the nature of landscape architecture scholarship and practice, why trees are important, and how individual perceptions might influence or shape the decisions that landscape architects make.

PERCEPTION

Perception can be defined as:

1. A result of perceiving: observation; a mental image: concept
2. Awareness of the elements of environment through physical sensation; colour perception
3. Physical sensation interpreted in the light of exposure
4. A quick, acute, and intuitive cognition: appreciation; a capacity for comprehension (Mirriam-Webster, 2018).

Perception is our version the world. It is the lens through which we see and interpret our surroundings and informs the decisions that we make and is “one of the major sources of our acquisition of knowledge about the world” (Maund, 2003, p. 2). “Perception is the organization, identification, and interpretation of sensory information in order to represent and understand the environment” (Mohammadi, 2015, p. 122).

Perceptions are formed based on the collection of our past experiences (Michalko, 2011). “Subjective interpretation of stimuli is affected by individual values, needs, beliefs, experiences, expectations, self-concept, and other personal factors” (Mohammadi, 2015, p. 122). In other words, our perception of the world is limited to our individual experiences of the world, for better or worse. Take Plato’s ‘Allegory of the Cave’ for example. In Plato’s allegory, there are
three prisoners whose only understanding and perception of the world comes from watching the shadows of the outside world play out across the wall of the cave in which they have been imprisoned since childhood (Lee, 1974). To those prisoners, their perception of the world is those shadows, and even after one prisoner returns to tell them that their perception is wrong, they cannot accept it, as it contradicts what they know to be true based on their own life experiences (Lee, 1974). The purpose of this story here is to illustrate two points: one, our perceptions are influenced by our experiences, and second, due to the diverse nature of experiences, perceptions of objects and subjects can be vastly different amongst people.

Perceptions inform actions. We use the information from our past to react to stimuli in our environment in a process called the ‘perception process’. There are approximately three steps to the perception process: one, selecting; two, organizing and; three, interpretation (Fiske, Shelley, Taylor, 1991, p. 186). Selecting refers to the process by which “we focus our attention on certain incoming sensory information,” organizing refers to the ways in which we “sort and categorize information that we perceive based on innate and learned cognitive patterns,” and interpretation is “the subjective process through which we represent and understand stimuli” (Mohammadi, 2015, p. 122). Therefore, the perception of a singular object will vary amongst a collection of people due to the various ways perceptions were formed and the way different people might process information. For instance, two people looking at the same dog might react differently depending on the perception they have of that dog which is dependent on the experiences they have had in the past. These same two people might react differently in that situation according to their perceptions and the process that they go through. Where one of the people in this example might choose to pet the dog based on positive experiences in their past, the other might recoil in fear due to their own perceptual beliefs.

Our perceptions not only influence our actions, but these actions have the capacity to have an effect on the world. For instance, if one were to perceive a tree as invasive based on their perception of that tree, their actions regarding that tree would have an effect on that tree. These actions could include such things as choosing to remove the tree from the landscape or advising others not to plant such trees. By perceiving a tree to be one way, or labelling it based on a person’s perception, it might thereby leave a tree in a vulnerable position. As a tree is a living
thing, and subject to the actions and perceptions of others, it is important that these perceptions and actions have consequences. For instance the names we give a tree, which are sometimes based on our perceptions, are capable of influencing the longevity of a tree: there is a “…perpetual vulnerability of living things, of the vegetative world, to the names we give them; to the *kinds* of names we are capable of giving them: litigious, Latinate, epidemiological, poetic, utilitarian, qualitative, cause-effect, technological, negatively relational (combative, oppositional, as in “the nonhuman”), or positively relational (friend, beloved) (Houle, 2017, pp. 164-165).

These names that we give trees are subject to our individual perceptions, which as has been noted in the ‘Allegory of the Cave’ example, can be misguided and incomplete at times. In other words, we are only able to act according to what we know. Therefore, our perceptions are not only important to us, but they are important to others, as perceptions inform our actions and our actions have the capacity to affect others.

The language that we use also has the capacity to influence our perceptions and our reactions to an object. Houle (2017) explores how language can alter one’s perception of trees. For instance, she describes how the labels that people were giving to trees in her presence began to change how Houle herself began to think about trees (Houle, 2017). These labels and words included such things as “carrier” and “security threat” (Houle, 2017). Houle argues that there is a linguistic responsibility that we should be held accountable to, as the words that we use have the power to influence our perceptions and the perceptions others have, which has the propensity to inform our actions (Houle, 2017). To Houle, “word use is something we ought to pay attention to as a matter of justice. Words, phrases, and grammar are not just matters of communication, aesthetics, or anthropology. As I will argue, language use is something we are answerable to as a matter of justice” (Houle, 2017, p. 158). It has previously been noted that perceptions inform our actions. To Houle, language is not neutral, but is an action in and of itself, which has the capacity to cause both harm and good:

“… what we do or fail to do as language users, what kinds of harm and healing take place in and through language: words, gesture, utterance, grammar, and tone. Language is a mode of activity in which we constantly partake. It is a mode in which our subjectivity and the possibilities for action are both constituted and tested. Our language is thus a part of the direct and actual shaping of the world, shaping possibilities for
subjects/objects. It is as powerful as pulling a gun, putting a needle in an arm, grafting trees, or building nuclear plants” (2017, p. 160).

Therefore, we must be cautious when using words, as just the utterance of them has the capacity to have an influence not only on our perceptions of a thing, but the perceptions of others.

As previously mentioned, perceptions are formed from the collection of experiences and information gained throughout life, which means perceptions are liable to change as new experiences are gained. What a person thinks about something today can change tomorrow if they are exposed to an influential force that jogs their perception of the world (Michalko, 2011). These influential forces can be anything from a particularly inspiring piece of information, like a good conversation, travel to foreign country that expands how you think of the world, or an individual you trust or regard who presents a new way of thinking about something to you.

This is especially true when one is in a position of influence, power, or respect. Landscape architects might be considered to be influential, which means they have the capacity to change or expand the perceptions of others, including their perceptions of trees. This will be discussed more in the following section. For now, it is useful to remember that:

- Perception is the lens through which we see the world around us
- Perceptions are formed through the collection of our experiences over a lifetime
- Perceptions influence how we interpret things and our reaction to it, including our actions, feelings, thoughts or opinions, and language
- Perceptions are fluid, meaning they can change as take in new experiences and information
- Perceptions can be influenced by others and new experiences.

To begin to explore the perceptions that landscape architects have of trees, it is imperative to first understand the qualities of perception. This includes how perception influences how we see the world, how they are shaped, how they influence our actions, and how they can be influenced by new experiences and by others.
First-Person Interview | Dr. Karen Houle
Professor of Philosophy, University of Guelph
Author of “A Tree by Any Other Name: Language Use and Linguistic Responsibility”

On the influence of words on perception: “The common-sense view is that a word is neutral, but I don’t think of it that way. A word, or a name, changes an object. It enters into our path of vision and puts a lens over it. For example, if you say “carrier tree” you are more likely to see germs. Words then are an action that influences our perception.”

Are we blinded by our own perceptions? “Yes! Absolutely. Perceptions are not neutral, they never could be. Our eyes are filters. They are not only filtering out the best or the worst, but they are changing what we see. They are fluid lenses. Everyone has an experience of not noticing something, and then noticing after a change in perception, and wondering how they never noticed it before.”

On our responsibility to treat living things with respect: “I think of living things as vulnerable. They are vulnerable to what we do and how we act. Our actions, including the words we label them as, affect them. We should be cautious not to exploit living things with our actions because they are subject to our care. This includes how we speak about them, and the names we give them, because these names we give them shape how we react to them, and how others react to that object when they hear our words. Consider a landscape architect who calls a tree invasive, or non-native, and how that landscape architect, or others, react to that.”

On trees: “A tree is the best model of life we could learn from. A tree is a teacher of how to be alive and well in the world.”

LANDSCAPE ARCHITECTURE

According to the American Society of Landscape Architects, the profession of landscape architecture is influential on the lives of others and directly affects the quality of lives of the greater public (American Society of Landscape Architects, 2018). Landscape architects are influential for one main reason: they shape the landscapes that people live, work, and play in. The quality of these landscapes that are shaped by landscape architects are directly related to the health and wellness of a population and the environment (American Society of Landscape Architects, 2018). Landscape architecture by its very nature is a combination of science, art, design and the environmental sciences (Ontario Association of Landscape Architects, 2018). “Landscape architecture is the profession which applies artistic and scientific principles to the
research, planning, design and management of both natural and built environments” (Ontario Association of Landscape Architects, 2018). Landscape architecture covers a broad spectrum of job descriptions. Landscape architects are often involved in all manners of design, research, policy, and planning amongst many other things. In terms of project size, landscape architecture works from the smallest scale, such as a residential design, to a large scale, like global climate change adaption policy (Canadian Society of Landscape Architects, 2018). As such, landscape architects are well versed in a broad spectrum of subjects, including science, art, design, and environmental issues. Oftentimes, landscape architects will choose to specialize in one area of design or research, which leads to a range of distinct expertise and experience. As such, landscape architects are looked to for advice and are regarded for their knowledge in many areas.

As landscape architects shape the landscapes that people live, work, and play in, they are simultaneously shaping the health and wellness of people and the environment. Landscape architecture is a broad profession that covers a multitude of scales and expertise, merging art, science, design, and environmental science. The range of information that landscape architects use is often based on diverse experiences. As demonstrated previously, our experiences shape our perception of the world. Therefore, it is likely that due to the broad range of expertise across landscape architecture, there is also a broad range of experiences as well, and therefore a broad range of perceptions. Perceptions influence how we interpret the world and how we react to it, therefore, if there is a broad range of perceptions across landscape architecture due to the diverse nature of the profession, it follows that landscape architects will respond in a diverse range of ways to a problem, situation, or object. As landscape architects are trusted by the public to make informed decisions for them based on their knowledge, experience, and perception, it is useful to know what the perception of a landscape architect is of that problem, situation, or object. Understanding the perceptions that landscape architects have of trees is especially useful because landscape architects use trees in all manners of the profession, including design, research, policy and planning. Landscape architects make the decisions about trees based on their perceptions which have a direct result on the life of that tree, and as will be demonstrated later, the quality of life that the public and the environment enjoys. So why does it matter how landscape architects perceive trees? First, it is helpful to know what a tree really is, and how trees may influence the quality of our lives and environment.
First-Person Interview | Nathan Langley
Former Plants Sessional Instructor, University of Guelph

Observations of perceptions of trees of those associated with landscape architecture: “There seems to be a changing nature in the way people perceive trees. I've noticed that students who are new to landscape architecture might be drawn to colour, shape, or flowers of a tree, whereas more experienced landscape architects might consider things like the connections of a tree more, and its situational experience.”

On Langley’s personal perception of trees: “I think of connection first, and of the ways trees are connected to every other thing in this world—because everything is connected.”

TREES

A tree is a living thing that affects all manner of human and environmental life, such as our health, our social and community lives, our environment, and our economics. The benefits that trees provide to us and to our environment would be impossible to explore fully in a simple literature review. However, a brief description of the many facets of a tree follows below to serve as an illustration and a reminder of the many ways trees enhance our lives and why it is important to understand how and why a landscape architect uses trees based on their perception of these woody plants.

Living Being

A tree is a complex living being that extends well beyond the common definitions attributed to it, such as: a large, woody plant with a single main trunk growing to a height of at least 4.5 metres (Lilly, 2010; Farrar, 1995). A tree breathes, grows, takes in carbon dioxide, exhales oxygen, communicates with other trees, warns each other of dangers, reproduces, and often lives on a much larger time scale than most humans will ever see (Trowbridge, 2004). A tree not only converses through the mycorrhizal network, but it assists other trees that are sick or dying (Simard, 2016). If nothing else, this is impressive, and then there are all of those things that trees do for us.
First-Person Interview | Marie-Paule Godin  
Operations Manager, Tree Canada

On a tree as a living being: “Trees are living beings, and we are live amongst them. When I encounter them in an urban setting, I understand they are out of their natural environment, and we have placed it there for our benefit. My perspective is that we should be stewards of those trees, because we are the ones who decided to put them there.”

First impressions of a tree: “I think of peacefulness. I find that when I look at a tree, or I’m walking amongst trees, my cortisol levels lower, and I feel more at peace, more comfortable, just from being close to them.”

What is a tree to you? “As an operations manager at Tree Canada, a tree is an opportunity for Canadians to enjoy the same benefits that I do from trees. I am able to help municipalities and individual citizens to plant trees in their environment and enjoy the benefits of relaxation. To find that feeling of peace.”

What are you to a tree? “I hope that I am a protector, or a custodian to keep it safe and healthy. I don’t know what else I would be to a tree, because obviously they are giving more to us that we are giving to them.”

Health

Trees have a direct effect on our psychological and physiological health. This is apparent in the psychological benefits associated with trees, such as reduced stress and fatigue, better attention spans, and improved mood (McMichael, 2001). Physiological benefits include such things as improved overall physical health, especially cardiovascular health. While the presence of trees has been documented as a benefit to our psychological and physiological health, the absence of trees has also been shown to be directly associated with decreased health in humans. As McMichael says, “as coronary heart disease, mental depression, and road traffic accidents are poised to take over as the world’s top three leading causes of disease burden by 2020, the importance of a tree’s role in the health of the world’s population becomes glaringly apparent, as trees have a direct and positive effect on all three” (2001, p. 2).
Trees have been shown to have a positive effect on psychological health. Ulrich and Stephen and Rachel Kaplan have extensively studied the ways nature has a tendency to have a restorative effect, reduce stress, and improve outlooks (Colley, 2012). Restoration here is defined as “the process of recovering physiological, psychological, and social resources that have become diminished in efforts to meet the demands of everyday life” (Hartig, 2007, p. 164). Proximity to trees has also been shown to have a positive effect on coping mechanisms, especially with the demands of city living. As Williams (2017) says, “extensive reviews of medical literature show a 21 percent increase in anxiety disorders, a 39 percent increase in mood disorders and a doubled risk of schizophrenia in city dwellers. Urban living is associated with increased activity in the brain’s amygdala-the fear center-and in the pregenual anterior cingulate cortex, a key region for regulating fear and stress” (p. 242). So while an urban setting may be difficult for one’s health, trees help to mediate those stressors.

“In a very large study of 345,000 people, Dutch scientists found the amount and proximity of green space to a person’s home was a reliable predictor for generally improved mental and physical health. People who lived within a kilometer of just 10 percent green space had anxiety disorders at the rate of 26 per thousand, while those living within a kilometer of 90 percent green space, the rate of anxiety disorders was 18 per thousand. Depression rates were similarly reduced. Green spaces, the researchers wrote, create a halo of improved health around them” (Robbins, 2012, p. 57).

Park’s (2010) results show that “...forest environments promote lower concentrations of cortisol, lower pulse rate, lower blood pressure, greater parasympathetic nerve activity, and lower sympathetic nerve activity than do city environments” (p.18). Green spaces and benefits for children seem to have an especially positive correlation, as exposure to green spaces can reduce the amount of attention deficit symptoms (Taylor et. al., 2001). Collectively, proximity to trees seems to have a positive effect on our psychological health.
Physiological Health

Trees have been shown to improve our physiological health by improving our environment and providing encouraging spaces for physical exercise. For instance, landscapes that are planted with trees have been shown to encourage physical activity by providing significant outdoor leisure and recreation opportunities for urbanites (Dwyer, 1992). Furthermore, a study conducted by Pretty and associates found that “green exercise is more effective than exercise alone in improving measures relevant to cardiovascular and mental health” (2005, p. 334). Trees improve the health conditions of our environment by scrubbing the air of particulates, creating shade for respite from the sun, releasing phytoncides that improve the anti-cancer proteins in blood and NK cell activity (Li, 2010; Colley, 2012), and producing oxygen (Beresford-Kroeger, 2010). A study conducted by Nowak and associates found that urban trees have the capacity to save “at least one life per year in most cities, and up to eight people per year in large metropolises like New York City” (Stamper-Halprin, 2013) due to the harmful particulates and air pollution sequestered by trees (Nowak, 2013). This has been associated with a reduced risk of cardiovascular disease and skin cancer, a reduction in asthma, and an increased immune system (Wolf, 2016). A study conducted in Toronto found that “...having 11 more trees in a city block, on average, decreases cardiometabolic conditions in ways comparable to an increase in annual personal income of $20,000 and moving to a neighbourhood with $20,000 higher median income or being 1.4 years younger” (Kardan, 2015, p. 1). So, trees can improve our physical health by encouraging us to exercise and altering our environment that contributes to health benefits that can make us feel younger and richer.

Adverse Affects of the Absence of Trees

Trees not only improve our health by proximity, but the absence of trees in our environment has been linked to a decrease in our health. For instance, in a study conducted by Donovan (2008), found that following the death of 100 million trees by the emerald ash borer, there was an increased mortality rate in humans. “In regions of the country impacted by the emerald ash borer there were 15,080 additional deaths from cardiovascular disease and 6,111 more from respiratory diseases than in places not affected by the beetles” (Donovan, 2008, p.
Frances Kuo, as quoted in Robbins, believes that “lack of trees is a cause of some of society’s biggest ills: “a disappearing urban forest leads to a psychological, physical, and social breakdown” [.] Just as animals in unfit environments develop certain behavioral and functional pathologies, we may see more child abuse or crime or other problems when people live in unfit environments” (Robbins, 2012, p. 58). In other words, health and disease are essentially an expression of their social and physical environments, and as trees disappear, so too does our health (McMichael, 2001, p. 2). Therefore, trees are important to us, both psychologically and physiologically. Without them, we suffer. In that way, trees are a matter of public health, which people are beginning to recognise by engaging in such practices as ‘forest bathing’. As John Muir once said, “thousands of tired, nerve-shaken, over-civilized people are beginning to find out that going to the mountains is going home; that wildness is a necessity; and that mountain parks and reservations are useful not only as fountains of timber and irrigating rivers, but as fountains of life. Awakening from the stupefying effects of the vice of over-industry and the deadly apathy of luxury, they are trying as best they can to mix and enrich their own little on goings with those of Nature, and to get rid of rust and disease” (as cited in Goodreads, 2018).

**Social and Community**

Trees are woven into our social and community lives. We have emotional connections to trees, they are part of our cultural identity, and they are part of our community and social interactions.

*Emotional Connections*

Humans have emotional connections to trees. This is evident in the way we assign meaning to trees through our associations, symbolism, myths, stories, language, and art. Beginning with the tree of life, and more recently with the tech company Apple symbol, “the tree has become the quintessential symbol of biological evolution [and connection], as its ever-branching image poignantly depicts the unmistakable interconnections between all living things on earth” (Mercado, 2017). Trees are often seen as a symbol of renewal, strength, and resilience, which we look to for inspiration. “Watching their cycles, shedding of leaves, and re-flowering in
the spring, people have long perceived trees as powerful symbols of life, death, and renewal. Since the beginning of time, humans have had a sense that trees are sentient beings just like us, that they can feel pain, and that they bleed when they are hurt. Trees even look like us. People have a trunk; trees have arms. And so we innately feel a deep connection to them” (Mercado, 2017). William Wordsworth expressed his deep connection to nature as he watches a tree budding out in spring in his poem “Lines Written in Early Spring”. Wordsworth (1770-1850) personifies the tree and expresses how his subject must feel joy at being able to stretch out and catch the spring breeze just as a human might:

“To her fair works did nature link
The human soul that through me ran;
And much it griev’d my heart to think
What man has made of man.
[...] 
The budding twigs spread out their fan,
To catch the breezy air;
And I must think, do all I can,
That there was pleasure there.” (Wordsworth, Coleridge, 1999).

Trees have always been in our myths, our stories, and our religions. William Cullen Bryant wrote in his 1824 poem “A Forest Hymn,” “...worship [of trees] has been around for as long as people have. Across cultures and across time, trees have been revered as sacred, as living antennae conducting divine energies” (Robbins, 2012, p. xvii). “Every tree tells a story, but some are beyond eloquent, holding memories, embodying belief, and marking sorrow. We hold trees in our imagination, where they will grow in strange, wonderful ways in forests inhabited by fantasy and also by our fears. In fable and legend, a forest shelters spirits, witches, and once upon a time, a big bad wolf” (Newman, 2017). Trees are represented in our art in all of their forms, from painting, photography, music, poetry, and fairy-tales, further connecting our lives to theirs.
Cultural Identity

Trees are part of our cultural identity. They define the lands that we live in, its history, and its sense of place. Communities like London, Ontario define themselves by the trees in their landscape. London, Ontario actively promotes itself as the “forest city”. Trees contribute to a community by creating appeal with the beauty that comes with forests and trees (Wolf, 2016). The presence of urban trees and forests can make the urban environment a more pleasant place to live, work, and spend leisure time. Studies of urbanites' preferences and behavior confirm the strong contribution that trees and forests make to the quality of life in urban areas, including the “strong feeling of attachment to particular places and trees,” which often leads to “an improved understanding of the emotional and symbolic meanings that trees” evoke (Dwyer, 1992, p. 229, p. 230). When trees are removed from communities that consider trees to be integral to their cultural identity a great loss is often felt. For example, on the subject of the forests of Scotland being torn down, the poem “Hallaig,” which was written by Sorley Maclean, and translated here by Seamus Heaney says:

Between Inver and Milk Hollow,
Somewhere around Baile-chuirn,
A flickering birch, a hazel,
A trim, straight sapling rowan.

In Screapadal, where my people
Hail from, the seed and breed
Of Hector Mor and Norman
By the banks of the stream are a wood. (Maclean, 2002)

Maclean weeps for Scotland’s, mourning the trees that were torn from his ancestral land. This sentiment is not uncommon and is expressed often when trees must be removed to make way for development or knocked down during a storm.

Our personal and cultural histories are intertwined with the lives of trees. Because trees live such long lives, they provide the context into which we can place the events of our lives. As such, trees can serve as reminders of significant events and times, like the chestnut tree that stood outside of the window of Anne Frank’s house as she was hiding from persecution during the
second world war (Newman, 2017). Another example is the Callery pear tree, “which became known as the “Survivor Tree” after enduring the September 11, 2001 terror attacks at the World Trade Center” (9/11 Memorial and Museum, 2018). The pear tree remains to this day as a “living reminder of resilience, survival and rebirth” (9/11 Memorial and Museum, 2018).

Trees can also be indicators of place. If one knows how to read a landscape, trees can tell you where you are by knowing which species belong where. Trees can be made into natural wayfinding devices, such as the trees that were purposely manipulated by indigenous peoples to serve as trail markers across North America (Schuler, 2016). Psychologically speaking, trees can indicate a place of danger. This is particularly true for people who have negative associations with trees and forests. “This connotation of forest environments is deeply embedded in our culture – the fairy tales we grow up hearing are steeped in imagery of forests as foreboding places, and media reports of attacks in wooded areas are common. Many people report feeling unsafe in urban” (Colley, 2011, p. 87).

Community

Trees are a central part of community and socialization. “Supportive, positive social interaction and relationships are important for healthy functioning of individuals, families and communities” (Coley, 1997, p. 468). While “numerous aspects of the physical environment can affect social behaviour and interactions,” including architectural design, crowding, and noise, it seems that green spaces featuring trees are some of the best (Coley, 1997, p. 468). Rebekah Levine Coley, along with Frances Kuo and William Sullivan found that spaces with trees were a natural magnet for people who wanted to socialize. Not only that, but “spaces with trees attracted larger groups of people, as well as more mixed groups of youth and adults, than did spaces devoid of nature” (Coley, 1997, p. 468). Trees then, seem like a natural place to meet up, as articulated in country band Diamond Rio’s hit song “Meet In The Middle,” which featured an “old Georgian pine” as the meeting location for the protagonists of the song (Diamond Rio, 1991). While a country song may seem an odd choice to drive a point home, Diamond Rio’s hit showcases some valid points. Not only did the song name a tree as their meeting location, as the
title infers, the song is essentially about compromise and working together to build something greater than they as individuals can do.

I’d start walking your way  
You’d start walking mine  
We’d meet in the middle  
‘Neath that old Georgia pine

We’d gain a lot of ground  
‘Cause we’d both give a little  
And there ain’t no road too long  
When you meet in the middle.

The lyrics of the song illustrate the bonding effect that nature has on individuals. In order to come together as a community, we must be able to see past ourselves, we must be kinder. This is just the effect that access to nature has on individuals. People were found to be less violent where there was access to nature (Kuo, Sullivan, 2001). Kuo has elegantly stated:

“Stronger ties among neighbours, greater sense of safety and adjustment, more supervision of children in outdoor spaces, healthier patterns of children’s play, more use of neighbourhood common spaces, fewer incivilities, fewer property crimes, and fewer violent crimes. The link between arboriculture and a healthier social ecosystem turns out to be surprisingly simple to explain. In residential areas, barren, treeless spaces often become “no man’s lands,” which discourage resident interaction and invite crime. The presence of trees and well-maintained grass can transform these no man’s lands into pleasant, welcoming well-used spaces. Vital, well-used neighbourhood common spaces serve to both strengthen ties among residents and deter crime, thereby creating healthier, safer neighbourhoods” (Kuo, 2003, p. 148).

Trees are generally accessible to most people, they are a common source of enjoyment for all, where people of all classes can enjoy and reap the benefits of trees. “When walking along a tree lined road “at every step, even the most solitary pedestrian is attended by magnificence--a grand parade of green, gold, or grey figures, depending on the season. In any town, in any city, the eternal turn of the natural cycle is gently registered in tree-lined roads, which everyone shares though not everyone notices” (Stafford, 2016, p. 16). Elizabeth Bennet, Jane Austen’s protagonist, exemplifies the ways trees can be used to lessen the distance between social hierarchies. Bennet is known for her love of walks in the woods, and Austen uses these natural
areas as a setting that often serves as neutral ground for characters of differing wealth to meet (Austen, 2013). Although trees are accessible to most people, not everyone has access to trees. This lack of access is now used as an indicator of poverty and social inequality. “The association between income deprivation and mortality differed significantly across the green space exposure groups for mortality from all causes and circulatory disease” (Mitchell, 2008, p. 2). “Populations exposed to greener environments also enjoy lower levels of income deprivation related health inequality. Physical environments which promote good health may be important in the fight to reduce socio-economic health inequalities” (Mitchell, 2008, p. 2). “Populations exposed to less green environments may be less protected from income deprivation related health inequality and this may have ramifications for countries in which urbanisation remains a strong force. The implications of the study are clear; environments which promote good health, may be key in the fight to reduce health inequalities” (Mitchell, 2008, p. 12). “The research showed that income-related health disparities were greatest in areas with the least green. Here, poor people were twice as likely to die as their rich neighbours. In the greenest areas, though, poorer people did relatively much better, starting to catch up to the longer lives of the rich. In other words, there was something protective about the greenery for the most deprived people, either by providing more areas for exercise or by otherwise buffering poverty-related stress” (Williams, 2017, p. 154).

Trees are a great way to build community stewardship. Tree planting has been shown to encourage participation and cooperation, and building local group empowerment (Wolf, 2017). A stronger sense of community, empowerment of inner city residents to improve neighborhood conditions, and promotion of environmental responsibility and ethics can be attributed to involvement in urban forestry efforts (Dwyer, 1992). People of all abilities, social class, and genders are able to participate in a tree planting experience, thus creating a culture of empowerment, while building skills to further community cohesion and creation. One study which reported on the extent to which participating in tending to a public garden found that “these benefits include increased social cohesion (the sharing of values enabling identification of common aims and the sharing of codes of behaviour governing relationships), social support (having people to turn to in times of crisis) and social connections (the development of social bonds and networks)” (Kingsley, 2006, p. 525). Another example of communities coming
together to take care of one another comes from forests of Ecuador (Haskell 2017). That is where the Waorani live in the Amazon as they have for thousands of years, as hunters, gatherers and gardeners (Haskell, 2017). When one of Waorani members happens to get lost in the forests, they signal to each other by pounding on the base of a *Ceiba pentandra*, commonly known as ceibo (SAY-bo) (Haskell 2017). Haskell (2017) writes:

“To become lost in the forest, especially to be lost alone and at night, is a fearful event for Waorani, even those with the deepest experience of the forest. When Waorani do become lost, they find a ceibo tree and turn it into a subwoofer. Pounding on the buttress roots of the tree vibrates the whole trunk, a botanical basso profundo call to friends and family, a cry to reknit the bonds that keep you alive. The tree’s great height lets it bellow in a way that shouting could never achieve. Hearing the pulsing air, your people will come. This signal is particularly helpful for lost children. Their families know where the large ceibo grow, so the sound both alerts and guides. Hunters and warriors also use the tree to signal news of kills. It is perhaps no coincidence that the ceibo is the tree of life in the Waorani creation story. The tree is a hub for so many forest creatures, and it saves lives by maintaining and reconnecting life-giving threads” (p. 16).

Inspiring stewardship of trees has been shown to not only come from positive examples of tree care, but less favourable examples as well. For instance, in 1853,

“…three principles of the Union Water Company were finished building a canal, and were impressed by a grove of sequoias, which they saw as their ticket to a career in show business. Their ambitious plan was to drop one of the giants, strip off its bark, wrestle it onto a wagon, take it to San Francisco, put it aboard a schooner, and sail it around the Cape of Good Hope and up to New York City, where they would charge a fee for visitors to see a part of a now dead wonder of nature. The men set their sights on Dowd’s Discovery Tree, twenty-four feet in diameter and more than twelve hundred years old. The tree was shown briefly in San Francisco, where a local newspaper reported that thirty-two couples waltzed within its enclosure. The image of revelers prancing on the remains of the once grand sequoia so angered the conservationist John Muir that he wrote an article titled, “The Vandals Then Danced Upon the Stump!”” (Robbins, 2012, p. 190).
First-Person Interview | Chuck Hemard
Photographer, Professor, Auburn University
Author of “The Pines: Southern Forests”

On a tree as subject for photography: “My visual interest in old growth long leaf pines is in part because of the distinctive flat-topped crown that some have, and the way some of the older trees can grow twisted and gnarled branches. This reminds me of how an old person might show their age and wisdom through the wrinkles on their face. Because trees have been around for a long time, I think that we can learn from them just like our elders.”

On Hemard’s interest in long-leaf pines: “Long-leaf pines were prominent in the landscape [Mississippi] where I grew up. They formed my identity in a way, and they formed the identity of this place. I know now that as much as they are significant to me personally, they are significant to others economically, socially, and naturally. With my book, I wanted to expose people to the significance of long-leaf pines. Even though pines are everywhere, this species was decimated in the region compared to what it once was. The remnants of what is here now are almost like the left overs of what wasn’t considered valuable at the time. My audience might see different things in those pictures I took of the pines. While foresters might see the degradation of the landscape, others might see the beauty in the photos and not see what is wrong. My challenge is to give a visual voice to the conversation.”

On what trees mean to Hemard: “Trees have a subtle way of defining space, what a place is, and our identity. Trees have the potential to be a constant in our lives, even though a tree itself is both a constant and an inconstant. It is long lived, but it also constantly changing. When I go into these old-growth forests, I think about how geological time is different than human time; it puts me in my place in this bigger conversation—not so human-centric in a way. They have a means of placing us both geographically and temporally. In place like America, where we have a relatively short history as a culture, trees can provide a context for the history of our lives.”

On the wisdom of trees: “Trees live long lives. They could tell us some things if we were willing to listen to them.”

Environment

Trees improve all manner of environmental conditions. They improve our air, our earth, and our water, and provide resources for wildlife. Trees clean the air of particulates and gaseous pollutants, which are captured in their leaves and twigs, sequester carbon dioxide, and replenish the atmosphere with oxygen (International Society of Arboriculture, 2011; Martineau, 2009). “Urban particulate air pollution is a serious health issue. Trees within cities can remove fine
particulates from the atmosphere and consequently improve air quality and human health” (Nowak, 2013, p. 395). It has been found that 100 trees can remove about 54 tons of carbon dioxide and 430 pounds of other air pollutants per year (U.S. Department of Agriculture, 2017). A tree’s capacity to provide benefits, like the storing of carbon, is largely dependent on its ability to reach a mature age in its environment, and therefore the selection of tree for the right spot: “if the right tree—one that will last fifty to a hundred years and reaches thirty inches in diameter—is planted in the right place, it will store four to five thousand pounds of carbon dioxide over its life” (Robbins, 2012, p. 200). The ways trees alter the quality and temperature of the air assists with climate change and urban heat island effects. According to the International Society of Arboriculture,

“...radiant energy from the sun is absorbed or deflected by leaves on deciduous trees in the summer and is only filtered by branches of deciduous trees in winter. The larger the tree, the greater the cooling effect. By using trees in the cities, we can moderate the heat-island effect caused by pavement and buildings in commercial areas (2011).

As well,

“Heat islands can be up to ten degrees warmer than surrounding areas. Trees can prevent heat islands from forming with their shade and reduce the air temperature in these areas through transpiring (Martineau, 2017, p. 9).

Trees hold soil together, preventing erosion, they shade the soil, keeping the soil moist and thus provide a more habitable environment for biotic activity, they also remove pollutants from the earth. Trees roots serve “…four primary functions: anchorage, storage, absorption, and conduction” (Lilly, 2010, p. 8). Tree roots prevent erosion by binding the soil together through their roots and storing water. When trees are removed, the landscape suffers, and when natural disasters like floods occur, deforestation of an area has the potential to exasperate the damage done due to the lack of support provided by trees. For instance:

“...flooding, though often thought of as a natural catastrophe, is more often than not man-made, caused when water is unleashed from the natural storage and regulation of forests and marshes, exacerbated by deforestation. A one-hundred-year flood event becomes a one-in-five-year event when deforested land cover is a quarter of the total. The floods
caused by deforestation also last longer--4 to 8 percent longer for each 10 percent of the forest that is lost” (Robbins, 2012, p. 14).

Trees are intertwined with the quality of soil, and thus influences the “ecosystem inhabited by insects, earthworms, nematodes, fungi, bacteria, and other microbes all living together in a delicate balance” (Lilly, 2010, p. 37). The quality of soil is changed due to the presence of trees in ways such as leaf drop, nitrogen release, and at the rhizosphere:

“The rhizosphere is the microzone of intense biological activity surrounding actively elongating roots. As roots extend through the soil, the root caps and external layers are sloughed off, and sugar and other materials (exudates) from the roots are released into the soil. This is a source of organic matter on which microorganisms feed. The rhizosphere is an altered environment within the soil where many organisms flourish. Chemical properties within the rhizosphere can be very different from the surrounding soil. For example, the pH can be 1 or 2 units higher or lower in the rhizosphere compared with the bulk soil pH, and can make more ions available for uptake” (Lilly, 2010, p. 42).

At the rhizosphere, tree roots work symbiotically with:

“...microbes, fungi, and fauna such as nematodes, mites, and spiders to bring sustenance to the tree. Roots feed bacteria in the soil with a range of energy-rich exudates derived from photosynthesis by the tree’s leaves, for example, and the bacteria, in turn, process nutrients with the help of fungi on the roots” (Robbins, 2012, p. 95).

Trees improve aquatic conditions by removing pollutants from the water, sequestering water in their trunks, and releasing nutrients into water bodies that are essential to aquatic environments. “Tree roots filter water, preventing chemicals from flowing into streams while helping water penetrate the soil to recharge groundwater resources” (Martineau, 2009, p. 10). Trees can be used to recharge the groundwater supply, which is “increasingly being used so that hydrological patterns of urban areas more closely mimic natural areas” and thus negate “the disposal of stormwater directly from impervious urban surfaces into surrounding waterways” which is detrimental to the aquatic environment” (Denman, 2012, p. 104). Trees may contribute to rainfall by means of a microorganism that trees play host to, called Pseudomonas syringae, that make their home on the leaves of most vegetation (Morris, 2008). As these bacteria are
uplifted into the atmosphere and absorbed into the clouds, a protein in them can form the nucleus for rain. As bacteria in rain and snow fall to earth, the bacteria find their way back onto the leaves, where they multiply and start the cycle over again (Robbins, 2012, p. 32).

Trees assist the lives of wildlife, including insects, mammals and birds, by providing habitat, food, and shelter. Trees provide food by taking in the energy from sunlight and transforming it to leaves where that energy is usable by insects and mammals and birds (Robbins, 2012, p. xvi). Robbins says trees are responsible for half of the photosynthesis on land (Robbins, 2012, p. xvi). While trees provide food and habitat to wildlife, wildlife also assists tree with needs of their own. For instance, the balsam fir gets an extra boost from chickadees and other birds who break open their cones and send the seed flying into the air (Haskell, 2017).

First-Person Interview | Dr. Jeremy Williams
Principal of Arborvitae, Registered Forester, Former Professor at the University of Toronto

On the functions of a tree in an urban environment: “Trees modify the local environment in terms of temperature, such as cooling, wind protection. Trees moderate air quality, they regulate vegetation, and provide biodiversity benefits.”

Needs of a tree in urban environment: “Trees are living organisms, and they need to be provided with care and protection. It needs to be remembered that trees are not static elements that you can move around and place just to suit the aesthetics of a design.”

Boundaries of a tree’s benefits: “The benefits that a tree provides extends well beyond the property boundaries of where it is planted. A great range can be reached in terms of the microclimate and biodiversity links a tree creates alone.”

Personal connections people have to trees: “I’ve noticed that people have a personal connection to trees, which is often apparent when they are removed for things like development.”

Economics

Trees are useful for positively impacting economic activity. For instance, trees have been used for their fuel, for products such as oil and fruit, and for their wood that can be used to build a variety of necessary objects. Quantifying the value of a tree is difficult at best because of the
myriad of ways trees provide value to our lives, and because of their “variability of species, size, condition, and function” (International Society of Arboriculture, 2011). However, some effects of the benefits have been quantified, and listed here. For instance, it is known that “the presence of trees in a residential area correlates to an increase in the value of one’s home of approximately 15 percent” (Martineau, 2009, p. 1). Also, trees can save in heating and cooling costs for homes and businesses by providing a wind block during the winter months, and shade during summer months of up to 30 percent (Martineau, 2009, p. 9). A lush canopy of trees acts like an air conditioner and can reduce summer temperatures “at least six to eight degrees lower than in comparable neighbourhoods without trees” (Martineau, 2009, p. 10). On the subject of energy savings due to trees, the International Society of Arboriculture writes:

“Customers pay lower electricity bills when power companies build fewer new facilities to meet peak demands, use reduced amounts of fossil fuel in their furnaces, and use fewer measures to control air pollution. Communities can also save money if fewer facilities must be built to control stormwater in the region. To the individual, these savings may seem small, but to the community as a whole, reductions in these expenses are often substantial” (“Benefits”, 2011).

“Projections from computer simulations indicate that 100 million mature trees in U.S. cities (three trees for every other single-family home) could reduce annual energy use by 30 billion kWh, saving about 2 billion dollars in energy costs. Savings associated with avoided investment in new power supplies could augment these savings considerably. Also associated with this energy savings is a 9 million ton per year reduction in carbon dioxide emissions from power plants (Dwyer, 1992).

The presence of trees along a commercial street has also been linked to an increase in retail sales by attracting people to shop at landscaped locations, and influence their behaviour to stay longer, spend more money, and even pay more money for parking (Martineau, 2009; Dwyer, 1992). Trees have been shown to increase productivity at work, thus improving income for businesses (Wolf, 2016). They have also been shown to increase attention in school aged children, which better prepares them to learn, which will logically link to better grades and a
better chance at higher education and eventually better employment options, and thus earnings (Wolf, 2016).

It has also been shown that since trees assist with cleaning particulates from the air, trees assist with savings in spending on cleaning the air: “citizens spend millions of dollars annually to control gaseous and particulate pollutants through programs for vehicle inspection and maintenance, oxygenated fuels, rideshare, and street paving and sweeping. To the extent that trees can control pollutants there is potential for improved air quality and substantial cost savings” (Dwyer, 1992, p. 228). Improved air quality is also linked to “enhanced physical and mental health, resulting in substantial savings in expenditures for health care (Dwyer, 1992, p. 228). As a tree ages, its environmental, social, and economic value increases, as the benefits that it provides grow in size. For instance in a study conducted for Newmarket, Ontario, it was found that “a tree that is 68.6 to 76.2 cm dbh [diameter at breast height], stores 13 times more carbon as compared to a tree between 7.6 to 15.2 cm dbh” (Newmarket, 2018). Newmarket’s trees were found to have an associated value to the amount of carbon they store to $2.74 million. (Newmarket, 2018). That was over a decade ago. Most likely, the value has increased. Trees also assist with savings in stormwater management programs. For instance, “savings in stormwater management costs from trees in Tucson were calculated at $0.18 per tree per year, or over $600,000 at 500,000 trees in 40 years” (McPherson, 2003, p. 229). To sum up, “even viewed conservatively, trees are worth far more than they cost to plant and maintain. If we had to pay for the services that trees provide, we couldn’t afford them. Because trees offer their services in silence, and for free, we take them for granted” (Robbins, 2012, p. xvii).

First-Person Interview | William Russel Howe
Co-Chair, Kinsman Sugar Shack, London, Ontario

On trees as an economic source: “Trees to us here at the sugar shack are a source of revenue that we can funnel back into the community. The sap is like liquid gold in a way.”

On building community ties through trees: “Families come back every year to the sugar bush. It becomes a ritual to them. The proceeds from the sales of our sap goes to charity, which means that the price is a little higher than you would find elsewhere. People are happy to pay the price though, because they know the money goes right back into the community and to
good causes. So the trees here have a large reach in terms of the benefits that they provide to our community."

*On trees as medicine:* “We have tree awakening and blessing ceremonies every season done by First Nations groups. They have always known that sap is medicinal. In a way, we are carrying on that tradition, because we donate such a large amount of money from the sales of our syrup that comes from the sap, to research for Cystic Fibrosis, which is helping people heal through the medicine they need.”

*Trees as family members:* “Trees have become family members to me. We are the Kin-family, and this bush is our family home where we provide for the community.”

*On lessons learned from trees:* “I’ve learned to stop, slow down, and listen. Listening is a big part of learning, and trees have been around for a long time just listening.”

**PROBLEM STATEMENT**

As has been shown in the preceding sections, trees provide a multitude of benefits to our lives and to our environment. It has also been demonstrated that landscape architects are directly involved in choosing trees for the public and making decisions regarding trees, and the benefits that people and the environment receive from them. These decisions are influenced by the perceptions that landscape architects have of trees. As noted, landscape architecture is a diverse profession that blends art, science, and design, and is host to a variety of subdisciplines that leads to differing experiences and expertise within the profession. As our perceptions are formed by the collection of our experiences, and landscape architecture is host to individuals with a range of experiences, it follows that there must be a range of perceptions as well, including a range of perceptions of trees.

While we know that landscape architects use trees in their design and as subjects for their research, planning, and policy, we do not know what perceptions of trees they may have. If landscape architect’s actions are influenced by their perceptions, and the benefits that trees can provide are dependant on their decisions, then the perceptions of landscape architects who are making these decisions is useful to know.
CHAPTER SUMMARY

Perceptions filter the way we see the world. They are formed through a lifetime of experiences and are constantly changing and expanding with each new experience. Perceptions influence how we react to the information that is presented and the subsequent actions we may take. Landscape architects commonly use trees in many of their projects and make decisions about trees that affect the longevity of trees. As indicated, trees are important to people and to the planet in many ways, including our health, social and community lives, the environment, and economic vitality. Landscape architects make decisions for trees based on their perceptions, which have been formed through experience. However, as indicated, the profession is diverse, and personal experiences are varied, thus leading to a possible range in perceptions within the profession. As these perceptions have a possibility of affecting the lifespan of trees, and therefore benefits that people receive from trees, a range in perceptions within landscape architecture has the capacity to influence the quality of lives others enjoy in diverging ways. While we know that landscape architects play an influential role in others lives, and trees are important to the quality of lives others enjoy, we do not know what the perceptions are that landscape architects have of trees. Which leads to the research question: is there a range of perceptions of trees within landscape architecture? If so, what is the range?
CHAPTER THREE | METHODS

OVERVIEW

For this study a qualitative and exploratory research methodology was chosen to best capture the range of perceptions of trees within the profession of landscape architecture. Fifteen landscape architects from across North America were chosen to participate in the data collection process. Participants were chosen based on a predetermined demonstration of experience and expertise within the profession of landscape architecture. Once the participants had consented to be interviewed, participants completed a pre-interview survey followed by the actual interview. The aim of the interviews was to collect information regarding the goals and objectives of the research project outlined below. Interviews were chosen as the preferred method of data collection due to their inherent ability to ask in-depth questions that could be tailored to individual experiences.

RESEARCH GOAL

The research goal for this study was to answer the following question:

- To determine if there are differing perceptions of trees within landscape architecture. If so, to explore the range of perceptions of trees within landscape architecture.

This was accomplished by means of interviewing fifteen landscape architects of reputable note with semi-structured interviews and surveys.
The data collection process was as follows and is broken down into five stages, beginning with the selection of key informants:

**Step one** | Fifteen key informants were chosen from the profession of landscape architecture based on two main criteria:

1) Ten years of experience within the profession of landscape architecture and,
2) Demonstrated experience within one of five predetermined categories:
   - Design for health
   - Design for social or community
   - Design for environment
• Design for economics
• Research, or education

Step two | A formal invitation to participate in the research project was sent individually to the chosen participants. A formal script was followed and can be found in the appendix under “Invitation”. All invitations were distributed by means of email and followed up with a phone call approximately six days after the original email was sent. Included in the email was the aim of the research, the level of participation required from participants, and reason for conducting the research.

Step three | If the potential participants agreed to an interview, a time and method of the interview was discussed. Participants had a choice of a phone interview, an in-person interview, and a video-chat interview. Most participants opted for a phone interview as they were in locations distant enough to make face-to-face interviews difficult, such as Manitoba or locations within the United States of America. If the potential participant declined, a thank you message was returned. In the case of participants declining, to maintain the participant number at fifteen, an alternative landscape architect was contacted via the process detailed above.

Once a time and date had been secured for an interview with consenting participants, a pre-interview survey was distributed by means of email. A copy of this pre-interview survey can be found in the appendix under “Survey”.

Step four | On the day and time selected by the participant, the interview was conducted. Interviews we designed to be conducted within approximately one hour. Participants were asked questions from the following themes:

• Factors that might have influenced their perception of trees
• A definition of their perception of trees
• How those perceptions might influence the decisions they make regarding trees

Prior to the interview commencing, participants were reminded that the interview was being recorded, and anything discussed in that interview and in the pre-interview survey, including
their names, would be used in the final thesis. A detailed description of the interview questions can be found in the appendix.

_Step five_ | Following the interview, the conversation was transcribed by hand into a Microsoft Word (Microsoft, 2016) document by the researcher. If requested by the participants, or if the recording software had failed, the written transcript was sent back to the participants via email. At that time, the participants had the opportunity to clarify anything that was said in the interview before analysis of the information was conducted.

**DATA COLLECTION**

Key informant data collection was conducted in five stages as outlined above. Below is a summary of each step beginning with the key informant selection process and ending in the transcription process.

*Key Informant Selection Process*

The premise of this research project rests on the assumption that the varied nature of the profession of landscape architecture has led to a range of expertise within the profession, and therefore, possibly a range of perceptions within the profession, including perceptions of trees. As such, participants were chosen that had demonstrated expertise or experience from a variety of categories that represented the range of knowledge within the profession of landscape architecture. This was decided as the best means to capture the largest range of perceptions within the profession. As such, five categories were chosen from which to solicit participation from landscape architects within North America: design for health, design for social/communities, design for environmental landscapes, design for economics, and research/education. North America was decided as the geographical range for participants due to the similar nature of the education and professional experiences of both Canada and the United States of America.
Criteria for Selection of Informants

Informants were chosen based on the following two main criteria:

1. They had at least ten years of work experience within the profession of landscape architecture.
2. They had demonstrated expertise or experience within one of five predetermined categories: 1) design for health, 2) design for social experiences/community, 3) design for economics, 4) design for the environment, or, 5) research/education.

Ten years was chosen as the minimum amount of time working in the profession of landscape architecture, as it was determined that at least ten years of experience is likely sufficient for most landscape architects to have a breadth of experience and this in turn would lead to a richer source of information collected.

The five categories listed above were constructed to capture the greatest range of experience across the profession, including various types of design, research, planning, and education. The categories also relate the literature review, and the categories that trees broken into concerning the benefits they provide: health, social, economics, and environmental. It should be noted that these categories are not meant to be indicative of themes, or to generalize based on work experience. The categories are applied nowhere further than in the selection of informants to interview. In other words, the landscape architects chosen are known in this research for their expertise as landscape architects, not as landscape architects who have expertise in such-and-such an area.

Key Informants

The following is a list of informants that were chosen to be participants in the research project. As discussed above, the informants were chosen based on the demonstration of
experience of time served in the profession and experience within one of five main categories chosen by the researcher:

1) design for health,
2) design for social experiences/community,
3) design for economics,
4) design for the environment, or,
5) research/education.

Three informants from each of the five categories were chosen for a total of fifteen informants to be interviewed. Seven alternative landscape architects were contacted to be interviewed but did not participate due to time constraints on their part. The following is a list of the key informants. The key informants have been organized according to the area of expertise they have demonstrated in during their career. Once again, this is the last time these categories will be referred to in association with the landscape architects chosen, as the landscape architects are not meant to be representative of that general area of expertise within the profession, but rather regarded simply as experienced landscape architects. The following charts are organized according to category and include how the informants met the criteria to be chosen as participants. It should be noted that under the “Demonstrated experience within the profession of landscape architecture within chosen category,” section, the researcher has chosen one-to-three examples of how that informant met the criteria. By no means is that list exhaustive or reflective of the entire body of work of that landscape architect.

**Fig. 3.2: Key Informant Criteria**

<table>
<thead>
<tr>
<th>Participant Number</th>
<th>Criteria</th>
<th>Participant Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CATEGORY A: DESIGN FOR HEALTH</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Name of informant: Linda Laflamme</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Professional titles: Landscape Architect, OALA, CSLA</td>
<td></td>
</tr>
<tr>
<td>Number of years practicing landscape architecture:</td>
<td>35 years</td>
<td></td>
</tr>
<tr>
<td>Demonstrated experience within the profession of landscape architecture within chosen category:</td>
<td>Employment: Niagara Escarpment Commission</td>
<td></td>
</tr>
</tbody>
</table>

| Name of informant: | Jim Vafiades |
| Professional titles: | Landscape Architect, OALA |
| Number of years practicing landscape architecture: | 32 years |
| Demonstrated experience within the profession of landscape architecture within chosen category: | Healing gardens: Alex’s Butterfly Garden, Victoria Hospital Campus |

| Name of informant: | Naomi Sachs |
| Professional titles: | Landscape architect, postdoctoral associate |
| Number of years practicing landscape architecture: | 20 years |
| Demonstrated experience within the profession of landscape architecture within chosen category: | Founder Therapeutic Landscapes Network City of Beacon Tree and Streetscape Award |

**CATEGORY B: DESIGN FOR SOCIAL or COMMUNITY REALM**

| Name of informant: | Julie Michaud |
| Professional titles: | Landscape architect, OALA, CSLA |
| Number of years practicing landscape architecture: | 16 years |
| Demonstrated experience within the profession of landscape architecture within chosen category: | Employment: City of London Planning Department; Awards: Market Lane and Picadilly Park (Honourable Mention at London Urban Design Awards) |

<p>| Name of informant: | Michael Ormston-Holloway |
| Professional titles: | Landscape architect, ASLA, CSLA, ISA Certified |</p>
<table>
<thead>
<tr>
<th>Name of informant:</th>
<th>Mark Steele</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of years practicing landscape architecture:</td>
<td>18 years</td>
</tr>
<tr>
<td>Demonstrated experience within the profession of landscape architecture within chosen category:</td>
<td>ULI Global Awards for Excellence, The West Don Lands; Goderich Rebuild Master Plan and Courthouse Square Park-CSLA Awards of Excellence; Victims of Communism Memorial-Competition Winner 2017</td>
</tr>
</tbody>
</table>

**CATEGORY C: DESIGN FOR ECONOMICS**

<table>
<thead>
<tr>
<th>Name of informant:</th>
<th>Hank White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional titles:</td>
<td>Landscape architect, FASLA</td>
</tr>
<tr>
<td>Number of years practicing landscape architecture:</td>
<td>26 years (minimum)</td>
</tr>
<tr>
<td>Demonstrated experience within the profession of landscape architecture within chosen category:</td>
<td>Award for the Brooklyn Botanic Gardens Visitor Center</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of informant:</th>
<th>Sophie Beaudoin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional titles:</td>
<td>Landscape architect</td>
</tr>
<tr>
<td>Number of years practicing landscape architecture:</td>
<td>25 years</td>
</tr>
<tr>
<td>Demonstrated experience within the profession of landscape architecture within chosen category:</td>
<td>Award for, KPMG Civic Plaza Square Dorchester and Place du Canada (2013) CSLA Design Award</td>
</tr>
</tbody>
</table>

<p>| Name of informant: | Virginia Burt |</p>
<table>
<thead>
<tr>
<th>Name of informant:</th>
<th>Ryan Wakshinski</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional titles:</td>
<td>Landscape architect, MALA, CSLA</td>
</tr>
<tr>
<td>Number of years practicing landscape architecture:</td>
<td>10 years</td>
</tr>
<tr>
<td>Demonstrated experience within the profession of landscape architecture within chosen category:</td>
<td>Award: Brokenhead Wetland Interpretive Trail and Boardwalk, CSLA 2017 National Award</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of informant:</th>
<th>Colleen Mercer Clarke</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional titles:</td>
<td>Landscape architect, CSLA</td>
</tr>
<tr>
<td>Number of years practicing landscape architecture:</td>
<td>29 years</td>
</tr>
<tr>
<td>Demonstrated experience within the profession of landscape architecture within chosen category:</td>
<td>Chair or CLSA Committee on Climate Change Adaptation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of informant:</th>
<th>James Melvin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional titles:</td>
<td>Landscape architect, OALA, FCSLA, ASLA</td>
</tr>
<tr>
<td>Number of years practicing landscape architecture:</td>
<td>35 years</td>
</tr>
<tr>
<td>Demonstrated experience within the profession of landscape architecture within chosen category:</td>
<td>Toronto Botanical Garden (CSLA, LEED awards); Dundas Driving Park (Hamilton Healthy City); Forks of the Thames (CLSA)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of informant:</th>
<th>Karen Landman</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional titles:</td>
<td>Professor of landscape architecture, registered professional planner</td>
</tr>
<tr>
<td>14</td>
<td><strong>Name of informant:</strong></td>
</tr>
<tr>
<td>----</td>
<td>-----------------------</td>
</tr>
<tr>
<td></td>
<td><strong>Professional titles:</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Number of years practicing landscape architecture:</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Demonstrated experience within the profession of landscape architecture within chosen category:</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>15</th>
<th><strong>Name of informant:</strong></th>
<th>Emily McCoy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Professional titles:</strong></td>
<td>Landscape architect</td>
</tr>
<tr>
<td></td>
<td><strong>Number of years practicing landscape architecture:</strong></td>
<td>10 years</td>
</tr>
<tr>
<td></td>
<td><strong>Demonstrated experience within the profession of landscape architecture within chosen category:</strong></td>
<td>Director of Integrative Research, Associate Principal at Andropogon Associates Ltd.; 2016 ASLA Research Award- Shoemaker Green; 2013 DC PA-DE ASLA Merit Award, Analysis &amp; Planning, St. Elizabeth’s West Campus Landscape Integration Plan; 2016 AIA COTE TOP TEN AWARD from AIA Committee on the Environment for the Center for Sustainable Landscapes at Phipps Conservatory and Botanical Gardens, with The Design Alliance</td>
</tr>
</tbody>
</table>

**Invitation**

A scripted formal invitation was created and distributed to the chosen participants (See Appendix, “Invitation”). All invitations were distributed by means of email and followed up with a phone call approximately six days after the original email was sent. Included in the email was...
the aim of the research, the level of participation required from participants, and reason for conducting the research.

Pre-Interview Survey

The purpose of the pre-interview survey was to collect basic data from participants regarding their level of expertise as related to the research topic. The pre-interview survey was constructed in Qualtrics (2018) and distributed by means of email prior to the scheduled interview. Questions included the name of the participant, number of years practicing landscape architecture, experience within the profession, type of past and present project involved in, education, and decisions made regarding trees as a landscape architect.

Interviews

The goal of the interviews was to answer the main research question, goal, and objectives. The number of questions posed to the key informants varied depending on the flow of answers. However, each question was asked in multiple ways in order to collect the most detailed data from the informants. Interviews were designed to last approximately one hour in length with the understanding that prompts and individual follow up questions would be necessary due to the personal nature of the questions. An example of the arrangement and type of questions posed to key informants in the interviews can be found in the appendix (See Appendix, “Interview”).

Transcripts

Following the conclusion of the interviews, the conversation was transcribed into text using Microsoft Word 2016. If the participant had requested it a transcript of the interview a copy was sent to them via email, with the opportunity for the participant to clarify anything prior to analysis of the data by the researcher. An example of the formatting of the transcript is included in the appendix (See Appendix, “Transcript”). As noted, the date, time, and method of interview was included, as was the type of recording software used, and if there had been
technical difficulties. Transcripts were kept as true to the actual conversation as possible, and only edited for “filler words.” If there happened to be technical errors with recording software that rendered the conversation inaudible and insufficient to transcribe faithfully, it was indicated with the following symbol: [***]. A sample of the transcripts can be found in the appendix.

ANALYSIS

Following the transcription of all interviews, and the return of any modifications made by informants, individual answers by informants were arranged by question along with the answers by other informants. The full body of un-edited responses arranged by question can be found in the appendix (See Appendix, “Results”). During the analysis portion, answers to individual questions were grouped by main research question which formed the structure for categorical frameworks, which were then analysed for themes and key words. Further clarification of this process can be found in the Chapter 4 along with the breakdown of each research question into themes. The findings from the analysis was then synthesized and formatted into a narrative to best explain how the results answered the original research question and goal.

SUMMARY

To meet the research goal, the method of research chosen for data collection was in form of pre-interview surveys and interviews. Fifteen landscape architects with at least ten years of professional experience were chosen from five pre-determined categories that were designed to represent a cross-section of experience within the profession of landscape architecture. Participant criteria was set in this fashion to allow for the collection of a broad range of data from across the profession that was substantiated by experience in the field of landscape architecture. The data collection process consisted of five steps: creating criteria to select key informants, choosing fifteen landscape architects to participate according to the developed criteria, inviting the key informants to participate in the study, releasing a pre-interview survey for participants to confirm their eligibility to participate and to gather base information, interviews with key informants to collect data to answer research questions, and lastly, to transcribe the data collected in the interviews. Data from the pre-interview surveys and
interviews were then arranged by questions asked in the interviews, and then categorised by research questions and mined for themes and key words during the analysis portion.
CHAPTER FOUR | RESULTS & ANALYSIS

INTRODUCCIÓN

The data collection process resulted in both written and verbal data. Following the transcription of the data collected verbally, data from both the pre-interview survey and interviews was arranged by categories that represented the research goals. These categories were then analysed for major themes and key words. This resulted in three categorical frameworks: influences on the perceptions of trees, perceptions of trees, and the influence of perceptions on actions regarding trees. These three categories were arranged by themes and key words.

RESULTS

The results of the data collection process resulted in approximately one hundred and fifty pages of data, or sixteen hours of recorded data, collected from the interviews, and fifty pages of data from the survey. An unedited complete record of the data collected in the interviews has been attached in the appendix (See Appendix, “Results”). Individual interviews with key informants were arranged by major question asked during the interviews.

ANALYSIS

Results of the data collected from the survey and interviews with fifteen landscape architects were analysed by the:

▪ Creation of three categorical frameworks – influences on perception of trees, perceptions of trees, action (how perceptions influence actions regarding trees)
▪ Arrangement of categorical frameworks into themes and key words

The arrangement of the data into the above categorical frameworks allowed for the main research goal to be explored: to determine if landscape architects have different perceptions of trees, and if so, what might those perceptions be.
The research objectives formed the frame for the categorical frameworks, which have been rearranged to represent a sequential flow of how perceptions of trees are formed (Influence), to what the perceptions of trees are (Perceptions), to how those perceptions influence decisions (Actions). A sample of the questions that formed the basis for the analysis of each categorical framework can be seen in the figure below.

**Fig. 4.1: Interview and survey questions arranged by categorical frameworks**

<table>
<thead>
<tr>
<th>Framework</th>
<th>Questions asked of Key Informants</th>
</tr>
</thead>
</table>
| Influences | ▪ What influenced your perception of trees?  
▪ Has your perception of trees changed?  
▪ What influenced that change in your perception of trees? |
| Perceptions | ▪ What is the first thing that comes to mind when you think of a tree or trees?  
▪ What role or function does a tree play in a landscape?  
▪ Do you find that trees are valued for one function more than another?  
▪ How is a tree different than the other materials at the disposal of a landscape architect?  
▪ What is your perception of trees?  
▪ Do you think that landscape architects are well versed in trees?  
▪ Do you have a favourite tree or trees? |
| Action | ▪ What determines how or why a tree is chosen for a design?  
▪ What is a landscape architect to a tree?  
▪ How do you think your perception of trees influences your design decisions?  
▪ What role do you play in a tree’s life?  
▪ What decisions do you make that affect the life of a tree?  
▪ When designing, are trees the priority, or do other things take precedence? |
▪ Are there any practices you would like to change when it comes to designing with trees?
▪ What are landscape architects doing right when it comes to designing for trees?
▪ Who or what benefits from your perception of trees and the decisions that you make regarding trees?
▪ Would you agree that the benefits provided by trees extend beyond the property line that tree is planted within?
▪ What sort of influence do you have on how others perceive or experience trees?
▪ How do you think the influence of landscape architecture is different than other tree related professions?
▪ What is one thing you wished other people knew about trees?

The above categorical frameworks were then analyzed to produce themes and key words as expressed by the key informants. It should be noted here that equal weight was given to opinions expressed by each key informant. Frequency of similar responses was not quantified due to the fact that the aim of this study is to capture a range of opinions, rather than the most popular or most frequently expressed opinion. The purpose of developing themes and key words was to better organize the data that was collected in the pre-interview survey and interviews. Resulting themes within the categorical frameworks were then synthesized into a narrative on how perceptions are influenced, the various ways perceptions of trees were expressed, and how those perceptions influence the decisions that landscape architect make regarding trees. Analysis of the data was used to capture the range of perceptions within landscape architecture of trees and what that range represents for others and for the environment.

The following figures represent the three categorical frameworks and themes created from the data, arranged by influences on perceptions of trees, the range of perceptions of trees within landscape architecture, and how those perceptions influence the decisions that landscape architects make regarding trees: influence, perceptions, action.
### Fig. 4.2: Categorical framework – Influences on perceptions of trees

<table>
<thead>
<tr>
<th>CATEGORICAL FRAMEWORK - INFLUENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>THEME</td>
</tr>
<tr>
<td><strong>Childhood</strong></td>
</tr>
<tr>
<td><em>Single and Groups of Trees</em></td>
</tr>
<tr>
<td><em>Location of Childhood Home</em></td>
</tr>
<tr>
<td><em>Memorable Experiences</em></td>
</tr>
<tr>
<td><em>Type of Influence</em></td>
</tr>
<tr>
<td><strong>Education</strong></td>
</tr>
<tr>
<td><em>Undergraduate Degree (Other)</em></td>
</tr>
<tr>
<td><em>Landscape Architecture Degree (Undergraduate or Graduate)</em></td>
</tr>
<tr>
<td><strong>Work Experience</strong></td>
</tr>
<tr>
<td><em>Other</em></td>
</tr>
<tr>
<td><strong>Landscape Architecture</strong></td>
</tr>
<tr>
<td>---------------------------</td>
</tr>
<tr>
<td><strong>Cultural and Spiritual Influences</strong></td>
</tr>
<tr>
<td><strong>Cultural Influences</strong></td>
</tr>
<tr>
<td><strong>Spiritual Influences</strong></td>
</tr>
<tr>
<td><strong>Individuals</strong></td>
</tr>
<tr>
<td><strong>Parents</strong></td>
</tr>
<tr>
<td><strong>Grandparents</strong></td>
</tr>
<tr>
<td><strong>Educators</strong></td>
</tr>
<tr>
<td><strong>Colleagues and mentors</strong></td>
</tr>
<tr>
<td><strong>Other professionals</strong></td>
</tr>
<tr>
<td><strong>Others</strong></td>
</tr>
<tr>
<td><strong>Resources</strong></td>
</tr>
<tr>
<td><strong>GENERAL</strong></td>
</tr>
<tr>
<td><strong>How perception can change</strong></td>
</tr>
<tr>
<td><strong>New Memories</strong></td>
</tr>
</tbody>
</table>
### CATEGORICAL FRAMEWORK – PERCEPTIONS

<table>
<thead>
<tr>
<th>THEME</th>
<th>KEY WORDS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tool</strong></td>
<td></td>
</tr>
<tr>
<td><em>Function: Design Element</em></td>
<td>Tool in “Design Kit”; Define Space; Utilitarian Element; Aesthetic Interest; Quality Spaces; Landscape Typology</td>
</tr>
<tr>
<td><em>Function: Health</em></td>
<td>Psychological; Physiological</td>
</tr>
<tr>
<td><em>Function: Social/Community</em></td>
<td>Emotional connections, connections, negative associations, character of community, crime, cultural identity, heritage, indicator of place, community engagement, social activities, memory and stories, myths and spirituality, metaphors and symbolism, art</td>
</tr>
<tr>
<td><em>Function: Environment</em></td>
<td>Air, earth, water, wildlife, biodiversity, other plants, climate change</td>
</tr>
<tr>
<td><em>Function: Economic</em></td>
<td>Value, savings, income, resource</td>
</tr>
<tr>
<td><strong>Living Thing</strong></td>
<td></td>
</tr>
<tr>
<td><em>Alive</em></td>
<td>Biological characteristics, operating system, needs</td>
</tr>
<tr>
<td><em>Connections and Communication</em></td>
<td>Connections, communication</td>
</tr>
<tr>
<td><em>Age-Evolution-Sentinels</em></td>
<td>Age, growth and evolution, sentinel trees</td>
</tr>
<tr>
<td><strong>Personally to Landscape Architects</strong></td>
<td></td>
</tr>
<tr>
<td><em>Scale</em></td>
<td>Spatial, social and environmental, temporal</td>
</tr>
</tbody>
</table>
**Personal Opinions**

Pride, legacy, protector, voice, understanding, knowledge

---

**Fig. 4.4: Categorical framework – Action**

---

**CATEGORICAL FRAMEWORK – ACTION**

<table>
<thead>
<tr>
<th>THEME</th>
<th>KEY WORDS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Role</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Decisions</strong></td>
<td>Retain, remove, replace, adjust environment</td>
</tr>
<tr>
<td>‘Based On’</td>
<td>Inspections (site and tree), biological</td>
</tr>
<tr>
<td></td>
<td>requirements, design requirements (vision and</td>
</tr>
<tr>
<td></td>
<td>program), restrictions (site and technical),</td>
</tr>
<tr>
<td></td>
<td>others (clients, public, other professionals,</td>
</tr>
<tr>
<td></td>
<td>colleagues and mentors, policy, resources),</td>
</tr>
<tr>
<td></td>
<td>personal opinion (experience and understanding), what not to do (trial and error, mistakes, learning from past)</td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>Master plans (planting plans, tree placement and location), construction details (soil specifications, installation requirements, and nutritional requirements), tree evaluation reports and tree conservation reports (health and condition assessments, value, species), cost estimates, maintenance programs (tree care, watering schedule, replacement protocol), renderings (packages for clients), presentations (speaking engagements), policy (restrictions and</td>
</tr>
</tbody>
</table>
specifications), planning report (‘Tree Master Plans’ for cities), community engagement meetings (communicate with community), research (books and academic research), conversations (with clients, public, students, etc.)

**Influence**

*Spread of Influence*  
Variety of disciplines, spatial and temporal spread

*Who, What, How*  
Who or what is influenced (clients, etc.), how (communication, creation of spaces)

**General**

*Friend or Foe*  
Friend (assistant, caretaker, enabler, protector, guardian, voice, advocate), foe (uninformed, unappreciative)

**CHAPTER SUMMARY**

The data collected from the key informants during the pre-interview surveys and interviews resulted in individual expressions and opinions that were then arranged into categorical frameworks based on the research question, goals, and objectives: what influenced the perception of trees of landscape architects, what is the range of perceptions of trees as expressed by the key informants, and how do those perceptions influence decisions made regarding trees. Answers to the questions posed to the key informants were arranged by the three categories – influence, perceptions, and action. These three categories were then analysed and arranged by common themes and key words that supported each theme and sub-theme. The three resulting categorical frameworks were then used to create a narrative about the range of perceptions of trees within landscape architecture and the possible consequences of such a range. This narrative will be discussed in length in the following chapter.
CHAPTER FIVE | DISCUSSION

OVERVIEW

In order to answer the research question and goals, the data collected from the key informants was arranged into three categorical frameworks. Those three frameworks are the following: influence, perception, and action. The categorical frameworks support the three phases of perceptions according to the answers provided by the key informants. Each of the three categorical frameworks was analysed for common themes expressed by the key informants based on the key words or phrases spoken or indicated in the data. What follows is a narrative of the findings from the data collected from the key informants arranged sequentially from influences, to perceptions, to actions. It should be noted that quotes from key informants have been edited for flow and length. If major edits were made, it is indicated as “Paraphrased”. Care was taken not to alter to the main content or essence of the data collected from the key informants.

CATEGORY ONE | INFLUENCE ON PERCEPTIONS OF TREES

Based on the data collected in the pre-interview survey and the interviews, the influences on the perceptions that landscape architects have of trees can be roughly divided into the following categories:

1. childhood
2. education
3. work experience – landscape architecture and other
4. cultural and spiritual experiences
5. individuals

The perceptions of the landscape architects that were interviewed for this study were influenced by these sources over the course of their personal and professional lives. What follows is a breakdown of those influences on the perceptions of landscape architects.
**Childhood Influences on Perceptions**

Childhood was a commonly discussed theme regarding what influenced the perceptions of trees of the key informants. Influences from key informants’ childhood included such things as attachments to single and groups of trees, the location of their childhood home, time spent interacting with trees, and memorable experiences.

**Single and Groups of Trees**

An attachment to both single and groups of trees from childhood was indicated as an influence on the perceptions of landscape architects. Single trees included memorable trees from their childhood. For instance, a particular tree from an informant’s childhood home that he or she was fond of. Groups of trees refer to multiple trees that formed a typology of treed landscape. For instance, forests, woodlands, hedgerows, orchards, or specific collections of trees, such as the Boreal Forest, or a maple-beech forest.

*On the attachment to a single tree from childhood:*

“We all have stories of trees. I grew up underneath a series of Norway spruce that I played on for years. They are woven into my memory as part of the stories I created over time. I remember laying underneath trees as a young girl and looking up and watching the sky go by,” Virginia Burt

*On the attachment to groups of trees from childhood:*

“I grew up in the boreal forest of Northern Ontario and Quebec. Those trees and forests were an integral part of my life and remain an integral part of my life years later. Because of that experience, I cannot picture a life without trees,” Linda Laflamme (Paraphrased)

**Location of Childhood Home**

The location of the key informant’s childhood home was indicated as an influence on the formation of their perception of trees. This was expressed as either an exposure or lack or exposure to trees. For instance, those who grew up in a rural or country home expressed that the
convenient presence of trees next to their homes influenced their perception of trees. It was also
indicated that those who grew up in a more urban setting with less of an opportunity to interact
with trees also had an influence on their perception of trees. Geographical location of home was
also noted as a possible influence on the perception of trees. For instance, it was noted that
growing up in countries outside of North America may have had a different influence on their
perception of trees than if they had grown up in Canada or the United States of America.
Collectively, the location of their childhood home refers to the perceived influence of the
proximity of trees on their daily lives as a child.

On the location of trees to childhood home:

“I grew up in a pretty rural area of Connecticut, which has a lot of trees. I
grew up on about an acre which was filled with trees. We had a swing that
hung from a maple tree limb that I remember swinging on. We had a yew
hedge that lined the street and screened the street from the yard. I would
spend hours playing in that hedge and pretending with my friends that there
were alligators on the bottom,” Naomi Sachs

“I grew up in a pretty rural area filled with mature woodlands. It was also
an old community where there were trees that dated back to the
revolutionary war. As such there were landmark trees that marked the
various battles of the revolutionary war. These trees had recognition within
the culture of our community as having historic value and significance, to
say nothing of their majestic presence and scale. As a young boy, I
appreciated the majesty of a tree’s structure, its form, its shade, its spatial
impact, and their political and social significance,” Hank White
(Paraphrased)

Memorable Experiences

Experiences related to trees from their childhood were indicated as a likely influence on
the perceptions that landscape architects have of trees. Experiences included interacting with
trees in ways such as: climbing trees, carving initials into trees, sitting beneath and in trees,
reading books in trees, listening to the sound of trees leaves in the wind, swinging from trees,
camping amongst trees, harvesting wood and fruit from trees, and drawing trees. Memorable
experiences related to trees were expressed by the key informants as playing with friends,
exploring the woods, and integral moments in their lives that trees played a feature role in. For instance, Colleen Mercer Clarke recalls a moment from her childhood that Clarke says highly influenced her perception of trees:

“I was seven years old in Gander, Newfoundland, and my dad had just picked a little lot to build our family home on. I remember that he drove us out to the lot to look at the paper white birches on the property. They must have been fifty or sixty years old and absolutely stunning. They were beautiful, I can still see them. We couldn’t wait to have our home built there amongst the trees. My dad hired a guy with a plough to dig the foundation under very explicit instructions not to touch the trees. Unfortunately, when we came back later to see how the work had gone, there were only two trees left standing on the lot. Those two remaining trees were so badly hit by the blade of the plough that they had to be cut down as well. I remember my mother crying for months because she wasn’t going to have her trees. That memory has stayed with me my entire life. My family will laugh now about that, and say, “Colleen is a landscape architect because mom cried about the trees”. I have to admit, that moment did impress the value of trees on me.” (Paraphrased)

These moments and experiences relayed by the landscape architects interviewed for this study were indicated as integral to the formation of their individual perception of trees, and how they would eventually respond to trees as a practicing landscape architect.

*On time spent interacting with trees in childhood:*

“I loved climbing trees and taking refuge from the sun in the hot Winnipeg summers. I remember the multi-stemmed hybrid Russian poplars allowed for easier climbing by providing foot and hand holds,” Ryan Wakshinski (Paraphrased)

“I loved climbing trees. Fortunately, I don't think I ever fell out of one. There was a big forest about a five minute walk from my house. I grew up in a time where parents told us to be back before dinner, or at least before it became really dark out. The forest was really my heart. That was the place where I would play or go when I was sad. I had my first kiss in the forest, I smoked my first cigarette in the forest. It was a magical place. I think forests still are magical. They are magical places,” Naomi Sachs

“There was a really neat forest near my house that we used to always play in. The Don Valley was part of our playground,” James Melvin
“I think about the time spent in respite with a book in the crab apple tree from my childhood home, and the memories of spitting firewood, climbing trees, and building tree forts,” Karen Landman (Paraphrased)

“My earliest memories are of walking in the orchard when the trees were in full bloom. I remember the air being full of the scent of apples when they were hanging on the trees,” Virginia Burt (Paraphrased)

“I think back to being in elementary school and drawing pictures like most kids do with a house, a tree, and a sun. [When playing amongst trees] there were three favorite spots to go to. One was an empty lot across the street that was the link to the field with the big trees. There was a woodlot at the end of the road--it was a sort of silver maple swamp, which I didn’t know as a kid. But it was a favourite place to go ride bikes and explore. There was a third place down on the Homewood property where we would go and build tree forts down by the river. Those were all fond and favorite memories from childhood. That was not really something I thought about until later in life,” Mark Steele

“I spent the days of my summer vacation in the forest and the lake when we vacationed at the house next to the mountains. Forests and water were the two major natural environments from my childhood,” Sophie Beaudoin (Paraphrased)

“We spent a lot of time camping and visiting provincial parks and conservation areas. I was outdoors a lot,” Jim Vafiades (Paraphrased)

“I was involved in girl guides as a child, which is where I gained an appreciation of trees,” Julie Michaud (Paraphrased)

“I can't over emphasize the role that camp played in connecting me to the outdoors. I was connected to nature from a very young age. That whole experience was really important to me, from waking up every morning and running through the woods to jumping into the lake,” Michael Ormston-Holloway (Paraphrased)

“My parents built and designed a house in a hilly wooded lot where the trees had been there for multiple decades. The strategy to keep the trees on the lot, intact, was something that my parents insisted on. Watching how the architect maneuvered and protected those trees through design made an impression on me. I appreciated the design and artistry of it at the time, and later the comfort and shade that those trees provided throughout my childhood,” Hank White (Paraphrased)
“My parents would take us to sit in this aspen grove every Sunday when we were children. We would sit there and have tea after dinner and listen to the trees. My mother said that the sound of the aspen trees in the wind was like the sound of the waves in the ocean, and she would make us sit there and listen to them swaying and rustling in the breeze. I came from a working-class family, and yet these are things that we did without thinking it was odd or excessive,” Colleen Mercer Clarke (Paraphrased)

Summary

Childhood experiences and memories were indicated as one of the main influences on the informants’ perceptions of trees. Experiences and memories included such things as attachment to individual or groups of trees, the proximity of trees to their childhood home, and memorable associations they have to trees from their childhood. These experiences from childhood had a lasting impression on their perception of trees and influenced their opinions in ways such as: an appreciation of trees, respect for trees, connection to trees, understanding of the culture and heritage of trees, understanding of the value and significance of trees, and an understanding of the social and political history a tree can have. To Virginia Burt, these childhood memories are “woven” into her story and created a narrative of trees that is “perhaps deeper than others who might not have had that opportunity.” From the data collected for this study, the influence of childhood experiences and memories seems to have strongly influenced the perceptions that landscape architects have of trees.

Educational Influences on Perceptions

Education was indicated as one of the ways the perceptions of the key informants were formed of trees. Education in this case refers to both all levels of education and areas of study. The data collected suggested that different areas of study left different impressions on the informants’ perceptions of trees. Collectively, education seemed to influence a more thorough and technical perception of trees on the informants.
On how their degree in an area of study other than landscape architecture influenced their perception of trees:

“I have a background in Ecology. As such, I am used to working with soils, and I think about trees soils with that lens on. I think that brings a unique perception to understanding how trees interact with their environments. I also have a background in forestry and would think about trees in blocks for a long time. Since working in landscape architecture, that thinking has changed more to thinking of trees as singular objects,” Michael Ormston-Holloway (Paraphrased)

“Because of my undergraduate degree in Environmental Design, I have an appreciation of the entire system of a tree. As part of that degree, we would draw trees, which helped me to study their forms, and furthered my understanding of how their structure changed at the different scales,” Ryan Wakshinski (Paraphrased)

“Because of my background in Ecology, I think of the evolutionary history of trees and the role that trees play in a natural setting. That helps me to understand their functional role in a landscape,” Emily McCoy (Paraphrased)

On how a degree landscape architecture influenced perceptions of trees:

“My education in landscape architecture taught me about trees as tool more than anything. It was there that I really formed my science and horticultural perception of trees,” Linda Laflamme (Paraphrased)

“Design for people was the main focus of my degree, with trees used as something to accomplish that. Trees were part of the curriculum, but they were not the main focus,” Julie Michaud (Paraphrased)

“[My education in landscape architecture] gave me a better understanding of trees. I can’t go anywhere now without looking at the condition of trees, where they are planted, and how they are doing,” Mark Steele

“My education in landscape architecture introduced me to how trees are used to strengthen or augment design concepts, whether it be the ‘classic’ park style, or more natural or modern treatments,” Ryan Wakshinski
Summary

As indicated by the data, education inside and outside of the study of landscape architecture possibly had an influence on how the key informants perceive trees. Education possibly influenced perceptions in such ways as, understanding the biological functions of trees, the soil requirements of trees, the scientific and horticultural understanding of trees, how trees could be used in design, and the function and role trees play in a landscape. It was expressed that while childhood may have influenced certain key informant’s perception of trees in an appreciative fashion, their education influenced their technical understanding of trees.

Work Experience as an Influence on Perception

Work experience was indicated as a possible influence on the perceptions the informants have of trees. Work experience here refers to employment in areas inside and outside of landscape architecture. Work experience outside of landscape architecture that the informants believed to have had an influence on their perception of trees includes such professions as wilderness guide and camp councillor, in institutions such as botanical gardens and arboretums. These experiences in other professions influenced their perceptions in ways such as understanding the soil to tree connection, the biological requirements of trees, growing habits of trees, learning about trees and seeing the importance of the benefits that they provide, and the connections others had to trees. Work experience as a landscape architect was indicated as influencing perceptions in the following ways: learning from others and through trial and error, being exposed to how others view trees, and deepening the understanding of the biological requirements of trees. As noted previously, perceptions are fluid and are therefore everchanging. This was expressed most adamantly by certain key informants who believed that their perception of trees continues to change as their work experience as a landscape architect grows with time.

On how work experiences outside of landscape architecture influenced perception of trees:

“I will point to three jobs: my time working as a councillor at a summer camp, working in agro-forestry, and working at the Arboretum in Guelph. As a camp councillor, I was very connected to nature. That time allowed
me to interact with nature by waking up every morning and running through the woods, or into the lake. Second, working in agro-forestry in the turf grass institute, I gained experience doing soil and yield tests. It was there that I also leaned the difference between quality of wood amongst trees when I had to cut through them. For instance, it would take me about half an hour to cut through an oak, and my arms would be sore, but I would only take me about five minutes to cut through a maple. I also learned about the different growing habits of trees, including which ones would grow together. Lastly, when I worked at the arboretum in Guelph, I learned about how to plant trees in a community, and how to use them to direct human movement,” Michael Ormston-Holloway (Paraphrased)

“Working at the Montreal Botanical Gardens I learned a lot about trees. That time added to my respect of trees by seeing the important role they played and the benefits they provided,” Sophie Beaudoin (Paraphrased)

“When I was eighteen to about twenty-two, I worked in a nursery, and it was great, because I got to learn about trees. When the nursery wasn’t running, we got to plant them in residential places. You learn about soil at that time because you are digging trees and learning about which tree balls in what types of soil held together. I was a geography major at the time, and somehow it all sort of flowed together,” James Melvin

On how work experiences in landscape architecture influenced perceptions of trees:

“Work experience with municipalities, conservation authorities, and community groups exposed me to the values that others see in trees, which was not explored in my educational experience,” Linda Laflamme (Paraphrased)

“A project that is close to my heart is Goderich. It had it had an F3 Tornado come through August 5th, 2011. It went right through the centre of the town, and took almost 100% of the canopy with it, devastated structures. It really was a rebuilding exercise, it was a large-scale master planning approach, and a really vigorous tree planting strategy for the town because all of its trees were gone. So that was the Goderich Tree Master Plan, and the first pilot project that came out of that was their first main park downtown, Courthouse Square Park. We brought in 80ft tall trees with 12 ft or bigger root balls on them. That was exciting, because it was doing work that wasn’t conventional. Moving large trees often leaves people scratching their heads, thinking that it is irresponsible, and suggest planting smaller trees that will get going faster. I certainly sympathize with that, but a couple of token mature trees can be powerful. That project was largest critical mass of large tree plantings in a public project ever in the country.” Michael Ormston-Holloway
“I’ve learned through practice that trees are something we always try to retain in the landscape, as they are fundamental to the essence of a site or place and help to define it. I’ve also learned that trees have both a capital cost – to install the tree, and an operation cost – to establish and maintain the tree, and there is not always a universal agreement on how much to spend on either end,” Ryan Wakshinski

“I have learned through practice and being a principal in an office,” Robert Wright

Summary

As expressed by the data collected from the key informants, work experience, both inside and outside of landscape architecture, influenced the perception of certain key informants. Potential influence was expressed in ways such as a deeper understanding of trees, how trees are useful for design, how others connected with trees, and balance that must occur in negotiations.

Cultural and Spiritual Experiences as an Influence on Perception

Cultural and spiritual experiences were expressed as influential forces on the perceptions some landscape architects have of trees. For instance, it was indicated that certain ways of thinking about trees, and attitudes towards trees in a cultural setting inside and outside of North America influenced the way that some key informants thought about trees as well. This included being influenced by attitudes in such areas as the United Kingdom that have more of a perceived attitude of respect and reverence for trees that guides their policy and actions towards trees in their landscapes. In terms of spiritual experiences, the landscape architects that were interviewed did not express being influenced by specific religions or faiths, however, some did express the feeling of a spiritual nature being in the presence of trees, especially in treed landscapes such as forests.

On how cultural experiences influenced perceptions of trees:

“Being around the historic in the United Kingdom and Europe, I witnessed the twisted and gnarled trees that were easily hundreds of years old. These
older forests have a magical quality to their light. Not to mention the hundreds of thousands or millions of people who have walked beneath these same trees. It was there that I witnessed the respect people have in the United Kingdom for trees, and their public spaces. The limited resources that they have has led to a greater amount of care taken for their landscapes in terms of amenities, views, existing vegetation, and history. As such, they have better protection measures to limit development around special or historic trees that are much better than they are here in Canada,” Ryan Wakshinski (Paraphrased)

“Growing up in France I had the opportunity to play in the Fontainebleau forest, one of the greatest forests in the world. I was witness to the way the French and the Europeans treat trees as something sacred when I was there,” Robert Wright (Paraphrased)

**On how spiritual experiences influenced perceptions of trees:**

“I can't really put my finger on them. There was something about camp, the camp fire, in the woods. Camping under the stars and going on canoe trips. I don't know exactly what that was that was spiritual, but I would say that it was because there was a feeling there,” Michael Ormston-Holloway

“In Manitoba near the Brokenhead Wetland Interpretive Trail and Boardwalk, there are eighty-year-old cedars that are inspiring to me. The quality of the green light that filters through, and the smell of the cedar, and texture of the bark is very atmospheric and calming to me. There are trees there that twine around each other like corkscrews for no apparent or understandable reason. It is a spiritual place for Indigenous peoples for obvious reasons,” Ryan Wakshinski

**Summary**

Cultural and spiritual experiences were expressed as influences on the perceptions that landscape architects have of trees in ways such as exposing them to different ways of thinking about trees, including, as spiritual objects that were to be revered and respected. Spiritual experiences were expressed as having an influential role on perceptions of trees in ways such as a feeling of peace and calm when around trees, and an understanding of the ways that others find spiritual meaning in trees.
Individuals as an Influence on Perception

Individuals were expressed as having an influence on the perceptions that certain landscape architects have of trees. Individuals in this case refer to such groups as parents, grandparents, educators, colleagues and mentors, and other professionals, clients and the public, and resources. Parents were expressed as possibly influencing the perceptions of certain key informants in such way as providing an example of tree stewardship, value, and understanding of trees. The landscape architects who indicated that their parents influenced their perception of trees, relayed that influence as something that contributed to their respect for trees, how they value trees, their attachment to trees, and even their line of work. Seeing the attachment that grandparents had to nature influenced some landscape architects in terms of passing on down that attachment to nature and to trees. Educators were seen as influential and shaped certain key informants’ understanding of how a tree should function in a landscape, and the scientific and technical functions of a tree. Colleagues and mentors influenced the perceptions some landscape architects thought about trees by sharing their expertise and knowledge of trees, and thus contributing to the understanding that those landscape architects have of trees. Other professionals were expressed as influencing the perceptions that some landscape architects have of trees in terms, including those professionals in such fields as architecture and horticulturalists. These professionals were influential in terms of expanding how landscape architects thought about trees in terms of the cultivars available, how trees grow, and what a tree means to other design professions. ‘Others’, including clients and the public were also expressed as having an influence on how certain landscape architects perceived trees. This was expressed in ways such as being exposed to how others felt about trees, and the cultural influences that those clients might have been used to regarding trees. Finally, resources, such as books and research was also indicated as a possible influence on the way certain landscape architects perceived trees, in ways such as expanding their understanding of trees and what a tree needs to survive.

On how parents influenced perceptions of trees:

“Trees were part of our lives. They were part of who we were. For people who were not in any way farmers, my parents relationship to growing their own food and caring for the trees on their property was quite strong. I know
my dad would go out and have words with people who were not caring for their trees properly. Since then, I've noticed my entire life how people react to trees and the special nature of certain trees,” Colleen Mercer Clarke (Paraphrased)

“My Mom was a biology teacher. She taught me how to identify trees at a young age. I consider myself a tree hugger now, and I have a very close association with trees,” Emily McCoy

On how grandparents influenced perceptions of trees:

“My grandfather had a fork in his road where he was either going to be a forester after the war, or work with compressed gasses. He took the compressed gasses route, which financially was the right decision, but he always wished he was a forester. I always knew that. He used to tell me that I wouldn’t be one of those guys who lived in those tall buildings—that I would have a home in the forest. He knew that I would always need trees in my backyard,” Michael Ormston-Holloway

“My grandmother. Not with trees specifically, but gardening and taking care of plants. That was a favourite time of childhood -- going to see grandma and working in the garden,” Mark Steele

On how educators influenced perceptions of trees:

“Professor Charlie Thompson was a bit of a maverick and inspiring lecturer. Thompson talked about the importance of looking after a landscape and how you can have the most amazing design in the world, but if it is not cared for and the trees are not maintained, it will not work in the long term,” Ryan Wakshinski

On how peers and mentors influenced perceptions of trees:

“I had incredible mentors. One of my mentors was Art Buckley, who was the curator of the national Arboretum in Ottawa. Art taught me so much about trees. He taught me all sorts of stuff about horticulture. He came from the Kew Gardens, he wrote the Perennials of Canada, and he worked on numerous books on horticulture. He was the consummate horticulturist and biologist. He taught me a huge amount about trees, survival, and our attitudes towards them. Owen Scott was another mentor in the field. Owen’s father was a nurseryman. When I was working with Owen, we would visit all of the nurseries, and see how all of the plants were produced. It had a huge impact on me. These were people who are growing
living material and dealing with the day to day of if they will survive or not survive. The nursery industry is a great source of knowledge when it comes to trees. Because their livelihood is dependant upon them,” Robert White

On how other professionals influenced perceptions of trees:

“There was a botanist and person at The Royal Botanical Gardens in Hamilton, Dr. Peter Rice who gave a lecture called “Trees Are Our Oldest Citizens” which I always loved, it is very poetic. Whenever you have a growing thing, there is a certain responsibility. You just don’t plant it to die. It is not like a bench, and it is not like paving. It is a living organism, and therefore there is a kind of bond between the designer and the living material he puts in place. If I did a landscape design for you, and all of the plants died, you would not think that I was a very good landscape architect,” Robert Wright

On how others influenced perceptions of trees:

“I think learning about how other people view nature--learning that some people think forests are scary...it was hard for me to believe that at first because it was always a place of solace and protection for me. We had a friend who was a city boy who hated the feel of grass under his bare feet because he had never felt it before. Hearing people's different stories and perceptions forced me to respect them and try to create designs that accommodate those fears, or help them to get over those fears. That is stuff that I had to learn, having grown up in a pretty rural space where you just didn't worry about that. Even as a kid, I might have been scared in the woods after dark by myself, but it was more about ghosts than it was about strangers or criminals,” Naomi Sachs

On how resources influenced perceptions of trees:

“Absolutely. I will bring your attention to two books of two mentors of mine: Bob Zion, whom I had the pleasure and honour of working with--the designer of Paley Park. He invented the vest pocket park idea. He wrote a book in the 70’s called “Trees For Architecture.” He essentially dissected the structural characteristics of a variety of trees. He highlighted the design opportunities that each of these tree species provides. It is a manual or glossary of wonderful tree species which highlights their physical characteristics and design applications. “Trees in Urban Design,” by Henry F. Arnold. It has similar ideas presented, but looking at how trees shape
neighborhoods, districts. How their spatial structure completely transforms places and creates identity,” Hank White

Examples of resources mentioned:

- “Trees for Architecture,” Bob Zion
- “Trees in Urban Design,” Henry F. Arnold
- “Urban Forests: A Natural History of People and Trees in the Landscape,” Jill Jones
- “Up By Roots,” James Urban
- “Dirr’s Encyclopedia of Trees and Shrubs,” Michael A. Dirr

Summary

Collectively, individuals such as parents, grandparents, educators, colleagues and mentors, other professionals, clients and the public, and resources had an influence on the perception that some landscape architects have of trees. The influence of these individuals was expressed in ways such as: forming their attachment, respect, and understanding of trees, the value they see in trees, and the cultural associations of trees.

General Influences on Perceptions

General influences on the perceptions that key informants have of trees have been grouped into: the formation of new memories, and the changing nature of perceptions. This section alludes more to the fluid nature of perception and how it is constantly changing and evolving with each new experience. New memories were expressed as influencing the perceptions that some landscape architects have of trees, in ways such as sharing their understanding of trees with others and seeing how others react to trees. The changing nature of perception was discussed in terms of individual perceptions changing according to the experiences and individuals that they encountered in both their public and private lives.

On how new memories influence perceptions of trees:

“Every year on our anniversary we would have a picnic under a pear tree on a provincial historic site. We would spread our blanket and bring our
hamper with an unmarked bottle of champagne in it. One year it was raining, and I ducked into the facilities for a moment. While I was in there I overhead two of the docents talking with one another. One docent said to the other, "it's three o'clock, its so wet, and the garden is a bit muddy, I guess our anniversary couple hasn't come." And the other one said, "no! they're here! they are sitting under their umbrellas under their pear tree, it is so sweet!" I realized then that we had become part of their tradition too. The pear tree had connected us,” Colleen Mercer Clarke (Paraphrased)

“Building a log home with my spouse, who happens to be a carpenter,” Karen Landman (Paraphrased)

On the changing nature of perceptions:

“It has changed over time. When I used to think of a tree or trees, I used to think of forests more because I used to work in forestry. Now I think of a tree more as a specimen because of my work in landscape architecture,” Michael Ormston-Holloway

“Experience working with new technology, like silva cells, has changed my perception of trees,” Julie Michaud

“My perception has not changed so much as it has been reinforced through my education and work experience,’ Jim Vafiades (Paraphrased)

“My perception has changed. I now have a greater appreciation, and hopefully, a better understanding of trees,” Mark Steele

“The more you know, the more you realize how little you know. It is this constant building of knowledge: of subtleties, of structure, of seasonal performance, activity, features. This is why I love going to nurseries. The nursery industry is constantly expanding with new varieties and cultivars of well known species that have very distinct shape and forms. These characteristics have incredible design opportunities of creating really distinct landscape designs because of these very distinct forms of these various new cultivars. That is what exciting for me, because it is constantly changing. When I visit nurseries I am always inspecting: “what are you developing, what is new.” When I see something that I don’t particularly recognize, or I’m attracted to that particular form, I learn about it, or get informed, and I get inspired: “I’m thinking about a landscape design, and that tree might be perfect for that location.” I never would have thought of that if I hadn’t seen that tree up close in the nursery with that particular shape or form. That is what is exciting about visiting the nurseries. It is like an interior designer going to an antique fair and finding furnishings
and objects that they wouldn’t have otherwise known about and see their relevance for whatever their design may be. That is my metaphorical parallel,” Hank White

“I think it became deeper. Deeper in understanding the nuances of their shapes, their colours, their forms, their abilities, their indicators, and their beauty. Or in some cases, not so beauty,” Virginia Burt

“Now I am of the profession that is supposed to be speaking out loud the things that my parents spoke to me when I was a kid. Now that is my job. I have been empowered by knowing more, both as an ecologist and as a landscape architect. Now when I speak, I speak from a point of authority,” Colleen Mercer Clarke

“Yes, it has changed. It has come full circle. From the innate connection to trees as a child, to the formal educational training, and now back again to the appreciation for a tree as a being unto itself,” Karen Landman (Paraphrased)

“I think that the awe has grown. I am more and more amazed by them,” Robert Wright

“I think at the core, it hasn't changed. But I think the more that I know about the specifics of how trees function, whether it be rates of transpiration of water, or providing habitat for certain species. All of the more detailed aspects of a tree, the more I appreciate a tree. In that way, it has evolved.” Emily McCoy

**Summary**

General influences on perceptions, including new memories and continual experiences over time, we were expressed as constantly changing and expanding perceptions that key informants have of trees. As such, perceptions were expressed as fluid and subject to the influence of time and experiences.

**SUMMARY | INFLUENCES ON PERCEPTION OF TREES**

In conclusion, the influences on perceptions of trees as expressed by the key informants were divided into the themes of: childhood, education, work experiences, cultural and spiritual
influences, individuals, and general influences. The subject of these themes influenced perceptions in such ways as: creating a connection to trees at a young age, impressing the value of trees on landscape architects, an understanding of the various functions and roles a tree can play in the landscape, and an understanding of how others might perceive trees differently than themselves. These influences helped to shape, and continue to shape, their perception of trees, as it was expressed that their perception is constantly changing and adapting as new experiences and memories are created regarding trees. The perceptions that landscape architects have of trees are expressed in the following section.

CATEGORY TWO | PERCEPTIONS OF TREES

What is a tree to a landscape architect? What does a landscape architect see when they look at a tree? What is their perception of a tree? Those questions were posed to the landscape architects who participated in the study, and as expected, the results were varied. According to the data collected in the pre-interview survey and the interviews, the landscape architects who participated in the study demonstrated a wide range of opinions or perceptions of trees. These opinions included the function of a tree in a designed landscape, the role a tree plays in the lives of others, the life of a tree away from human intervention, and what a tree meant personally to those landscape architects interviewed. The data collected was analysed for key words and arranged by themes. The main themes in the category of perception of trees within the profession of landscape architecture are: a tree as a tool, a tree as a living thing, and a tree as something personal to each landscape architect. What follows is an analytical narrative of the data collected within those three themes.

PERCEPTION | Tree as a Tool

As a tool, a tree is an object that has the ability to perform an action. To the landscape architects who were interviewed, that action typically meant solving a problem in a landscape by performing a function or functions, oftentimes, simultaneously. As expressed by the landscape architects who were interviewed, the main sub-themes of trees seen as a tool, are:
- function as a **design element**,  
- function to influence **health** conditions,  
- function to influence **social or community** conditions,  
- function to influence the **environmental** conditions, and  
- function to influence **economic** conditions.

As a collective, these functions that a tree performs as a tool in the “toolbox” of landscape architecture, are used to create user experiences of the landscape architect’s choice. To Ryan Wakshinski, trees are immensely important to our lives and to landscape architects because of the incalculable benefits that they provide as tools in a landscape. Below is a breakdown of the various ways a tree can be used as a tool by a landscape architect, as expressed by the participants in this study.

**Perception | Tree as a Tool | Design Element**

To the key informants, as a tool in the “design toolkit” of landscape architecture, a tree is used to perform the function of a design element like the other materials at the disposal of a landscape architect to furnish a landscape. As such, a tree can be used to do such things as define the space or be used to perform a utilitarian or sensory function. Trees can also be used as a design element to contribute to a landscape typology or define the user experience of a space. According to Karen Landman, trees are used “strategically [by landscape architects] to accomplish something or to solve a problem.” A tree in the “design toolkit” is versatile and dynamic. It shapes spaces, it creates impact, and is the building blocks of the landscape. To Virginia Burt, trees “contribute in a way that built form can not.”

**Define Space**

A tree can be used as a design tool to define space, just as columns and beams are used by architects to define buildings, as said by Hank White. To key informants, trees can be used as a spatial device to articulate a space by creating vertical lines and bring things down to human
scale. According to key informants, landscape architects use trees to create distinct spaces, such as activity zones, by creating edges or enclosures with trees. According to James Melvin, trees can be used to create views, vistas, rooms, and spaces. Trees are also used to frame views and create focal points. This can be achieved by using trees in structured alignments, such as an alley to help direct views, according to Jim Vafiades. In this way, trees are used to define the program of a space, including how it is to be used and interpreted. To Robert Wright, in terms of design, “trees are a spatial device. They provide edges, they divide things, they have form, shape and colour, and augment design. They are an expectation for most people in a landscape. Though there will be some hard surface elements, people expect to see trees.”

**Utilitarian Object**

As a utilitarian object, a tree can be used to accomplish something just as any other object at the disposal of a landscape architect. For instance, a tree is used by a landscape architect as a utilitarian tool to provide shade, screen or block views, or alter the climatic conditions by blocking wind in the landscape. According to key informants, this is accomplished by considering the different qualities of a tree, such as the leaf area index, which determines the amount of light a tree allows to filter down to the pedestrian level. It also includes the form of a tree and density of its branches and spreading habit, which would determine its usefulness as a wind break or screen. These utilitarian uses of a tree are useful to consider, according to Michael Ormston-Holloway, who argues for the use of trees that contribute the highest degree of utilitarian uses to a landscape in conjunction with other design considerations: “Norway maples are invasive, but they have an incredible leaf area index. As such, they have this amazing potential to shade the pedestrian realm and clean the air. Alternatively, you can stand under a mature honey locust and still be bathed in sunlight. Which means that honey locusts are not cleaning the air to the same degree as Norway maples. [Therefore] the context matters, the use matters, and the infrastructure potential matters.” Even the lumber from a felled tree is used to perform a utilitarian function. To Naomi Sachs, landscape architects value the wood of trees perhaps differently than others. On the subject, Sachs says, “I would hope, and I think, most landscape architects understand the connection between this piece of lumber that you are using
for a fence or bench and the living thing that it came from. We know that they are important part of our lives.”

Sensory Function

The sensory functions a tree can provide, as relayed by key informants, can be broken down into the five basic senses: sight, hearing, smell, taste, and touch. In terms of sight, landscape architects use a tree to enhance a space and provide interest, often in a “synchronized show,” as articulated by Sophie Beaudoin. As a tree responds to the seasons, its visual function changes with the weather:

“a serviceberry has a beautiful form in the winter with its beautiful grey bark. Then, in the spring it produces these gorgeous white blossoms and leaves. Later on in the season, it produces berries that you can eat, which are even better than blueberries. Then in the fall there is an amazing riot of colour. Then the leaves fall from the branches and you are exposed to its beautiful form once again. What marigold can do that,” says Naomi Sachs.

Elements that make a tree visually distinct are used to create interest in a space, including a tree’s flowers, leaves, bark, branching structure, form, and texture. Landscape architects are not immune to the visual impact of a tree. James Melvin, in particular, enjoys cultivars for their special colours and form, and for the craftsmanship that went into their creation. “They should be celebrated,” says Melvin. A tree can be used as a tool to soften the landscape, as the soft appearance of their leaves and forms allow for a softening of the landscape in comparison with the hard lines of other hardscape materials and buildings in the landscape. Movement of branches, leaves, and wildlife that are attracted to the trees are also valued as design elements. Trees are often planted with the intention that they will attract wildlife, such as birds and bees, which will allow for a pleasant user experience. The combination of all of their visual aspects make trees an important aesthetic feature in a landscape, and are often prized as beautiful objects, especially specimen trees.

To key informants, trees can be used to enhance the hearing experience by providing interest in the form of sound. This includes the sound that trees make, the sounds that trees block,
and the sounds of creatures that trees attract. Trees are planted to produce sound, such as the rustling of leaves in the wind, which is a distinct feature of the poplar tree. “We plant trembling aspen because of the soothing sound of leaves in the wind,” says Linda Laflamme. Trees are also planted to block unwanted sounds in order to create a more pleasing environment. Tree are planted to invite sounds into the environment, such as those produced by birds and other wildlife that are attracted to the area by trees.

The various scents that trees produce makes them an interesting design element for landscape architects according to the key informants. From the smell of the flowers that trees produce in the spring, to the smell of the fruit dropping in the fall, trees are used to provide interest that entices the nose of visitors to that landscape. Virginia Burt has a particularly strong memory of walking through her family’s apple orchard and being overwhelmed by the smell of apples in the fall.

Incorporating taste into a design can be achieved by the addition of trees in the form of fruit, nuts, and sap that trees produce. While not as common perhaps in North America, trees are incorporated in a landscape for their edible and medicinal properties, including its bark, needles, roots, and leaves.

In terms of touch, trees are used in a landscape for their unique textures. This includes the variety of textures of their bark, from the smooth bark of an ironwood, to the more foreboding spikes on a honey locust. A variety of texture produced by different trees are also used by landscape architects to provide interest as a design function.

This combination of uses of trees in a sensory function sets landscape architects apart from other tree-related professions according to Julie Michaud: “I think we are more concerned with the sensory experience.” Due to the changing nature of trees, and their immense variety and interest provided by their properties that engage all senses, trees are one of the more interesting materials used to furnish a landscape.
Landscape Typologies

According to key informants, trees can be used to create landscape typologies and to define the character of a place. Trees can be used to further the design motif, plan, mission, or program of the designer. For instance, trees can be used to create a “type of landscape” such as an English garden, or an Italian garden. This is accomplished by the type of trees used that have associations with certain landscape typologies, such as olive trees for an Italian garden, or shaped boxwoods for a formal garden, and the way that those trees are arranged in the landscape. Associations are used to drive the program of the site in order to create spaces that fit certain functions or visions. The arrangement and number of trees can alter the function of a tree. For instance, one apple tree is a specimen, but multiple apple trees are an orchard. In the words of Sophie Beaudoin, “one single crab apple tree is just a specimen tree, which may flower in the spring, which is interesting in itself. You are going to look at the branch structure, the shape of the tree, so on. But when you are talking about, or thinking about an orchard, then it is really something else--it is a completely different landscape when they are all flowering, and now you can think about something that gives food as well, so it is a really different thing.” The number and arrangement of trees thus changes the type of landscape and the associations people have to it. Random or “natural arrangements” of trees have different associations than the more classic park style, which to Ryan Wakshinski can strengthen or augment your design concept and the associations people have to it. Wakshinski continues, “trees are something we always try to retain in the landscape, as they are fundamental to the essence of a site or place. Trees help define the character of a place.” People have different association with one tree verses multiple trees and are thus used by landscape architects as a tool to further whatever function they happen to prefer. This includes alluding to such things as the natural world but bringing trees into urban settings and exposing people to natural elements.

User Experience

To some key informants, trees are something that can be used to create quality spaces for user experience and to further the intended function or atmosphere of that site. As such, trees can be used as a tool to create welcoming landscapes. Trees are often used to turn a drab space into a
comfortable and interesting one by providing a place of respite and intrigue. To Emily McCoy, trees are “an important tool that we have to create high quality spaces for people.” McCoy continues, “in contrast to an arborist or other types of tree related disciplines, the weaving together of how aesthetics, seasonality, and benefits trees provide is unique to the profession of landscape architecture.” To Virginia Burt, designing with trees for the user experience is what sets landscape architecture apart: “We make spaces people can walk into. People can experience these spaces intrinsically. I think that we have a unique opportunity to actually make and design spaces that people can walk into and enjoy—spaces where people can live their life in,” Burt says. To Sophie Beaudoin, “ultimately it is people who are going to use those outdoor spaces that we create. It is all about making people happy.” Jim Vafiades chooses trees that will enhance user experience, by selecting for colour, seasonality, and scent, amongst other things: “it is all about the user and how we can create a space that is going to be enjoyable for them year-round,” Vafiades says. Hank White provides the most detailed account of how trees can be used to enhance user experience, heighten one’s awareness and appreciation of trees, and alter the user experience and association with a place:

“Anybody who is walking through a designed landscape will have a heightened awareness of the trees because of the spatial and visual rhythm in which they are used and organized. We highlight things like the tree’s form and its seasonal performance qualities by bringing these features to the forefront.

That arrangement [of bringing trees to the forefront] is part of the manipulation of the spaces, including, the sequence, and how we envision people using space while they are in it, or while they are moving through it.

It would be very difficult not to become aware and present to the composition of the qualities of these trees, or the other related vegetation, and all of the materials being used when walking through these spaces. Anybody walking through the space, who does not have their head buried in their device, will become aware of these trees, and their characteristics and their distinctive qualities.

That is our aim. That is our goal of our designs. That we are taking something that people frequently take for granted and expressed in that attitude of, “trees are everywhere, they are abundant, we have them, we don’t need to protect them,” and bringing those trees to the forefront. With
trees, you don’t understand their value until they are gone. It’s like that Tony Mitchell song, “You don’t know what you’ve got till it’s gone.”

What we do in our landscape design is to bring that familiar reference out of nature and manipulate it in some form of abstraction that gives it a distinct visual personality that makes one pause and reconsider what they are looking at. That is how we influence many people, particularly in urban environments where they are divorced from many natural elements. This is an opportunity for them to become reconnected to the natural world, through the elements and see it in this different light and enhance one’s awareness of those qualities. Hopefully, ultimately a higher level of sensitivity. So that when they go back to a native or rural landscape, they will start seeing that landscape a little bit differently because of the experience we provided in a man made designed landscape.” (Paraphrased)

Alternatively, it is important to note that trees can also contribute to landscapes of unease or fear. This is especially true for urbanites who may not be exposed to trees on a large scale. It was also noted that trees can be used as places to hide and lurk, which can create a feeling of unease for people. As such, this is taken into consideration when designing with trees, especially in an urban environment.

Summary

From the perception of a landscape architect who sees a tree as a tool, trees can be used as a variety of design elements. According to the key informants, these design elements include such things as something to define space, to be used a utilitarian object, to fulfill a sensory function, to create and contribute to a landscape typology, and to influence and shape user experience. As such, a tree used as a tool to perform the function of a design element is extremely useful to a landscape architecture to both shape the land and enhance user experience.

Perception | Tree as a Tool | Health

According to the key informants, trees are perceived to be a tool that can be used to influence the psychological and physiological health of people.
Psychological Function

To contribute positively to the psychological health of people, landscape architects use trees in a variety of ways, including: creating spaces with trees for respite and calm, to create landscapes that encourage the reduction of stress and unwelcome stimulation. Trees are used, as Virginia Burt says, to give people a dose of “Vitamin G, or Vitamin Green.” By using trees as a tool in designs, landscape architects allow for people to have pleasant experiences that both heal and prevent unwanted mental fatigue. To key informants, this is accomplished by using trees in both a spatial and sensory fashion so that users can find themselves in a comfortable space that allows them to enjoy the interesting aspects of trees and the wildlife that they attract. For instance, trees are planted to enhance pleasant sounds, or for the soothing phytoncides that they release, or for the calming effect of greenery within the human mind. Jim Vafiades and Naomi Sachs, who are both experts in the field of designing for therapeutic environments say the following:

“From an emotional perception, we select plants to that provide spring flowering, because to me, that is what we would call “new growth,” or a “new beginning.” Spring is when things come alive for us here in the Canadian climate. To me, that [association] is really important from a healing perception. It encourages someone to have a great feeling that things are getting better, either physically, or perhaps subliminally in terms of being able to see the buds break on a flowering tree. Colour sometimes plays into that as well. We avoid blues, and look more to the yellows and pinks—the warmer colours,” Jim Vafiades.

“I think the way that trees can clean the air and provide greenery, and the forest bathing Shinrin yoku research that talks about the phytoncides--the resins that are emitted, especially from pine and spruce and evergreen trees, that somehow interact with us and stimulates NK cells, which are the natural killer cells which attack the cancer cells in our bodies, and stimulate serotonin and other positive hormones. I think we are starting to see vegetation and the urban forest, and urban ecosystems as really important parts of public health.” Naomi Sachs

Landscape architecture has an important role in advancing the psychological health of people, especially in urban areas, due to the sheer area of land the profession manipulates through design and planning. The key informants expressed this view, and perceived trees as an
opportunity to improve the psychological health of users of their spaces, the profession has an opportunity to have a positive impact on whole communities by harnessing the psychologically healing properties of trees.

Physiological Function

To key informants, trees could be used as a tool to improve the physical health of people in a community. This can include such things as planning for shade, which decreases the risk of melanoma, says Karen Landman. This is especially true for landscapes that cater to children, such as playgrounds and schoolgrounds. Trees are also used to improve the health of others by providing more pleasant and encouraging spaces for recreation, such as the Niagara Escarpment, which Linda Laflamme has spent many years shaping for the enjoyment and health of its users. By using trees strategically in a landscape, an environment can be created that is more conducive and pleasing to be in, thus encouraging people to use it more for recreation and therefore improve their physical health through such activities as exercise. Trees of course produce oxygen and scrub the air of pollutants, which improves the respiratory health of those around them, which was also discussed in the literature review. While not as common in North America, trees are also planted for their medicinal properties, including their bark, leaves, and roots. Virginia Burt also noted that trees have a known effect on the perceived health and wealth of people, which contributes to an overall feeling of wellness and feeling of youthfulness.

Summary

As indicated by the key informants, a tree can be seen as something that can be used to influence the health of people. This includes both the psychological and physical health of people. From this perception, trees are used as a tool to enhance the psychological and physiological health of people in ways such as creating a space of respite for mental relaxation and contributing to physical health by creating landscapes with trees that encourage physical recreation and improved physical states.
According to key informants, trees can be something which can be used to influence the social and community aspects of a landscape. Trees are deeply intertwined in the lives of humans, and landscape architects know this and use it to their advantage to create designs that reflect and draw upon that connection. The use of trees in a social or community function include: drawing on the emotion connection people have to trees, using trees to define a community, using trees to encourage community engagement, and drawing on our collective memories in terms of stories, myths, metaphors, and art we create.

“To Us”- Emotional Connections

The emotional connections people feel to trees can be expressed in the phrase, “to us trees are...” To us trees are something we connect with and personify. To key informants, trees are something that tie us together and are part of our lives in ways that most other things used in a landscape just are not and cannot be. In the words of Virginia Burt:

“What we know intuitively is that we all love trees. We want to sit under a tree, or we have memories about hugging a tree, or even carving our initials into it. There are so many pieces that we tie trees to our lives. What role do they play? They help tie us to the land. This is a phenomenal aspect. We all have stories of trees. I grew up underneath a series of Norway spruce that I played on for years. They are woven into my memory as part of the stories I created over time. I remember laying underneath trees as a young girl and looking up and watching the sky go by. They are magical.” (Paraphrased)

Trees are used as a tool by landscape architects to tie us to those connections by drawing upon such things as our emotional connections to trees, the way we resonate with them, the associations we have to single and groups of trees, and the stories we tell about them.

As a tool, key informants suggested that trees can be used to tap into the emotional connection people have to trees, such as planting trees in memorial of someone or something or retaining trees that have emotional or historic meaning. People have their favourite trees, be it
individual trees or collections of trees that form typologies, such as the Boreal Forest. People name their trees and see them as friends. People feel emotionally connected with trees, especially older ones. As Colleen Mercer Clarke noted, it is interesting that people do not often feel emotional connections to young, unestablished trees. It is only after they have established themselves, and assured their owner that they will not die, do people allow themselves to become attached to trees. In Clarke’s words:

“For some reason, I think we don’t connect to a tree until it has established itself. It is almost like we don’t want to have an emotional connection to it, because we are not sure if it is going to survive. It is interesting. Because at a time when the tree needs us the most to protect it, we are not as connected. I have noticed that myself—I’ll just get another one.’ But as the tree grows, and as it generates more memories for people.”

This tendency to remove oneself from an unestablished tree may be connected with the “pioneer attitude” that both Karen Landman and Clarke described, where there seems to be a cultural attitude that people in North America have adopted that possibly stemmed from clearing the land of trees. The consequence of this is a resulting perception of viewing trees, especially young ones, as replaceable:

“I think in North America, we still have this frontier attitude that we can plough everything down because we can plant it back. And it is weird, because a lot of people who feel that way have never ploughed anything down in their lives—they didn't grow up like that. But there is this sense that it is all replicable. We start talking about how old a tree has to be to get to that stage, and they don't really understand,” says Colleen Mercer Clarke.

Of course this frontier attitude is not true for everyone, but it is addressed in designs, both by the clients connections with the trees on site, and the landscape architect’s approach to clearing or maintaining trees on site. As trees care for us, we care for them as well, which heightens the feeling connection people feel to trees. But of course, we could never do as much for a tree as it does for us. “There is a deep psychological connection--many people might call it biophilia--to people and their environments. And trees are very much a large part of that,” says Robert Wright. To Colleen Mercer Clarke, that emotional connection starts early and is fostered in childhood. Clarke recalls the way her mother was attached to trees, and how “she would wait
for them to bloom every summer.” Clarke says her mother, “loved those trees. Trees were part of our lives as a family. They were part of who we were.”

As expressed by the key informants, trees are something we resonate with. Trees are anthropocentric, meaning people see themselves in trees. People often see their own struggles in trees, and how a tree can overcome these struggles---or at times, succumb to them. When trees die, or removed from a landscape, people feel that. Some more than others. But it also means that people will fight for trees and invest in them, which is something landscape architects take into account when designing with trees. By designing with trees, it is important to note here that the researcher means the act of both introducing new trees to a site and retaining existing trees on site. “There are all these meanings people have with trees. When you take that tree away, there is a sorrow, like people have lost a close friend,” says Colleen Mercer Clarke. As Karen Landman pointed out, and was substantiated in the literature review, places like the United Kingdom, especially Scotland, that have seen mass scale deforestation, feel the loss of trees deeply, and hold different associations to them. People resonate to trees, their struggles, their resilience, and their ability to grow and thrive. As noted before in using a tree as a tool to aid with psychological health, trees are often used as a metaphor or symbol for resilience, strength, healing, growth, and new beginnings. This symbolic gesture of using trees as a tool in such a landscape is powerful when combined with the implicit understanding of the emotional connections people have to trees, and how they resonate with them. In the words of Naomi Sachs:

“I think people really resonate with trees. There is something about their longevity. Apart from a small perennial or annual, or a little patch of grass-you don't generally plant a perennial in memory of someone. You don't bury a placenta or a loved one, whether it is a dog or a person, under a bush. You plant them under a tree. You plant a tree in memory of someone. It may be partly for people that they are the most anthropocentric--some trees look kind of like people. There is a lot of symbolism and lore about trees and their meaning. Trees are also symbolic of other life and living things. In the desert, if you see a tree if you are starving or have no water, and you see a tree in the distance, there is probably water. Where there is water, there are probably animals and other life. On a deep level, we know that we need trees in order to survive.”
According to the key informants, we also see in trees a reflection of ourselves in how we interact and treat trees. We can be caretakers, and protectors, which will be more fully explored in the following section under “Actions.” However, it is important to note how the public sees their relationship to trees. In the words of Ryan Wakshinski, “Trees are a reflection of ourselves. [Trees reflect] how we take care of them. [Trees reflect] how the decisions that we make effect their lives and illustrate our impacts on the world.”

To key informants, trees are something we have associations with. They have the power to take us to a certain place, or certain memories. The smell of cedar in the air, or the sound of poplar leaves dancing in the wind can bring a person to a certain time or place that is buried deep within their memory, and sometimes, in the collective memories of a population. When a memory or an association is common enough in the collective memories of a population, it can be used in a community park to draw connections to specific themes or places. Take Village of Yorkville park designed in part by Schwartz Smith Meyer Landscape Architects Toronto for instance. The park is designed to illicit memories of the boreal forest, and other landscapes across Canada that are held in the population’s collective memory. On a smaller scale, landscape architects cater to individual memories by planting trees that homeowners have fond memories of. For instance, on Colleen Mercer Clark’s own property, Clarke will plant the same collection of trees on each property that she happens to reside at. Clarke even looks in on those trees when she has moved from that location. Clark also notes that people have different associations depending on the number of trees: “I think that there has been too little said about the connection of humans to individual trees, and copses of trees. Copses of trees and forests. I think it a gradation thing: there is the single tree, the copse or alley of trees, and then there is an actual forested landscape of sort,” says Clarke. To key informants, trees are an indicator of our own health and wealth. When we are in an area that is devoid of trees, we often associate that area with death and decay, or poverty. While those landscapes that have well maintained trees, are more likely to associate it with positive feelings, such as the connection between trees and life, or vegetation in a desert which equates to the opportunity for sustenance and life. People identify with trees, whether they climbed them as kids, or have seen them in the cities, [and they identify trees with] the health of a place, because if trees can’t grow, then there is a big problem somewhere,” says Robert Wright. This becomes especially useful for places like economic
centres that are bolstered by strategic planting that draws on the connections of wealth and prosperity.

The key informants suggested that sometimes people have *negative associations* with trees. Consider the “deep dark forest,” or “wilderness.” These are places that we have been taught not to venture into since we were children, and the lesson has stuck for many. To some people, trees, especially large groups of trees, are scary places, and evoke feelings of fear, anxiety, and dread. Colleen Mercer Clarke told a story of a group of tourists being flown into a luxury resort deep in the forests of northern Winnipeg, only to be flown back out as soon as their plane landed on the dock:

“By the time they finally flew into this million dollar dock with all of the chefs in their tall white hats lined up and resort staff on the dock waiting to greet their first guests, the guests were in such a panic, that a significant portion of them demanded that they be flown back immediately. That was way more wilderness and trees that they could cope with.” (Paraphrased)

Colleen Mercer Clarke goes on to add that these associations people have to trees are personal and often “depends on the culture that you are brought up in, and your own personal experiences, and your memories.” These uncomfortable feelings that trees can evoke, landscape architects know well. As Naomi Sachs pointed out, trees were often used for lynching purposes, which for the United States of America, this association is especially strong and is remembered in the Billy Holliday song, “Strange Fruit.” On the subject of learning about how people sometimes have negative associations with trees, Sachs says:

“The learning about how other people view nature--learning that some people think forests are scary...it was hard for me to believe that at first because it was always a place of solace and protection for me. We had a friend who was a city boy who hated the feel of grass under his bare feet because he had never felt it before. I remember from being very young. I think that hearing people's different stories and perceptions and respecting that and then trying to create designs that accommodate those fears and either help people get over them, or make is so that people don't have to get over fears. Even like taking the landscape architecture exams for CLARB---learning about crime prevention, how to use trees and other plant material for safety and how to not plant it so that a car will hit it, or so that it will not become a visual obstacle at a corner, or how to limb things up so that a park
becomes too enclosed and prevent crimes from happening. Facilitate healthy community activities. That is stuff that I had to learn, having grown up in a pretty rural space where you just didn't worry about that. Even as a kid, I might have been scared in the woods after dark by myself, but it was more about ghosts than it was about strangers or criminals.”

Landscape architects use these negative associations just as they do the positive ones, both by avoiding creating landscapes that allude to such negative emotions, and intentionally calling these negative emotions forward in the minds of those visiting the landscape. To some, trees are simply a nuisance and a source of annoyance due to their nature of dropping leaves. Which, according to the key informants, landscape architects understand and plan for.

To the key informants, these associations are often drawn from the stories we tell of trees. These stories include such things as the memories we have of trees, the spiritual and mythological associations we have of trees, the metaphors and symbolism we create of trees, and the way trees are expressed in our various forms of art. Trees are so deeply intertwined in the memories we have, both personally and collectively, by means of the stories that we tell though the generations, and the stories we have created of trees for own narratives. They are not only in the stories that we tell, but they are in the language that we use to tell them—the symbols that we use to express it. In the literature review, the Gallic alphabet was discussed and how trees are woven into the symbols used to express words and meaning in the ancient Gallic language. Robert Wright also discussed this in terms of the way trees are expressed in the language of the First Nations in North America, including how deeply trees are rooted all throughout their culture. On the subject of the differences between the spiritual ties of trees to different cultures, Robert Wright says, “it depends on who you talk to. Some people don’t even notice them. They might appreciate them, but don’t really notice them. In other places, if we talk about our indigenous communities, they are absolutely sacred. They live in the forests, it is their home, and it is their livelihood, and it is their survival. We are just learning about that through reconciliation, with a better understanding and through their knowledge the strong impact trees have had on their culture. If they didn’t have [the trees and forests], they would die. [The trees and forests] are part of their survival, and part of their sacred language. Their mythology and their stories are very much about the forest.” An example of landscape architecture alluding to cultural ties to trees can be seen in the newly constructed park at Chaudière Falls in Ottawa,
Ontario. This is a good example of landscape architects referring to the spiritual aspect of trees. The spiritual and mythic aspect of trees, while perhaps not as popular in North America, is popular in other cultures, especially Europe, where trees are seen as sacred according to key informants. Wright has first hand knowledge of this from his youth spent witnessing how the French regarded trees as sacred and used them everywhere in their cities. As an example of how trees can be used to draw upon the spiritual narrative, Linda Laflamme points to De Groene Kathedraal, or the Green Cathedral, in the Netherlands which was formed out of living trees. Key informants pointed to the metaphors and symbolism that we draw between trees and ourselves, which has been discussed previously as the symbolism of strength, growth, and renewal. In the words of Ryan Wakshinski, “trees represent the soul of a place.” The stories we have of trees, and the connection we feel to them are expressed in our art in all form, including poetry, paintings, songs, even dance. Landscape architects draw on these connections to our art when designing, and even use trees to create their own version of art by shaping the landscape in their vision. It is important for many reasons to understand how and why people might react to trees due to the associations they might have with them: “I've noticed my entire life how people react to trees, and the special nature of certain trees” Colleen Mercer Clarke

Summary

To best sum up this section, in the words of many landscape architects interviewed, “we all love trees.” In the words of Robert Wright: “Who doesn’t love trees? The bottom line is, there is something there that we feel a close relationship to--whether it is the ‘canary in the cave’ standpoint, in that they are good indicators of the health of the environment, or that they are these beautiful objects, or that all of these environmental effects are amazing. It is hard to think of some other one thing that can do all of that.”

Cultural Identity and History

To key informants, trees are not only connected to us, but they connect us to our community. This is demonstrated in ways it was expressed that trees can be used as a tool to define the character of the community, and contribute to positive moods in a neighbourhood.
Trees were also said to be used to contribute to *cultural identity*, the *heritage* of a landscape and people, and are used to *indicate place*. As expressed by the key informants, trees are used as a tool by landscape architects to enforce these principles in a multitude of ways, including the planting of new trees to foster a new cultural identity and improved community mood, and the retention and protection of existing trees to maintain an established cultural identity, character, and heritage.

According to key informants, trees can be used as tools by landscape architects to enhance, preserve, and create the *character of a community*. This is accomplished, for instance, by planting trees in a community to create a sense of coherence throughout the landscape, to bring things down to human scale, and to create a sense of comfort by creating an enclosed space off of the ‘open plane’. On this, Colleen Mercer Clarke says, “I cannot picture life without trees. I would not find it comfortable to live in a place without trees long term.” Neighbourhoods that are defined by their trees are places such as London, Ontario, where Julie Michaud works in the planning department to contribute to city’s identity as a ‘Forest City’. Michael Ormston-Holloway is another who understands the power of mature trees in a neighbourhood, and has worked to restore Goderich, Ontario after a tornado levelled all of the mature trees in the community in 2011. In an effort to restore the community’s identity, Ormston-Holloway brought in mature trees into the city centre for people to congregate to, fighting against those who thought transplanting mature trees was a unnecessary expense. Ormston-Holloway understood the power of a mature tree to a person, and persevered, and gave the community something to begin the healing process, something they could attach themselves to. Naomi Sachs describes the ways trees can be used to define the character of a community through the associations people make to trees:

“If we see a place with a tree line, street trees, and lots of healthy vegetation, it is usually a sign that that is a well taken care of space. Where people somewhere along the way has made an investment. Let's say it is a city street. Someone has made the investment to plant the trees. There has been an continuing investment to maintain those trees, and keep them alive, and pruned, and protected, and to honour them. Whereas in an industrial neighbourhood or area, or a very poor area, they are often missing. I think that they are a symbol of wealth for some people--wealth and health, which often go together.”
To Ryan Wakshinski, trees reflect something else. They reflect the intangible character of a community. Wakshinski says, “trees reflect the soul of a place.”

To key informants, trees can be used as a tool to create a mood, or, comfortable spaces and inviting spaces, which has been discussed in the previous section titled ‘Design Elements’. Those comfortable and inviting spaces not only allow for the fostering of positive feelings, such as peace and relaxation, but as the research being currently conducted by Naomi Sachs, these tree filled spaces also have the tendency to reduce crime in a neighbourhood, thus contributing to an overall positive community mood: “I'm doing some research now on the amount of greenspace and crime in neighbourhoods. There have been some interesting studies on that relationship.”

To key informants, trees can be used as a tool by landscape architects to contribute to, and create, cultural identity from the smaller residential and municipality scale to the larger national and global scale. This is accomplished by creating a cohesive narrative by drawing on the meanings and associations people have with trees, especially from our cultural identity. For example, for the celebration of Canada turning 150 years old, collections of 150 of Canada’s national tree—the maple tree—were planted in the various wards in Ottawa, Canada’s capital. To Linda Laflamme, Canadians in particular seem to have a connection to nature, “even if some don’t have it directly and daily.” In that way, trees are used as a tool by landscape architects to connect people to nature and to their cultural identity associated with it by planting trees in urban centres.

According to key informants, trees can be used as a tool to contribute to the heritage of a landscape by alluding to our personal histories, and the history of humans as a collective on multiple scales. Meaning, a tree can be used to root a person to a spot and remind them where they were when that tree was planted and create a bond to that particular plot of land. Colleen Mercer Clarke uses this tactic especially when planting trees on residential properties. Clarke will create a connection between a child and a tree by allowing that child to take ownership of that tree and its life, thereby creating their own story and heritage in that space and time. Trees are used at a greater community scale by reminding communities of their social history by referring to the heritage trees that have witnessed the social and political lives of those that live
beneath their branches. These heritage trees are immensely important to communities who have formed bonds to these trees and often feel protective of them. Mark Steele is well acquainted with the power of old or heritage trees. Steele worked closely with the city of Kitchener to create a heritage plan for their historic trees in order to protect and retain the community’s historic identity. “We found heritage trees that were 100 years old. These trees helped to define the character of the community,” says Steele, in this “small neighbourhood some heritage trees had survived the transition and all of the things that have happened, all of the repaving, and resurfacing in the neighbourhood, and have managed to survive all of that. They are part of what that community would see as their neighbourhood, as the identity of their neighbourhood. […] We worked around any trees that were there. There were heritage trees that generations of people had seen. Those trees indicate a shared experience over the life of that space.” According to key informants, trees are used to connect us to our heritage by alluding to the history of that place that grew up around that tree, the stories that occurred over the years the tree stood there, and the changes that have occurred over the generations. Older trees especially are historical objects that have survived the transition of all things happening around it. In that way, those shared experiences over the generations define that space and the connections people have to those trees. Hank White recalls the historic trees of his hometown:

“Where I grew up was pretty rural. It was a landscape that had a great deal of open space. That open space primarily was filled with mature woodlands at a large scale. It was also an old community where there were trees that dated back to the revolutionary war, as such those trees were landmarks of that time. As such, those trees had recognition within the culture of our community as having historic value and significance. To say nothing of their majestic presence and scale. They were celebrated like a historic structure. They had their own social and political history.”

To Ryan Wakshinski, historic trees bring to mind the old trees of the ancient forests on the west coast, and the historic trees in Europe. Wakshinski says of the time he spent in Europe around the “twisted and gnarled trees of many hundreds of years old”: “older forests have a magical light quality. Think of the many hundreds of thousands, or millions, of people who have walked under these same trees---remember, Napoleon would plant English plane trees wherever he went to provide shade for his soldiers. That is a powerful image.” At the grander scale, to the key informants, trees are used as an indicator of the impact we as humans have had on the planet,
due to the choices that we have made, including deforestation, and now reforestation efforts. At this scale, trees are used as tools to change the narrative of our global heritage from one of destruction to one of amends—hopefully. Sometimes it is a single tree that people are drawn to in a neighbourhood.

To key informants, trees can be used as a *place indicator* to root us in place and indicate where we are, and ‘when’ we are. As we have seen, trees can tell us where we have been due to the connections we they have to our social and environmental histories. Trees can also tell us where we are by connecting trees to the type of environment that they are likely to be found within. For instance, if cedar trees are present water is surely close by. If birch or poplar trees are present, you might just find yourself at the edge of a wilderness. Trees are used by landscape architects to root people in their designs by using trees that follow these natural rules of place, but they also create indicators for people to follow. Meaning, trees are used as a wayfinding device by landscape architects as a place indicator. For instance, a particularly stunning magnolia can be used to indicate that a person has arrived at a spot where they should stop and pay attention. Or, a line of tightly packed trees can be used to tell people that they are on the edge of a property. Sometimes it is a single tree that people associate with and use as a landmark. Colleen Mercer Clarke told a particularly entertaining story about a willow tree in Halifax that served as a landmark, even after it had died years earlier:

“At the downtown core, at one of the junctures of the mainland common there is something known as the Willow Tree intersection. This name tends to confuse newcomers to Halifax for one very particular reason—there is no willow tree at the Willow Tree intersection. There hasn’t been a tree there for years. This causes confusion for a lot of people who are told to “take a left at the willow tree,” and they drive around without any hope of finding this landmark. Newcomers to Halifax would ask me, “where is this tree that people keep talking about,” and I would have to tell them that it doesn’t exist. In historic times, there was a willow tree there, but it didn't survive, because even in the Victorian times a horse wagon would knock over the tree, and over the years similar things would happen. They kept planting the willow tree, but it would keep getting knocked over. Now they don't plant it anymore, because the intersection is so massive. But that is what the intersection is known as: Willow Tree Intersection. That to me says it all. There is no tree! There hasn't been a tree in probably 50 years, and I don't know if there will ever be a tree there again. But that is what
that space is called. It is named for the tree. The tree was such a sentinel landmark. So people who have never known a willow tree there, only know that place because of that tree.” (Paraphrased)

This story illuminates the lasting power of memory and associations people have to trees, proving that they can serve as landmarks even after they are no longer physically part of that land.

*Community Engagement and Social Life*

To key informants, trees can be used as tools to foster *community engagement, social experiences, and interactions with trees*. This is accomplished by means of creating spaces with trees that encourage community engagement and socialization. It was indicated that trees are also used by landscape architects to reconnect people with nature, and to encourage people to take ownership of trees and their environment.

According to key informants, to use trees as tools to create *community engagement*, trees are foremost used to create spaces that would encourage people to congregate around them. Examples include using trees to create welcoming and comfortable parks that can be used as public spaces for *socialisation*, recreation, and interaction. Trees have a power of creating interesting spaces that people and children are attracted to. As Naomi Sachs says, “They are places where you can sit under and play under, and climb up in, and jump in the leaves when they fall off in the autumn and look up and see the patterns. For kids, they are sort of magical.” Trees are also used to encourage social activism by using the natural connection people have with trees to take ownership of their land. This might be accomplished by landscape architects working with communities to advise and encourage them to plant trees by themselves. Communities are naturally attached to trees, as noted by Robert Wright, who works with the University of Toronto to plan for the campus’s design. Wright has found that the community around the campus is very vocal about the trees and will often come out to talk about the designs happening on the campus with the explicit intention of finding out what will happen to the trees during the changes. Wright says, “that is how important they are to the community and the university. Because the university is seen as having a wide collection of trees, they are very
important to the community. When the community comes out to talk about and participate in the designs that are happening on the campus, they will look for the trees. They want to know how many we will lose, and how many we will be planting. Trees. Trees. Trees.” Understandably, the university has a standing order that no tree will fall without the explicit permission of the President and Vice President of the university. Landscape architects use trees to create a dialogue about the importance of nature, and the benefits of interacting with trees and with nature. This is accomplished by bringing trees into an otherwise barren urban landscape and allowing people the opportunity to interact with trees and form connections to them. On this subject, Jim Vafiades recalls a time when he was visiting an old growth forest in California that is host to trees that are 700-800 years old. Vafiades describes this environment as “amazing.” Vafiades goes on to say, “we were standing in the forest with no body else around us. It was like we were in another universe. You couldn’t hear anything but the sounds of the forest. It was completely silent. It was beautiful. To me, [places like this] are a great reminder of how we must be very conscious about our environment and protect it.” Key informants indicated that landscape architects can use trees to evoke feelings and attitudes such as this by bringing nature into cities, protecting trees, and connecting people to them. This connection starts at an early age for a lot of landscape architects. In the words of Virginia Burt: “my earliest memories are of walking in the orchard when the trees were full of blooms or apples. The air was full of the scent of apples.” Memories like these and early exposure to trees allow for people to connect to trees and their environment and take an active stance in its protection. As Burt says, “trees have helped me to have a more holistic view about how important all of our environment is,” which is a sentiment that many people would identity with.

Summary

According to the key informants, trees can be used as a tool to influence the social and community functions of a landscape in the following ways: to draw upon the emotional connections people have to a landscape, to influence the cultural identity and history of a landscape, to influence community engagement and socialization in a community. Emotional connections included using trees to create resonation, associations, and stories within and to a landscape. Using trees as a tool to influence the cultural identity and history of a landscape was
expressed as influencing the character, mood, cultural identity, heritage, and place indicators of a community. Using trees as a tool to influence community engagement and socialization was indicated as creating opportunities for socialization and community activism and stewardship of their landscape.

**Perception | Tree as a Tool | Environment**

Key informants indicated that trees can be used as tool to influence environmental functions, such as: *air, earth, water, animals, other plants, and climate change*. To key informants, the environmental functions and benefits of trees are immense and can be used in a variety of ways in landscape architecture. In those many ways, trees improve the health of the environment at all scales, from the microbes beneath the soil to global climate change.

**Air**

According to key informants, trees are used as tool by landscape architects to influence air quality conditions. For instance, landscape architects can use trees to clean the air of particulates and perform carbon sequestration. Linda Laflamme notes that tamarack and larch trees are especially useful to clean the air of particulates due to their high number of tiny leaves and subsequent surface area, which are “tremendously helps to scrub the air.” Trees are planted for the release of phytoncides into the air, which have a calming effect on people. Trees are also used to have a climatic effect on the landscape by cooling the air, which is especially useful in urban areas to combat urban heat island effect. And of course, trees produce oxygen.

**Earth**

To key informants, trees can be used as a tool to improve the conditions at the ground level, including what happens below the surface. Trees are used to improve slope stabilization, and to improve the health condition of the soil, including phyto remediation. This is seen in terms of slope stabilization, by roots holding the ground together. Trees are used by landscape architects to improve conditions in brownfield sites by removing toxins from the soil and improving the temperature and moisture level of the soil by providing shade.
Water

To key informants, trees are used as a tool to improve water conditions. This is accomplished using trees to sequester run-off, filter the water of particulates, and serve in the process of storm water monument programs. Trees are also used by landscape architects to improve the aquatic conditions in nearby bodies of water.

Wildlife and Insects

To key informants, trees can be used as a tool to contribute to the functions of wildlife and insects. Examples of this include using trees to support the habitat of wildlife and insects, using trees to provide food for wildlife and insects, and using trees to assist wildlife and insects with their movement or migration throughout the landscape. Karen Landman provided an example of using trees as a tool to assist with the migratory patterns of the Giant Sallow Tail Butterfly. By planning for these migratory routes in mind, Landman says, landscape architects can have a larger geographic impact. Julie Michaud understands the role that landscape architects can have on a larger connected scale for wildlife migrations. In Michaud’s role in the City of London, Ontario planning department, Michaud actively plans for greenway connections and migratory routes for wildlife throughout the city and connections to the surrounding municipalities. The role that trees play with wildlife is an important one that landscape architects recognise, including the adverse effects of the disappearance of trees on landscape. Watching the elms fall to the Dutch elm disease has heightened the awareness of the importance of trees in a landscape, and the function trees play at all levels of the ecosystem, including with wildlife. Colleen Mercer Clarke recalls the disappearance of elms across Southern Ontario, and how the absence of trees changed the wildlife populations and the landscape:

“During the era of the Dutch elm disease, my husband and I were driving through the farmland of Ontario on our way to see his family. I remember the landscape with those amazingly majestic elms in the rows between the fields. John would tell me how his dad loved them because he loved the big hawks...there were a lot of big hawks because there were a lot of mice in the fields. The hawks used the tall elms as their perch point. When those elms came down, there was such a change to the landscape. They had much
Clarke remarks that this loss of trees and the imbalance it caused in the environment for both the people and the wildlife was a striking one and made an impression. However, Clarke does go on to say that the impression was not felt by all equally: “we lost these mature trees over a period of ten years. They went down that quickly. I think that made an impression on some people. Not as many as I would like, but on some.” To Clarke, this an example how landscape architects can use trees not only to improve environmental conditions for wildlife and to value trees, but also to educate people about the dangers of not properly caring for the environment.

**Plants**

To key informants, trees can be used as a tool to improve the conditions for other plants in the landscape. This includes using the inherent nature of plants to connect with surrounding plants above and below ground. For example, larger trees are used as tools to shade understory growth during successional phases, as remarked by Linda Laflamme. James Melvin provided an example of the use of trees in this manner while constructing a forest. Melvin planned for the use of ‘mother trees’ that assisted with the growth of younger trees and provided successional functions in that new landscape. With a background in ecology, Emily McCoy respects the evolutionary history of trees, and the role that they play in a natural setting. McCoy says, “to me, that is what I think about when I look at trees.” The connections that trees form below ground by means of mycorrhizal fungi to other plants, was noted by Karen Landman, and how landscape architects are now starting to use that as a tool. These connections that trees form in the landscape are hardly ever limited to one particular area, which is what makes trees so unique in the landscape. When landscape architects use trees as a tool for ecological purposes, boundary lines to mark the impact of those connections and functions are fuzzy at best. On this subject, Robert Wright notes: “in an ecological system, where is the boundary? It is not a line on the map. It is that watershed level, ecozone level, climatic level. A tree does not sit there and say, “I’m on this side of the yard, and that is on the other side of the yard.” Its roots extend beneath the roads and into other neighbouring yards. It does what it needs to survive.”
Climate Change/Global Scale

To key informants, trees can be used as a tool to combat climate change. This is achieved in many ways, including, planting trees to sequester carbon, planting trees in urban areas to reduce the heat island effect, and planting trees to improve aquatic conditions, which in turn produces more oxygen. Colleen Mercer Clarke, chairs the board of the Canadian Society of Landscape Architect’s Climate Change Adaption Committee. On the subject of trees being used as a tool by landscape architects to combat climate change, Clarke says:

“We are striving to try to reduce greenhouse gas emissions and reduce the level of carbon dioxide in the atmosphere. In their canopy, individual trees do a significant amount to sequester carbon from the atmosphere and bind it in their structures. Trees also help to clean and cool the air. A building, or a space that is sheltered by a copse of trees, has a significantly better climate for humans than one that is open and bare. This reduces our energy demands in our buildings and creates more comfortable spaces for people. In terms of climate change, the first emphasis has to be placed on maintaining the trees that we have.”

Clarke mentioned the fact that maintaining existing trees is one of the best things that we can do to fight against climate change, for all of the functions that a tree performs in that struggle. This is something that landscape architects often do, which will be discussed in a later section. In terms of climate change, protecting existing trees becomes a vital role that landscape architects play, and how they use trees as a tool to further that goal.

From the perception of landscape architects who view trees as tool to function in an environmental capacity, trees can be used to assist with the following aspects of the environment: air, earth, water, wildlife and insects, plants, and climate change on the global scale.

Perception | Tree as a Tool | Economics

To key informants, a tree is a useful tool to bolster economics. Landscape architects often use trees to effect economic conditions with aim of increasing economic gains in an area, and to
increase savings. Trees are used as a tool to extract the economically valuable materials they produce. Trees are also used as a tool to play upon the value that others perceive in trees, whatever that value might be.

Economic Gains

According to key informants, trees are used as a tool to influence the economic activity in an area. In particular, trees are used to have a positive effect on the economic gains in an area. This is particularly true for areas of retail, where trees are used as a tool to increase sales by providing a pleasant atmosphere for shoppers, which studies have shown leads to increased spending. Trees are also used heavily in residential design as a way to bolster the value of homes. Retaining mature trees in a residential area is a preferred method to contribute to the value of homes, which landscape architects take into account. Hank White says on the subject, “there have been volumes of studies that have measured the increase of real estate value in conjunction with the presence of a strong collection of street trees, parks, and vegetation along that street. Property values have been shown to incrementally increase when there are a stand of mature trees which aid with the visual, environmental, and tradition of that particular street or neighbourhood.”

Economic Savings

To key informants, trees can be used as a tool to influence economic savings. This is achieved by using trees strategically, both in location and species time. For instance, deciduous trees are planted in an area to block winter winds, which deciduous trees are planted in an area to shade a house during the summer months but allow light to filter in during the winter when their leaves have dropped. Both applications allow for savings in heating and cooling costs due to a decreased need for energy consumption in both winter and summer months.
Valuable Materials

To key informants, trees can be used as a tool to produce valuable materials that can be consumed or traded by the public. For instance, trees are used as a tool to produce edible material, like fruits, nuts, sap, and oil, that can be consumed and traded for currency. While not as common in landscape architecture, trees are used as tool for the value of their wood. As noted in the literature review, trees have been valued for the use of their materials for a long time. For instance, trees have been valued for the materials that they produce which can be turned into other objects, such as weapons, furniture, and heating materials. In a way, landscape architecture uses trees with the same mentality that former civilizations did. They utilize every piece and meaning attached to a tree and sell it to others.

Perceived Value

As expressed previously, people are connected to trees, and they assign value to them. To key informants, this value is extremely varied and difficult to define, as it encompasses many variables and valuation systems. However, it is enough to know that others perceive trees, and it is the duty of the landscape architect to recognize and use that accordingly in their plans. For instance, the same tree could mean different things to different people, and therefore, the value changes. Karen Landman provides an example of this in the Jack pine trees. Landman says, “some foresters might think that the Jack pine tree is a junk tree, but ecologists respect it for its restoration and wildlife purposes. Understanding how this value changes amongst people is a perception that landscape architects have and use to their advantage. Another example comes from Colleen Mercer Clarke who relayed a story of a client who was overwhelmed with joy when Clarke had managed to save a swath of trees on his property. Clarke managed to save those trees out of her own principles by volunteering to stay behind to redo a plan which had been constructed by a former colleague who had chosen the value of his personal time over the value of those trees. This story serves as a good example of how when values are put in the balance, it is the landscape architect who holding the scales, and who can tip them to act in the favour of the tree.
Summary

To conclude, trees can be used as a tool by landscape architects to serve in an economic function. This includes using trees to positively influence economic gains and savings, to use trees for their valuable materials, and to use trees for the value that others see in them. Trees have immense value in many ways. In the words of Ryan Wakshinski, “Trees are something that we cannot fully place a value on until we do not have them. Like preventative medicine, you cannot measure the value of a tree until you no longer have it.”

SUMMARY | Perception | Tree as a Tool

According to key informants, a tree can be used as a tool for multiple functions. As a tool, a tree can be perceived as something that is useful as a design element, and for health, social or community, environmental, or economic functions.

Fig. 5.1: Perception of key informants of a tree as a tool

<table>
<thead>
<tr>
<th>PERCEPTION OF A TREE AS A TOOL</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESIGN ELEMENT</td>
<td>defines space</td>
</tr>
<tr>
<td></td>
<td>utilitarian object</td>
</tr>
<tr>
<td></td>
<td>sensory function (sight, hearing, smell, taste, and touch)</td>
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<tr>
<td></td>
<td>landscape typologies</td>
</tr>
<tr>
<td></td>
<td>user experience</td>
</tr>
<tr>
<td>HEALTH</td>
<td>psychological</td>
</tr>
<tr>
<td></td>
<td>physiological</td>
</tr>
<tr>
<td>SOCIAL or COMMUNITY</td>
<td>emotional connections (emotional connections, resonate, good and bad associations)</td>
</tr>
<tr>
<td></td>
<td>cultural identity and history (character of community, mood, cultural identity, heritage, place indicator)</td>
</tr>
<tr>
<td></td>
<td>community engagement and social life (community engagement, socialisation, interactions with nature)</td>
</tr>
<tr>
<td>ENVIRONMENT</td>
<td>air</td>
</tr>
</tbody>
</table>
PERCEPTION | *TREE AS LIVING THING*

Until now the perceptions of trees have been discussed from a primarily human-centric point of view— as objects that are to be used as tools to assist the needs of landscape architects. However, there is the second major classification of perceptions that, according to the key informants, landscape architects see through: the living lens. Trees are living things. That might seem like an obvious point to make, but it is an important one to make for one main reason: landscape architects are tasked with the care and protection of trees, and influence the longevity of a tree’s life. Trees, as has been demonstrated previously, affect our lives in many ways, including, how we experience our environment, our health, our community ties, our environmental health, and economic vitality. A tree’s life has implications for everyone---literally everyone. Dubious? Consider this: there is not a person on earth who does not benefit from a tree producing oxygen. Oxygen production is just one of the hundreds of functions a tree performs daily. The problems begin when a landscape architect forgets that a tree is a living thing, which will be discussed in a later section. For now, we will discuss how a tree lives its life as a being unto itself, how it matures over time with age, and how they are connected to their environment. In the words of Ryan Wakshinski, “it helps to understand how trees can be used and the benefits they offer when you understand that they are alive, that and we live alongside them in a greater ecosystem. They were here before us and they will outlast us. That is a powerful and humbling thought.”
In the words of Ryan Wakshinski, “I have been describing trees as a tool for landscape architects to use in design, but that is a very humancentric way of thinking. A tree is a living thing.” To key informants, trees are incredible living organisms that have an immensely complex operating system. Landscape architects like Sophie Beaudoin have admitted to putting their hand on the bark of the tree to feel it as a living thing. As indicated in the literature review, and by comments made in the interviews with landscape architects, we are still learning about the life of a tree. So what is a tree at its very essence? A paired down answer to the question is: a tree is a living thing that trees operates from biological functions and needs in harmony with its environment.

Operating System

According to key informants, trees breathe, they transpire, they produce oxygen and they take in carbon dioxide. Genetically, trees are so varied, which to Naomi Sachs, makes them so unique, as opposed to other plant material at the disposal of a landscape architect. The internal system of a tree that runs the entire operating system is so complex that it is still being debated about how a tree really pumps water through its “veins”. To Robert Wright, this system is incredible and humbling:

“If you were to talk to an engineer about a tree and you were to ask him what it is that they think is amazing about a tree, they would probably say, “imagine a hundred foot object that can take water out of the ground and take it to the leaves using capillary action to transport that water all of the way up to the end of the leaves. There isn’t a pump made, or a mechanical system made that is that efficient.” If you talk to a biologist, or anyone who is involved in ecological energy production, if you can think of something that can actually take energy from the sun and convert it into biomass and energy by itself, that is an amazing thing. People would love to be able to reproduce that. Chemistry and biochemistry people have been trying for years to create that kind of photosynthetic effect.”
According to key informants, while most landscape architects are aware of the incredible nature of trees, it was admitted by a few participants that a thorough knowledge of the science of trees is not universally known throughout landscape architecture. However, as Mark Steele points out, most landscape architects are willing to “find out more” and improve their knowledge.

**Needs**

In the words of Robert Wright, a tree is “alive and it dies if you don’t use it correctly.” Talk of the ‘right tree for the right place’ was spoken of often in the interviews. This can mean multiple things, from the right function of a tree for the right place, but often it meant, the right tree for the conditions of the place. Because a tree is tied to the same spot, the right tree for those conditions is an important component of understanding trees. Trees require their own unique cocktail of nutrients, sun or shade, moisture requirements, climatic requirements, and wind requirements, amongst other things. All of which are taken in to consideration by landscape architects when designing with trees.

**Summary**

From the perception of a tree as a living thing, the key informants that were interviewed noted an understanding of the biological characteristics of a tree that allow it to function, and the needs of a tree that sustain its growth. It was noted that while landscape architects strive to be well versed in tress, the science of trees is not fully understood in general, and is not often emphasised by landscape architects as something they are fully knowledgeable in.

**Perception | Tree as a Living Thing | Connections and Communication**

According to key informants, trees are rooted to one spot, meaning they are dependant upon their environments, and they respond to these environments in turn. To landscape architects, a tree is part of the earth and tells us about the conditions by the signs its shows us. Trees also communicate to us what is happening above and below ground on multiple scales.
Connections

In terms of connections, key informants indicated that landscape architects see trees as deeply connected with the world around them. To Robert Wright, trees are “an incredibly complex organism that is totally intertwined within its context. Trees do not exist in isolation of their climatic context, be it, soil geology, or any other aspects of interaction relative to being in a natural or urban environment.” Trees form connections with other plans and organisms above and below the ground in a process that, as Karen Landman pointed out, is still being understood. Landman notes that there is a complexity not only in a tree’s life, but in the “community life [of that tree as well], including the tree and soil connections.” Linda Laflamme and Sophie Beaudoin both pointed out the links that trees create with other trees, plants, and microorganisms around them, both terrestrially and aquatically. These connections “participate in their growth and health,” says Beaudoin. To Beaudoin, these connections underscore the perception she has of trees as a complex living thing.

Communication

As many living things, a tree has the ability to communicate. According to key informants, this is a valuable characteristic of trees that is useful to understand: both why and how trees communicate. To begin with, trees are rooted in the ground in one spot and therefore are subject to the conditions of their environment. This includes the nutritional conditions, the soil depth and type, the amount of room for their roots and branches to grow, any compaction that occurs, and construction that alters their environment, any changes in water at their base. Trees are subject to it all and have to deal with it in the methods that are available to them. For instance, when a tree is stressed due to construction, it will show it, or communicate it, through leaf die off or discolouration. As Karen Landman pointed out, trees communicate between each other as well. How a tree communicates why it is ‘feeling’ the way that it is, is an important indicator for landscape architects to read and respond to. To Michael Ormston-Holloway, those landscape architects who are able to read the messages that a tree is trying to convey have a skill and perception of trees that is immensely useful in the profession. On a larger scale, the migration of trees into different climatic zones than they would usually be found in can be read...
as a change in global temperatures and conditions. To Virginia Burt, these messages we are getting from trees can tell us something about our health as well:

“We value a tree in its place, because a tree in its place is giving us messages. It is telling us a little bit about what the groundwater doing, the type of soil it is in, the problems it might be having, the challenges it has. All of those aspects are an important indicator of space and time. They are an important messenger. For both its life, and our lives as well.”

In other words, when the trees start dying, it is a good indication that our health is about to decline as well. As was noted in the literature review, there is a correlation between the deaths of trees and increased mortality in humans. When considered that way, these signals that trees give us that they are struggling should not be ignored. “Do trees have messages?” Virginia Burt says, “darn right they do!”

Summary

According to key informants, the perception of landscape architects that trees are both connected and communicate to us and to each other is useful to know as they are the ones often reading those signals and altering the environment that tree is connected to.

Perception | Tree as a Living Thing | Age-Evolution-Sentinels

Trees can live to a great age. According to the key informants, from the perception of a landscape architect, that is a great opportunity and a challenge. The different time scales that trees live on means a different rate of growth and evolution. It also means a certain steadfast nature that lends trees to be sentinels in the landscapes that watch over our human histories. In the words of Virginia Burt, “trees are temporal, ephemeral, and steadfast. That doesn’t always come in one package [like it does with trees].” In that way, because of their age, their growth and evolution, and their solidity throughout time, trees are unique from the perception of landscape architecture.
According to the key informants, what makes a tree unique is its ability to grow and evolve with the landscape. Rather than deteriorating with age, as trees age, their uses evolve and they become more essential and more valuable in a landscape. As Sophie Beaudoin says, “of all the materials that we use to create a landscape, a tree will evolve over time. Contrast this to other materials like plastic, or polymer, which will stay the same or deteriorate over time.” This growth is critical to landscape architects who see trees in phases. Meaning, landscape architects see what a tree will become years after they plant it, and they will plan for that. As James Melvin says, “where architects like seeing buildings the day they are built, landscape architects usually like [to see the landscapes that they designed] three years to ten years after they are built. [It is at that time] you are seeing the true impact of the materials as they have grown. Where buildings have about a 25-year lifespan and deteriorate from day one, landscapes have a longer lifespan.” Melvin laughed after saying this, and continued, “but if the landscape is attached to a building, then you are doomed.” Robert Wright expressed a similar sentiment, stating, “I joke with architects by saying, “your project never looks as good as when it is first built.” Meanwhile, a landscape architecture project never looks as good as 10, 15, or 20 years after it is built.” The patience to see the landscape as it will be, and the vision that the trees will mature over time, is a skill of the landscape architect. As Sophie Beaudoin says, “in the first year, your landscape will look a bit empty, even if you plant a lot of trees. You have to think about what that landscape will look like in 20 to 30 years. That’s what makes trees interesting, they are not a fixed material. When the construction on your park or square is done, it won’t have the effect that you envision [for years to come].”

According to key informants, landscape architects understand how long trees take to grow and evolve, which quite possibly contributes to their respect for trees. To Colleen Mercer Clarke we need to value the contribution a mature tree makes to a landscape due to the fact of how long it takes for trees to get to that stage: “I think the first thing we need to do is value the contribution of a mature tree and not cut trees down. This is really quite critical. Trees can't achieve their full potential for 50-60 years.” Clarke goes on to say that “in regard to what is happening in the world right now, in terms of striving to reduce greenhouse gas emissions and
the reduction of carbon dioxide in the atmosphere” valuing and protecting mature trees is critical. Appreciating how long a tree takes to reach maturity seems essential to the perception of landscape architects, but is not always shared. Clarke relayed a story of mature historic trees that had survived the Halifax explosion being removed to make way for a hotel, and the dismay Clarke felt at the attitude or perception of another who considered the trees to be replaceable, and “no big deal. They would grow again.”

Sentinel Trees On Watch

“There is amazing longevity to some species,” Karen Landman says of trees. This longevity lends itself to the perception of trees as a stable figure in the landscape, a witness to events, and a being that will eventually outlast us. On the subject, Jim Vafiades says, trees “reflect a solidity in terms of age, and something that has been around for a long time.” Trees not only have the capacity to be around for a long time, but those that have are considered witnesses to our lives: “a tree is a living thing that has witnessed certain things,” says Jim Vafiades. Vafiades likened this to a tree he and his team had recently worked to protect. It was a hundred and fifty year old oak on a property that Vafiades took great pains to retain by shaping the land around it to protect the elder tree. Vafiades says of this oak, “it has been able to survive through so many different events that has taken place around it.” To Vafiades that stability and longevity held a great deal of meaning to him, and was something he was willing to protect. On the experience of being around ancient sequoia and coast redwood trees that have survived the events of time in Muir Woods on the west coast of California, Ryan Wakshinski says: “the trees are so big you can’t see the top. Their branches are larger than any tree you would find in Manitoba. It is awe inspiring and humbling to think that these are living ‘beings’ that have survived fires and untold disturbances for hundreds of years.”

A phrase that kept recurring in the interviews was, “a society grows great when old men plant trees in whose shade they will never sit.” It is Greek proverb, and it was relayed in multiple ways by the informants, but the sentiment always remained the same. Landscape architects plant trees with the expectation, and hope, that those trees will outlive them. Robert Wright says of this, “if you plant trees correctly, they will outlive you. You are planting something into the
future for other people to use and appreciate. If you think of major parks, like High Park, Mount Pleasant, or Central Park—any of the parks we look at and love—those trees that we enjoy in those parks were planted seventy-five to one hundred years ago by someone who is no longer here.” Hank White values these mature trees, as it is unusual to for one to see a young sapling mature to a ‘sentinel tree’ or a mature 80 ft tree. White says:

“We respond to these majestic mature trees because we know that there is no way that in our lifetime, or even in our children’s lifetime, that if we were to plant a nursery grown tree, we would see that tree develop to the size of a tree that stands about 80ft tall and has a caliber of 30 inches. Our role [as landscape architects] is to be the purveyors and protectors of those assets in any kind of landscape or site development.”

When Mark Steele spoke on the subject, he referenced his children and the relationship he hoped they would have with the trees that Steele was planting today. Steele spoke of the ways trees are able to span generations and bridge the gaps between societies by providing a shared experience: “the lifespan of a tree spans generations of people and ties us together. There is value in being able to appreciate how much time a tree takes to reach maturity.”

Landscape architects perceive trees not just as they are today, but what they can be. The answers expressed in the interviews suggested that landscape architects value mature trees, as they can appreciate the time and struggles a tree has gone through to get to that age. Landscape architects also seem to value trees for their ability to last through generations and bridge generations.

**SUMMARY | Perception | Tree as a Living Thing**

The perception of a tree as a living thing to landscape architects was expressed in three main ways: by describing their biological characteristics, the connections trees made with other things, and the role trees played over time. When speaking of a tree as a living thing, the landscape architects that were interviewed expressed a respect for trees not only as a living ‘being’ but as one that would most likely outlive them.
Fig. 5.2: Perception of key informants of a tree as a living thing

PERCEPTION OF A TREE AS A LIVING THING

<table>
<thead>
<tr>
<th>BIOLOGICAL CHARACTERISTICS</th>
<th>KEY ASPECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>▪ operating system</td>
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<td></td>
<td>▪ needs</td>
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<tr>
<td>CONNECTIONS and COMMUNICATION</td>
<td>▪ connections</td>
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<tr>
<td>AGE-EVOLUTION-SENTINEL</td>
<td>▪ growth and evolution</td>
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<tr>
<td></td>
<td>▪ sentinel trees</td>
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</tbody>
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PERCEPTION | PERSONAL PERCEPTIONS

As we have seen, a tree can be many things to a landscape architect. We have discussed the two main categories of how a tree can be perceived: as an object used as a tool, or as a living thing. Then there is the third, more fluid, category: what a tree is personally to individual landscape architects. This can be broken into two main themes: scale, and personal feelings. This category of personal perceptions is different than the former ones because it is more about the way of thinking, or the ‘how’, than it is about the ‘what’. As indicated by the key informants, landscape architects see the world differently than others due to the nature of the profession, and all of the elements that they take into consideration when designing. This is especially true when thinking about scale, which is characteristic of landscape architecture. Second, is the personal feelings landscape architects have of trees. This is unique to each individual, but it is of value to note when discussing the perceptions of trees within the profession of landscape architecture.

Perception | Personal Perceptions | Scale

According to key informants, landscape architects tend to see the world differently than others, which seems to stem from a need to take in and interpret a plethora of information about their environment so that they can make informed decisions for others—whether that be through design, planning, or research. One of the most interesting lenses landscape architects look
through, and was mentioned many times in the interviews, was scale. According to the data collected from the key informants, scale can refer to three main planes of thinking, spatially, socially, and temporally, and ranges from the smallest to the largest measurable quantity. These scaled perceptions look something liked this:

**Fig. 5.3: Representation of Scales**

<table>
<thead>
<tr>
<th>SMALL</th>
<th>LARGE</th>
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</thead>
<tbody>
<tr>
<td><strong>SPATIAL SCALE</strong></td>
<td></td>
</tr>
<tr>
<td>Ex. Tree on a single Residence</td>
<td>How a tree fits into the global forest</td>
</tr>
<tr>
<td><strong>SOCIAL SCALE</strong></td>
<td></td>
</tr>
<tr>
<td>Ex. How a tree affects one person</td>
<td>What a tree means to the global population</td>
</tr>
<tr>
<td><strong>TEMPORAL SCALE</strong></td>
<td></td>
</tr>
<tr>
<td>Ex. What a tree is one day</td>
<td>What a tree will become in one hundred years</td>
</tr>
</tbody>
</table>

* spatially, scale refers to ‘where’ something is. For instance, where a tree is here, there, and hundreds of kilometers away, and how all of that is connected. According to key informants, an example of spatial scale could refer to how a tree fits into local context, the regional context, and the global context. To Colleen Mercer Clarke landscape architects think about trees on a spatial scale in the following way:

“Scale is one of the most important things we should know and hold at the core of being a landscape architect. Everything we do, we do at scale—from one little newly planted tree, all the way up to the Tundra forests of the nation. We work across all of those scales. No other planning and design profession does this. Our presence is as important in your neighbours back yard as it is in the planning and management of large
landscapes in Canada. It is in maintaining the tree canopy that we can contribute one of the most important things that we do.”

Working across all spatial scales is an important perception that Clarke operates from. Clarke believes that working from the smallest spatial scale to the largest is the duty of all landscape architects. This includes starting from the landscape architect’s own backyard, to advising their neighbours, to working on national projects that span the country. To Naomi Sachs, landscape architects think about the connections that trees make across the spatial scale, including migration routes. Sachs says that due to the training that landscape architects have in thinking in such scales, they are able to see how a tree will operate in the immediate spatial scale, to “1000 miles away,” and how the animals and insects, like butterflies, move through those scales and connect those trees that are miles apart. Sachs also notes that a landscape architect thinks about how a tree is interacting in its immediate environment: “because trees are so large and take up so much space above and below ground, we have to think about them in a really different way.”

_Socially_, scale refers to ‘who or what’ a tree affects, from the smallest to the largest scale. For instance, how a person standing below a tree benefits from its shade, to how the global population benefits from global temperature reduction. Working across the social scale, landscape architects have the capacity to affect the lives of the one or few people who live in a residence that they design for, or how those trees planted on that lot will affect the global population. As a leading figure in residential design, amongst other forms of design, Virginia Burt sees the impact a tree can have on all social scales, including the personal scale in someone’s backyard. Burt says that it is almost like a spiraling effect—that when thinking about and working with trees, scale starts with the designer and spirals out globally, then comes back around to the designer. Meaning, a tree is thought of from the personal perception of the designer, to those in the immediate vicinity, to a global scale. Burt sees the effect of this on a personal scale in the residential work that she does, and at a wider scale with the public work Burt is involved in. To Burt, working across the various measurements of this social scale allows landscape architects to have a global impact that crosses communities, regions, countries, and political and natural boundaries, all whilst operating from their personal perception. In that way, Burt says, “I am affecting the entire world and myself at the same time.” When you plant a tree,
Burt says, “you have influenced the world. [...] As we plant more trees, we are making a global impact. Every move makes a difference.”

Temporally, scale refers to lapses of ‘time’. For instance, what a tree is today, and what it could be in one hundred years, or even what it once was one hundred years ago. According to key informants, this could mean, planning for the way shade casts down on a park during the peak hours of summer, or how it will lose its leaves in the winter to allow in the sunlight, and even farther along, how that tree will shade people who they will never meet. Mark Steele talks about how a landscape architect’s time scale might not always align with other professions: “I find that with other professions, the time scale [they are operating from] is different than how a landscape architects operates. [Landscape architects] are trying to plan for what the immediate future looks like, the midterm, and the long range. Those time scales might not always agree with what civil might have to do, or what the architect’s vision is. That is why there is a bit of negotiation that needs to happen on projects.” To Steele, landscape architects should be planning for trees across all temporal scales for future generations. Colleen Mercer Clarke voiced a similar opinion, noting that when a landscape architect plans for trees to be introduced to a site, they tend to plan for what they could become, rather than what they are in the nursery at that given time. To Clarke, landscape architects are always planning for the future, and they see trees that way as well: “when we put a tree on a drawing, we don’t ever draw what it is at the nursery---that tiny little 3ft sapling. We draw what the canopy of the mature is likely to be. We draw what the tree will become.”

Summary

To James Melvin, scale is everything, and something he warns, “young designers tend to forget.” Thinking in scale seems to be a very unique way of operating and is essential to the way that landscape architects interpret and plan for spaces. The planes of scale are vast, but for the purposes of this report, they have been broken into three main categories: spatial, social, and temporal---all operating from the smallest dimension to the largest dimension. Taken together, the connections that landscape architects draw across all of these scales make their perception of trees unique.
To a landscape architect, a tree is not just a tool or a living thing removed from everything else. To the landscape architects interviewed for this study, trees are very personal. Many of the key informants who were interviewed considered themselves to be “tree huggers” and felt a connection to trees. This connection was expressed in such ways as what a tree is to them, what their understanding of a tree is, and what they are to a tree. The last point will be discussed more thoroughly in the next section titled “Action”.

**What is a tree to you?**

To many of the key informants, a tree is a personal thing that they are intimately connected with. “I love trees,” says Emily McCoy and many of the other landscape architects that were interviewed. Some thought of trees as friends and gave them names accordingly. Some felt the pain when trees were removed and felt that it was their duty to advocate for them at every chance. Most of those which were interviewed had a favourite tree, or trees that were prised for many reasons, including the sensory aspects of that particular tree, the craftsmanship that went into creating that tree, how that tree tied them to memories of their past, or the usefulness of that tree in a landscape. The following chart indicates the personal preferences of the landscape architects that were interviewed.

**Fig. 5.4: Chart indicating the preferences landscape architects have to certain trees**

<table>
<thead>
<tr>
<th>KEY INFORMANTS</th>
<th>FAVOURITE TREE or TREES</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Linda Laflamme</em></td>
<td>• White pine (as a species)</td>
</tr>
<tr>
<td></td>
<td>• Chinquapin oak, <em>Quercus muehlenbergii</em> in Hamilton that is 200 to 300 years old: &quot;perfect shape, beautiful&quot;</td>
</tr>
<tr>
<td><em>Jim Vafiades</em></td>
<td>• Maples: &quot;partly because they are Canadian&quot;</td>
</tr>
<tr>
<td></td>
<td>• Ornamental pears: &quot;from a flowering perception. They have a nice pyramidal form that is stately when you plant them in groups. They are beautiful in the spring with their white flowers, even if they only last a couple of weeks.&quot;</td>
</tr>
</tbody>
</table>
| Naomi Sachs | "That is like asking a mother to choose her favourite child"
|            | Serviceberries: "they are just amazing. When I was living in Texas, there were no serviceberries there, so I really missed them. I'm glad to be back on the East coast for that reason. They are also really versatile--they are relatively drought tolerant, they don't mind having wet feet, so they are great for rain gardens, they are easily pruned. Serviceberries are awesome."
|            | Dawn redwood for the name: “My favourite Latin name for a tree is the dawn redwood- *Metasequoia glyptostroboides*. I just love that name"
|            | Oaks, as species: "there is so much folklore. They are so beautiful, and they provide such an incredible habitat. They last so long. They are really symbolic to me of strength, life, vitality and resilience"

| Julie Michaud | Dawn Redwood: "It is a prehistoric tree" that Michaud was introduced to following school.

| Michael Ormston-Holloway | *Metasequoia glyptostroboides*: "When I started to learn Latin, the way *Metasequoia glyptostroboides* drips off your tongue is so fun. It is so fun to say that word. Who gets to say something that sounds that fun. From a naming perception, that is a fun one to say. But that can't be my favourite because it is exotic."
|                        | *Black maples, Acer saccharum vr. nigrum*: "One of my mentors, Henry, used to constantly hammer me about the black maple, and how it is a subspecies of our national tree. It has a much more sap to sugar ratio, so it is better for tapping. It is native-ish, it has cultural value, food source value. As a Canadian, that can't be a bad tree."

| Mark Steele | Likes all trees
|            | "No, I don’t have a favourite tree. I have lots of go-to-trees depending on the project. I can find something I like about most trees--maybe not Norway maples. I usually don’t mind trying a new tree on a project that I haven’t tried before if I think that it will thrive and do well. But I wouldn’t pick it just for aesthetic reasons"

| Hank White | Beech trees: "I am biased in that I grew up in the Northeast. As such, my focus filters primarily in horticultural zones 7-2. My favourite tree is the American and European beech tree: *Fagus sylvatica, Fagus grandiflora*. There are subtle differences
between the two, but they share many of the same characteristics. Primarily one of the reasons is that it is a climax, successional, woodland species. If you see beech that are frequently with oaks, you are probably in the final stage of any woodland successional production. If you see huge beech tree, it has obviously been there for some time, and their majesty--their shape, their form, their bark, density, branching structure--all have beautiful distinctive qualities that immediately evoke pure reverence to me. I pray to those trees because they represent the final stage of successional forest or woodland, and I call them the granddaddy of trees. They grow very slowly, so if you find a big one, it has been there for a long time. That evokes a lot of respect for me."

**Sophie Beaudoin**
- Silver maple: "The silver maple is my preferred tree. Because of the size, the shape, and the foliage. Even though the foliage is so abundant, the sun can still penetrate through its big canopy. [I also like it for its] colour in the fall, which is kind of like a light bright orange and yellow mixed together."

**Virginia Burt**
- White pine, *Pinus strobus*: "I love its form, its power, its strength. I love the way that they are influenced by the way the wind blows. I love the way they are woven into our Canadian history by such famous painters as Tommy Thompson from the Group of 7. I think that they are almost a mythical tree. I love the softness of their needles...there are so many reasons"

**Ryan Wakshinski**
- Bur oak, *Quercus macrocarpa*: "Shape, branch structure, deep, furrowed texture of the bark. Iconic tree that you would see growing alone on the edge of an agricultural field. They grow on slightly elevated pieces of ground where there is less moisture accumulation to drown the tree. Oaks are strong trees that also help to filter pollution out of the air and thrive in places where there is lots of traffic (provided they don’t take too much salt spray during the winter when roads are slippery)."

**Colleen Mercer Clarke**
- All
- "I love trees. Lilacs, Japanese maples, and magnolias in my own garden. I have planted them everywhere I've lived within a year of arriving. Always. Sometimes I go back to see them on the properties that I left, just to see how they are doing."
- Paper birch: “because they are such a stunning tree in the northern landscape. They are a total anachronism. They look fragile and fairy like, and here they are in the northern forest.
- Oak, maple, beech.
- But I love fir trees! Fir trees to me are Christmas, and the smell of them...I guess I don't really have a favourite!
- Willows, the classic weeping willows down by stream banks, and crack willows, I have learned to love in southern Ontario.
- Live oaks in Georgia, which is one of my favourite conversations I've had. There are just all kinds of wonderful stories you will hear when you poke landscape architects to talk about trees. I think it is because trees are such a large part of what we do.”

James Melvin
- Changes yearly
- "A friend of mine asks me this question every year---but it is not, "do you have a favorite tree or trees," its is "what is your favourite tree this year."
- “Currently, I really like Cornus florida f. rubra and Niccus silvatica. I am a fan of Plane trees, Platanus acerfolia.”

Karen Landman
- Norway maple (a particular Norway maple): "I have learned to respect the Norway maple in my backyard."
- Oak, as a genus: "beautiful, architecture, habitat value."

Robert Wright
- Depends
- "It depends on the situation. I have a certain fondness for what people might call weed trees, like the ailanthus (Tree of Heaven), or the Acer negundo (Manitoba Maple). Because I think that they are just so tough. They are like the rats or raccoons of the city, and it is amazing to see where they can grow and survive. I wouldn’t necessarily plant them, because they are weak wooded plants, and they drop their branches easily--which is one of their survival strategies--if they get too much wind or ice, they just let a branch drop and grow another one. If you try to cut them at the base, they will grow up through the roots. I have a certain fondness for plants that work really well in certain ecological niches and are prone to survival in the worst conditions you can imagine. Though I wouldn’t necessarily put them in my planting plan."

Emily McCoy
- Hemlock: "The ecological value in North Carolina, before they started dying. They were seen as the old iconic tree."
According to key informants, as a professional, trees were described as dynamic, one of the most interesting element that some informants get to work with, and integral to the career of a landscape architect. To Virginia Burt, a landscape architect uses trees in “in any way they can” for all of those reasons. For some, trees are the reason why they chose to pursue landscape architecture as a career to begin with, as is the case for Julie Michaud and Coleen Mercer Clarke. To others, a tree is something incredible and magical, that fills them with awe, and sometimes things that we “take for granted,” in the words of Ryan Wakshinski. As Virginia Burt says, “trees are sacred” On that subject, Robert Wright says, “I think that they are amazing. I am in awe of them.” Wright goes on to say that there is a bond between a landscape architect and the trees they plant: “you don’t just plant it to die. It is not like a bench and it is not like paving. It is a living organism, and therefore there is a kind of bond between the designer and the living material he [or she] put in place.” Sophie Beaudoin relayed a similar understanding of the care that must be taken when dealing with trees as a landscape architect: “the way you plant a tree is something really important and unique. It takes time to have the technical resources to do it properly.” The words and labels that the key informants used to describe trees was especially interesting, as it was noted in the literature review that words are not neutral, and are an action in and of themselves, as the words we use reflect our perceptions and our intentions.

To some, trees may be a hassle on site due to restrictions and challenges they pose, but they are a challenge that they are willing to meet. In the words of Mark Steele, “they are a source of angst sometimes on projects.” Steele goes on to say, “but they are a source of pride for many landscape architects to plant and be able to leave a legacy when they are done practicing, or even further when they have passed on.” Steel articulated what many landscape architects that were interviewed expressed: to many, trees were a way of giving back—they were a contribution for generations to come. To Virginia Burt, the hundred of thousands of trees Burt has planted over her career is part of her contribution. Burt says, “it is a kind of way of giving back that few of us get to do. To me, that is something I cherish. It is one of those things that I am grateful that as a landscape architect I get plant these trees and watch them grow over time.”
From the Perception of a Tree

To the landscape architects, like Michael Ormston-Holloway that were interviewed, trees to them are something that should be protected and maintained. Jim Vafiades says as much when talking about his attitude towards site inspections: “we are incumbent to try and protect them when we can. That is one of the first things that we can do when we get a base plan or survey. We look at the site and evaluate [the trees that are there] for all of their merits.” Naomi Sachs expressed that landscape architects tend to value a tree for where it is in its place. Meaning, unlike a forester who values a tree for its wood, which removes a tree from its place, a landscape architect values a tree as a complete entity where it stands and how it interacts with its environment. Sachs considers this to be an opportunity for landscape architects to argue for the retention of trees on site, and to act as the ‘lorax’ for the trees. Sachs says, “in general, landscape architects value trees and try to keep them and plant more of them. We argue for their presence and proliferation. We speak for the trees. We are the ‘loraxes’ of the world.”

It is interesting to note, that while all of the landscape architects that were interviewed for this study spoke of trees as something that they liked, it was expressed that there are landscape architects within the profession that do not particularly regard trees positively. To the landscape architects who mentioned this, such an attitude is worrisome, considering the role those landscape architects play when it comes to trees and who that perception has the possibility to influence. To Julie Michaud, this attitude is troublesome as it tends to lead to a landscape architect forgetting that a tree is a living thing and treating them as replaceable objects that can be easily cut down or forgotten after planting without a care for maintenance.

Understanding and Knowledge

While landscape architects are tasked with using trees quite frequently throughout their careers, it was admitted that the degree to which all landscape architects understand trees varies. To Sophie Beaudoin, understanding trees is essential to a landscape architect because, “you have to know what those trees are [on a site], you need to know what those seeds are, how the root system is developing in that particular species, and so on. It is important to know your trees
Knowing trees pretty well is something landscape architects are known for, which is understandable considering landscape architects are often the ones advising clients about trees and making decisions for trees. However, the opinion of the degree to which landscape architects understand trees seems to be varied amongst the profession. Mark Steele says on the subject that, “It depends on the LA that you talk to. I don’t think of myself as being particularly well versed in the science of trees. But speaking with some of my colleagues, that is their cup of tea, they could tell you all sorts of information. But I am always trying to read more, find out more, and improve my knowledge.” Jim Vafiades thinks that landscape architects are well versed in trees, especially from “his generation” and says the following, “we were well educated in plant material. And of course, we learn as we gain experience.” James Melvin takes the opposite approach and says the following, “No, absolutely not. They used to, but I think it is gone.”

The intention seems positive, as Mark Steele and Sophie Beaudoin pointed out. In general, landscape architects seem to want to know more about trees and strive to do so by constantly educating themselves to understand the “complexity of trees,” as Karen Landman says. As Beaudoin pointed out, “this is mostly because of people like James Urban, for example, who are teaching us about a tree as more than an object. A tree's world is a huge one. We have to do good for a lot of things. There are a lot of landscape architects who do not know enough about trees. They do not know how to plant trees, so that in 10-15-20 years, that tree will still be the right tree in the right place.” Robert Wright says, “anything like the biology of something, or like the living nature of a tree, you can never know all about it. It takes your whole life to begin to know all of the aspects, to know all of the other consultant groups you have to work with.”

Undoubtedly due to many variables, but likely because of misguided information, there are practices that are occurring that the key informants who were interviewed expressed as something they would like to change. These practices include such things as not planning properly for the future, and therefore prematurely shortening the life of a tree. For example, Hank White says the following:

“Typically, historically, the standards of lifespan of a street tree in most dense urban settings is, according to the U.S. Forestry Service, approximately seven to eight years. Sadly, that is based on the assumption
that you are just cutting a hole into the sidewalk, planting the tree into the soil that is there, and just walking away and hoping for the best. That is a pretty tough growing environment, and there are only a few trees that can tolerate that. So there is some ignorance in planting trees in urban conditions where the infrastructure that is required to support that tree long term is not necessarily considered to support that longevity.”

As Mark Steele pointed out, landscape architects try to plant the right tree for the right place. This is a notion that includes “more than the physical opportunities or limitations of the site. It also includes what the needs of the people are. It combines all of those factors in order to choose a tree, not just one or the other.” However, at times the wrong tree is chosen, perhaps out of misunderstanding, which leads to a limitation on that tree’s lifespan. Planning for care after a tree is planted is equally as important, and as Julie Michaud pointed out, is sometimes disregarded due to misguided information, which also leads to the premature death of a tree and replacement.

SUMMARY | Personal Perceptions of Trees

Perceptions were discussed by the key informants in terms of how they thought of trees and what they thought of trees. This personal perception that the key informants have of trees were discussed in terms of scale, and their personal opinions of trees that are part of their perception of trees.

Fig. 5.5: Perception of key informants of a tree as something personal

<table>
<thead>
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SUMMARY | PERCEPTIONS OF TREES

The range of perceptions of trees within landscape architecture as expressed by key informants can be described as the perception of trees as: as a tool, as a living thing, and something personal to each individual landscape architect. As tool, a landscape architect sees a tree as something that can be used to function as a design element, to influence the function of the society or community, and to function as an environmental or economic element. As a living thing, the perceptions of a tree are shaped by the perception of that tree as something that has biological characteristics, something that has connections and communicates with other things, and something that changes throughout the ages, evolves, and acts as a sentinel through time. The personal perceptions of trees are viewed through the different scales that landscape architects operate from--spatial, temporal, and social--and the personal feelings that individual landscape architects have of trees. As expected there is a range of perceptions of trees that were substantiated by the data collected from the key informants.

As a flow chart, the range of perception that landscape architects have of trees would look something like the following:
Fig. 5.6: Illustration of the range of perceptions indicated by key informants
CATEGORIES THREE | ACTION

Perceptions influence the actions that we take by interpreting what we see in an environment, and consequently how we react to it. Landscape architects make decisions regarding trees based on their perceptions of trees, by interpreting what they see and reacting to it in ways such as construction specifications, maintenance plans, and tree master plans for cities. Because of the range of projects that landscape architects are involved with, and the geographic scale that they operate from, the decisions that landscape architects make regarding trees are inherently influential due to the monumental contributions a tree makes to the public and to the environment on a global scale. What follows is a description of the role that landscape architects play regarding trees and the potential influence their perceptions of trees have on the public and the environment.

ACTION | Role

What is a landscape architect to a tree?

To understand the implications of the perception a landscape architect has of a tree, it is important to recall what the role of a landscape architect plays when it comes to trees. Landscape architects are involved with trees in the decisions that they make, which are based on a variety of sources, and in turn those decisions are then expressed in the plethora of communication media at the disposal of the landscape architect. Collectively, the role that a landscape architect plays in the life of a tree falls under two categories: friend or foe. The various roles a landscape architect can play in the life of a tree, as indicated by data collected from the interviews, will be discussed below.
Action and Influence | Decisions

The role that a landscape architect plays regarding trees begins with the decisions that they make. These are the decisions that will affect the life of a tree, which will ultimately have consequences for others, including their built environment, their health, social or community life, and environmental and economic state. The decisions that landscape architects make regarding trees fall under two main categories which will be discussed below: one, to retain, remove, or replace the trees; and second, how to adjust the environment. The information presented below is based on the discussions with the landscape architects in the data collection process.

Retain-Remove-Replace

Landscape architects are involved with decision-making that determines the number of trees are present in the environment. For instance, landscape architects determine which trees are to remain, which trees are to be removed, and which trees are to be replaced. In this context, replaced also refers to new or proposed trees for a site. Landscape architects make the decisions to retain heritage trees, and to build around our “environmental ancestors,” as Hank White calls them. Landscape architects make the decisions to retain trees to assist with climate change and canopy cover. Landscape architects make the decisions to remove trees when necessary, including in the wake of development. Landscape architects are the ones making the decisions to plant trees, either from seed, from the nursery, or by transplanting mature trees to a new site. Because of the decisions that landscape architects make regarding the retention, removal, and replacement of trees, the profession has a great deal of influence on the number of trees on a global scale.

On the decisions to retain, remove, or replace trees:

“It depends on who you are talking to. Of course, we try to retain them wherever we can. But sometimes a development trumps the ability to save trees because a building might take up too much space on a site,” Jim Vafiades
“I look at trees as assets that have been there sometimes for decades or a century. So I’m not about cutting everything down so that I can plant something new,” Virginia Burt (Paraphrased)

Adjust Environment

Landscape architects make decisions regarding the environment that a tree lives in. For instance, a landscape architect makes decisions that affect what the tree needs to survive. This includes the nutrients that will be available to a tree, the amount of moisture available, the soil conditions (quantity and quality), the branching space a tree will have, the amount of light it will receive, and the climatic environment that it is placed in. Tree selection decisions are made by a landscape architect in terms of the connections a tree needs to thrive, including connections with compatible plants and microorganisms. A landscape architect makes decisions regarding any changes to the environment that a tree is living in, including, grade changes, water flow, soil compaction, location to busy streets and footpaths, proximity to damaging elements, like salt. In conjunction with proper care and maintenance, these decisions that a landscape architect makes in terms of the environment that a tree lives in, affects the health of a tree, its resistance to disease and pests, and the longevity of a tree, which affects the people and environment around that tree.

On the decisions to adjust the environment of a tree:

“We work with protected spaces all of the time. We must make sure that we are not contributing to the decline of something. We should always be contributing to its future,” Colleen Mercer Clarke

Summary

The decisions that landscape architects make regarding trees not only affects the life of a tree, but those decisions have the ability to affect the lives of others due to the role a tree plays in the greater environment. The decisions that landscape architects make in regards to trees can be roughly categorised as: the decisions that affect the retention, removal, or replacement of trees, and the decisions that affect the environment that a tree needs to grow in. Both of these
categories affect the health and longevity of a tree, and the health and longevity of the people and environment around it.

*Action and Influence | ‘Based on’*

The decisions that landscape architects make regarding trees are based on a variety of sources. These sources stem from such factors as: inspections, suitability, design requirements, wishes of others, personal opinion, and examples of what not to do. The following sources inform the decisions of landscape architects, as expressed by landscape architects, and are directly related to the individual perceptions of landscape architects that were formed over years of experience, in both their professional and personal lives.

*Inspections*

The decisions regarding whether to retain, remove, or replace a tree often starts with inspections, such as inspection of a site and inspection of a tree. Inspection of a site includes evaluating both existing and proposed site conditions that would affect the life of a tree. For example, a landscape architect might conduct soil samples, or make note of how construction will cut into the roots of a mature tree. Inspection of trees occurs in various stages, including the inspection of existing trees, and proposed trees at the nursery. Inspections of trees can be done in the form of tree evaluation reports, or tree conservation reports, that assess the health, suitability, location, age, significance—historic, or rare genetically--and contribution of that tree to the site. These inspections of both the site and of the trees allow landscape architects to make informed opinions about trees for a site. However, as was noted earlier, the perceptions that landscape architects have are varied. This variety of perceptions has implications for the opinions that landscape architects form of trees when conducting inspections, especially how they value a tree in the landscape.
On the role of inspections:

“Good design, and good inventory and analysis leads to good species selection, which leads to longevity,” Karen Landman

“Can we retain it, can we preserve it, is it worth preserving. You need to consider its condition, if it is it healthy, or if it of historical or cultural significance, or if it is rare. Those components start to weigh into the decision to try and protect and save it,” Jim Vafiades

“In the case of existing trees, it is an assessment of health first. If the trees are healthy, they might be contributing in a manner such as providing a canopy of shade or acting as a screening element. If so, they have an important part to play, and ideally you would use that as part of your criteria in your site context and analysis. You would ensure that they would stay,” Virginia Burt (Paraphrased)

What the Tree Needs to Survive

According to key informants, landscape architects base their decisions on the needs of a tree and what it needs to survive. This includes the biological requirements of a tree, such as nutrients, water, sunlight, and earth. Because trees are considered an investment by some, what a tree needs to survive long term is often considered when making decisions. This could include such things as maintenance programs, and protection measures. The understanding of what a tree needs to survive long term is based on an understanding of the biological and scientific properties of a tree. This knowledge is often formed through a combination of experience and education, as expressed in the data. Also expressed in the data was opportunity for mistakes to occur when making decisions about what a tree needs to survive based off of an incomplete understanding of the subject. However, many landscape architects are well versed in trees, and work closely with tree experts in other fields to make the best informed decisions concerning what a tree needs to survive.

On determining what a tree needs to survive:

“If you are working in an urban environment, you will choose trees that can survive in that harsh environment,” Linda Laflamme
“Plant it in the right spot. That is the biggest thing. Planning for its future. Even if it is a tree that you know will take care of itself after two years—which is what we want, something that will not need constant maintenance and attendance. Making sure that for however long it takes to get established, that it will get that care. Whatever is around it should facilitate that too. Planting a tree so that it is far enough from a parking lot that cars aren't going to bump into it or putting a pathway in the right place so that when people create a desire line, they do not walk over the tree and compact the roots. Or, that the lawn mower will not keep nicking it, or hurting it that way,” Naomi Sachs

“I try to pick trees that are appropriate for the site. I will go through a design and come up with some basic requirements for the tree that I might want--whether it is a columnar tree, or another shape or texture. Then I will choose a tree that fits those criteria as well as a tree that will do well there. More recently, we had the benefit of having municipalities adopt minimum soil volume requirements, largely based on the work of James Urban. We don't know the outcome of that, but based on James's research, that will probably be beneficial for the trees. But that gives us something to stand on when we are trying to meet the requirements others, like municipalities. It is a lot more difficult for a client, a developer, a builder to say no when you tell them that you need 'this much space' for a tree, or 'this much soil volume','” Mark Steele

*Design Requirements*

According to key informants, landscape architects make decisions concerning trees based on the design requirements of a project, including the vision and program for a space. Vision includes such things as the intended sensory experience of a space, and the landscape typology. Making decisions about the sensory experience of a tree includes such things as choosing a tree based on how a tree interacts with the five main human senses: sight, hearing, smell, taste, and touch. For instance, trees are chosen based on how they influence the perception of what we see, in terms of colour, form, and shape. Trees are chosen for the quality of sound they both produce and block, for the smell of their flowers, the taste of their fruit, and the variety of textures of their leaves and bark. How a tree will fit into the intended vision for the landscape typology is also taken into consideration. This includes such things as choosing trees, like boxwoods to conform to a formal garden setting. In that way, landscape architects are choosing trees based on the design requirements of the vision for a space, which guides their selection and choice of trees.
To key informants, the program of a space influences the decisions made regarding trees in terms of how a tree will affect user experience and functionality. User experience refers to such things as human comfort, welcoming environments, use of space, and movement of people throughout a space. Trees can be chosen to contribute to the user experience by defining space and directing people throughout a landscape. Functionality of trees in an environment concern such things as using a tree as a tool to contribute to the site’s health, of both people and the environment, the social and community goals, and the economic vitality of that area. Landscape architects are choosing trees based on the design requirements of a site, including the vision and program for a space. As indicated in the data collected from the interviews conducted for this study, the understanding of the uses of trees, and experience of individual landscape architects influence these decisions. A diverse range of understanding and experience across the profession has implications for how trees are chosen for a landscape, including how they will meet the design requirements for a site.

On how design requirements determine choices made regarding trees:

*Preference of others:* “Some people value a faster-growing tree because they want to be able to enjoy it; whereas others may choose a slower-growing tree so that future generations might enjoy it, even if that means that they themselves will not be able to sit beneath the shade of that tree,” Karen Landman (Paraphrased)

*Prioritizing functions:* “The designer needs to prioritize what functions need to be addressed,” Karen Landman

“That is partly the nature of the project. In residential design, plant material is chosen for their aesthetics more than their ability to change their environment. Because you are working with a client that wants that kind of thing. In a park environment, you are looking for trees that can provide shade and structure as well as maintenance concerns, operations concerns. How the plants will be maintained. The nature of what they are planted with as well,” James Melvin

“I think the social aspects and how you move through the landscape come first...trees are thought about as support of the design. Sometimes when we are working with architects, use of their buildings are the priority, rather than ideal tree placement for people,” Emily McCoy
“I think all along we have tried to plant trees that are the right tree for the right place. That includes more than the physical opportunities or limitations of the site. It also includes what the needs of the people are. It combines all of those factors in order to choose a tree, not just one or the other,” Mark Steele

“Climate change. If we think the weather is going to get warmer, should we think about changing the species that we are planting. In the city of London, we are trying to reach a canopy cover around 40%. Shade is going to be very important, looking at cooling costs, sheltering from the sun, and considering species that can survive in an altered climate,” Julie Michaud

Restrictions

Decisions about trees are based on possible restrictions, such as the inherent restrictions of a site, in terms of the environment and design expectations, as well as any technical restrictions. Inherent restrictions of a site due to environmental and design expectations include such things as, climatic restrictions for trees, removal of trees to make way for development, and adhering to any constraints within the site. Environmental restrictions could also include choosing trees based on the environmental needs of a site, such as planting only native trees to fit with an ecologically sensitive area, or choosing trees that will withstand diseases and invasive species in that area. Technical restrictions of design include such things as making decisions regarding trees based on cost, limited resources and stock available, predetermined planting lists provided by outside sources, by-laws, and crime prevention policy and safety. Decisions made regarding trees based on the restrictions of a design, whether those restrictions are of the site, or technical, has the potential to alter the usefulness and functions of a tree in the environment. Learning how to navigate through these restrictions comes with experience and understanding, according to the data collected in the interviews. Should mistakes be made concerning the choice of trees based on the restrictions of a site, there is the possibility that trees will be chosen that have a limited range of functions.

On restrictions that influence decisions made regarding trees:

Cost: “I think trees are chosen that usually provide the most bang for the buck. In my opinion, if you want a green wall and you have the space to
put in a row of upright, linear hornbeams, or yews, or something that has a narrow, but upright shape or form, and plant that in front of a wall, they will just grow and after the first couple of years, not a whole lot of maintenance except for some pruning and feeding. Whereas, planting vines in front of a wall or a green wall system takes a lot more maintenance. I think after the first year or two, if it is the right tree for the right place, which is really important, they take care of themselves with minimal effort.” Naomi Sachs

Cost: “Yes [cost drives decisions about trees]. Certainly in public and developer work,” Virginia Burt

Lists: “Because of the [environmental] work that we do, we choose tree species that are native to the region that we are working in, and will also work well with the existing dimensions on the site. Sometimes we do not have the luxury of choice-- we have to pick them off of a list that the municipality provides or requires. When we do have the luxury, native plants that will work in specific conditions” Emily McCoy

Restricted to natives: “I don't believe that native trees necessarily do better than non-natives. If you are trying to replicate nature and something along, say a highway, then use a lot of a natives that would be found in the area. But, I think what is happening now in today's trend towards natives, and more and more often, the policy is native only, you end up with a depleted landscape in terms of aesthetics. Because you are restricting it to only native material of that area. Sometimes the environments that you are planting them in are not native at all. So sure, you can find a Fagus grandiflora in forest, but is it going to grow in concrete, something that has lots of reflective heat? No, it is not. So you are limiting yourself by only limiting yourself to just natives,” James Melvin

Insects and Diseases: “If you work with the Urban Forestry Department in Toronto, they have a list of trees which they recommend and require in urban planting. Primarily because, for example, no one has on their planting list ash, because of the emerald ash borer. There are some starting points there, where we are trying to use the best material for the best location, and understanding the constraints of that location,” Ryan Wakshinski

Lists and monocultures: “There are a couple of issues with municipalities that we deal with. They have restrictions on the number of same species of trees that you can plant in a row. Municipalities will say no more than 3 or 4 trees of the same species in a row. The reason is, which is valid, is that they are trying to avoid a monoculture,” Jim Vafiades
Climate change and staying educated: “With climate change, landscape architects have to educate themselves and their clients about what is the right tree for the right space. It is hard now because what is right for right now, might not be in 20, 50, or 100 years. I that especially in climates that are in between, it is a challenge. There are so many problems with insects and trees are responding differently to climate change. And all of the creatures that are dependent on them. As landscape architects, we can’t just keep doing what we’ve been doing. Or even if someone went to school ten years ago and graduated--if they have their "typical landscape architecture 10 trees" that they always use, it is really important that they stay educated about whether those are still the right trees for the right space. Finding solutions and substitutes takes education of both ourselves as landscape architects, and then of the public. There are a lot of implications, and that is the great thing about trees, they last a long time. But if you plant a bald cypress on a sidewalk it is going to heave the sidewalk up, which will not help anyone,” Naomi Sachs

Others

According to key informants, decisions about trees are often based on the opinions and requirements of ‘others’. ‘Others’ include: clients, public, other professionals, colleagues and mentors, policy, and resources. Clients can influence the decisions that are made regarding trees through their expectations and preference for a design, its cost, and maintenance following completion. The public drives decisions made regarding trees such as what to plant, in terms of how those trees will fit into the community identity, or retaining trees that are of historic significance. Other professionals include such groups as, architects, engineers, arborists, horticulturalists, botanists, soil experts, and nursery growers. Other professionals have the capacity to influences decisions made regarding trees in terms of placing restrictions on what can grow where, or offering advice on what to retain, remove, or replace. Colleagues and mentors within the profession of landscape architecture may influence decisions regarding trees by offering advice from their own experiences. Policy can influence decisions regarding trees in ways such as, dictate what type of species to plant in an area, such as native-species only, or a variety of species planted along a roadside to avoid a monoculture. Policy can also dictate the number and presence of trees in an area, including how many trees must be planted on a new development, and the number of trees required to plant as a replacement for trees removed during development. Resources that might influences decisions regarding trees include, books.
and research. Such resources have the tendency to influence the opinion of a landscape architect by allowing landscape architects to question how and why they use a tree, and what sort of role they play in a tree’s life. With all of that in mind, ‘others’, such as clients, the public, other professionals, colleagues and mentors, policy, and resources, have the capacity to influence the decisions that landscape architects make regarding trees. From the conversations with the key informants for this study, landscape architects seem to consider the influence of all of these ‘others’ when making decisions and allow their opinions to guide which trees are removed, retained, and replaced, why, and where.

On how others influence the decisions made regarding trees:

“Respond to client’s wishes,” Karen Landman

*Clients wishes:* “There are aspects of design that are heavily dependant upon your clients: what they are looking for, and what they are trying to achieve,” Ryan Wakshinski

*Expert advice:* “You have to work with a lot of people to get the biological needs of a tree right to make sure that they survive. For example, arborists, soils people, urban forestry departments, etc,” Ryan Wakshinski (Paraphrased)

*Knowing how to know:* “Landscape architecture is a discipline of disciplines. One thing that landscape architects do is work with other disciplines to create a successful design solution. Is a landscape architect an expert in soils? No. Are they an expert in all forms of botany? No. Are they an expert in drainage and storm systems? They know a little bit about it, but they are not the experts. All of those things are required to use trees in a landscape. We work with arborists, urban foresters, and a host of people to provide and understand the kind of conditions necessary to plan for the survival of trees. Like a good education, it is not knowing everything--it is knowing how to know.” Robert Wright

*On changing values of others:* “Change in perceptions can be seen as a change in value: forest bathing; relationship with trees, how they affect our health,” Karen Landman
Personal Opinions

Decisions made by landscape architects regarding trees are often led by their personal opinions which operate from their personal perceptions. In this case, personal opinion refers to such things as experience and understanding. Experience and understanding are intimately linked and have the tendency to inform one another. Experience informs decisions through such things as trial-and-error, seeing which trees will thrive where, and experimenting with different varieties of trees and new cultivars. Understanding is formed through such things as experience and education. A landscape architect’s understanding of trees influences decisions made regarding trees in ways such providing for the tree’s needs to survive, the benefits that a tree provides, and how a tree connects with the greater global community. The personal opinions that landscape architects are informed by their perceptions of trees. As indicated by the data collected in the interviews, this perception that landscape architects have of trees informs how they interpret information presented to them, and how they make their decisions. As landscape architects make a great deal of decisions for trees based on their interpretation of the information presented to them through their knowledge and understanding of it, their individual perceptions have the capacity to have a real impact on the final outcome for a tree, including its longevity.

The personal opinions of landscape architects that are based in experience and understanding have the tendency to lead to preference of trees rooted in years of trial and error. There are times, however, when this can lead to biases. For instance, the decision to plant native species of trees is commendable for the many benefits that native species provide to the environment, however, planting only native species due, perhaps, to biases does not always lead to the most thorough use of the wide selection of trees available to a landscape architect. As a profession that operates from experience and understanding to inform the decisions made regarding trees, it is important to recognise what might be influencing the decisions that are being made.

On how personal perceptions of trees influenced decisions regarding trees:
Extra effort to save trees: “I think in a positive way. The example about forcing the issue of grading around the big oak tree for a project I looked at a month ago. I had no second thoughts. I just looked at it, I looked at the report. It said it was in really good condition, it was a nice mature size. We said why can't we retain this, we should, it is a beautiful tree and we can retain it. It was a no brainer. We made the effort to make sure we saved it,” Jim Vafiades

Respect for trees: “I do. I'm not quite sure how. The forest that I grew up with is different from what a lot of people have access to and experience. I hope that I bring my respect for trees and my gratitude for trees into what I do. I think that is part of what why I became a landscape architect--having a positive experience close by my house,” Naomi Sachs

Preserve trees: “It would be hard for my perception not to influence my decisions. I try to preserve as many trees as I can, but I’m not always successful. Where the lifespan of a tree spans generations of people and ties us together, but appreciating that a tree takes so much time to reach maturity, there is a value in that,” Michael Ormston-Holloway (Paraphrased)

Design style: Of course [my perception influences my decisions]. That is why people hire me. As you become a veteran of your field, you have more and more experience to base your recommendations upon. Like an artist matures and has various phases of his or her artistic development, you can see that throughout all the lifetimes of the masters. It is the same for any designer: a building architect, landscape designer, a graphic designer, a fashion designer. There is constantly a design evolution that occurs within the human spirit. That is what is wonderful about growing old in this profession,” Hank White (Paraphrased)

Care for trees: “I'm not going to plant a tree in a location or condition that will not allow the tree to thrive,” Sophie Beaudoin

Inspiration: “Our stories influence every decision that we make. I think our perceptions become woven into one of those things you have in your toolkit. As we learn, our perceptions change. Certain things can influence you at different times. That is why travel is so important—to be able to see other landscapes. Research is so important to create the structure that is needed to ensure that a tree is doing ok. I think that there are new pieces and new designers that elevate the profession, and we have an opportunity to learn from them. I think we come up with new ideas that push the envelope and we learn from experience—good or bad. I think that these pieces all contribute to the decisions that we make. Other influences could be a piece of poetry, a play, somebodies dance move, a song, a book, a mentor. There are so many variables, that I think influence us as designers.
I think reflection is an important aspect of that—not just, going to another country or another garden; it is reflecting on the things I have seen that help life yourself up and lift up others. For me, I think it is the whole package that influences me at any given time,” Virginia Burt (Paraphrased)

“I can’t give you one sentinel example where my perception of trees affected my design decisions. My perception of trees ALWAYS affects my design decisions,” Colleen Mercer Clarke

_Ecological decisions:_ “I think I am a little more careful on species selection and understanding where a tree might succeed best, and different types of landscapes. Microclimate environment. I feel that the understanding helps me choose species with a different perception maybe than others, because of the performative aspects a tree could provide in that setting,” Emily McCoy

_Responsibility:_ “I have a professional responsibility to make the best recommendations that are suitable for the design and the environmental conditions. I believe that landscape architects are communicators and facilitators for the public, and our decisions should reflect that,” Linda Laflamme (Paraphrased)

**On how a different past would lead to different perceptions and design decisions:**

“Yes [it is based on my past experiences]. For sure. Often when I was younger, I would scratch my head and think "what am I doing,” and embrace soil chemistry and think that is not quite right, so I would lean more towards forest ecology, and think that is not quite right, and then the whole time—I drew growing up. I had comic strip for years in the Ontarian and in a couple of other papers, and I knew that I loved to draw, I loved soil, and trees, and ecology. I was fascinated with the city. When I look back at it all, I couldn't have planned that better to be a landscape architect. Because these are all of the tools that I use every day. Every degree I got is critically useful to what I do. Every degree I got is critically useful to what I do. Does it change how I look at things? Yes. And not being afraid to do things that are not in the typical scope of work that is in a landscape architect’s job.” Michael Ormston-Holloway

**On how personal experiences influenced decisions:**

_Based on experiences:_ “I like to ask much as possible refer to my work experience. The first time you use something, for instance, Silva cells, you don’t really know how it is going to work, but after you have done it, it is a good reference to go by, in conjunction with other people’s experiences and research,” Julie Michaud (Paraphrased)
On the importance of understanding your perception when making decisions:

“The better you understand how you are making your decisions, the better you can improve your decision making. That is what drives you in a way. Things you find important. It is nice to be working on things that you believe will make a change and will improve your environment,” Julie Michaud

“Absolutely [it is important to understand it]. Because I work in the public realm, I need to make sure that I am doing the right thing,” Michael Ormston-Holloway

What Not to Do

Decisions regarding trees are influenced as much by what-to-do as they are what-not-to-do. Landscape architects operate from their own personal experience in conjunction with knowledge of the experiences of others. Therefore, decisions being made regarding trees are often based on past trial and errors that have not been as successful as others might have hoped they would be. For instance, learning from such practices as: inadequately preparing the environment for the needs of a tree, choosing the wrong species for the location, creating inadequate maintenance programs, specifying ‘tree volcanos’ which buries the basal flare of a tree, not preparing proper protection measures during construction, altering the environment through such ways as earthworks and irrigation that harm a tree’s growth, planting invasive species, planting monocultures, not acclimating a tree properly, and planning for the short term life of a tree. It is through experience and education that the landscape architect who were interviewed expressed these practices change and are avoided.

On examples of what not to do:

Becoming complacent: “As landscape architects, we can't just keep doing what we've been doing, or using our ten favourite trees. We need to stay educated about whether those are still the right trees for the right place,” Naomi Sachs (Paraphrased)

Inadequate management plan: “Watering. Planting trees, and not planning a watering schedule--especially for a drought. There is much better success rate if watering schedules are done right--so that is something that I would like to see improve,” Julie Michaud
Not acting as stewards of the environment: “I do believe that we need as LAs as a discipline need to be better stewards of the natural environment before us. Part of that is knowing more about it. There are so many wonderful trees, and wonderful associations that we can make. If we have a garden, and we can plant some ground cover and some shrubs, and some trees then we can tune into the life cycles, and food source requirement that brings a white breast nuthatch only one kilometer more downtown, than I think that is interesting. We should consider that, rather than planting a boxwood under a honey locust, because "I like it," or "I don't want it to fail." I don't know if it is because we are cutting corners, or we are being influenced by other people on our teams, but I find that some of the green moves underwhelm me, and I think that we can do better,” Michael Ormston-Holloway

Tree volcanos: “Yes! There is so much landscape mismanagement that are sadly based in ignorance. One of these are “tree volcanos”: the use of mulch aprons around the base of a tree, which bury the basal flare of the tree. This is horrible for the tree because it traps moisture at the most important junction of the tree (at the ground) the basal flare. That is where the tree needs to be the strongest. Multiple inches of mulch that retains moisture that is pressing against the bark at the basal flare creates rot. That is where insects and pests feast. To say nothing about weakening the tree’s structure. While many think that they are protecting the tree and improving its moisture retainage by putting this huge mulch apron around it, in some cases it is doing more damage to it,” Hank White

Inadequate quantity of soil: “I think that one thing that every city must be aware of is the quantity of soil that is available for trees. This is the bottom line. There is a lot of disparity at the moment. Here in Montreal, we have asking for 10 cubic meters of soil, in comparison to the 30 cubic meters of soil in Toronto. That is a huge difference. I would like to change that practice,” Sophie Beaudoin

Invasive species: “Some people are still planting acer platanoides. It is an invasive species, it has a short life, it creates a monoculture beneath it, it strangles itself, lives to 50 years, and then they are done, it outcompetes the natives,” Virginia Burt

Planting in monocultures: “Planting in monocultures to achieve a uniform look has proven to be dangerous, considering what we have seen with the mass deaths of ashes and elms,” Ryan Wakshinski (Paraphrased)

Not communicating properly with contractors: “There is what is drawn on our drawing, and then there is how the contractor installs it. Those are
usually two different things. They do not necessarily follow the plans,”
James Melvin

*Not planning for the future:* “Planning for trees in the short term when they
have the capacity to live for a long time,” Karen Landman

*Not planting enough trees:* “I would like people to plant more trees. That
is what I always tell people—*plant more trees,*” Robert Wright

*Not keeping up with related industries:* “Installation and maintenance are
where I think we fall behind, and following up with the industry in the
horticulture trade with regard to how they plant and how they plant and
maintain a tree over time,” Emily McCoy

**Summary**

According to key informants, the decisions that landscape architects make regarding trees
are based on a variety of influences. These influences include such variables as:

- *Inspections* – site and tree
- *Biological requirements of a tree* – environment, water, nutrients, soil
- *Design requirements* – vision and program of a space
- *Restriction* – site and technical
- *Others* – clients, public, other professionals, colleagues and mentors, policy, resources
- *Personal opinion* – experience and understanding
- *What-Not-To-Do* – trial and error, mistakes, learning opportunities

Collectively, these variables inform the decisions that landscape architects make regarding trees.
As expressed in the interviews with the key informants, these variables are a collection of
perceptions of trees that have real implications for the longevity of trees under the care and
direction of a landscape architect.
According to key informants, communication is one of landscape architecture’s greatest strengths. Landscape architects communicate their perceptions of trees in a variety of ways. These perceptions are expressed in the decisions that landscape architects make regarding trees, which are based on a variety of influences, and communicated to the public through a variety of mediums. The ability to communicate their perceptions of trees for the public to interpret is one of the most important roles a landscape architect plays in the life of a tree.

Media of Expression

There are a variety of ways that landscape architects can express their perceptions and decisions about trees. What follows is a select list of the ways landscape architects communicate their perceptions, as relayed by the key informants in the interviews:

- **Master plans** – planting plans, tree placement and location
- **Construction details** – soil specifications, installation requirements, and nutritional requirements
- **Tree Evaluation Reports and Tree Conservation Reports** – health and condition assessments, value, species
- **Cost Estimates**
- **Maintenance Programs** – tree care, watering schedule, replacement protocol
- **Renderings** – packages for clients
- **Presentations** – speaking engagements
- **Policy** – restrictions and specifications
- **Planning Report** – ‘Tree Master Plans’ for cities
- **Community Engagement Meetings** – communicate with community
- **Research** – books and academic research
- **Conversations** – with clients, public, students, etc.
On media of expression:

**Conversations with contractors:** “Landscape architects overall need to be very sensitive to any form/aspect of construction activity. Both around existing trees to remain, as well as new trees being planted in some new constructed environment. You want to fully protect the tree’s root infrastructure and not create undo stress on that tree. Contractors will try to get access everywhere on site, including piling up equipment up against trees. A landscape architect needs to be the tree protector and policeman to make sure that there are provisions within the construction activity behaviour that outline these protection measures. That’s why I protect them during construction,” Hank White

**Creating accurate tree management plans during and after construction:** “I ensure that they have accurate tree management and care. So I have right now, a 120 yr old red oak on one of my properties. It is literally a grandparent. Under the category of nurturing, I look at that and say, we are doing everything. We are rerouting drainage, because, overtime, as we are getting those big gully washers like we are today, this tree was being submerged more than it would typically. Meaning, it is getting wet feet more often, and water is standing, because it is coming in a big rush. So we have redirected some drainage so that that plant will continue to have a long life. We are spending a lot of money to save that guy, to make sure he is ok,” Virginia Burt

**Helping others see our vision:** “It is an interesting thing. When a landscape architect looks at brownfield, we don't see the brownfield. We see what it can be. What we see in front of our eyes, the reality of what we see, is not what we know it can be, and we can see in our head what it can be. But to respect and understand that not everybody that looks at it and sees it the way we do. We have a real need for communication. That is why there is such an emphasis on presentation, and presentation drawings. Because we are creating a picture in our client's mind, and in the public's minds what we can see,” Colleen Mercer Clarke

**Summary**

According to key informants, landscape architects use the above-mentioned methods of communication to express to others, including clients and the public, the value of a tree, what it needs, and their decisions regarding trees as a professional. As expressed in the interviews, the ability to communicate the knowledgeable perceptions of experienced landscape architects in regards to trees, is one of the most essential roles that a landscape architect can play.
SUMMARY | ROLE

The role that landscape architects play regarding trees can be roughly divided into three categories: decisions that landscape architects make regarding trees, what those decisions are based on, and how those decisions and perceptions are communicated. Landscape architects are in a unique position where they have the opportunity to work intimately with trees and make decisions that will affect the longevity of a tree for generations to come. Those decisions are based on a number of factors including inspections, biological requirements of a tree, design requirements, restrictions, opinions and requirements of others, personal opinions, and examples of what not to do. These influences are intertwined with the perceptions that landscape architects have of trees, and the decisions that they make because of them, which are then communicated in a variety of forms. These forms of communication include such things as planting plans, construction details, and protection measures. By becoming master communicators, landscape architects are able to share their unique perception of trees with others, and hopefully have a positive impact on the longevity of a tree and the global environment.

ACTION | INFLUENCE

According to key informants, landscape architects operate from a position of influence due to the vast and varied nature of the profession, the people and environments landscape architecture affects, and the ways in which that influence can be felt by others. As expressed in the interviews, landscape architects have the capacity to influence many people as professionals, especially regarding how trees are used in the profession.

Influence | Spread of Influence

The spread of influence landscape architecture has when it comes to their perceptions of trees can be expressed in two ways: the variety of work landscape architects are involved with, and the spatial spread of these projects. Regarding the variety of works landscape architecture is
involved with, consider the amount of diverse design projects alone that landscape architecture undertakes:

- Playground design
- Recreational design
- Healing gardens
- City or planning design
- Public park design
- Cultural landscapes management and design
- Ecological remediation
- Reforestation
- Design for conservation
- Design for climate change
- National or protected park design
- Residential design
- Community design
- Design for tourism
- Design for retail and business
- Design that promotes health
- Design that promotes enhances the environment or ecology
- Design that improves economic vitality
- Designs that improve the community or society

All of the landscape architects that were interviewed for the purposes of this study had demonstrated experience in at least one of the above-mentioned areas of design. However, most landscape architects indicated in the pre-interview survey and in the interviews that they had experience working in a large number of those categories. The implications of landscape architects who work in a variety of design specialities is a body of professionals who have the capacity to influence the population at large in all matter of living environments. Landscape architects are also involved in, and have influence in such areas as research, planning, policy, and education. Because landscape architecture affects nearly every landscape of human living
experience, the perceptions that landscape architects have of trees matters. These perceptions matter because their perceptions influence the way they think of trees, the decisions that they make, and how those are conveyed and experienced by the public. As demonstrated, how these perceptions are experienced by the public ranges from their home, to their work environment, where they shop, where they vacation, and the planet they live on. How trees are used in those landscapes based on the perceptions of the landscape architects who are planting them matters because of the real and significant contribution that trees have the potential make in an environment when planned and cared for correctly.

The influence that landscape architecture has with trees pertains to the spatial range of projects as well, from small scale projects to global initiatives. Landscape architects are involved in projects of all scales that have the capacity to affect people from the land around their homes to the planet. For instance, landscape architects work at the from the following scales:

- **Personal Scale** – ex. Residential design and consultation
- **Community Scale** – ex. Community design
- **Municipal Scale** – ex. City planning, ‘Tree Master Plans’
- **Regional Scale** – ex. Tree canopy policy
- **National Scale** – ex. Climate change initiatives
- **Global Scale** – ex. Protection measures and migration plans, research

As indicated in the pre-interview survey and the interviews, the fifteen key informants that participated in this study indicated that they either work at all of the above-mentioned scales, or at least considered those scales in their work as designers, researchers, educators, or planners. When considering the application of their perceptions of trees across all of these scales, the implications of the influence that landscape architects have the capacity to have on others is vast.

**On scale of influence:**

*Environment on global scale:* “Trees have a great benefit to the environment. As we plant more trees, we are making a global impact. Every move makes a difference that affects our region, country, and global community. These decisions cross political and natural boundaries. When
I plant a tree, I know that I have influenced the world,” Virginia Burt (Paraphrased)

*Scales:* “There is a vocalism that landscape architects need to do at all scales. I think one of the things you will learn is that scale is one of the most important things we should know and hold at the core of being a landscape architect. In everything we do, we do at the scale--from one little newly planted tree, all the way up to the Tundra forests of the nation. We work across all of those scales. No other planning and design profession does. Our presence is as important in your neighbours back yard as it is in the planning and management of large landscapes in Canada. It is in maintaining the tree canopy that we can contribute one of the most important things that we do,” Colleen Mercer Clarke

*Future generations:* “That is a huge part of it [future generations enjoying the site and trees], at least for me and LAs that I have worked with,” Mark Steele

*Summary*

Due to the variety of projects and range of scales that landscape architecture operates from, the implications for the influence that a landscape architect’s perception of trees has on others is extraordinary. Landscape architects are involved in all manner of designs, research, planning, and education that involves trees, and they are working from the smallest spatial scale to the global scale. Because landscape architects are making decisions about trees based on their personal perceptions of them, the influence of this can be seen worldwide from global canopy cover, to public health.

*Influence | Who, What, How*

Due to the variety of projects and disciplines that landscape architects are involved in, and the spatial range of such projects and disciplines, the range of people landscape architects have the capacity to influence with their perceptions of trees is quite diverse. Who, or what, a landscape architect has the opportunity to influence, and how that influence may be expressed is what follows below.
Who or What is Influenced or Benefits

Groups of people that landscape architects have the capacity to influence with their perceptions, and an example of that influence is:

- Clients – ex. Advice
- Users of spaces – ex. Health benefits, user experience
- Other professionals (architects, engineers, nursery trade) – ex. Supply and demand influences nursery trade
- Contractors – ex. Diligence during installation and maintenance periods
- Peers – ex. By example, sharing of information
- Public – ex. Effects of design, community engagement
- Neighbours – ex. Helpful advice
- Children – ex. Education and examples

Landscape architects also have the capacity to influence groups outside of the human realm such as the animals that use the trees they plant as shelter, food, and migratory routes. The environment is influenced by the decisions that landscape architects make with trees as well. This influence is not contained to current generations, but due to the longevity of trees, this influence can be felt throughout the generations.

On spread of influence:

Research: “I would hope that for now, since by research is mostly about health care facilities, that it would be patients and visitors and staff. I hope that from the research, and the design that I have done gets to someone who puts the plantings in place and creates more than the plaza with the one tree. I would love to teach at some point, hopefully in the near future. So, in my case, I would hope that those students would also benefit from what I know. Hopefully you are. That's one thing that I like about doing the research as a opposed to doing design. Because I feel like, especially when I was doing residential design, it was a one by one, or family by family. It didn't feel like enough. What I'm trying to do now is have a broader influence. I would love it if the work that I do, the research that I do, could have larger policy implications. Not just from health care facility to health care facility, but a city or government entity might look at this
research. Maybe they will see that green space reduces crime, and they will choose to invest in it, rather than put another cop on the street,” Naomi Sachs

On who or what is influenced:

Clients: “Hopefully the clients that use the spaces that I have designed. People now, and I hope people in the future. I think about a park I worked on in Burlington that is at the Niagara escarpment. A piece of a land had some point been in private hands and they had stripped the top of the escarpment for trees. We had an opportunity to come in and replant that. We planted both saplings and had a contractor come in and collect native seed material, take that back to their facility, grow it, and bring it back and plant it on the site. Obviously, I probably won’t see those mature trees, but my kids might, and their kids will as well. I find that very exciting,” Mark Steele

Users of space: “Anybody who is walking through a designed landscape where the organization of the trees, the spatial and visual rhythm in which they are used and organized heightens one's awareness of the trees. The trees form, its seasonal performance qualities. We highlight these features by designing landscapes that bring these features to the forefront and its part of the manipulation of the spaces, the sequence and how we envision people using space while they are in it, or while they are moving through it. It would be very difficult not to become aware and present to these qualities of these trees, or the other related vegetation, and all of the materials being used--the composition of that. Anybody (that is not buried in their device, or looking at their device with their head down) with their head up and looking while walking through the space and being in the landscape that they are in, will become aware of these trees, and their characteristics and their distinctive qualities. That is our aim. That is our goal of our designs. That we are taking something that people frequently take for granted--”trees are everywhere, they are abundant, we have them, we don’t need to protect them,” but you don’t understand their value until they are gone. It’s like that Tony Mitchell song, “You don’t know what you’ve got till it’s gone.” What we do in our landscape design is to bring that familiar reference out of nature and manipulate it in some form of abstraction that gives it a distinct visual personality that makes one pause and reconsider what they are looking at. That is how we influence many people, particularly in urban environments where they are divorced from many natural world elements. This is an opportunity for them to become reconnected to the natural world, through the elements and see it in this different light and enhance one’s awareness of those qualities. Hopefully, ultimately a higher level of sensitivity. So that when they go back to a native or rural landscape, they will start seeing that a little bit differently
because of this experience in a man made designed landscape,” Hank White (Paraphrased)

Users of spaces and wildlife: “The users of our spaces. It could be people that are enjoying a picnic in a park. It really boils down to the users that use our spaces that we design. I shouldn't forget about the birds and the animals. The squirrels. We will select a tree for a specific colour, whether it is to provide spring colour, or fall colour. If it is an orchard, because we are doing an agrafarm, or a community garden, we could be planting some fruit trees that they could utilize. It is all about the user and how we can create a space that is going to be enjoyable for them year round,” Jim Vafiades

Ourselves (financially) and the environment: “The community that interacts with our spaces benefit, and of course the environment. The more trees the better,” James Melvin

Global scale: [who benefits?] “The world :),” Karen Landman

Wildlife: “Other creatures ranging from pollinators, insects, worms. All beings benefit from the right tree selection,” Emily McCoy

Everything: “The sun, the earth, the critters. We know that trees with different tops, with different branch architecture, disperses wind, mitigates wind, that helps people, that helps buildings, that helps critters. That it can provide habitat for migratory birds, or non migratory birds. Even the little critters that we don't like to talk about, but we have in our city, like skunks, possums, raccoons, squirrels--they are here, and they benefit from trees too. Lot's of environmental benefits,” Michael Ormston-Holloway

People outside of the range where the tree is located: “If you are in a hospital, rooms with trees and greenery, people are getting better faster. There are psychological benefits to looking at trees. Even if you are not directly in a park, but there is a park in your neighbourhood, there is a difference in air quality, and all of that,” Julie Michaud

Environment outside of the boundary: “In an ecological system, where is the boundary? It is not a line on a map. It is that watershed level, ecozone level, climatic level. The tree does not sit there and say, “I’m on this side of the yard, and that is on that side of the yard.” Its roots extend beneath the roads and into other neighbouring yards, so it does what it needs to do to survive,” Robert Wright

Other professions: “We inform the nursery trade by the plants that we specify. We advocate for their use just by specifying them and putting them on our drawings. But also, not just new trees, depending on the type of
landscape architect you are, you may influence tree conservation in a built environment as well. We will have conversations with clients, we will talk in terms of the benefits beyond the aesthetics that trees provide, so that we can either protect them or specify them,” Emily McCoy

On how their lives affected:

Enriched their lives: “Hopefully we have enriched their lives. That they could go away feeling better, feeling in a more positive light. That they have had a greater experience, whether it be sitting under a shade tree or enjoying the profusion of flowering colour that would occur in the spring for example,” Jim Vafiades

Benefits: “I frequently promote things like, trees on streets calm people down, they slow people down, they linger longer. I've often tried to quantify the value of a tree, but there are all of those unknown things like how it makes you feel to be under a tree, to walk down a treed street where canopies connect and you can hear birds chirping. I believe that people congregate around trees,” Michael Ormston-Holloway

On if others feel the influence of their perceptions:

“I desperately try [to influence others with my perception]. It is important to me to talk about this stuff. I feel that I was privileged in my indecision to enable the study of a bunch of other things that are related. Other LAs do not have the privilege to sit in two years of soil chemistry classes to really get to know soils. I try to speak at events. I'm speaking at the ISA Ontario conference for the next couple of days. I was at the World's Design summit in Montreal in the fall, and I was speaking there. I was speaking about landscape architecture and the urban forest, and what we are doing, what's good, and what we can do better. I teach courses, I try to do a panel whenever possible. I try to publish what I can. I really do try to promote the work that I do and the message in there,” Michael Ormston-Holloway

“Hopefully, it is a good influence. I may have an influence on the students, as an associate professor. My kids, although they get tired of me naming trees,” Mark Steele

“If I do my job well and correctly, it will hopefully influence the way others perceive and interact with trees,” Ryan Wakshinski

“When I was an ecologist, I felt strongly that humans are an interesting species. We need a personal experience to have an emotional response. I was very strong on this with my own kids, and I was a guider, and my husband was a scouter for a long time. We believed that children should be exposed to nature in a very personal way. To see nature not as
something they have to conquer, but that they can just be with---they can be quiet and listen to the trees in the park. That they can have these experiences with nature. They are a part of nature and nature is a part of them. It is not the same as watching a documentary on television, no matter how good your TV is these days. You have to go out into the environment, you have to experience it. That has always been for me the biggest challenge, which is to introduce people to new environments,” Colleen Mercer Clarke

“I don't know if we can have any influence. How could I influence how you feel about trees? I think that we can plant a bunch of trees, but I don't think I can influence you. Some of the things that are important in Ontario are the way we cleared the land hundreds of years ago. When we moved the stones into rows at the edge of the property, those became the seed beds for hedgerows. Now we have hedgerow topography. That's not someone planting that, that is someone just creating an environment for seeds to land and grow. It wasn't cultivated, so of course you get hedge rows. Other hedgerows, are made to be windbreaks. You can tell the difference from the others, because they have mix of coniferous and deciduous. You can see those two different designs in terms of where they occur on the property,” James Melvin

“I have no idea. You would have to ask them. We can never translate the experiences we have with the experiences others may have on a site. You could go to a site after your parent has died and have a totally different emotional reaction to things than you would if you were taking your children on a picnic. We often think that, when we are designing, we are designing experiences. But the reality is we cannot control the experiences that other people have in our spaces. We just hope that we create spatial opportunities for people, so that people may have a multitude of experiences. It would be incredibly arrogant to say that, “I plant trees, and everyone gets great joy out of them,” etc. I think that they are valued, and they will be more valued over time. We are living in 100-year-old parks now. It is hard to say--I had a very good friend who was into ecological aesthetics, and he used to say, “the purpose of design is to bring meaning to your life, and meaning to the lives of your clients And then he used to laugh and say, “but that meaning does not have to be the same,” Robert Wright

“I think that a lot of users do not necessarily connect high quality space with a tree, even though it may be there, and providing that benefit. I think it is more an intangible thing that they may have a feeling, but they may not be able to pick up the pieces that support that feeling. I’m directly related in research, so people have the opportunity to be exposed to my findings when they are disseminated in journals, articles, or popular magazines,” Emily McCoy
By What Means

Landscape architects have the ability to influence a variety of groups with their perceptions of trees in ways such as: communication, and the creation of spaces for people to experience trees. In terms of communication, landscape architects can advise, negotiate, and share information about trees through a multitude of media which has already been discussed. From the data collected, the perceptions of trees that landscape architects tend to share with others include:

- Advocating for the use of native species
- Knowledge of tree species
- Knowledge of tree systems and biological requirements
- Advocates for better growing conditions, including an increase of soil volume in urban plantings
- Educating people on the right tree for the right place
- Attempts to educate people on how a tree is a living thing
- Advocate for a change in “attitudes”, ie. “pioneer attitude”
- Advising for trees that will survive climate change
- Advice about maintenance
- Helping people be better stewards of the earth
- Bridging the gap of inconsistent education of trees
- Warn people of harmful planting practices, ie. Planting invasive species, or monocultures
- Understanding of soil chemistry and importance
- Negotiate with contractors and other professionals
- The type of words used to communicate messages about trees

While the above list is only a small selection of the ways that landscape architects try to influence others, it supplies a snapshot of the variety of ways a landscape architect can communicate their perception to the people that they have the potential to influence. Another way landscape architects can influence others is through the provision of spaces for people to experience trees. On that subject, Robert Wright says, while a landscape architect can provide
the opportunity for people to experience trees, they cannot force the type of experience that individual will have. In other words, landscape architects can create spaces with an abundance of trees in them, allowing for the opportunity for people to interact with trees, but they cannot force their perception of trees on that person.

On how landscape architects can influence the perceptions of others:

Understand benefits: “Landscape architecture can help people understand the scope of benefits that trees provide. They may understand the visual component. We can help them understand all of the aspects that trees contribute to the environment: including the importance of native species, and planting a diversity of species.” Linda Laflamme

“Through education and outreach with communities. Making the invisible benefits of trees visible. Or maybe even through technology. There has been some movement though citizen science of connecting people with the actual benefits of what trees--maybe making that more accessible for people. Making the benefits visible in place would be a compelling way to do it. Otherwise, advocating with the communities, and quantifying the benefits of the trees would be another way to help communicate that value,” Emily McCoy

“From a public health standpoint--when we talk about urban ecosystems, I think the way that trees can clean the air and provide greenery, and the forest bathing Shinrin yoku research that talks about the phytoncides—the resins that are emitted, especially from pine and spruce and evergreen trees, that somehow interact with us and stimulates NK cells, which are the natural killer cells which attack the cancer cells in our bodies, and stimulate serotonin and other positive hormones. I think we are are starting to see vegetation and the urban forest, and urban ecosystems as really important parts of public health,” Naomi Sachs

“I have clients that weren't tree people before and became tree people after we started working together. I have the opportunity to do a lot of public speaking, so I find myself being able to stimulate and invite people to value our landscape,” Virginia Burt

On protecting trees:

“I think because of our attitude towards the environment, we are incumbent to try and protect them when we can. That is one of the first things that we can do when we get a base plan or a survey. We would look at the site and
evaluate it for all of its merits. One of the key components of evaluation is the existing trees. I’d say we watch out for them,” Jim Vafiades

“I’m not a tree! I guess I would be an enabler for trees,” James Melvin

“We are the tree’s protector, guardian, and doctor. You may say, “that is the arborists role,” and yes, we work with arborists to make sure that a tree in any situation is going to have the necessary nutrients, have a management program to expand its longevity, and formative role in the landscape design. I would say very often, personally, when we are introduced to a project site--where there are significant mature trees scattered throughout--we communicate and highlight how these are enormous environmental assets. Both from an environment, economic, and visual standpoint. And these assets create value and they need to be protected--It’s like an architect going into a historic district and identifying all of the historically significant buildings that are worthy of preservation. So we perform that role as the purveyor of tree preservation, and build a design that works around our environmental ancestors. We respond to the mature trees that have majestic scale and quality because we know that there is now way that in our lifetime, or even in our childrens lifetime that if we were to plant a nursery grown tree, that we are going to see that nursery grown tree develop to the size of a tree that stands about 80ft tall and has a caliber of 30 inches. This is what we consider to be landmark trees--and our role is to be the purveyors and protectors of those assets in any kind of landscape/site development,” Hank White

*On speaking for the trees:*

“We speak for the trees. We understand them,” Karen Landman

“In general, landscape architects value trees and try to keep them and plant more of them, and argue for their presence and proliferation. We speak for the trees. We are the lorax. We are the loraxes of the world. We can show people with renderings how beautiful something can be, or the shade something will provide, or actually doing it and showing them, and then measuring it and doing post-occupancy. Or, sustainable site initiative where people are going in two years after the site has been constructed and complete, and measuring the differences. Or, helping with research, either in environmental psychology, or some other types of socio-eco services. I think that landscape architects play a really big role in that. It makes sense, because that is what we do. That is our livelihood,” Naomi Sachs

“Years ago, when I was working as an ecologist, and the landscape architect drew this little sketch for me one day that had me tied to a tree with hard hat on, and the plough approaching. It is Don Quixote type of
cartoon where the landscape architecture is tilting their lance towards the front end loader as it approaches the tree. I think in many ways for our profession, I used to say, I became a landscape architect because I was a marine and aquatic ecologist, and I was concerned about what I saw happening in our marine and aquatic environments. That nobody spoke for the fish. Fish are notoriously quiet, so I had to kick off my scuba suit and crawl out of the water and speak for the fish. I think that is really what we do as landscape architects. We speak for the trees. I cannot tell you the number of times I have been in meetings with site design teams where it was a running battle between me and any one of the disciplines of engineering. Whether it was mechanical guy wanting to site something, or the mechanical guy wanting to site something, or civil guy wanting to grade something. It literally had to be 'stand your ground, stamp your feet, and say "not on my watch, the trees are not coming down"'. I think that that has been an unfortunate part of the role we have had to play as landscape architects in North America, and we continue to have to play, To speak for the trees that live there, and the maintenance of the natural environment. To keep people maintaining a buffer around the streams, the shores, and maintaining tree cover canopy. Even in some instances in open space. I think that landscape architects also have a duty of care to make sure that the science that we do is absolutely accurate,” Colleen Mercer Clarke

“We are the ones advocating for their use in a built environment. That is our role,” Emily McCoy

On being a nurturer:

“If I were a tree, and I saw a landscape architect coming to me, I would wonder if that landscape architect was going to improve my life or not. When you plant a tree, if you are not aware of its needs for soil, water, air exchange, room, the root system, and for the branches and canopy--you can do a really bad job. That tree will not be able to grow properly. On the other hand, if you are taking an existing park, landscape, or streetscape, where you have to change something, and you don't think about how changing the grade around the tree will impact the root system. You can damage existing trees as well by doing something that will be good in terms of design. Those are the two main things I can think of: what a tree needs, and what impact changing the environment around an existing tree will have on the life of that tree. The way you plant a tree is something really important and unique. It takes time to have the technical resources to do it properly. When you are looking at an existing tree and you have to do something around it. Same thing---you have to know what those trees are, what those seeds are, how the root system is developing in that particular species, and so on. You have to know pretty well your trees. It is important,” Sophie Beaudoin
“A nurturer, a friend. A person who understands them,” Virginia Burt

Summary

Landscape architects have the opportunity to influence a diverse group of people and the environment in a variety of ways. People that landscape architects have the opportunity to influence with their perception include such people as their client, neighbours, and users of spaces. Due to the nature of trees to last into generations, these influences have the capacity to last a long time. These influences are often conveyed through communication and environments for people to experience trees.

Perceptions of trees that landscape architects can be expressed in the influence they have. Influence in this case refers to the spread of influence and who or what is being influenced, and how. Due to the nature of the profession of landscape architecture, the spread of influence a landscape architect has extends to a multitude of landscapes and spaces at a range of spatial and temporal scales. Landscape architects have the capacity to affect a wide range of landscapes extending from a residential design to the global scale, and decisions are being made in all of these landscapes based on the perceptions of landscape architects. As such, the perceptions of landscape architects are important to recognize, as it influences their decisions, which has the possibility of affecting the environment and people on a global scale.

Landscape architects not only have an influence on the landscapes that people frequent, but they also have the potential to have an influence on people, animals, and the environment, by communicating their perception and creating spaces for people to interact with trees. As such, because of the influential nature of landscape architecture and the nature of the profession to use trees in their designs, landscape architecture has the potential to influence a great deal of people by the decisions they make based on their perception of trees.
To understand the perceptions that landscape architects have of trees, it is useful to understand the implications of such perceptions in the role that landscape architects play regarding trees. In their role as designers and researchers of the landscape, landscape architects play the role of decision maker for trees and communicator based on a variety of influences and perceptions. Due to this role as decision maker for trees, landscape architects are inherently influential, especially considering the spread and depth of their influence on people, the environment, which has the capacity to spread into generations.

In the role as decision maker for trees, landscape architects decide which trees will be retained, removed, or replaced, and the environment that a tree finds itself in. In this context, replacing trees also refers to the decision to plant or propose new trees. These decisions are based on a variety of influences including site inspections, the biological requirements of trees, design requirements, restrictions, opinions and requirements of others, personal opinion, and examples of what not to do. Collectively, these influences that inform the decisions that landscape architects make regarding trees are understood through their individual perceptions and ultimately how they interpret the information. Therefore, understanding individual perceptions that landscape architects have of trees is useful to understand the depth of their knowledge and understanding which is informing the decisions that they are making for trees. These decisions and perceptions can be viewed by outsiders in the form of a variety of communication media available to landscape architects, including: master plans, construction details, tree evaluation reports and tree conservation reports, cost estimates, maintenance programs, renderings, presentations, policy, planning reports, community engagement meetings, research, and conversations. As a decision maker for trees, landscape architects operate from the understanding and knowledge that is their personal perception of trees, which has consequences for the lifespan of trees, and the health of the environment around it.

In a position of influence, landscape architects have a far reach due to the diverse nature of the profession, who or what their opinions and decisions influence, and the spatial, social, and temporal scales they influence. As the perceptions of landscape architects influence the decisions
and opinions of landscape architects when it comes to trees, this range of influence is quite substantial. The vast spread of influence that landscape architects have is due to the diverse variety of disciplines that landscape architects are involved with. These disciplines include all manner of design, from residential to city planning, to research, policy, planning, and education. Landscape architects work across all manner of spatial and temporal scales which has implications for decisions being made concerning trees from the residential scale to the global scale and across time. In this influential role, landscape architects have the capacity to influence others with their perception of trees, including clients, and the environment, which is accomplished through the communication of their perceptions and allowing people and animals to experience trees in their designs. Due to the vast nature of the influence landscape architects have, the decisions that they make regarding trees based on the perceptions that they have of trees, has the capacity to have a great effect on the people and the environment at all scales and across time.

In other words, a landscape architect has the capacity to be one of two things based on the role and influence they have: a friend, or a foe.

**Friend**

As a friend to a tree, a landscape architect is an assistant, they help to improve a tree’s life, enable it, and nurture it, and act as a doctor when needed. As a friend to a tree, a landscape architect is their protector, guardian, and policeman. As a friend to a tree, a landscape architect is its voice, its advocate, its ‘lorax’. In the role as a friend to a tree, a landscape architect sees a tree as an asset, understands their importance, and works to improve their lives.

**Foe**

As a foe to a tree, a landscape architect sees the tree as replaceable, does the bare minimum, and does not strive to add to the longevity of the tree’s life. As a foe, this is the landscape architect who only plans for a tree to live seven to ten years, who does not appreciate the longevity of trees, and does not do enough to help a tree thrive.
Landscape architects are in the unique position of being both a decision maker and an influencer on the public and the environment. Due the variety of projects that landscape architects are involved in and the influence that they have on how other people perceive and experience their environments, the perceptions that landscape architects have of trees has real implications for people and the environment on a global and long term scale.

CONCLUSION

Limitations of Research

The exploratory nature of this research was assisted by surveys and interviews with key informants that represented a range of experience within the profession of landscape architecture. While the interviews were useful to gather a thorough amount of information from key informants, the process of interviews was a learning curve for the researcher, which led to complications at times. Complications included having to alter questions after the early interviews when it was discovered that the data being collected was not sufficient to cover the goal and objectives of the research. Other complications included difficulties with unreliable technology, which led to data being lost and conversations having to be confirmed by key informants. Regardless, the data collected was thorough and provided the proper information for a detailed analysis.

Implications for Landscape Architecture

The most useful result of this research is the exploration of the many different perceptions of trees by landscape architects. As a young designer, I found the data collected from senior landscape architects, which has been based on years of experience within the profession, to be especially rich in information. For example, the insight regarding the many ways trees can
be perceived by landscape architects, and how trees can be used by the profession was particularly interesting. On the broader scale, the results of this research could be used as a means of personal reflection and introspection for practicing landscape architects.

**Opportunities for Future Research**

The data collected for this research was provided by experienced landscape architects who have been practicing for at least ten years. Because perceptions are known to change over time, it would be interesting to explore how the perceptions differ between experienced landscape architects and students of landscape architecture. Other areas of exploration for future research could be studying the differences between perceptions and behaviours, or if there are regional or geographic differences between how landscape architects perceive trees.

**Summary of Findings**

The results from the data collected from the pre-interview survey and interviews with the fifteen landscape architects led to three key findings:

- Perceptions that key informants have of trees were influenced by a variety of sources that led to perceptions of trees as a professional within the profession of landscape architecture
- Key informants demonstrated a range of perceptions of trees
- Perceptions that individual key informants have of trees may influence the decisions they make regarding trees as a professional
Influences on perception were indicated as experiences from childhood, education, work experiences, cultural and spiritual experiences, and various individuals. It was expressed that their perceptions of trees were constantly being influenced by outside sources, and therefore were in a constant state of evolution.

**Childhood**

Childhood influences included such things as an attachment to specific trees, or groups of trees, such as forests or woodlots. The location of the key informants’ childhood home in proximity to trees, or in some cases, distant from trees, was listed as an influence on their perceptions of trees as adults. Memorable experiences throughout childhood were expressed as being influential on the perception of some key informants, such as camping and travelling in heavily wooded provincial parks, or spending time with their parents doing tree related activities. Every key informant indicated that they spent time climbing trees as a child, or interacting with them in some memorable way, which they expressed as a possible influence on their perceptions of trees. In general, experiences from childhood were expressed as a time when their perception of trees was influenced in such ways as an appreciation for trees, a playmate, and respect for trees.

**Education**

Education inside and outside of a landscape architecture degree was indicated as a possible influence on the perceptions that landscape architects have of trees. Education influenced the perceptions of landscape architects in terms of influencing they way they
understood trees in terms of the scientific and horticultural properties of trees. Education was often described as broadening their perceptions of trees in terms of the technical aspects of trees.

Work Experiences

Work experiences that possibly influenced the perception that key informants have of trees refers to work experiences from both inside and outside of landscape architecture. Work experiences outside of landscape architecture included such things as working at botanical gardens, learning about soils, and working at summer camps. Work experiences that influenced the perceptions of key informants inside the profession of landscape architecture included such things as influential and challenging projects, working and negotiating with colleagues and other project related professionals, and knowledge gained through work experience. These work experiences were said to influence the perceptions that landscape architects have of trees in terms of learning how to negotiate, to fight for trees, and a greater respect and understanding of trees.

Cultural and Spiritual Experiences

Cultural and spiritual experiences were said to influence the key informants’ perceptions of trees in ways such as being exposed to different ways of thinking of trees in different cultures and faiths. These types of experiences were said to have influence the way they thought of trees as connected to others, and the sacred nature of trees.

Individuals

Individuals were said to have an influence on the way key informants’ perceived trees. Such individuals included parents, grandparents, educators, colleagues and mentors, other professionals, clients and the public, and resources. The influences of these individuals were
varied and unique to each key informant, however an example of the influence of certain individuals on the perception of trees included such things as a respect for trees and a better understanding of trees. Understanding and respecting the perceptions that clients and others have of trees was especially noted as an influence on certain key informants’ perceptions of trees, as those key informants would then incorporate, or be sensitive to those perceptions in their professional work.

*General Experiences from Adulthood*

General experiences from adulthood that influenced the perceptions of key informants included such things as new memories made.

*Findings | Perceptions of Trees*

Perceptions of trees within the profession of landscape architecture was shown to be varied. This variation occurred across a range of perceptions that can be divided into three categories: the perception of a tree as a tool, a tree as a living thing, and a tree as something personal to each landscape architect.

*Perception | Tree as a Tool*

To perceive a tree a tool is to think of a tree as an object that can be used to solve a problem. As a tool, a tree can be used to function as a design element, and to impact health, social and community functions, the environment, and economics. It was indicated by the key informants that trees are often used as tools to solve multiple problems within the landscape and serve multiple functions or roles.
The perception that was expressed by the key informants that trees can be used as a tool to work as design element was expressed in the following ways: trees used to define space, used as a utilitarian object, to affect the sensory experience, to assist with landscape typologies, and assist with user experience.

In terms of health, perceptions were expressed that trees could be used as a tool to impact the health of others. As a tool, trees were said to influence both the psychological and physiological health of the population. As it is known that the benefits that trees provide to one’s health have a large spatial range, the usefulness of planting trees to assist with the health of others was expressed as having a large impact on the health of the global population.

The perception that trees could be used as a tool to influence social and community life was expressed by the key informants. This was expressed in such ways as drawing upon the emotional connections people have to trees in their designs, including the way people resonate with trees, create positive and negative associations to trees, how trees are woven into the stories that we tell, art we create, and myths we share. Trees were also used to draw upon, and create, cultural identity and history within communities. This included such things as using a tree as a tool to contribute to the character of a community, influence the mood in a community, draw upon the heritage that people have in communities in association with trees, and indicate place by creating spaces dominated by trees to draw people to interact. Trees were also noted as being
used as tools to create community ties, and stewardship of the land through such things as bonding people to nature through tree planting experiences.

*Perception | Tree as a Tool | Environment*

Trees were indicated as tool to be used to serve in an environmental capacity. This included such things as using trees as a tool to influence the quality of the air, earth, water, fauna, flora, and global climate. For instance, as a tool, a tree could be used to clean the air of particulates, reduce erosion of soil, improve water quality by cleaning it of pollutants, provide habitat and food for fauna, improve the growing conditions for other flora, and battle climate change.

*Perception | Tree as a Tool | Economic*

Trees were said to be used as tools to impact economics in such ways as influencing economic gains and savings, using trees for the valuable materials that they produce, and playing upon the value that others perceive in trees. Using trees as a tool to influence economic gains and savings refer to using trees to increase the residential values and reducing heating and cooling costs of homes. Using trees for their valuable materials refer to using trees as tools for their wood, fruit, and other products that can be sold or used by a person. Using trees as a tool to play upon the values that others perceive in trees refers to being conscious and aware of how others perceive the value in trees when designing.

*Perception | Tree as Living Thing*

The perception that trees were living things and existed outside of the needs and requirements of humans was expressed by key informants. Key informants discussed and
understanding of the biological characteristics of trees, the ways trees communicate with other living beings, and how trees can live to a great age.

Perception | Tree as Living Thing | Biological Characteristics

Key informants expressed their perceptions that trees were living things in terms of the biological characteristics of trees as a living thing. This included the operating system of trees, such as how trees produce oxygen, and the needs of trees, including how trees need certain environmental factors to survive.

Perception | Tree as Living Thing | Connections & Communication

The data collected indicated that informants considered trees to be living things because of the way that they connect and communicate with other living things. Connections include such things as creating symbiotic relationships with other plants, or with mycorrhizae within the soil. Communication here refers to sending signals to other trees and assisting with their growth.

Perception | Tree as Living Thing | Age, Evolution, Sentinels

It was indicted by key informants that their perception of a tree as a living thing included an understanding of trees that can live to great ages, that grow and evolve over time, and act as sentinels in our landscapes. Key informants expressed a great respect for trees that can live to great ages, and an understanding of the implications that such a being has in terms of the benefits they could potentially provide over many generations. The perception that trees are living things that grow and evolve was expressed in ways such as an understanding that a tree will change as it ages, which must be taken into account when designing – both in terms of spatial needs for trees, and the continual increase in benefits a tree provides as it grows its size and age. Key informants
expressed the perception of trees as a living thing that acts as a sentinel in the landscape watching over events throughout time and serve as reminders for us of the events that happened during a long length of time of a place.

_Perception | Tree as a Personal Thing to Individual Landscape Architects_

The data collected from the key informants expressed that the range of perceptions of trees included the perception of a tree, or trees, as a personal thing that varied amongst each individual interviewed. Personal perceptions of trees refer here to ways of comprehending trees in terms of scale, and personal feelings of trees to each individual. Scale was described as a way of comprehending how landscape architects can visualize trees spatially, socially, temporally, from the smallest measurable quantity to the largest. The perception of a tree as a personal thing was expressed in such ways as the personal opinions individual key informant’s have of trees, including their personal favourite trees. Personal perceptions of trees were also related to how individual landscape architects felt about the role they play in the life of a tree, and their understanding and knowledge of trees that influence the decisions that they make.

**CLOSING THOUGHTS**

The purpose of this research was to explore if there is a range of perspectives of trees within the profession of landscape architecture, and if so, what that range of perceptions is. This goal was to be met by exploring what influenced the perspectives of key landscape architects, what their perspectives of trees are, and what sort of actions those perceptions influenced. From there, I was able to interpret what sort of implications a range of perceptions meant for the general public and environment. Results from the data collected through a combination of surveys and interviews with fifteen experienced professionals within landscape architecture that represented a cross section of expertise across the profession provided a wealth of information that was analysed for themes and categorized according to the research objectives. It was found that there are many factors that influence the perceptions that landscape architects have of trees.
It was found that there is a range of perceptions of trees within landscape architecture that include a tree as a tool, a living being, and something personal to each landscape architect. Lastly, it was found that these perceptions inform the reactions that landscape architects have to trees, including the decisions that they make for trees which affects the longevity of trees, the benefits that tree can provide over a lifetime, and thus the quality of life others and the environment enjoy over, potentially, many generations. In conclusion, landscape architects have a great responsibility to make the best decisions for others based on their perception of the world. When it comes to trees, a landscape architect can either be a friend or a foe and consequently impact the lives of others globally based on the actions taken regarding how they perceive the tree that they are looking at.
REFERENCES


Morris, Cindy E, David C. Sands, Boris A Vinatzer, Catherine Glaux, Caroline Guilbaud, Alain Buffiere, Shuangchun Yan, Helene Dominguez, Brian M Thompson. (2008). The life history of the plant pathogen *Pseudomonas syringae* is linked to the water cycle. *The ISME Journal, 2.* 321-334. doi:10.1038/ismej.2007.113


APPENDIX

INVITATION

Sample of Invitation:

Dear *insert name of participant here*,

My name is Nicole Lamirande. I am student of the Master of Landscape Architecture program at the University of Guelph. I am currently conducting a research project that aims to study the range of perceptions of trees within landscape architecture. I would like to invite you to participate in an interview concerning your personal perception of trees. Due to your experience and expertise within the profession, I believe you would bring insightful and valuable opinions to the discussion.

The interview will last approximately one hour in length and will be conducted either over the phone or in person, or by means of video-chat. The interview will be preceded by a short survey that should take approximately 5-10 minutes to complete.

Should you be available to participate between *insert date here* please let me know by replying to this email and we can arrange a time that best suits your schedule. I welcome all questions you may have, at any time, to clarify your understanding of my intent or of your involvement.

Respectfully,

Nicole Lamirande
Master of Landscape Architecture Candidate
University of Guelph

SURVEY

Pre-Interview Survey Questions:

Question 1: Name (First and Last)

Question 2: Professional Titles

Question 3: Number of years occupied as a landscape architect?

Question 4: Have you received any awards or distinctions for your work as a landscape architect? Please provide one to three examples.
Question 5: In which of the following areas of landscape architecture do you have experience? Choose all that apply.
   a)  Design
   b)  Education
   c)  Research
   d)  Publication
   e)  Other? Please Specify.

Question 6: Which type of projects have you, or, are you, involved with? Choose all that apply.
   a)  Playground Design
   b)  Recreational Design
   c)  Healing Gardens
   d)  City Planning/Design
   e)  Public Park Design
   f)  Cultural Landscapes Management/ Design
   g)  Ecological Restoration
   h)  Reforestation
   i)  Design for Conservation
   j)  Design for Climate Change
   k)  National/Protected Park Design
   l)  Residential Design
   m)  Community Design
   n)  Design for Tourism
   o)  Design for Retail/Business
   p)  Designs that promote health
   q)  Designs that promote the environment/ecology
   r)  Designs that promote economic improvements
   s)  Designs that promote socialization
   t)  Other? Please Specify.

Question 7: What is your education. Choose all that apply.
   a)  Undergraduate (Please specify)
   b)  Masters (Please specify)
   c)  PhD (Please specify)
   d)  Other? (certificates, diplomas, etc).

Question 8: As a landscape architect which decisions do you make in regards to trees? Choose all that apply.
   a)  Cost estimates
   b)  Species selection
   c)  Planting plans
   d)  Construction details
   e)  Master plans
   f)  Policy
g) Tree valuation assessments  
h) Tree risk/hazard assessments  
i) Tree conservation reports  
j) Maintenance  
k) Other? (please specify)  

Question 9: When making decisions in regards to trees, which factors do you take under consideration? Ie. why do you choose a particular tree? Choose all that apply.  
a) Cost  
b) Species  
c) Native/non-native  
d) Aesthetic function (ie. as a centrepiece, form, structure)  
e) Economic function (ie. heating and cooling costs)  
f) Environmental function (ie. wildlife habitat, pollutant remediation)  
g) Social function (ie. spiritual, myths, identity, placemaking)  
h) By-laws  
i) Design trends  
j) Opinions of influential people  
k) Client’s wishes  
l) Personal preference  
m) Convenience (ie. proven list of plants that are hardy)  
n) Site specific (ie. soil, climate, sun/shade, environment)  
o) Safety  
p) Movement of people  
q) Other? Please specify.  

INTERVIEW

1. What is the first thing that comes to mind when you think of a tree, or trees?

2. What is a tree to a landscape architect?  
   a. How is a tree used in a landscape? What function or role does it play?  
      i. Health  
      ii. Social/community  
      iii. Environment  
      iv. Economics  
      v. Aesthetics  
   b. Do you find that trees are valued for one function more than the other?  
   c. What determines how/why a tree is chosen for a design (ex. cost)  
   d. How is a tree different than other materials at our disposal?

3. What is a landscape architect to a tree?  
   a. What role do you play in a tree’s life?  
   b. How active are you in designing for trees, or setting policy?  
   c. What decisions do you make that affect the life of a tree?
d. When designing, are trees the priority, or are there other functions of a landscape that take precedence?

e. Are there practices you would like to change when it comes to designing for trees?

f. What are landscape architects doing right when it comes to designing for trees?

4. If perception is defined as “an informed opinion based on the collection of your past experiences (including childhood, education, work experience, and spiritual experiences),” what is your personal perception of trees?

   a. Has your perception of trees changed over the years?
   b. What influenced the change?
   c. What is the most significant change in perception you can think of?

5. How do you think your perception influences your design decisions?

   a. How do you make design decisions?
   b. What informs them?
   c. What sort of experiences or information do you draw on to make your design decisions?

6. Are there areas of knowledge that could be improved concerning trees within landscape architecture? Do you find that landscape architects are well versed in trees, or enough so to achieve a positive result for a tree?

7. Who (or what) benefits from your perception of trees?

   a. What sort of benefits do people receive from the trees that you plant/manage?
   b. Would you agree that the benefits provided by trees extend beyond the property line of designed landscapes?

8. What sort of influence to you think you have on how others perceive/experience trees?

9. How do you think the landscape architects influence how people perceive trees, in comparison to other tree related professions?

10. Do you have a favourite tree or trees?

**TRANSCRIPT**

Informant:
Date:
Time:
Method of interview: phone/Zoom/in-person
Recording software used, and success rate: ACR recording app, Sony recorder, handwritten notes
NOTES:
- Any technical difficulties, or things to note

GENERAL NOTES:

1. At the beginning of the interview, the informant was reminded that:
   a. The conversation was being recorded
   b. That their name, and anything discussed in the interview and pre-interview survey would be used in the final written thesis report
   c. That the final written thesis report would be housed permanently in Atrium of McLaughlin Library, and subsequently farmed by Theses Canada
2. Additional questions or prompts used during the interview are indicated in italics
3. [***] indicates portions of recording that are inaudible and unable to be transcribed
4. Introduction and end conversation have not been included in the transcript
5. “Filler words” such as “um,” or “ah,” including acknowledgments by interviewer, have not been included in written transcript for length and flow.

QUESTIONS:

1. What is the first thing that comes to mind when you think of a tree or trees?
   - Answer by informant.

   End of Sample

RESULTS

Unprocessed data collected during the interviews arranged by question.

<table>
<thead>
<tr>
<th>Name</th>
<th>Answer</th>
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<tbody>
<tr>
<td>Linda Laflamme</td>
<td>- A living thing. It is part of our landscape, produces leaves, cleans the air, gives us shade, part of the ecological [***] makeup of our forests; offers habitat for creatures of all natures. It is part of the earth -Connection to all living things; terrestrial and aquatic</td>
</tr>
<tr>
<td>Julie Michaud</td>
<td>-Something I love</td>
</tr>
<tr>
<td>Name</td>
<td>Statement</td>
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<td>--------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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<tr>
<td>Michael ORMSTON-HOLLOWAY</td>
<td>It has changed over time. When I used to think of a tree or trees, I used to think of trees more. I used to think of forests more. I used to work in forests more. Now I think more and more of the tree as a specimen. I think that is because of my work. I’ve fundamentally shifted from forestry, from forest ecology, to urban forestry and landscape architecture. Part of why I got into this discipline in the first place was that I had a flat in the city and every day I would come downstairs to see a postal service truck that had backed into a tree. I was privileged enough to be there as it was backing up. The driver would know that they were in the right spot when they hit the tree and the truck would shake, and the guy would think, “ok, I’m here now.” That was the cue for him to know that he was in the right spot. It really troubled me because this was the one tree on the block--the tree is dead now. I really began to shift my understanding of the value of a tree in the city--which is a slippery slope, because value is different than what you are talking about. But a specimen on the block where there was only one in this urban intensive environment--it was so important. I started wondering, how do we protect these trees, how do we plant a zillion trees, can we get better at the get go, are there problems at the nursery, are they construction problems. That fundamentally shifted me from forest ecology at Guelph, to UofT where I did my MLA, and then I went to Michael Van Valkenburgh and Associates for a little while.</td>
</tr>
<tr>
<td>Mark Steele</td>
<td>-I am a bit of a tree hugger. I enjoy protecting trees as much as I can on my projects. That is not always possible. I think back to being in elementary school and drawing pictures like most kids do with a house, a tree, and a sun. Right here, I am sitting in my living room, looking out at the backyard and looking at trees in my backyard and my neighbor's yard. I was just talking with a college, and I was saying I like my trees, but I don't like my neighbours trees. He planted a tree that is going to shade out my trees.</td>
</tr>
<tr>
<td>Hank White</td>
<td>-Clean air, and human comfort, and beauty</td>
</tr>
<tr>
<td>Sophie Beaudoin</td>
<td>-Structure. I like to see a tree not only that is structured a place in a three dimensional way, but as well as its own structure. Which makes it very different in terms of shade, shape, and so on.</td>
</tr>
<tr>
<td>Virginia Burt</td>
<td>-Their branching -It is their form, their lifeline, their shape, their colours, their contribution -Contribution: I think of it in a number of ways. They contribute to our earth and produce oxygen. I recognize them as a big global piece. When you go smaller scale they form spaces, they create shade, they do these awesome jobs</td>
</tr>
</tbody>
</table>
that I personally think are amazing. I think of how they influence and create spaces and places, and contribute in a way that built form cannot.

<table>
<thead>
<tr>
<th>Name</th>
<th>Answer</th>
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</thead>
</table>
| **Ryan Wakshinski**      | -Time; how old they are  
-Beauty, shape, how trees fit into the landscape and how they reflect the surrounding environment/growing conditions (soil, slope, sun, moisture)  
-Vertical elements  
-Colour, texture, large size  
-Dynamic, living things, reflect the change of the seasons  
-Habitat for animals; birds, insects, especially squirrels where I live |
| **Colleen Mercer Scott** | -Shelter. I love trees. I actually collect trees. I find trees to be very comforting as shelter |
| **Jim Melvin**           | -Growth and life. That is what trees represent, there is a cycling nature of them. They represent anything from seed to old age, plus, they also provide life giving aspects, by using Carbon Dioxide and exhaling oxygen. It provides life to everyone. |
| **Karen Landman**        | -Long-lived life form  
-Alive (something people tend to forget; often trees are considered ‘things’ rather than a being that has life itself; we are sometimes a self centred species)  
-Has spiritual, heritage, social, cultural associations |
| **Robert Wright**        | -I have an ecological background, so I never think of a tree as a single thing  
-It is an incredibly complex organism, that is totally intertwined within its context  
-Trees do not exist in isolation of their climatic context--soil, geology, or any other aspects of interaction relative to being in a natural or urban environment, ex. Air pollution. They are continually dynamic systems. |
| **Emily McCoy**          | -I love trees. I think of high performance and beauty. Ecosystem services that a tree provides, from water management to shade. |

**What is a tree to a landscape architect?**

<table>
<thead>
<tr>
<th>Name</th>
<th>Answer</th>
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</table>
| **Linda Laflamme**       | -It can take on many different forms: part of the design toolkit  
-Can be part of a design: formal gardens, restoration, rehabilitation  
-Used for the rehabilitation of land; ex. Brownfield sites, quarries  
-Can bring it back to being a forest over time  
-Screening: protect a view from being seen by someone, such as private property, or screening something from a public view |
<table>
<thead>
<tr>
<th>Name</th>
<th>Quote</th>
</tr>
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<tbody>
<tr>
<td>Jim Vafiades</td>
<td>A place of respite. In terms of being able to sit in the shade. Being able to also reflect back. It is a time thing—It reflects a solidity in terms of age and something that has been around. It is a living thing that has witness certain things, especially a hundred and fifty year old oak, for example. It has been able to survive through so many different things that had taken place throughout society. For me, it is the stability, the longevity. It has those kinds of meanings to me. Obviously the connection to nature.</td>
</tr>
<tr>
<td>Naomi Sachs</td>
<td>A tree is a tool. Trees are one of the best tools that landscape architects have, in the way that they can shape space. They can shape space, create shade, canopy, help to clean the air and the environment. Give value to most spaces and most buildings, even if architects would disagree with that. They provide habitat. They hold the soil. They protect the ground. Whether we use them more aesthetically as design tools or more ecologically, I think that they are one of the strongest tools that we have. The fact that they are so varied. Everything from a tiny little bonsai to a giant redwood.</td>
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<tr>
<td>Julie Michaud</td>
<td>If you think that landscape architecture is a form of art, trees are the medium. They are part of our palate to create the space. They provide structure to a space. Provide interest—in the form of flowers, colour. Could create an atmosphere, if, for example, it is a tree that smells nice. It provides shade. It can impact the quality of the environment you are creating. It is probably the thing that has the most impact in the landscape. We work with hardscapes, we work with paving. Sometimes we integrate public art into a space. But if you have no trees at all it is probably going to be a drab space. But then again, it probably depends upon which landscape architect you talk to.</td>
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<tr>
<td>Michael Ormston-Holloway</td>
<td>It is design element. Whether we use it for the type of shade it provides, or to create an enclosure. The colour and texture. Groupings of trees, whether it is in our landscape or a borrowed landscape. Culturally, I think of the heritage landscape we did in Kitchener. We did found heritage trees that we 100 years old. They helped define the character of the community. They were elm trees that had survived as street trees. They are a source of angst sometimes on projects. On whether or not I agree with the municipalities on whether they should be preserved or not, or what their value is for my clients. They are a source of pride for many LAs to plant them, and to be able to leave a legacy when they are done practicing, or even further on when you have passed on.</td>
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<tr>
<td>Mark Steele</td>
<td>Columns or beams to the building architects. They are the building blocks of our landscape. They obviously have an enormous ecological role, but they also have an enormous spatial design role in the landscape. We are designing</td>
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<td>Statement</td>
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<td>landscapes, we are designing spaces, we are designing places to improve</td>
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<td>human comfort. They have multiple benefits that improve and enhance any</td>
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<td>designed landscape.</td>
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<td><strong>Sophie Beaudoin</strong></td>
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<td>A tree to a landscape architect, I can just answer for me--I think it is</td>
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<td>way beyond a just a simple material. Because of the fact that it can be</td>
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<td>taken as a single object, one tree, but a group of trees are also creating</td>
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<td>a landscape archetype--a bosque, a forest, an alignment. I think that is</td>
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<td>what makes trees so interesting to a landscape architect</td>
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<tr>
<td><strong>Virginia Burt</strong></td>
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<tr>
<td>-I can’t speak for all landscape architects, I can only speak for myself.</td>
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<tr>
<td>-What I can say for me, as a landscape architect, they are almost a piece</td>
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<td>of sacred...part of my contribution. When I think of the 100s of thousands</td>
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<td>of trees I have planted in my career so far, or proposed. It is a kind of</td>
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<td>giving back that few of us get to do. To me, I cherish that. It is one of</td>
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<tr>
<td>those things that I am grateful that as a landscape architect I get to</td>
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<td>place and watch over time--so many things are very fast these days. For</td>
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<td>an tree--Watch carefully. Time is a thing. It taps into our memory, it</td>
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<tr>
<td>taps into my memory. I think of the property where my parents have</td>
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<td>their home. When the family first purchased that property, there was</td>
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<td>tiny white pine that had three branches on it and was less than a foot</td>
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<td>tall. Today 30 years later, it is casting shade--it’s pretty great.</td>
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<td>-I look at that and say trees are temporal, ephemeral, and steadfast.</td>
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<tr>
<td>Not always does that always come in one package.</td>
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<tr>
<td><strong>Ryan Wakshinski</strong></td>
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<tr>
<td>-One of the more important elements at our disposal</td>
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<td>-Vertical elements, define and contain space, accentuate lines and</td>
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<td>geometry</td>
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<td>-Benefits they provide – sequester run off, provide shade, clean air,</td>
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<td>stabilize slopes</td>
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<tr>
<td><strong>Colleen Mercer Clarke</strong></td>
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<td>I think trees fulfill two really important functions for landscape</td>
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<td>architects. They furnish a landscape. They fulfill a function just like</td>
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<td>all furniture does. Whether you are trying to create a shade area or to</td>
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<td>provide a wind bank shelter, or to create that sense of human scale.</td>
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<td>As furnishings for a site, trees are a significant portion of all the</td>
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<td>design work that we do. I think that trees also are an aesthetic</td>
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<td>component, and an ecological component. Which is less easy to quantify.</td>
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<td>The aesthetics--whenever we design, we pick for texture, we pick for</td>
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<td>shape, we pick for colour, seasonality. Sometimes we pick for that</td>
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<td>degree of connection, or connectivity. The word I used earlier was</td>
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<td>comfort and shelter. Human see trees and the treed landscape, for the</td>
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<td>most part, as a good thing. You are off the open plane. Ecologically of</td>
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<td>course, trees provide a significant amount of habitat, there is often a</td>
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<td>short scale migratory function.</td>
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of species, who also seek shelter, or a place to pitch for awhile. Trees are performing right now, an immensely important function in mitigating the effects of climate change through climate sequestering and also through sheltering that reduces our demands for energy. Provides us with a place to withstand things like high heat extremes, which as time goes on, a lot of our built environments will become quite uncomfortable.

**Jim Melvin**

-I think it is a part of a kit that landscape architects use as design elements.

-What are a few of the other design elements in that 'design kit'?
  -There are hard material, soils, water, manufactured material. Everything that landscape architects employ to create environments

**Karen Landman**

-Varies

-Not just “plant material:” a term often used in landscape architecture which I don’t like

-Connected to the soil: which is in itself complex; something we are just beginning to understand

-Responds to the environment

-Rooted to the ground in one spot

**Robert Wright**

-It can be many things, but if you ask anyone what a landscape architect does, they usually name the plants

-For a landscape architect, a tree is a material palette for site design, or park design--whatever you are doing. In the same way we would select materials for pathways, or benches, there are aspects of trees in terms of design (not just of botany), such as their height, form, colour, flowering time periods, moisture requirements that have to be considered. That material [tree], which is a very complicated one, is the way they use them in their designs.

**Emily McCoy**

-I think that it is an important tool that we have to create space for people. To me, it is just one of our tools and the work that we do to create high quality spaces.

<table>
<thead>
<tr>
<th>What role or function does a tree play in a landscape?</th>
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<tr>
<td>Name</td>
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<tr>
<td>Linda Laflamme</td>
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<tr>
<td>- Value in a streetscape, especially in an urban area</td>
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<td>- Habitat; including for birds</td>
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<td>- Environmental climate effect</td>
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<td>- Provides connection to nature</td>
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<tr>
<td>- Provides significance to people: there could be a single tree that has a significance to people in that neighbourhood</td>
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<tr>
<td>- Connection to nature</td>
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<tr>
<td>- Riparian</td>
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<tr>
<td>- Provides shade</td>
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<tr>
<td>- Aquatic</td>
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Health:
- Mental, or emotional health
- Connection to nature
- Residential homes with trees in the backyard could help with stress when seeing leaves moving, birds and other creatures
- Plant trembling aspen because of the soothing sound of leaves in the wind
- Spiritual
- Healthy to have shade; physically to get out of the sun
- Some Trees have medicinal properties
- Nuts, berries
- Some Trees provide flowers for bees
- Provide syrup: people have said that it has medicinal qualities

Social:
- Cultural value has been well documented
- Places where I have worked observed that some trees that are very old have significant value: very old oak, or very old maple
- Comfort Maple; in the Niagara Region
- Culturally people place great value on historical trees
- Traditional plantings: farmland lands-Norway spruce (I understand this species (and others) was grown by the Ministry of Natural Resources – part of working with farmers to replant hedgerows and reforest land not used for farming)

Environmental:
- Ecological value; trees particularly in urban areas
- Cools the air
- Helps the growing surface below them for understorey species
- Habitat
- Cleans the air
- Tamarack / Larch: large amount of surface area due to high number of tiny leaves tremendously helps to scrub the air
- Shading for buildings, parks and natural areas
- Harvested by animals – Beaver – to create their habitat
- Connected through the root system, thereby providing habitat to organisms

**Economic:**
- In managed woodlots, harvesting and regeneration of a healthy woodlot
- Heat homes
- Part of regeneration of woodlots

**Aesthetic:**
- Depends on the design
- Formal route, or line or trees
- Focal point
- Can define a space: distinct area (ex. Park with distinct activity areas, such as a playground or picnic area. Trees can provide definition for those spaces)
- Provides screening to provide privacy or block an unattractive abutting use

**What value do people find in trees? Why do people like trees so much?**
- People bring value to trees

- Canadians have a sense of living in a large country in which trees are an important part of it, and a connection to nature, even if some don’t have it directly and daily

- They bring that value to it

- Our flag has a maple leaf on it

- Every province has an official tree (Ontario’s is the White Pine)

- Landscape architecture can help people understand the scope of benefits that trees provide. They may understand the visual component. We can help them understand all of the aspects that trees contribute to the environment: including the importance of native species, and planting a diversity of species

| **Jim Vafiades** | It has many functions. From a purely biological approach, it provides oxygen. It sustains that ability for us to live. It helps to clean the air in terms of |
pollution. Those sort of naturalistic components to it. If it is a maple, it is producing sap and maple syrup. It has functionality as well. It also helps to keep our ecology in balance in terms of how other elements within that chain react, in terms of flora, fauna and insects. It has those environmental connections as well. From a design perspective, it helps to frame views, it helps to create place, it adds verticality to a space—in other words, it helps to define spaces just by the sheer size of it, in terms of its positioning and repetition. For example, if it among other trees and it is in a row, it forms an alley which helps to direct your views. If it is a row of coniferous or a cedar hedge, it is providing another function in terms of framing views, but is also screening and providing wind breaks, so it has climatic implications as well.

<table>
<thead>
<tr>
<th>Naomi Sachs</th>
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<tbody>
<tr>
<td>Do you plan for that meaningful connection people have to trees in your designs?</td>
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<td>I do, especially designing for healthcare. I think people really resonate with trees. There is something about their longevity. Apart from a small perennial or annual, or a little patch of grass—you don't generally plant a perennial in memory of someone. You don't bury a placenta or a loved one, whether it is a dog or a person, under a bush. You plant them under a tree. You plant a tree in memory of someone. It may be partly for people that they are the most anthropocentric—some trees look kind of like people. There is a lot of symbolism and lore about trees and their meaning. Trees are also symbolic of other life and living things. In the desert, if you see a tree if you are starving or have no water, and you see a tree in the distance, there is probably water. Where there is water, there are probably animals and other life. On a deep level, we know that we need trees in order to survive.</td>
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<td>Are trees a weather vane for the quality of our lives?</td>
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<td>Yes. In general, If we see a place with a tree line, street trees, and lots of healthy vegetation, it is usually a sign that that is a well taken care of space. Where people somewhere along the way has made an investment. Let’s say it is a city street. Someone has made the investment to plant the trees. There has been an continuing investment to maintain those trees, and keep them alive, and pruned, and protected, and to honour them. Whereas in an industrial neighbourhood or area, or a very poor area, they are often missing. I'm doing some research now on the amount of greenspace and crime in neighbourhoods. There has been some interesting studies on that relationship. I think that they are a symbol of wealth for some people—wealth and health, which often go together. For some people, ex, for urban people who are not used to large forests, trees might be a little scary if there is too much canopy, or too much shade. They might worry about who is lurking in the trees. Maybe not so much in Canada, but in the south, in this country, people were lynched and hung from trees. So, I think among the African American population, trees sometimes have other significance. So there is that brilliant</td>
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Billie Holiday song, "Strange Fruit"--"strange fruit hanging from the poplar trees," the strange fruit is Black men who were lynched and are hanging from the trees. In Baltimore, there is a poor, crime ridden neighbourhood where people who live there want to install their own cameras in the trees for surveillance. What ends up happening is that the police install cameras in the trees. The police end up surveilling the neighbourhood and the people who live there do not like that--that's another thing that we don't think of--trees as vessels for surveillance. On the positive side, trees are fun to climb too, especially for kids. For children, they are wonderful. They are places where you can sit under and play under, and climb up in, and jump in the leaves when they fall off in the autumn, and look up and see the patterns. For kids, they are sort of magical.

*Do you find that trees are used differently in therapeutic landscapes? Do they play a different role or function?*

Not necessarily. I think the problem with a lot of healing gardens in urban places is that they are on the roof, a lot of the time, because there is no other area for a garden to be. Either structurally, or because the facility is worried about leaking and structural damage, a lot of rooftop gardens are not allowed to have trees, or they can't support trees. So they end up not being there as much as they should be. I think that for all of those reasons of symbolism--the positive reasons I talked about--they are so varied, and they do so many things at once. I wrote a blog post once called, My problem with trees in restorative gardens, especially health care gardens, is that when they are planted as shade, and there is no other shade provided, and you get these little two inch, or one and a half inch caliper things that, maybe in twenty years will provide shade, but no shade now. Tell that person who is taking antipsychotic medication and really needs shade right now, "wait twenty years and you will be fine." Or someone who has cancer and can't be exposed to the sun. In health care landscapes where they are so important, designers and the facility, needs to design in other structures to facilitate shade in addition to the tree. Either as temporary solutions, or as additional--shade sails, or mesh canopies, or totally covered areas right off of the building. So someone could exit the building, and even if they are not feeling well enough or safe enough to venture much further beyond there, there is a transitional cover area where they can hang out and sit, and breathe some fresh air. I love it when people plant trees, but it is frustrating sometimes. Kaiser Permanente, a big huge healthcare organization, they have a rule that for gardens that get built, trees can't be larger than a 2 inch caliper--when they should be getting the biggest tree that you can--it's a budget thing.
**What sort of function or role does a tree play in a landscape?**

For me, a lot of the time, they are a design element. That is the immediate function. Sometimes I think that with landscapes, the landscape that you plant will not necessarily be the landscape you will see when you are doing the design. You are thinking about it 20 or 30 years down the road and what it will look like then, and the impact it will have at that point. There is this patience that you need to have and the public hope has to see that come to fruition.

**On planning for the future:**

I find that when other professionals, the time scale that they look at is certainly different than how a landscape architect sees it. With that, we are trying to plan for what the immediate future looks like. The midterm. And the longer time. And those do not always agree with what civil might have to do, or the architect's vision is. There is a bit of discussion and negotiation that needs to happen on projects.

**Is there a different role that trees play in a heritage landscape?**

The three big landscapes that come to me are the one that I mentioned, the small neighbourhood where some heritage--100 year old trees that have survived the transition and all of the things that have happened, all of the repaving, and resurfacing in the neighbourhood, and have managed to survive all of that. They are part of what that community would see as their neighbourhood, as the identity of their neighbourhood. The other place is cemeteries. When you find an older cemetery, one of the cemeteries in Kitchener, the landscape there wasn't like the more contemporary landscape where we have gone in and flattened things out and removed all of the topsoil and all of the trees and built a cemetery, or built a housing development. The landscaping in this cemetery is what is was when European settlement happened. It had its ups and downs and rolls and trees. We worked around any trees that were there. There were heritage trees that generations of people had seen. It is a shared experience over the life of that space. The other landscape I will mention is a residential community where it has [***] trees on the edge of the road, enclosing the space. It defines the character of the neighbourhood. Those show up in the 'Cultural landscape inventory' for the City of Kitchener of 2016.
Hank White

I don’t believe there is one single, most important function. It is hard to generalize, because there are so many different kinds of landscapes. Trees have a big role in an urban landscape, they have a big role in a suburban landscape, and a distinct role in an urban landscape. It has more to do with the context. It is difficult to generalize without clarification of the environmental context for that tree. In an urban urban environment, from an urban forestry point of view, there are three primary benefits: 1) improving the environmental health of the environment; through stormwater sequestration, carbon sequestration, air purification, as well as water quality. 2) Human comfort; improving urban heat island effect. That is one of the most important effects of a tree in an urban environment. 3) economic benefits; there have been volumes of study that have measured real estate values, in increasing the value when there is a strong collection of street trees, and parks, and vegetation along that street. Property values are incrementally increased when there are a stand of mature trees that improve the visual, as well as the environmental, tradition of that particular street or neighbourhood.

-Can be applied to a dense suburban environment

-In a rural environment, it is the primary building block of a variety of different ecological conditions: whether it be a wetland, a woodland, a meadow with scattering of trees. It is one of the primary elements that feeds the quality of that ecological system, and the functioning of that ecological system.

Would you agree that a tree is one of the more dynamic materials at the disposal of a landscape architect?

Absolutely. I will bring your attention to two books of two mentors of mine: Bob Zion, whom I had the pleasure and honour of working with--the designer of Paley Park. He invented the vest pocket park idea. He wrote a book in the 70’s called “Trees For Architecture.” He essentially dissected the structural characteristics of a variety of trees within the horticultural zones 5-2/3. The horticultural zone that he primarily practiced in. He highlighted the design opportunities that each of these tree species provides. It is a manual/glossary of wonderful tree species, which highlights their physical characteristics and design applications.

-“Trees in Urban Design,” by Henry F. Arnold. It has similar ideas presented, but looking at how trees shape neighborhoods, districts. How their spatial structure completely transforms places and creates identity.
Sophie Beaudoin

*They can act on their own, but they can act as a group as well to create something different?*

Yes. A tree as a specimen does not have the same effect as a tree in another layout. An example is a bosque. If you can imagine, or, an orchard for example. One single crab apple tree is just a specimen tree, which may flower in the spring, which is interesting in itself. You are going to look at the branch structure, the shape of the tree, so on. But when you are talking about, or thinking about an orchard, then it is really something else--it is a completely different landscape when they are all flowering, and now you can think about something that gives food as well, so it is a really different thing.

*Do you think that is unique to landscape architecture--that they think of trees as a unit?*

I hope not. But I think that there is not a lot of professionals who will look at a tree and see something else than just one of the simple materials that we can use to do something.

*What is a simple material?*

All of the other plants, for example, or the lawn, or the concrete as well as the wood, and steel. All of the material that we are using to create a landscape. Could be plastic, polymer. There are a lot of things that we can use. Trees are part of them. A tree is more important than this, because it gives also...it will evolve over time, more than for example a wood pergola, or a steel pergola that will remain the same over time.

*Could you provide an example of a project that you have worked on that emphasises an increase in economic activity?*

It is a large question, because we have done a few projects that are related to economics. There is some like, in Montreal, where we have a 1km long installation every summer in the pedestrian street. It is a street that is turned to a pedestrian street in the summer called "18 Shades of Gay". This is an installation that has a huge economic impact on the neighborhood. It brings back people into the shops. There are a lot of shops that we empty at the time. When we started that project, it turns into an economically vibrant area--but this is not about trees. It is about a landscape gesture. Somehow, it works a bit like a tree canopy. We have something over our head that provides colour, that filters the sun. It gives a nice pattern of shade on the ground. But it is more than that. We can compare the it to a tree. For other more typical, or usual, as an economic landscape, next to retail and so on, I think that everybody will look for...for retail, you have inside and outside of the retail. Whatever root you take to go there, or if it a nice terrace from a restaurant, or coffee shop...everybody will look for the same thing---climate comfort, to be
able to sit under shade, or full sun if it is early spring or fall, and everybody is
trying to catch some sun. I think that trees are important in that way because
they are a major component of those articulation of the space.

Could you define articulation of space?

It is what you want to do with the open space that is there. If you have a huge
empty space open to the sky, you want to fill it with something that is going to
be useful at different levels. So, urban furniture, green stuff, trees and other
layers of vegetation and other equipment that will provide programming.
When we are talking about designing for a particular use, like retail, it is more
like un-programmed programming.

How is a tree used in a landscape? What is the function or role of a tree in a
landscape?

Part of the answer was included in what I was saying at the beginning. The
role of a tree in the landscape is a lot of things. It is shaping in 3D what you
are doing. What is interesting about trees in the landscape, is that you have to
consider many things. You have to think about the root and the quantity of
soil that is available. You have to think about the effect of the trunk--when
you are building an alignment, or not. When you are putting trees random.
One thing you are going to see at the pedestrian level is the trunk alignment or
misalignment. Also, the branch structure, which is really important as well. If
it is a very large tree, or medium tree with a triangular shape or rounded
shape, or those particular tree like the Ginkgo with the horizontal branch
structure. All of this has to be taken into consideration when you are using
trees in a design.

Virginia Burt

-Used to form space, cast shade, add green

-They are such an important aspect in our toolkit. I go, “wow, if I didn’t have
trees to be able to plant, that would really be a bummer”

-They are an integral part in what we do. So how do you use them? You use
them in any way you can. Sometimes, they are something that is existing, so
you protect them. Sometimes, they are something that they need to have that
they don’t have, or they need to be replaced or repaired or taken care of. I
look at that and say, that is all part of how.

-Function: there is the bigger role of health. What we know intuitively is that
we all love a tree. We want to sit under a tree, or we have memories about
hugging a tree, or even carving our initials into it. There are so many pieces
that we tie to our lives. What role do they play? They help tie us to the land.
This is a very different thing. It is a phenomenal aspect. We all have stories of
trees. I grew up underneath a series of Norway spruce that I played on for
years. They are woven into my memory as part of the stories I created over time. I remember laying underneath trees as a young girl, and looking up and watching the sky go by. They can even have a mythical role. Part of the myths and stories we talk about. If you know what a tree is, and you know that kind of landscape, it tells you where you are. It’s a placeholder. It tells you where you are: “I am in a Boreal forest, or I’m in Joshua Tree National Park.” They are indicators. That is why we spend a lot of money to save them or protect them.

**Ryan Wakshinski**

*What role will trees play in the fight against climate change?*

I think the first thing we need to do, is value the contribution of a mature tree. And not cut trees down. This is really quite critical. I don't know who the quote comes from, but we have used it for years: "you don't plant trees for yourself, you plant them for the next generation." Because they can't achieve their full potential for 50-60 years. I think with regard to what is happening in the world right now, we are striving to try and reduce greenhouse gas emissions and reduce the level of carbon dioxide in the atmosphere. Tree canopy: individual trees do a significant amount to sequester carbon from the atmosphere, from the environment. And to bind it up in their structures. They also help to clean and cool the air. As I have mentioned a moment ago, the understanding that a building, or a space that is sheltered by a copse of trees, has a significantly better climate for humans than one that is open and bare. This reduces our energy demands in our buildings and creates more comfortable spaces for people. In terms of climate change, the first emphasis has to be placed on maintaining the trees that we have. There are a number of cities in Canada now that are moving very strongly that are trying to develop really terrific tools---Toronto and Vancouver are assessing tree canopy and establishing its value and making direct...to protect it and to enhance. Especially the trees in the immediate urban areas. So they are planted in more park landscapes. But they are street trees. They are immediately adjacent to built environments. Give them a better condition, in order for them to thrive. Secondarily, we do need to look at a lot of open space to plant more trees. We need especially to do this when we are thinking about residential neighbourhoods, low level housing. The verdict for me is our for me right now on green roofs, because there has been the question has been raised about whether or not there is more carbon expended in the creation of the materials that we need to build the green roof, than what carbon the green roof actually takes in over its existence. We have to find a way to make our materials less carbon consumptive. But I think that in all of those ways, it will be important to understand the tree as a functioning part of the human ecosystem.
**Are some trees better at carbon sequestration than others? Is an oak better than a Japanese maple, for example?**

It is really interesting. We know the transpiration capacity for some species. One of the most difficult thing to assess right now is which trees are going to thrive throughout climate change. We do have scientists working on that in Canada. Some with the Canadian Forestry Services, Urban Canopy Division. Internally, in governments, and also in academia. What we are discovering is that there is a significant proportion of the tree species that we now use commonly in the landscape industry, and in our built environments that may not thrive under the changing conditions. Especially in the lower, or southern areas of Canada, and heavily urban areas of Canada. And that is really important to remember, because we are not planting the tree for now, we are planting the tree for year 2100, or 2210. Longevity for trees and just how much energy it takes to keep them happy now and as the climate will change. If you are having to use a lot of water for irrigation for those trees, then in some situations, that is going to relate back to an energy demand.

**Jim Melvin**

It can have an environmental role, that can help meet the environmental goals of the project. It can have a design role that can help create view, vistas, rooms, spaces. It can have a habitat role. They can create habitat. They definitely have a climatic role. They influence the climate, etc. They also have a role...where architects like seeing buildings the day they are built, landscape architects usually like landscapes three years, more like ten years after they are built.

*Why so?*

Because then you are seeing the true impact of the materials, because it has grown into itself. Where buildings deteriorate from day one, they have a 25 year lifespan--hopefully landscapes have a longer lifespan. But if the landscape is attached to a building, then you are doomed.

**Karen Landman**

*How is a tree used in the landscape?*

- Many different ways
- Shade, fruit, windbreak, colour, reducing heat sink, stormwater management
- Wildlife habitat

*What function or role does it play?*

- Strategically used to accomplish something; to solve a problem using plants e.g., bioengineering

*What is the significance of a tree in a landscape?*
- Depends on the viewer
- Interaction with a tree
- Trees can be a memorial
- Could be significant due to their genetics, if they are rare, ecological restoration benefits, habitat

*Health:*
- Shade, cooling, able to see something green, forest bathing
- *e.g.*, School program to plant trees to protect against melanoma

*Social:*
- Place to gather, connections to family
- Symbolic/Cultural: English royalty-English oak
- Problematic: Jack Pine- some foresters think it is a junk tree, ecologists respect it for restoration/wildlife purposes

*Environmental:*
- Pollination
- *e.g.*, 500 known species of butterflies use oak as habitat (Douglas Tallamy)
- Can be detrimental to landscape as well, *e.g.*, Norway maple

*Economic:*
- Forestry
- Value of trees in an urban setting
- Increase in sales with tree-lined streets in business section
- Value of real estate increases

*Aesthetic:*
- Colours (fall colours)
- Poetry (Walt Whitman, Gary Snyder)

**Robert Wright**

People have a very strong emotional connection to trees, but in terms of a design, they are a spatial device. They provide edges, the divide things, they have form, shape, and colour. They augment the design. They are an expectation of most people in a landscape, though there will be some hard surface elements, people expect to see trees.

**Why do people expect to see trees there?**

Because if you were doing a park, if you didn’t put any trees in it, then you would be doing a soccer pitch or a lawn, or something like that. I think that trees are a natural part of landscape materials. It is hard to imagine a site design, or a landscape design without plant material of some form. It doesn’t necessarily need to be trees, but you would definitely need and use plant material.
Why do you think people have such strong emotional ties to trees?

For some people, trees are amazing things. I’m just reading a book, “Urban Forests: A Natural History of People and Trees in the Landscape,” by Jill Jonnes. One of the things that she mentioned is that...we used to live in the trees...so there is a deep psychological connection--many people might call it biophilia--to people and their environments. And trees are very much a large part of that. People identify with trees, whether they climbed them as kids, or have seen them in the cities, [and they identify trees with] the health of a place, because if trees can’t grow, then there is a big problem somewhere.

Emily McCoy
-I think it plays multiple functions, but one is the creation of high quality spaces for people, comfortable spaces for people, but also providing services to the greater community. To mitigate urban heat island effect, and mitigate stormwater.

-Health: Air purification, cleaning the air. Physical health, and mental health for creating green oasis particularly in urban settings.

-Social/Community: For community and the social function...the idea of biophilia and connection to nature, and that supporting and fostering high quality mental health. Trees offer a context for which communities can rally around. With tree plantings and tree installations of that nature. The act of planting trees can be beneficial to the community.

-Environment: There are many, whether it be mitigating the urban heat island, stormwater, offering habitat for different species. Those are the biggest environmental benefits. Mitigating energy use in the buildings as well.

-Economics: Reduction of energy use in a building.

-Aesthetics: There are a lot of reason why trees make more pleasing physical settings, especially in an urban environment. Nature creeping into our cities.

What do you think significance of a tree in a designed landscape?

It provides that primary structure for the planting design. But it also helps create human scaled spaces in the landscape.

Do you find that trees are valued for one function more than the other?

Name | Answer
| **Linda Laflamme** | -It can be, but it is secondary to whatever the purpose of the design is to be.  
-Rehabilitation: trees are a fundamental part of many rehabilitation plans (depends on the end goal)  
-Restoration: bringing it back to what it was – different than rehabilitation which seeks to create something new. |
| **Jim Vafiades** | From a landscape architect's perspective, I would say no. We give weight equally to all of those components, whether it is design intent, or biological, or environmental. |
| **Naomi Sachs** | No. I think that it depends on the landscape. If it is a streetscape, then there are only so many trees that could be used. If it Kew Gardens, or Central Park, that is a totally different situation. If you are even talking about a healthcare garden, if it is a tree at the entrance that maybe sort of demarking the space and being part of the wayfinding--shows that you have arrived. Sometimes they are just for shade. I'm in Upstate New York, and we have apple trees that are just for fruit production. It really depends on the use that they are intended for |
| **Julie Michaud** |  |
| **Michael Ormston-Holloway** |  |
| **Mark Steele** |  |
| **Hank White** |  |
| **Sophie Beaudoin** |  |
| **Virginia Burt** | -No  
-They multitask in a way that I can’t say “I only plant them for shade.” I plant them for shade, colour, texture, form. I plant them for environmental reasons. I plant them to screen things.  
-It is like having a sound board. Sometimes they have a bigger job to do something rather than others. If I’m planting an evergreen, that I need to screen a view--I don’t find that I’m planting it for any one particular reason, it’s just that one gets turned up more than another at every junction. |

*Do you find that you use trees differently in a residential design? Do clients find different values in those trees than perhaps a park user would?*
- It depends on the client

- It was a pleasure to plant trees there [N. Residence] because he [the client] loves them so much

- I think there is a baseline that all humans love trees. Otherwise we wouldn’t have the statistics that we have that are coming out right now. Studies show that people feel 7 years younger, or $10,000 richer, or they have reduced crime because there is tree cover. We are now calling it Vitamin G, for Vitamin Green. Which is something we knew. I’m glad that the research has finally caught up. These are all things that I might say, a park user might value green space even more, only because they may have to live in an apartment. A) it depends on where a park is, B) what the park is for. So I can’t say that one would prefer over another, however I think that they all have merit.

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<th>Ryan Wakshinski</th>
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<th>Jim Melvin</th>
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<tr>
<th>Karen Landman</th>
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<td>- Chosen for a specific need</td>
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<td>- May be planted to solve a problem: such as urban heat sink</td>
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<td>- Depends on the problem to be solved</td>
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<td>- Some people value a faster-growing tree because they want to be able to enjoy it; whereas others may choose a slower-growing tree so that future generations might enjoy it, even if that means that they themselves will not be able to sit beneath the shade of that tree</td>
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*Which function would that be?*

Many functions for trees :)

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<th>Robert Wright</th>
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<td>It depends on the depths of knowledge of people. I think that they are valued for themselves. But in landscape architecture, for example, there might be a group of people that would value native trees over more horticultural species. When you look at things from an ecological point, you are looking at things in an ecological fashion: you want healthy plant material, you want it to be able to function and survive well. So urban areas are particularly challenging</td>
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for us, because you might want to plant sugar maples downtown Toronto, but they are extremely intolerant to pollution, and they are not necessarily the best species to use, even though they are native to this area--the Great Lakes, St. Lawrence Ecoregion.

**Emily McCoy**

-I think that it depends on the client. We do a lot of green infrastructure works...so stormwater management, paired with aesthetics seems to be the higher talked about from our clients.

*Is it typically a mixture of all?*

Yes.

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**What determines how or why a tree is chosen for a design?**

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<td><strong>Linda Laflamme</strong></td>
<td>-Depends on the design</td>
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<td>-Ex. if you are working in an urban environment, you will choose trees that can survive in that harsh environment</td>
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<td>-Depends on who you are designing for</td>
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<td>-Depends on the climate, soil conditions, water regime.</td>
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<td><strong>Jim Vafiades</strong></td>
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<td><strong>Naomi Sachs</strong></td>
<td>I think trees are chosen that usually provide the most bang for the buck. In my opinion, if you want a green wall and you have the space to put in a row of upright, linear hornbeams, or yews, or something that has a narrow, but upright shape or form, and plant that in front of a wall, they will just grow and after the first couple of years, not a whole lot of maintenance except for some pruning and feeding. Whereas, planting vines in front of a wall or a green wall system takes a lot more maintenance. I think after the first year or two, if it is the right tree for the right place, which is really important, they take care of themselves with minimal effort. Unlike a perennial garden, or shrubs, or annuals, and yet they are still living things, and doing all of the great things that plants do. The other thing about trees is that it is not just the leaves--it is the bark of eucalyptus, or cherry where the bark is so varied, that even in the winter, if it is a deciduous tree, it still has interest. Like a serviceberry, where the form is just beautiful in the winter, with the beautiful grey bark, and in the spring there is gorgeous white blossoms, and then it gets leaves and produces berries that you can eat that are even better than blueberries, and then in the fall there is an amazing riot of colour, then that falls and you have the beautiful form again. What marigold can do that</td>
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<td>Sophie Beaudoin</td>
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<td>Virginia Burt</td>
<td>Would you say cost has a say in what is planted, and how it is planted? Yes. It is certainly in public and developer work.</td>
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<td>Jim Melvin</td>
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<tr>
<td>Karen Landman</td>
<td>Leaf colour, fruit, structure, height, width, suitability to the site. How do you think those choices affect the function of a tree in a landscape? Designer needs to prioritize what functions need to be addressed.</td>
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<tr>
<td>Robert Wright</td>
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<td>Emily McCoy</td>
<td>The work that we do, we choose tree species that are native to the region that we are working in, and will also work well with the existing dimensions on the site. Sometimes we do not have the luxury of choice-- we have to pick them off of a list that the municipality provides or requires. When we do have the luxury, native plants that will work in specific conditions</td>
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**How is a tree different from the other materials at the disposal of a landscape architect?**

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<td>Linda Laflamme</td>
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<tr>
<td>Jim Vafiades</td>
<td>It comes back to what I was just saying. It provides us with all of those abilities to help create a space in terms of framing and the setting out of the position of the landscape.</td>
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**Naomi Sachs**

Scale is a big part of it. It is hard to get canopy with a shrub, or a perennial. They are incredibly versatile. They are living. Unlike a bench or concrete, they are living materials. So they not only create and shape space, but they do suck up carbon dioxide and produce oxygen. Even on a more metaphysical or spiritual basis, trees are very meaningful to people. They are really often are a symbol of resilience. Trees are sacred. Some particular trees are sacred to people. There is some life and strength--like an oak tree. I hear people talking a lot about how they are flexible enough to blow in the wind and not get knocked over, and yet they are incredibly strong, so they can withstand the wind. I think trees are meaningful to people symbolically. Also, we always talk about prospect and refuge in landscape architecture--trees provide both. They provide food--some trees, not all. I think trees are pretty awesome.

*Can you think of anything in a landscape architect’s palette that rivals the complexity of a tree?*

No. Any type of plant, one has to think about it in a different way than something that is more static like a sidewalk, or a retaining wall. Because trees are so large and take up so much space above ground and below ground, I think we have to think about them in a really different way. They take more long range planning.

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**Julie Michaud**

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**Michael Ormston-Holloway**

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**Mark Steele**

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**Hank White**

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**Sophie Beaudoin**

The main difference is that tree will evolve over time. In the first year, your landscape--even if you plant a lot of trees in a large park, for example, will look a bit empty. But you have to think what it will look like in 20 to 30 years. Will those trees enough room to develop into optimal maturity state. This is what makes trees interesting--it is not a fixed material. When your park or square is done it is not the effect that really envision already.

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**Virginia Burt**

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**Ryan Wakshinski**

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**Colleen Mercer Clarke**

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<td><strong>Jim Melvin</strong></td>
<td>The tree, or softscape materials, are living materials. Everything else is...well no, soil is not. Soil is living.</td>
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| **Karen Landman** | - Alive, biodiversity, evolving  
- Respond to the environment  
- Complex ecologically |
| **Robert Wright** | - It is alive.  
- It dies. If you don’t use it correctly. |
| **Emily McCoy** | I think the architecture of a tree is obviously more useful than other plant material for creating space and providing comfortable places for people in the landscape. And it is a living thing. The ability to survive in ecosystems and habitat makes it unique. |

**What is a landscape architect to a tree?**

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<td><strong>Linda Laflamme</strong></td>
<td>I think because of our attitude towards the environment, we are incumbent to try and protect them when we can. That is one of the first things that we can do when we get a base plan or a survey. We would look at the site and evaluate it for all of its merits. One of the key components of evaluation is the existing trees. I ran into a project about a month ago: we were looking at the survey, and there is a nice big oak tree on the site. I forced the grading around it, because it was a very demanding site in terms of grade changes. We proposed a 2 or 3 meter high retaining wall just to the perimeter of the drip line just to save it. I'd say we watch out for them.</td>
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<td><strong>Jim Vafiades</strong></td>
<td>- An opportunity. I think that compared to a builder, or a forester who chops down forests, landscape architects respect trees and they usually try to plant them rather than taking them down...although taking them down ends up happening too. In general, landscape architects value trees and try to keep</td>
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<td><strong>Naomi Sachs</strong></td>
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them and plant more of them, and argue for their presence and proliferation. We speak for the trees. We are the lorax. We are the loraxs’ of the world.

**Why do you as a landscape architect value trees?**

As design elements, as tools that I was talking about before--they are invaluable. As habitat, as ways to ecologically clean the air, to reduce erosion, both by slowing down waterfall, rainfall, and also by absorbing soil and holding soil. Landscape architects work a lot with wood--the trees that we do kill, the wood is valued by the landscape architects. It is thought of in a different way probably than by your average person who might just go to Home Depot and grab some wood. I would hope, and I think, most landscape architects understand the connection between this piece of lumber that you are using for a fence or bench, and the living thing that it came from, or even the paper that you are writing on. We know that they are an important part of our lives.

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Friend and foe. More often than not, I am trying to preserve trees and plant more trees, and plant native trees when I can, but not always. I can also be their foe. Working for some clients who are maybe developers, the trees are something that are in the way. And so you do tree inventories, and you go to the site, and you evaluate what trees are there, species, the condition, and you try to work with them to come up with a project that satisfies their goals, but preserves as many trees as you can, or the important trees on a site. On one hand, I am helping trees, and in other roles in other projects, I am the one saying which ones go. So there is a conflict.

We are the tree’s protector, guardian, and doctor. You may say, “that is the arborists role,” and yes, we work with arborists to make sure that a tree in any situation is going to have the necessary nutrients, have a management program to expand its longevity, and formative role in the landscape design. I would say very often, personally, when we are introduced to a project site--where there are significant mature trees scattered throughout--we communicate and highlight how these are enormous environmental assets. Both from an environment, economic, and visual standpoint. And these assets create value and they need to be protected--It’s like an architect going into a historic district and identifying all of the historically significant buildings that are worthy of preservation. So we perform that role as the purveyor of tree preservation, and build a design that works around our environmental
ancestors. We respond to the mature trees that have majestic scale and quality because we know that there is now way that in our lifetime, or even in our childrens lifetime that if we were to plant a nursery grown tree, that we are going to see that nursery grown tree develop to the size of a tree that stands about 80ft tall and has a caliber of 30 inches. This is what we consider to be landmark trees—our role is to be the purveyors and protectors of those assets in any kind of landscape/site development.

| **Sophie Beaudoin** | If I were a tree, and I saw a landscape architect coming to me, I would wonder if that landscape architect was going to improve my life or not. When you plant a tree, if you are not aware of its needs for soil, water, air exchange, room, the root system, and for the branches and canopy—you can do a really bad job. That tree will not be able to grow properly. On the other hand, if you are taking an existing park, landscape, or streetscape, where you have to change something, and you don't think about how changing the grade around the tree will impact the root system. You can damage existing trees as well by doing something that will be good in terms of design. Those are the two main things I can think of: what a tree needs, and what impact changing the environment around an existing tree will have on the life of that tree. The way you plant a tree is something really important and unique. It takes time to have the technical resources to do it properly. When you are looking at an existing tree and you have to do something around it. Same thing—you have to know what those trees are, what those seeds are, how the root system is developing in that particular species, and so on. You have to know pretty well your trees. It is important. |
| **Virginia Burt** | -A friend -I look at it and say, we consider them an asset. They are a detriment [***]. I don’t consider them creating mess. They have so many different aspects. We are a friend to them, and help them do stuff. Once in a while we cut them down. |
| **Ryan Wakshinski** |  |
| **Colleen Mercer Clarke** | Years ago, when I was working as an ecologist, and the landscape architect drew this little sketch for me one day that had me tied to a tree with hard hat on, and the plough approaching. It is Don Quixote type of cartoon where the landscape architecture is tilting their lance towards the front end loader as it approaches the tree. I think in many ways for our profession, I used to say, I became a landscape architect because I was a marine and aquatic ecologist, and I was concerned about what I saw happening in our marine and aquatic environments. That nobody spoke for the fish. Fish are notoriously quiet, so I had to kick off my scuba suit and crawl out of the water and speak for the fish. I think that is really what we do as landscape architects. We speak for the
trees. I cannot tell you the number of times I have been in meetings with site design teams where it was a running battle between me and any one of the disciplines of engineering. Whether it was mechanical guy wanting to site something, or the mechanical guy wanting to site something, or civil guy wanting to grade something. It literally had to be 'stand your ground, stamp your feet, and say "not on my watch, the trees are not coming down"'. I think that that has been an unfortunate part of the role we have had to play as landscape architects in North America, and we continue to have to play. To speak for the trees that live there, and the maintenance of the natural environment. To keep people maintaining a buffer around the streams, the shores, and maintaining tree cover canopy. Even in some instances in open space. I think that landscape architects also have a duty of care to make sure that the science that we do is absolutely accurate. I stress this because when I lived in Waterloo, I volunteered for the RARE, which is an EcoReserve. At one time, the landscape architects were working with the parks service in Toronto, and they had excess cultured red maples that they were giving away for free to park spaces around southern Ontario. I don't know why, but for some reason I picked up the phone and called the arboretum at the University of Guelph, and asked them if that would be ok. I gained an education that morning when he recommended not to take the trees. He went rushing out and did a comparison between the trees that they had cultivated in Toronto and the existing native trees in the RARE reserve, which has never been cut. They have self populated, and are the same trees that they were when settlement began on that area of the Grand River. What he came back with was that there was a genetic difference between the two cultured species. By bringing in the trees from Toronto, we were somewhat muddying the genome of the trees that were there. And I thought that that was fascinating. I probably never would have asked that question in the role of an ecologist, but as a landscape architect, I wanted to find out. The arborist from the University of Guelph was really thrilled, and it ended up being a really great working relationship between rare and the arboretum of Guelph. Because he said, "these are things that we hold very differently, but we don't know who to tell about them". I think that we play all of those roles, we interpret science, and apply it in practice. All of this helps with trees.

On genome research:

Genome research is so new. When I was teaching in the early 80s, I had graduated with my science degree in the 70s, [***] to fill in for a professor, and I was up late one night muttering with this 3D model and grumbling, and why husband said, "what is wrong with you." And I told him that I was trying to do the lesson plan for the genetics component for the first year biology course, and I was never taught it. When I did my undergraduate courses in the late 60s and early 70s, the double helix was just emerging, but wasn't being taught at that level. Genetic science has done so much in the last 50 years...there are things that we think we know, but we are actually not on top
of it. It is really important to reach out to those ecologist and biologists who are working on genome work, and Guelph is a hotbed for genome research.

Do you think that we should be considering genomes of trees more when designing?

I think that it should be taught at the schools. It is something to keep in the back of your mind, especially if you are doing anything with an ecoreserve. We work with protected spaces all of the time. We must make sure that we are not contributing to the decline of something. We should always be contributing to its future.

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<td><strong>Jim Melvin</strong></td>
<td>I'm not a tree! I guess it would be an enabler. It allows them to...but so is a nursery man, so is an arborist, so is a forester. Foresters are probably more like a doctor to a tree, or a preserver, to keep to keep healthy. Where landscape architects are concerned with the environment that plants and trees can make and their association with one another.</td>
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</tbody>
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| **Karen Landman** | -A problem (sometimes)  
- May not do enough to help a tree to thrive  
- May not consider the entire root system of trees  
- May not appreciate the longevity of trees  
- May do enough to get a tree to live up to 7-10 years, but not longer  

A ‘lorax’ other times  
- Speaks for the trees  
- Understands their importance |
| **Robert Wright** | - There was a botanist and person at The Royal Botanical Gardens in Hamilton, Dr. Peter Rice who gave a lecture called “Trees Are Our Oldest Citizens” Which I always loved, it is very poetic. Whenever you have a growing thing, there is a certain responsibility. You just don’t plant it to die. It is not like a bench, and it is not like paving. It is a living organism, and therefore there is a kind of bond between the designer and the living material he puts in place. If I did a landscape design for you, and all of the plants died, you would not think that I was a very good landscape architect. |
| **Emily McCoy** | We are the ones advocating for their use in a built environment. That is our role |

**What role do you play in a tree’s life?**

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<td>Name</td>
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<tr>
<td>Naomi Sachs</td>
<td>Is that one of the roles that landscape architects can play? As advocates for trees and people’s health?</td>
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<td>Absolutely. Whether it is showing people with design renderings how beautiful something can be, or the shade something will provide, or actually doing it and showing them, and then measuring it and doing post-occupancy. Or, sustainable site initiative where people are going in two years after the site has been constructed and complete, and measuring the differences. Or, helping with research, either in environmental psychology, or some other types of socio-eco services. I think that landscape architects play a really big role in that. It makes sense, because that is what we do. That is our livelihood.</td>
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<td>Julie Michaud</td>
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<td>Sophie Beaudoin</td>
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<tr>
<td>Virginia Burt</td>
<td>-It is a bit of a sliding scale</td>
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<td>-Me personally or, me as a landscape architect?</td>
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<td></td>
<td>-A nurturer, a friend. A person who understands them. Hopefully--if we all completed Woody Plants one and two.</td>
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<tr>
<td>Ryan Wakshinski</td>
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<tr>
<td>Colleen Mercer Clarke</td>
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<tr>
<td>Jim Melvin</td>
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<tr>
<td>Karen Landman</td>
<td>-Plant trees</td>
</tr>
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<td>-Germinate seeds</td>
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</table>
- Nurture trees  
- Select species for others  
- Advise others  

**How active are you in designing for trees, or setting policy?**

- Planted a lot of trees  
- Design, advise, plant  
- e.g., City of Guelph: involved in developing policy for the Urban Forestry Management Plan  
- Educate  

**How do you care/manage/plan for trees?**

Good design, and good inventory and analysis leads to good species selection, which leads to longevity

| Robert Wright | - To make sure that it survives.  
- To paraphrase the Greeks, “Great civilizations plant trees beneath whose shade they will never sit.”  
- It shows that if you plant material correctly, in particular trees, they will outlive you. You are planting something into the future for other people to use and appreciate. If you think of major parks, like High Park, Mount Pleasant, or any of the parks that we look at and we love, including Central Park—those trees that we enjoy were planted 75-100 years ago by someone that is no longer here.  

Trees have a lot longer life span than the other materials at the disposal of a landscape architect:  

Absolutely. I joke with architects, by saying “your project never looks as good as when it is first built.” Meanwhile, a landscape architecture project never looks as good as 10, 15, or 20 years after it is built. |

| Emily McCoy | - We are the ones advocating for their use in a built environment. That is our role  
- I like trees, and advocate for their use, their form, their production in nurseries that will respond to what is needed from a landscape architect's perspective in their environment. A landscape architect really does have some say on the species that get produced. Given that we detail their canvas in which they grow in, we are also responsible for their success in the built environment.  

**How can a landscape architect be an advocate for trees?**
We inform the nursery trade by the plants that we specify. We advocate for their use just by specifying them and putting them on our drawings. But also, not just new trees, depending on the type of landscape architect you are, you may influence tree conservation in a built environment as well. We will have conversations with clients, we will talk in terms of the benefits beyond the aesthetics that trees provide, so that we can either protect them or specify them.

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| *Linda Laflamme*   | -NEP permits have Conditions of approval; one of the conditions requires landscaping including trees  
-I review and approve these plans as well as Vegetation protection Plans  
-Trees must be native species, unless native species are not appropriate for that space (extenuating circumstances only)  
-Looks at where those trees are going to go to ensure they perform the function needed (screening, edge management etc)  
-Selecting the right species for the right environment  
-Protect trees during the construction process  
-Maintenance  
-Educating the opinion of others in terms of native species, etc. |
| *Jim Vafiades*     | Can we retain it, can we preserve it, is it worth preserving. You need to consider its condition. Is it healthy. Is it of historical or cultural significance. Those kind of components. Is it rare. Those start to weigh into the decision to try and protect and save it.                                                                                                                                                                                                                                                                                                                                                                           |
| *Naomi Sachs*      | -I would say, less now because I'm not doing design so much. I would hope that my research about greenspace and crime, and trying to show the correlation, if not, causation, between the presence of trees and other green space and reduced violent crime, or crime in general. I would hope that would add to people valuing trees, and not cutting them down and actually planting more of them, and taking care of them. I'm renting right now, so I might feel bad about building a house and cutting down trees. I do think about using |
paper and recycling. I try to do my part in that way too. I am terrible with numbers. I understand and I really value the benefit people who can put dollars to ecosystem services, because I think that it is so important. As much as everyone wants to do the right thing, the Mayor, and the citizens, and other people--people are altruistic, we are generally good, but when it comes to buying a new fire engine, verses planting 100 trees...unless you show there is a pretty good significant and fairly quick return on investment, then something else is going to come before it. That is certainly the case with healthcare landscapes, where...whether it is upfront costs, or maintenance costs, you really have to show that it is beneficial to public health and wellbeing to patients and visitors and staff. That it is going to improve satisfaction and improve the lifecycle costs and make people healthier.

*What are a few things we can do as landscape architects to help a tree live its longest life?*

Plant it in the right spot. That is the biggest thing. Planning for its future. Even if it is a tree that you know will take care of itself after two years--which is what we want, something that will not need constant maintenance and attendance. Making sure that for however long it takes to get established, that it will get that care. Whatever is around it will should facilitate that too. Planting a tree so that it is far enough from a parking lot that cars aren't going to bump into it, or putting a pathway in the right place so that when people create a desire line, they do not walk over the tree and compact the roots. Or, that the lawn mower will not keep nicking it, or hurting it that way. More long term...I was just walking down a regular street in Ithaca, and I noticed that someone had planted a dawn redwood in their front yard. It is beautiful, but it is going to outgrow that front yard. Like general people, we go to the nursery, or Home Depot, and we see a tree that is beautiful; but as landscape architects, we can do better than that, and say, "this looks really cool right now, but in ten years it is going to be way too big for this space, and no amount of limbing this up with prevent this from getting it into the sidewalk and poking people's eyes and making it a dangerous situation."

Julie Michaud

Michael Ormston-Holloway

Mark Steele -I try to pick trees that are appropriate for the site. I will go through a design and come up with some basic requirements for the tree that I might want--whether it is a columnar tree, or another shape or texture. Then I will choose a tree that fits those criteria as well as a tree that will do well there. More recently, we had the benefit of having municipalities adopt minimum soil volume requirements, largely based on the work of James Urban. I think we
don't know the outcome of that, but based on James's research, that will probably be beneficial for the trees. But that gives us, when the municipalities have requirements, it is a lot more difficult for a client, a developer, a builder to say no when you tell them that you need 'this much space' for a tree, or 'this much soil volume.'

**Hank White**

Landscape architects overall need to be very sensitive to any form/aspect of construction activity. Both around existing trees to remain, as well as new trees being planted in some new constructed environment. I don’t want to generalize, but there are so many scientific requirements to create the most ideal growing conditions for new trees and have the design of the landscape to inform the place where trees are to be planted. To rephrase: frequently in urban environments, you see trees plopped in in many impervious conditions. Which is a very challenging growing environment for a tree. And typically, historically, the standards of lifespan of a street tree in most dense urban settings is--according to the U.S. Forestry Service--approximately seven to eight years. Sadly, that is based on the assumption that you are just cutting a hole in the sidewalk, and just planting the tree into the soil that is there, just walking away and hoping for the best. That is a pretty tough growing environment, and there are only a few trees that can tolerate that. So there is some ignorance in planting trees in urban conditions where the infrastructure that is required to support that tree long term is not necessarily considered to support that longevity. In a more rural condition where there is a construction activity around mature vegetation, there are all sorts of standards in terms of measuring critical root zones--Where various setbacks based on the size of a tree can be applied, so that no earthwork activity can occur within that zone. If you want to fully protect the tree’s root infrastructure and not create undo stress on that tree. These are some general standards that some people are aware of, but very infrequently but get in standard construction activities--rarely followed, because contractors want access everywhere. If they see open space, they are going to use it--pile equipment up against the tree, and so on. A landscape architect needs to be the tree protector and policeman to make sure that there are provisions within the construction activity behaviour that outline these protection measures.”

**Sophie Beaudoin**

-I protect them during construction

-I ensure that they have accurate tree management and care: ex. Prune oaks in the winter. They are too susceptible to oak wilt and the bugs and the things that happen. So I have right now, a 120 yr old red oak on one of my properties. It is literally a grandparent. Under the category of nurturing, I look at that and say, we are doing everything. We are rerouting drainage, because,
overtime, as we are getting those big gully washers like we are today, this tree was being submerged more than it would typically. Meaning, it is getting wet feet more often, and water is standing, because it is coming in a big rush. So we have gently redirected some drainage so that that plant will continue to have a long life. They can’t change as quickly as our climate is changing right now—they change, but they just take longer. So, I’m looking at that and saying, as an answer, we are taking care of that one—we are doing what is called vertical mulching and aeration. We are ensuring that it is getting fertilizer, we are making sure it is being protected through this big construction project. We are spending a lot of money to save that guy, to make sure he is ok.

- Accurate management and tree care.

- And not paving over it—sometimes there isn’t the space to do otherwise.

**Ryan Wakshinski**

**Colleen Mercer Clarke**

**Jim Melvin**

- Where landscape architects are concerned with the environment that plants and trees can make and their association with one another.

*How would you design for that association with the other plants? Are you referring to ground up, or ground below connections?*

It is a little of both because before you pick your trees, and I’m having a little bit of trouble separating plant material from trees and shrubs, but normally you have to understand the soil that is there, the environment that is there. The zones of a tree, the planting zones that are acceptable. All of those conditions give you the proper idea of what trees would work successfully there. But you would also have to have there your design inferences that you want to accomplish through your designs. So do you want heavy shade, tall trees, light shade, exfoliating bark. As well, you can also add to that, do you want to attract birds, habitat for mammals. All of those other things come into the selection of trees.

*It is fair to say that when designing a space, the trees must fit the aesthetic function of that place, first and foremost?*

That is partly the nature of the project. In residential design, which we haven’t done a lot of here, probably plant material and specific plants are chosen for their aesthetics more than their ability to change their environment. Because
you are working with a client that wants that kind of thing. In a park environment, you are looking for trees that can provide shade and structure as well as maintenance concerns, operations concerns. How the plants will be maintained. The nature of what they are planted with as well.

*What would be few of those things? The nature of them being planted with?*

If you are planting in a ravine, or even a swale where there is higher water levels in the soil, you will pick trees that like wet feet. After you have selected those, you pick complementary shrubs that would like the wet feet as well. If you want to create a play space, or trees in a playground, you want to pick trees that have a structure that is really strong, not the weaker soft wood trees, because of concerns with safety. But you also want to provide shade. Things like Birch trees, river Birch, or paper Birch, or if you want to create an environment that is unique, because they have a lot of unique qualities, you will put a bunch of them together.

*On the native debate: what would you say to people who favor native trees?*

I don't believe that native trees necessarily do better than non-natives. If you are trying to replicate nature and something along, say a highway, then use a lot of a natives that would be found in the area. But, I think what is happening now in today's trend towards natives, and more and more often, the policy is native only, you end up with a depleted landscape in terms of aesthetics. Because you are restricting it to only native material of that area. Sometimes the environments that you are planting them in are not native at all. So sure, you can find a Fagus grandiflora in forest, but is it going to grow in concrete, something that has lots of reflective heat? No, it is not. So you are limiting yourself by only limiting yourself to just natives.

| **Karen Landman** | -Based on inventory and analysis  
|                  | -Educates people  
|                  | -Understand soil  
|                  | -Educates clients  

*How do you design for trees?*

-Respond to client’s wishes  
-Careful consideration of species to choose from  
-Understand site conditions very well.

| **Robert Wright** | You just have to look at what the biological requirements are for its survival. For example: soil, moisture, contaminants. The list goes on. All you have to do is look at any biology text, or urban forestry text on what is required for the survival of a tree, and they list numerous factors in terms of what we need to be doing. And you will know, that the City of Toronto through the Urban |
Forestry Department has been making great strides, for example, that urban trees have 30 cubic metres of soil to live in. Because traditionally, trees that we have planted in the streets have a lifespan of 7-8 years. And the reason why is, we weren’t accommodating all the requirements that they needed for survival.

*How long is the expected lifespan of these trees now?*

It depends on the tree. It depends on the lifespan of that particular tree. If I plant a white birch, it is a lot different than if I plant an oak. It should be the natural lifespan of the tree.

*How does that effort outweigh the costs?*

It is certainly more complex, but if you think about it, because we often separate capital from maintenance, in terms of our budget. If you think about a tree over its life, and you know this because of the environmental economists who are looking at the value of these trees--their value is much higher, but we don’t always put it in dollars all of the time, than what we actually spend on it. I think that to a certain extent, that is a false argument. Initially it is more expensive, but over the long term it has dividends that span centuries.

**Emily McCoy**

Making sure that we specify trees that will work in the given location that we are designing. Of course, the detailing of the soil types. In a street tree situation, the tree trench. Sometimes we do adaptive management guidelines for trees. Make sure that they are aware of the original design intent, and the performance of the tree, to make sure that it is fulfilling its original intent.

### When designing, are trees the priority, or do other things take precedence?

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<tr>
<td>Linda Laflamme</td>
<td>It depends on who you are talking to. Of course, we try to retain them wherever we can. But sometimes a development trumps the ability to save because of the fact that the building ends up taking up so much space on the site. A developer might offer to plant a tree in a different location in order to make sure that the building fits.</td>
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<tr>
<td>Jim Vafiades</td>
<td>It depends. I think a lot of times, what happens is there is a great grand plan for a really varied complex landscape. The project gets built and the budget</td>
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<tr>
<td>Naomi Sachs</td>
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gets smaller and smaller, and then what ends up getting planted is a lawn and some trees, and maybe a bench or two under the trees. There is still landscape, but compared to what there was going to be, that complexity is lost. I think that trees are a terrific statement. If a client has some money and they want to show that there is a landscape there, a lot of times what we will see is a healthcare plaza where it is mostly hardscape, and there is one tree and one bench under the tree.

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I think that have different faces--they are providing shade, so climate comfort, they are providing a visual interest. They are providing a 3-D structure to the space. They are guiding...an alignment along a pedestrian way, for example. The guide along your way. They provide habitat for animals, and all of the environmental benefits that we know about. That is one of the most complete material we can use that is providing a lot of things. To us as a designer, but to the user, to everybody at the large scale.

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<th>Virginia Burt</th>
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| -In the case of existing trees, it is an assessment of health first. If the trees are healthy and contributing in manner, they might be providing a canopy of shade, an important function as a screening element, it could be anything that they are doing. If so, and they have an important job--ideally, you would use that as part of your criteria as part of your site context and analysis, and ensure that they would stay.

- I’m not about cutting everything down so that I can plant something new. To me, I am looking at as assets that have been there for, often decades, sometimes a century. That to me, is a huge asset.

- On the other hand, if there are no existing trees, trees as assets become...are they more important than a living space? It depends on the project. Sometimes it is more important to have the tree cover than it is to have paving. It is more important to the wildlife, to the flora and fauna of that project, the rehabilitation, than it is to not have it. To me, every project is different. I couldn’t say that is more of less important--it depends on the project. |
**Ryan Wakshinski**

- It is one of the aspects of design. That is heavily dependent upon your clients, what they are looking for, and what they are trying to achieve. They are one of the more complicated aspects to do it properly.
- If you look at the ecological function, the biology. You have to know and work with a lot of people to make sure that they survive. For example, arborists, soils people, urban forestry departments, etc.

- If you work with the Urban Forestry Department in Toronto, they have a list of trees which they recommend and require in urban planting. Primarily because, for example, no one has on their planting list ash, because of the emerald ash borer. There are some starting points there, where we are trying to use the best material for the best location, and understanding the constraints of that location.

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**Colleen Mercer Clarke**

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**Jim Melvin**

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**Karen Landman**

- Unfortunately, trees are often not the priority – sometimes they are
- Society does not value them as much of gray infrastructure, regardless that trees provide so many benefits
- Often trees can only reach 7-10 year lifespan in urban core
- We are happy if the tree lived to 20 years, when that is such a short lifespan for a tree
- Different perspectives than those in Frankfurt, Germany, who have different attitudes towards trees (long history with trees, with forestry)
- Some parts of UK have experience with the loss of forest
- Different priority possibly stems from a difference in culture; historic; norm (healthy tree canopy cover in Europe); land was cleared for development by settlers in North America (perhaps explanation of attitudes towards trees)
- Change in perspectives can be seen as a change in value: forest bathing; relationship with trees; how they affect our health
- Change in perspective comes with time and education; education of children from a young age leads to an expressed change of values for trees as an adult

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**Robert Wright**
**Emily McCoy**  
-I think how people move through the landscape and use the landscape are...trees are thought about as support of the design. Sometimes when we are working with architects, use of their buildings are the priority, rather than ideal tree placement for people. It depends on who you are working with and the client is an architect, it is your first order of client conversation with the architect sometimes--sometimes their building relationship to how people perceive it and the landscape will take precedent. Social spaces and how people move through the landscape are first.

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**Are there any practices you would like to change when it comes to designing with trees?**

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<td>Linda Laflamme</td>
<td>There are a couple of issues with municipalities that we deal with. They have restrictions on the number of same species of trees that you can plant in a row. Municipalities will say no more than 3 or 4 trees of the same species in a row. The reason is, which is valid, is that they are trying to avoid a monoculture. As designers, we would like to try to incorporate the same tree for an entire block, for example. But because blocks are so long, you can't do that when you have ten or twelve trees. My thinking is that it is more of a maintenance approach, because if a certain tree type gets a disease, it is generally going to spread only between that tree species. So you are only going to lose three or four trees because you've only planted those three trees. Maybe six or nine in the block will stay alive because they are different. The fear is, you wipe out an entire block because you have used the same tree. The city has to replace ten or twelve, fifteen or eighteen trees, which is more expensive than replacing three or four or five. In a nutshell, it is a bit of a design restraint. But on the other hand, I do understand the aspect. But you can broaden that to say, in a subdivision where you have 150 trees, as long as you have no more than 20 or 25% of the same species, you can probably get more in a row that are the same. Overall, in a larger grouping, you are not going to lose anymore than you would if you had a small grouping. The disease can be transferred by insects, so it can travel to a tree a block away that is the same species. There is a concern because, there are things like the emerald ash borer that wiped out all of the ash trees in southern Ontario, which was unfortunate. The argument does it merit. But it does become stifling for us in terms of being able to design.</td>
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<td>Jim Vafiades</td>
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<tr>
<td>Naomi Sachs</td>
<td>-With climate change, landscape architects have to educate themselves and their clients about what is the right tree for the right space. It is hard now...</td>
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because what is right for right now, might not be in 20, 50, or 100 years. That especially in climates that are in between, it is a challenge. Because you don't want to plant something that is going to...for example, in Chicago, where it is getting so much warmer, people are saying that the planting zone is changing 3 zones (or something like that), so people start planting things that can take the heat, but they can't take the snow. And we still get these really cold weather. There are so many problems with insects and trees are responding differently to climate change. And all of the creatures that are dependent on them. As landscape architects, we can't just keep doing what we've been doing. Or even if someone went to school ten years ago and graduated--if they have their "typical landscape architecture 10 trees" that they always use, it is really important that they stay educated about whether those are still the right trees for the right space. It is hard, because people will still like those pear trees in Beacon, for example. So, people who don't know any differently will see pear trees, and they will say "what pretty white blossoms, can we have those." And you have to tell them that the branches will fall, and they only last 20 years--Instead of that, we are going to plant these, and they also have white flowers, and will bloom, but they are healthier. Finding solutions and substitutes takes education of both ourselves as landscape architects, and then of the public. There are a lot of implications, and that is the great thing about trees, they last a long time. But if you plant a bald cypress on a sidewalk it is going to heave the sidewalk up, which will not help anyone.

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<th>Julie Michaud</th>
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<td>-It is not being done as much as before, but planting trees in sidewalks in very small planting pits in small cubes of soil, that is not enough for them to grow.</td>
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<td>-Watering. Planting trees, and not planning how watering schedule--especially for a drought. We can say that “the tree is under warranty, so the contractor will replace it if it dies.” But the tree is a living tree. It took a long time, many years probably, to get to the size that is big enough to plant them. We plant trees that are about 50mls. There is much better success rate if watering schedules are done right--so that is something that I would like to see improve.</td>
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<td>Do you think the mentality of easily replacing a tree if it dies due to poor design decisions is based on a particular perspective?</td>
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<td>I think it stems from cost. We don’t have money, or we don’t have staff to pay for watering, because that can be expensive for a water truck. So they leave it up to the contractor, but sometimes the contractor weighs if it is going to cost more to water it, or just replant it. If it is more difficult for a contractor to get to a tree to water it, for example, a park site, they might not be as willing to do it.</td>
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<td>So there is more of a preference to value the cost savings, rather than the life of a tree?</td>
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| **Michael Ormston-Holloway** | **Are there any ways you think landscape architecture could benefit from a change in perspective?**  
Theodore Ormston-Holloway  

I do believe that we need as LAs as a discipline—we need to be better stewards of the natural environment before us. Part of that is knowing more about it. I don't know if that happens at school, or the first three years of practice. I don't know. I know that your school is different than UofT, and you go through the gambit of the woody plants course, which I took too. I get disappointed sometimes when I see planting plans that are generic. There are so many wonderful trees, and wonderful associations that we can make. If we have a garden, and we can plant some ground cover and some shrubs, and some trees then we can tune into the life cycles, and food source requirement that brings a white breasted nuthatch only one kilometer more downtown, than I think that is interesting. We should consider that, rather than planting a boxwood under a honey locust, because "I like it," or "I don't want it to fail." I don't know if it is because we are cutting corners, or we are being influenced by other people on our teams, but I find that some of the green moves underwhelm me, and I think that we can do better.  

Do you think that change in perspective can stem from different courses we take at school?  
-Yes. It should start early. The education is not equal across the schools, but they are all accredited, and that is a problem. |

| **Mark Steele** | -There is one municipality that I've worked with a couple of times now—they effectively hold a client hostage for site plan approval. They won't grant site plan approval until their forestry department has signed off on a landscape plan. They might extend those city standards beyond public property onto private property to a point where it affects the design, and you are trying to create environments for people to [***]...the forestry mandate is to plant as many trees as possible no matter what. |

| **Hank White** | -Yes! There is so much landscape mismanagement, just out of uninformed landscape mismanagement practices that are sadly are based in ignorance. One of these are “tree volcanos”: the use of mulch aprons around the base of a tree, which bury the basal flare of the tree. This is horrible for the tree because |
it traps moisture at the most important junction of the tree (at the ground) the basal flare. That is where the tree needs to be the strongest. Multiple inches of mulch that retains moisture that is pressing against the bark at the basal flare creates rot. That is where insects and pests feast. To say nothing about weakening the tree’s structure. While many think that they are protecting the tree and improving its moisture retention by putting this huge mulch apron around it, in some cases it is doing more damage to it.

-That is one of the most obvious. But there are many instances where trees come from the nursery with their root balls packed with soil to improve the structural integrity of the root ball, so that it doesn’t break apart. In doing so, some of the extra soil that they put in there now covers the basal flare of the tree. So similar to the mulch volcano scenario, the extra soil on top of the root ball buries the basal flare and weakens the most important structural component of the tree where the trunk is meeting its roots at the surface. So many of the contractors do not know this. So we have to direct them to scrape the excess soil off of the root ball to expose the original grade that the tree was grown at as their measuring device--to set the tree at the proper elevation.

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<th>Sophie Beaudoin</th>
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<td>I think that one thing that every city must be aware of is the quantity of soil that is available for trees. This is the bottom line. There is a lot of disparity. Toronto, for example, asks for a huge volume of soil. In comparison here in Montreal, we have asking for 10 cubic meters of soil, in comparison to the 30 cubic meters of soil in Toronto. That is a huge difference. I would like to change that practice.</td>
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<th>Virginia Burt</th>
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| Do you find that trees are being planned for accordingly to help them thrive? Sometimes, not always  
*What are some things you would like to see improved?*  
-Right species, right place  
-Some people are still planting acer platanoides; is an invasive species, it has a short life, it creates a monoculture beneath it; it strangles itself, lives to 50 years, and then they are done. Produce so many keys, and out compete the natives species.  
-Ideally do not plant something that is on an invasive species list  
-I hope that colleagues, nurseries, and contractors do not plant invasive species  
-I spoke should stop growing invasive species  
-We have to be better at it, and look at it with the long term in mind |
-People aren’t always aware of what is needed; for example, it is expensive to use a product like silva cell, which helps give urban plants the best chance to survive.

| Ryan Wakshinski | Can you think of any times when someone’s perspective of trees can lead to poor design choices? For instance, someone’s perspective of norway maples 20 years ago.  

Cannot predict the future. Problems with emerald ash borer, dutch elm disease, Schubert chokecherry blight. Monoculture planting in Winnipeg residential subdivisions to achieve a uniform look is dangerous because if all the trees die out because of a disturbance, you are left with nothing.  

-Also need to realize how much of your resources will be devoted to maintenance. Planted a ‘boreal forest’ garden around a new washroom/shower building but there was no watering or weeding done by the campground staff so all the plants pretty much died.  

Are there any design decisions/practices being done today that you would like to change?  

Example of tree planting at municipalities; planting too many of one species, some dying; planting according to a budget  

Do you think poor design decisions could benefit from a change in perspective?  

People can always benefit from a change in perspective because the world is not a static place. Landscape architects are well suited to this approach because we work outdoors with living materials.  

Are there any ways you think landscape architecture as a profession could benefit from a change in perspectives? How would those perspectives be changed?  

Yes. Perspectives can always benefit from a change. I have been describing trees as a ‘tool’ for landscape architects to use in design, but that is very human-centric way of thinking. Again, it is a living thing. I imagine an indigenous landscape architect would have a more inclusive, harmonious way of viewing trees. We should be striving to do as much for trees as they do for us. |

| Colleen Mercer Clarke |
Jim Melvin

There is what is drawn on our drawing, and then there is how the contractor installs it. Those are usually two different things. They do not necessarily follow the plans. A lot of contractors, depending on how they bid the job, could say, "go dig a hole a bucked, and I'll just put the tree in it." Where you really want to scarify the soil surrounding the tree, you want to put top soil on it, you want to make ditches—and that's just planting the trees in soft soil. When you get to planting trees in hardscapes, there is so much cost, so much politics, and policies involved, that sometimes it is becoming cost prohibitive to do tree planting in hardscape. The City of Toronto wants 30 cubic meters of soil for the tree. To accomplish that, you need to use silva cells, and if you use silva or strata cells, to accomplish that, there is a cost. Then there is a watering regime. Then there is how you build the hardscape around the tree so that it can grow, but it won't damage the hard surface. So it is really complicated. Now it becomes a $15,000 tree rather than an $800 tree.

Do you find that people are willing to spend that money?

They do in the City of Toronto. I don't know if it makes for a more successful tree. Because we have seen trees fail in those tree pit conditions. Some of those failures were due to salt and from people putting salt on the sidewalk and it being washed into the tree pit. The salinity of the soil is changed and the tree does not survive. There is a whole thing about how you get rid of that, how do you direct water laden with salt away from a tree pit, but still allow water to get into a tree pit. So it is not guaranteed, and I'm sure I totally believe the 30 cubic meter volume of soil that the City of Toronto is requesting. I think that it is too much. If you go into a forest, and there are trees growing really close together, do you think that each tree has 30 cubic meters of soil each? No, I don't think so. And I don't know where this came from—maybe from James Urban. Tree species selection, they have to be really hardy. They selected on Bloor Street here...they used London Plane trees. Let's say there were 75 of them, 50 of them died because they were pre-dug and grown for the site, but they were not acclimated properly, and the site problems came along. Probably the wrong tree in the wrong place. People look at the Plane Trees in Europe, in those plazas, and want to use them. They are not really appropriate for the conditions we have here. We use Plane trees, but we use them in lawn areas, and they grow wonderfully. If you use them in urban context, the heat reflection, etc, there are lots of problems. But there are trees like the Gleditsia and Norway maple, which are banned now, that are wonderful street trees, but you have to be really careful, because in cases like the Norway maple, they are invasive.

Would you like more research to back up these policies?

That would be great to have more research. How small of a pit can you make? How many trees can share 30 cubic meters of soil? Does the species make a difference? If it is a birch tree, whose roots grow really close to the surface, or
is it an oak tree that grows deeper--which ones grow better in that 30 cubic meters of soil.

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<tr>
<td>Karen Landman</td>
<td>- Increase an ecological approach to trees</td>
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<td>- Planning for trees in the short term when they have the capacity to live for a long time</td>
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<tr>
<td>Robert Wright</td>
<td>- I would like people to plant more trees. That is what I always tell people--<strong>plant more trees</strong>.</td>
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<td>- Anything like the biology of something, or like the living nature of a tree, you can never know all about it. It takes your whole life to begin to know all of the aspects, to know all of the other consultant groups you have to work with.</td>
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<td>- Students will get mentored in the various offices that they work at as professions, and that experience is transferred. So when a student does a project, it is not like there is a soil scientist sitting beside them, so they have to make some assumptions about that. There is a large learning curve when you are getting out of school to make sure that you are doing these things properly.</td>
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<td>Emily McCoy</td>
<td>Yes. Soil specifications are not only difficult to make sure you have the right one, but to convince the client and contractors that they are worthwhile. Make sure that they meet the standard guidelines for trees for their health. Installation and maintenance are where I think we fall behind, and following up with the industry in the horticulture trade with regard to how they plant and how they plant and maintain a tree over time. In the nursery industry we even buy a plant, using more sustainable practices in the production of a tree. Some research with maintenance and production of a tree appear to use a lot of carbon based non-renewable energy sources that do not match the carbon sequestration of the plant. Non-sustainable work that goes into producing and maintaining that tree. The net benefits of a tree in regards to carbon are actually [***]. Those are the three: specifications of soil, installation and maintenance, and production of tree.</td>
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**What are landscape architects doing right when it comes to designing for trees?**

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<td>Linda Laflamme</td>
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<td>Name</td>
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<td>Jim Vafiades</td>
<td>I think all along we have tried to plant trees that are the right tree for the right place. That includes more than the physical opportunities or limitations of the site. It also includes what the needs of the people are. It combines all of those factors in order to choose a tree, not just one or the other.</td>
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<td>Hank White</td>
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<td>Sophie Beaudoin</td>
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<td>Virginia Burt</td>
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<td>Ryan Wakshinski</td>
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<td>Colleen Mercer Clarke</td>
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<td>Jim Melvin</td>
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<tr>
<td>Karen Landman</td>
<td>-Increased understanding the complexity of trees</td>
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<td>-Starting to understand what trees need</td>
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<td>Robert Wright</td>
<td>-Soil is one of the keys. Soil and water, and the reduction of pollution--any contaminants. For example, salt is very hard on trees, and you know how much salt we use in our urban areas. So controlling for that, and being very cognizant about that can affect them is very important.</td>
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<td>-Maintenance practices. Often you will get together with clients and they describe some incredible landscape that they have seen somewhere, and they want it, and they follow it up with no maintenance. One of the practices when it comes to trees is that we don’t do enough pruning in some cases. We just plant a tree, and leave it, and just let it go. Trees like to get hair cuts. Just like people.</td>
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<td>Emily McCoy</td>
<td>There has been a great evolution from originally with street tree planting and the use of structural soils and things like the [***]. Making sure you have</td>
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enough room for tree roots in an urban setting under pavement. There have been great advancements in trees in urban settings and standards

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<th>What is your perspective of trees?</th>
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<tr>
<td><strong>Name</strong></td>
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| **Linda Laflamme** | -Growing up in the boreal forest (Northern Ontario & Northern Quebec)  
-Right against woodland/forests  
-Trees were an integral part of environment and life  
-Look at them as integral part of my life decades later and living elsewhere  
-Integral to where we work, where we live  
-How we manage trees  
-How we use the greatest amount of trees in development  
-Significant trees that are endangered  
-Extra level of care for endangered species in particular  
-Cannot picture life without trees; would not find it comfortable to live in a place without trees long term  
-Education: in university, trees were seen as a tool more than anything  
-Science horticultural perspective  
- A lot of what shaped values was based on childhood experience, as well as work experience-working with municipalities, conservation authorities & community groups  
-Exposed to greater range of benefits, and the value that communities see in trees were developed through work experience rather than educational experience  
-Spiritual experience: not individual trees, but a woodland landscape. Feels a spiritual experience from that environment  
-Cathedral of the Pines |
| **Jim Vafiades** | I feel that they are a great marker in terms of being able to remind us of where we have been. They have great historical value, especially mature trees, trees that are 100 years old. 5 or 6 years ago when we in a forest in California that has the trees that are 700-800 years old...it was amazing. We were standing in the forest and there was nobody there. It was you were in another universe. The whole idea of the silence. You couldn't hear anything but the forest. It was beautiful. To me, it adds a great reminder about how we must be very conscious about our environment and protect it. |
| **Naomi Sachs** | |
| **Julie Michaud** | |
| **Michael Ormston-Holloway** | *Do you think you have a unique perspective of trees that is your own?*  
Ya, I do. I think that because I have been told that. I would not have thought that I have a unique perspective of trees because I don’t think what I do is that novel. But the reality of it is, it is. I know people who are urban foresters, and they studied forestry, now they are urban foresters for the City of Toronto, for example. But most of the time, they don’t select the trees that go along the street, that is an LA. I also have a background in Ecology where I used to work with soils, so I believe that my lens of looking at trees, or perspective...at the same time, I do think about [***], whether that is a block or a forest. I think about the soil. I think abuse of the soil, the abuse of these trees. And really having this urban lens on, this ecology lens on, construction lens on. I think that it brings a unique perspective to trees. |
| **Mark Steele** | |
| **Hank White** | |
| **Sophie Beaudoin** | This is large. I like to think of a tree as a living thing. To put my hand on the bark, for example, and to feel it as it is, a living thing. What is also really important for trees is the link with other plants around them that participate in their growth and health, the microorganisms. This is only one example, but there plant associations with trees that benefit trees. That is why I like to think of them as a living thing. |
| **Virginia Burt** | |
| **Ryan Wakshinski** | -How they are a reflection of ourselves. How we take care of them. How the decisions that we make effect their lives and illustrate our impacts on the world  
-How important they are to our lives, and the benefits they provide are incalculable |
-Something we take for granted

-Living thing

-Something that we cannot fully place a value on until we do not have them. Talking about old growth forests on Vancouver Island that can provide enough lumber to make 10 houses. Like preventative medicine, you can’t measure the value of leaving a tree in place because you are not taking an action that has results

*Colleen Mercer Scott*

It is really interesting. It is such a basic question, which is why I got interested in your research. There is a clone between a Norway maple and a red maple. It is a 30 year old tree that is about 50ft high. I'm looking at her now. Her name is Marla the maple. We just bought this house a year ago. And even for its 30 year old subdivision, the maturity of the trees here in the West end of Ottawa is quite fascinating, because they are all 10 to 15 ft above the roof ridge line of high peak two story houses. So that is a considerable tree. That that outstrips the tree growth in the subdivision I lived in in Waterloo. Trees for me are living breathing things. I have to have conversations before we cut them down. I don't like to dig them up, even when they are ugly, and pests are primal. I’ll prune them, and do whatever I can to try and give them an extended life before I knock them down. So maintaining the life of trees has always been important to me. I trace this back to when I was a seven year old child in Gander, Newfoundland. My parents moved there after the war. Gander was a major trans-Atlantic ferrying point for Europe during the war. After the war, there were a lot of trades people like my dad who moved to, both, support the international airport, and also because it became a regional base for federal government activity. In the beginning, we lived in the "army side" which were apartments and bunk houses which were built for military personnel during the war, and by the time I was 7 years old in 1958, we were constructing the new town of Gander, which was this beautifully planned and layed out town. My dad had picked a little 60x100ft lot and I remember he drove us in to look at it, and it was a grove of absolutely stunning 50 or 60 year old paper white birch. They were beautiful. I can still see them. My mum cried, and everybody was happy, and we couldn't wait. My dad hired a guy with a plough who was going to dig the foundation, and told him not to touch the trees. We came back later to see how the work had gone, and there were only 2 trees left standing on the lot. They were both so badly hit by the blade of the plough that they had to be cut down. I remember my mother crying for months. Because she wasn't going to have her trees. That has stayed with me my entire life. She stayed her whole life in that town creating the most beautiful garden and planting trees. In those days we didn't have nurseries. So you would have to go out into the forest and wander around until you found a young sapling that looked like it had a root structure shallow enough that we could dig it up and load it up and wet it down take it back home in the car. We
would do that in the fall of the year. I don't know how my dad knew that. We would do that just after the leaves changed colours, because he said it would be safer for the tree. Probably 80% of the trees on our lot came from the woods. My family will laugh about that now: "Colleen is a landscape architect because mom cried a lot." It did impress the value to me. My mother is kind of a spiritual person, and where she grew up, there was a bank of lilac trees along her driveway. She loved those trees and waited for them to bloom every summer for their smell. So there were these things in my family that the trees were part of our lives. They were part of who we were. Fruit trees were something you grew because they gave you sustenance, and you took care of them really carefully. For people who were not in any way farmers, my parents relationship to growing their own food, and caring for the trees on their property was quite strong. I know my dad would go out and have words with people who were not caring for their trees properly. There was always that sense of stewarding the landscape that we owned, that we were responsible for. Since then, I've noticed my entire life how people react to trees, and the special nature of certain trees. There is a copse of chestnuts on the alley that leads into Stow House in southwestern England. Stow Gardens are absolutely exquisite. The trees have been there since [*] marched his army across the landscape. When I saw them, it was 1985. I was there doing a foreign case study for my MLA degree, and my son was seven and my daughter was four. There were cavities in a couple of trees big enough that my children could step inside them. The trees were still thriving. There are these sentinels in the landscape that has seen so much---so much more than any individual humans will ever see. The trees at Oak Alley in Louisiana, where the plantation is named for the live oak alley that leads to the plantation house. Banyan trees that everything shelters under in the heat of the day. There was a place in Halifax where I lived for 20 years. At the downtown core, at one of the junctures of the mainland common; when you get the traffic report in Halifax, and you are new there, you are very confused because they will say, "at the willow tree, traffic is backed up." I've had people who have moved into town, and got lost because they couldn't find the willow tree. They would ask me, "where is this willow tree." And I would have to tell them that there was no willow tree. In historic times, there was a willow tree there, but it didn't survive, because even in the Victorian times a horse wagon would knock over the tree, or something would happen. They kept planting the willow tree. Now they don't plant it anymore, because the intersection is so massive. But that is what it is known, as the Willow Tree Intersection. That to me says it all. There is no tree! There hasn't been a tree in probably 50 years, and I don't know if there will ever be a tree there again. But that is what that space is called. It is named for the tree. The tree was such a sentinel landmark. So people who have never known a willow tree there, know that there used to be a willow tree there. These are the kind of experiences I've had with trees. We've created one of our own--we were married on the first of July, so we would often take the kids and go strawberry picking. We would go to fruit farm that is close to a provincial historical site, the Acadia house. It had a small Victorian garden
next to it. One of the central places in that garden was the pear tree. It was probably about 40 or 50 years old. So it had a substantial cover. We would ask permission at the house from the volunteers, and get permission to go out and have our picnic lunch under the pear tree. We would spread our blanket, and bring our hampers. One of the things we brought was an unmarked bottle of champagne. Mom and Dad would sneak in a little bottle of champagne under the pear tree. We had done this about 7 years. It was just what we did on our anniversary. Even in the rain we would do it. I was taking my daughter in one day to use the washroom, and while I was in the washroom with her I heard two of the docents, one said to the other, "it's three o'clock, its so wet, and the garden is a bit muddy, I guess our anniversary couple hasn't come." And the other one said, "no! they're here! they are sitting under their umbrellas under their pear tree, it is so sweet!" And I realized that we had become part of their tradition. We use trees. Trees become important to us. We carve our initials into them...unfortunately. There are all these meanings people have with trees. When you take that tree away, there is a sorrow, like people have lost a close friend. My neighbours are asking me about the blight on their Norway maples, and they want to know what to do to save their trees, because they love their trees, and they don't know what their house will look like without that big beautiful maple. I think that there has been too little said about the connection of humans to individual trees, and copses of trees. Copses of trees and forests. I think it a gradation thing: there is the single tree, the copse or alley of trees, and then there is an actual forested landscape of sort.

*Do you think that people interact differently with those different types of tree formations? The single tree, the copse/row of trees, and the forested landscape?*

For some reason, I think we don't connect to a tree until it has established itself. It is almost like we don't want to have an emotional connection to it, because we are not sure if it is going to survive. It is interesting. Because a the time when the tree needs us the most to protect it, we are not as connected. I have noticed that myself--"I'll just get another one." But as the tree grows, and as it generates more memories for people...I think that there is another thing you should note in your work, and I don't know if this is ever true of a landscape architect, but it is something I've noticed---I had a friend in graduate school in Newfoundland who was from Cincinnati. He was studying the seal hunt, he was a sociology student. We used to take him outside into a copse of oak trees near the residences for him to experience open space with trees. Because he had a suspicion of tree and shrubs and open space, because he grew up inner city Cleveland. To him, trees were something like a threat. So he had a very negative approach which had been taught by his family, which I just could not understand. I used to make him hug the tree. We had this complete social interaction between [***] completely different views of the landscape. And the other one I was exposed to was, when we were doing tourism planning in Nova Scotia and the minister was telling me about an
episode that he had heard from his colleague in Manitoba. They had done a
five star fishing and hunting resort in Winnipeg. Two or three hours flight
from Winnipeg in a float plane, and they opened it in the early summer. They
had gone out with this resort. It was the finest of the finest. They were
marketing to western market at the time. They had brought this first group in
and there were three planes that left all flying out to this one site. They noticed
that people on board the flight were getting more and more nervous as they
left Winnipeg. They kept asking when they would get there. By the time they
finally flew into this million dollar dock with all of the chefs in their tall white
hats lined up, and resort staff on the dock waiting to greet their first guests, the
guests were in such a panic, that a significant proportion of them demanded
that they be flown back immediately. Because that was way more wilderness
and trees that they could cope with. They could not cope with the idea of
being that far from civilization. So it depends on the culture that you are
brought up in, and your own personal experiences, and your memories. I've
found that the clients that back me the most for maintenance and existing trees
on the property, were people who have had personal experiences with trees, or
who loved trees and had not been able to have trees in their lives. It is not just
the personal experience of the landscape architect, it is the experience of the
client as well. I had a Dutch client who was building a plant in Nova Scotia:
the engineers wanted me to take down a hundred year old pine tree so that
they had more roads for tanks. I threw my Guelph ring across the room, and
told them that I had to leave the meeting because I had to tell Leo, our client,
that there was a guy on the site cutting down the pine tree was we spoke. I ha
promised him that nothing would happen to those trees...I think in North
America, we still have this frontier attitude that we can plough everything
down because we can plant it back. And it is weird, because a lot of people
who feel that way have never ploughed anything down in their lives--they
didn't grow up like that. But there is this sense that it is all replicable. We start
talking about how old a tree has to be to get to that stage, and they don't really
understand. Another sentinel thing that happened in southwestern Ontario:
during the era of the dutch elm beetle, my husband and I were driving through
the farmland of Ontario on our way to see his family. I remember the
landscape with those amazingly majestic English elms in the rows between
the fields. John would tell me how his dad loved them because he loved the
big hawks...there were a lot of big hawks because there were a lot of mice in
the fields. The hawks used the tall elms as their perch point. When those elms
came down, there was such a change to the landscape. They had much more
snow drifting on highways, the farmers had a lot more damage to their crops
because there weren't as many hawks. So there was a whole ecological
imbalance that happened there. They lost these mature trees over a period of
ten years. They went down that quickly. I think that made an impression on
some people. Not as many as I would like. But on some. But mostly, I think
that we really need to educate people on how to care for trees, and the value in
a tree.
| **Jim Melvin** | I like them. I particularly like collections of trees in forests, is where I best like to see native trees. But I just adore cultivars and non-native trees. I just think botanists and those people have done so much work and have developed resistance to insects, or special colours, or special form. They should be celebrated. There is this whole native-tree-only movement...and by the way, a native tree does not have a better chance of survival than non-natives. I think non-natives or specialized trees might have a better chance. Just because they are native, and they come from this area of the world, does not mean that they are going to survive the new urban conditions better than any other tree. What I don't like are invasive--that is different. Non-native does not necessarily mean invasive. |
| **Karen Landman** | -Grew up in the country  
-Respite in crab apple tree with book (still alive-cared for by brother)  
-Climbing trees as child, building tree forts  
-Interaction with trees as a child  
-Firewood, splitting wood  
-Spouse: carpenter (both interested in trees)  
-Built a log home  
-Time spent living in Boreal Forest in Northern Alberta  
-Time spent sitting beneath trees and contemplating/meditating  
-Community of tree  
-Agency: we are able to make choices; tree has the ability to make a choice (heal itself, warn each other of predators, affect how we feel-good or bad-sometimes scary, like old fairy tale) |
| **Robert Wright** | -I think that they are amazing. I am in awe of them.  
-If you were to talk to an engineer about a tree, and you were to ask them what it is that they think is amazing about a tree, they would say, “imagine a hundred foot object that can take water out of the ground and take it to the leaves using capillary action to transport that water all of the way up to the end of the leaves. There isn’t a pump made, or a mechanical system made that is that efficient.  
-If you talk to a biologist, or anyone who is involved in ecological energy production, if you can think of something that can actually take energy from |
the sun and convert it into biomass and energy by itself, that is an amazing thing. People would love to be able to reproduce that. Chemistry and biochemistry people have been trying for years to create that kind of photosynthetic effect.

-I am just in awe of them.

**Emily McCoy**

### What influenced your perspective of trees?

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| **Linda Laflamme** | -Growing up in the boreal forest (Northern Ontario & Northern Quebec)  
                      -Right against woodland/ forests  
                      -Trees were an integral part of environment and life  
                      -Education: in university, trees were seen as a tool more than anything  
                      -Science horticultural perspective  
                      -A lot of what shaped values was based on childhood experience, as well as work experience-working with municipalities, conservation authorities & community groups  
                      -Exposed to greater range of benefits, and the value that communities see in trees were developed through work experience rather than educational experience  
                      -Spiritual experience: not individual trees, but a woodland landscape. Feels a spiritual experience from that environment  
                      -Cathedral of the Pines |
| **Jim Vafiades**   | You talk about protecting the environment. What do you think influenced that sentiment?  
                      More my childhood. Just growing up outdoors and being outdoors a lot. Doing a lot of visits to provincial parks and conservation areas. Camping. |
| **Naomi Sachs**    | I grew up in a pretty rural area of Connecticut, which has a lot of trees. I grew up on about an acre, and we have a lot of trees on our property. We had a swing that hung from a maple tree limb that I remember swinging on. We had a yew hedge that lined the street and screened the street from the yard. But that was one of those big hedges, so I would spend hours playing in that hedge and pretending with my friends that there we alligators on the bottom. We |
would have to climb through the branches—it was a challenge about who would fall first. I loved climbing trees. Fortunately, I don't think I ever fell out of one. There was a big forest about a five minute walk from my house. Fortunately I grew up in a time where parents told us to be back before dinner, or at least before it became really dark out. The forest was really my heart. That was the place where I would play, and go where I was sad. I had my first kiss in the forest, I smoked my first cigarette in the forest. It was a magical place. I think forests still are. They are magical places.

<table>
<thead>
<tr>
<th>Julie Michaud</th>
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<tbody>
<tr>
<td>Childhood:</td>
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<tr>
<td>-Growing up in Quebec City, had an experience of a landscape that was unwelcoming: bus stop; arid place, no greenery, uncomfortable</td>
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<tr>
<td>-Grew up with a small backyard and then moved to a house with a larger back yard with trees in it</td>
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<tr>
<td>-Was involved in girl guides; from there, gained an appreciation of trees</td>
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<tr>
<td>-Childhood formed an appreciation of trees</td>
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<tr>
<td>-Interacted with trees by climbing them</td>
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Undergraduate Degree (Landscape architecture at University of Montreal)
- Trees were part of the curriculum, but not the main focus; focus was more on design (for people)
- Plants and trees are part of your education, but the focus is on designing the space
- Trees are part of something to consider when you design as a landscape architect. There are so many other things to take into consideration. Sometimes you are not designing for trees, you are designing for people. For recreation. There are very specific projects where you make trees a priority, and others where trees are compliments to your project.

On the imbalance of who landscape architects are designing for. Does that imbalance do a disservice for people or trees long term:

I think that sometimes there is a disservice to the trees. People have good intentions and sometimes they pick a type of tree, because either they like a tree for what it’s supposed to look like, or they want to plant a maintenance tree. But if you don’t consider the soil conditions and you don’t allow for optimal conditions for the tree to grow, that tree might never end up being a nice tree and sometimes they even die prematurely because they do not have such good growing conditions, or they are just planted in the wrong spot.
**Did your perspective change from your undergrad to ten years into working as a landscape architect?**

Yes. When I did my undergrad there was a very ornamental focus on trees. I find that when I moved to Quebec to southwest Ontario, maybe because it is much more built up and agricultural area that ***concern with native species, planting native species, that has changed, and also, in the last few years there has been a lot of new technology to help grow trees in more difficult environments. I find that silva cells, the use of ***soils--they were things that did not really exist back then when I was doing my undergrad, but now we’re learning more about soils and how important it can be in terms of getting nice trees to grow in urban areas, especially built up areas.”

-So I would say technology

**In terms of native trees: would you consider that to be a trend, or a change in understanding or perspective of the uses of native trees?**

-I think it is more than a trend. I think it is there to stay. I think it is part of an environmental awareness--that you know a tree is not a thing in itself. Sometimes we will use them as objects, for a specific colour or flower, or something like that. But a tree is also a source of food for animals and insects. If you plant native things, it is proven that there are more benefits and there are better contributions to your local ecology.

-The intentions of planting more native trees is a good thing. Hopefully it is something that stays and not just a trend.

**Work experience in other professions: Specific project**

-I remember the one time where I was kind of new in my work, and I was working on a road project for a small municipality near Montreal. We were installing new light standards along the roadside. Along the road there were big mature trees that had been recognized provincially, or at some level of recognition. When you install a lighting system, you end up building a trench and cutting into the roots of the trees. And I kind of suggested, why don’t we not a dig a trench where the big tree is, and then you would have two separate electrical systems and that would mean having two separate ***for the street lights. My senior colleague did not think they would like that, but they still offered them that option, and in the end they decided to go with that because farther down the road the tree was really important. It is a small thing, but it nice to see that sometimes we are as landscape architects able to see the value of trees as something that other people see as well.

**Spiritual experience:**

-Not really. I would say there is a feeling of well being in nature. In London, we have some parks that are environmentally significant
When you go there you feel like you are really ***. You can’t hear traffic around you.

-I know that there are those in the public that feel very strongly. If you cut a tree, you are doing something really bad because the tree has a soul. They do spiritual ceremonies around trees.”

Individuals

-Teachers, or professors at university

Of the influences that we just discussed, do you think one has a greater influence on your perspective of trees?

-Probably education

Why do you say that?

Because the childhood more gives you an appreciation, but you have to learn more about trees to really understand what they are and all of the benefits. How to use them, how people appreciate them. The childhood is kind of the seed of appreciating trees, but they are not part of your education. You really develop an appreciation for aesthetics, and all of that.

<table>
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<tr>
<th>Michael Ormston-Holloway</th>
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<tbody>
<tr>
<td><strong>Childhood</strong></td>
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<tr>
<td>-Absolutely.</td>
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<tr>
<td><strong>Education (Undergraduate degree, Bachelor of Science)</strong></td>
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<tr>
<td>-Yes</td>
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<tr>
<td><strong>Education (Masters Degree, Landscape architecture)</strong></td>
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<tr>
<td>-Yes</td>
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<tr>
<td><strong>Certification in Arboriculture</strong></td>
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<tr>
<td>-No. Only because I got that certification because I needed it. I already had in my head where it was. I got the ISA credential because I wanted to be at the table where these discussions were being had. I was trying to have these discussions, and people would say to me “are you an ISA certified arborist,” and I would say no, but I’ve worked with soil chemists, I’ve worked with forest ecologists, I have professional degrees, I have a bachelor degree in science, I have gone to school for landscape architecture, I have strung together horticultural diploma, I should be at this table, and people kept saying “are you a certified arborist.” Finally I decided that it was going to be the last time I would say no. So I went out and got it so that I could stay at the table.</td>
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<td><strong>Work Experience (as a landscape architect)</strong></td>
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<tr>
<td>-I’ve been fortunate to have worked on many projects in many places. My time at Michael Van Valkenburgh and Associates I was largely working on</td>
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the Lower Don Lands competition. They envisioned a new river mouth--we called it an estuary--it wasn’t an estuary, but it was better than the right angle than the Keating Channel takes at the mouth of the Don. I worked a lot on this Lower Don Lands competition, but I also worked on Princeton University where we were the campus landscape architects. It was interesting...it was many many projects, but I got to work with literally the biggest architects in the world, because everyone wants to have a building in Princeton. It was fun and frustrating to work with those egos. Campus design was interesting. A project that is close to my heart, is Goderich--it had an F3 Tornado come through August 5th, 2011. It went right through the centre of the town, and took almost 100% of the canopy with it, devastated structures. It really was a rebuilding exercise, it was a large scale master planning approach, and really a vigorous tree planting strategy for the town because all of its trees were gone. So that was the Goderich Tree Master Plan, and the first pilot project that came out of that was their first main park downtown, Courthouse Square Park. We brought in 80ft tall trees with 12 ft root balls on them, or bigger. That was exciting, because it was doing work that wasn’t conventional. Moving large trees often leaves people scratching their heads, thinking that it is irresponsible, and suggest planting smaller trees that will get going faster. I certainly sympathize with that, but a couple of token mature trees can be powerful. That project was largest critical mass of large tree plantings in a public project ever in the country.

-As a third project, working right now on Queens Park North-North of the Ontario Legislature; that is interesting, because the entire thing is trees. So if you look at an aerial, there is almost 100% canopy cover. It is exciting to work in environments where you know that you are walking on a latticework of roots everywhere. When you are constructing in that environment, you don’t want to be compacting the soil. In fact, you want the soil to be better off when you are done construction, and that is a challenge.

-West Don Lands was a creation of a neighbourhood. It was a brownfield site. There was a large amount of soil remediation. There was a huge flood protection landform, that we worked with a whole network of engineers on to flood project the land that could then be developed. And we developed new languages for streets, how they should work. Starting to make arguments that streets should be used as parks.

Work Experience (other)

-Absolutely: I will point to three jobs. I went to summer camp every year. I ended up counselling at summer camp. I was senior staff. I was helping direct the camp at one point. Waking up every day, jumping in the lake, and running through a forest. I was connected at a very young age to nature. That was important. That, and as I moved into my early professional career, one of my first gigs was along Gordon across from the [***] building. There is a tiny garage with a little building with two car garage doors. It was agro forestry
and forest soils. We ran agro forestry test projects out of the turf grass institute, and I pruned those trees. I did experiments on that soil. Lots of biomass studies, yield studies. And that was fascinating to me because I wasn't a certified arborist yet, but I was working as an arborist cutting trees, pruning trees, learning that when I get through an oak by arms would be sore, and it took me half an hour, but you get through a silver maple in five minutes, and I would be fine. So there is something about that. There is a different quality in the wood. They grow in different habits. Learning that stuff, just by finding the trees and cutting into them and doing studies of them. That definitely helped. And really the last job I had at Guelph before moving to Toronto, was when I worked at the Arboretum and I loved that job. We built the raised trail through Wild Goose Woods that go over the ephemeral wetlands. The trail system through Victoria, specimen planting. How to plant things in a community, or not plant things in a community to prevent pests.

**Spiritual experiences**

- Yes. I can't really put my finger on them. There was something about camp, the camp fire, in the woods. Camping under the stars and going on canoe trips. I don't know exactly what that was that was spiritual, but I would say that it was because there was a feeling there.

**Individual**

- My family. My grandfather had a fork in his road where he was either going to be a forester after the war, or work with compressed gasses. He took the compressed gasses route, which financially was the right decision, but he always wished he was a forester. I always knew that. He used to always tell me that one day I would have a home in the forest, or I wouldn't be one of those guys who would live in those tall buildings. I would need trees in my backyard.

- I can't over emphasize the role of camp connecting me to the outdoors. There were different directors every year. There were some that I identified better with than others. I think that whole experience was really important.

**What do you think influenced your perspective of trees the most?**

I know that my time in Guelph, between agroforestry and--specifically the arboretum--I wasn't there for that long in the grand scheme of things, but it is one of the most memorable jobs that I had. That was the moment that I noticed--you know when you kind of light up when you do something, you are somehow a better person doing that task--that is how I felt there. I felt "ok, I've got it. This is in the right direction,"--planning how people move, what is the experience that they move through space. Trees were a tool for a design. Everything clicked for me when I was there.
**Mark Steele**

I think back to my childhood. There were three favorite spots to go to. One was an empty lot across the street that was the link to the field with the big trees. There was a woodlot at the end of the road--it was a sort of silver maple swamp, which I didn’t know as a kid. But it was a favourite place to go ride bikes and explore. There was a third place down on the Homewood property where we would go and build tree forts down by the river. Those were all fond and favorite memories from childhood. They were all linked to trees. That was not really something I thought about until later in life.

*Do you think your education had an influence on your perspective of trees?*

In general, I can’t think my education did until landscape architecture. [My education in landscape architecture gave me] a better understanding...I can’t go anywhere without looking at trees, the condition of trees, where they are planted, how they are doing, why they are doing poorly. I have a colleague, that we are always exchanging pictures of trees in odd situations.

*Do you think that other people see trees that way? What their condition is?*

I don’t think so, until they are bothersome to them. Or if you go through a parking lot, and you see a tree is snapped in half--it becomes apparent then. Other than that, I don’t think everyone makes the link between the environment and their trees.

*Are there any spiritual experiences that shaped your perspective of trees?*

No.

*Any individuals?*

My grandmother. Not with trees specifically, but gardening and taking care of plants. That was a favourite time of childhood, going to see grandma and working in the garden.

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**Hank White**

-Where I grew up was pretty rural. It was a landscape that had a great deal of open space. That open space primarily was filled with mature woodlands--large scale. It was also an old community where there were trees that dated back to the revolutionary war--they were landmarks during various battles of the revolutionary war. So they had recognition within the culture of our community, as having historic value and significance. To say nothing of their majestic presence and scale. As a young boy, I appreciated the majesty of a tree’s structure, its form, its shade, and its spatial impact, when these trees were celebrated as landmarks within the community. They were celebrated like a historic structure. They had their own social and political history.

-Growing up, nature abounded all around me. We built and designed a house in a hilly wooded lot. The trees around the house were preserved. The house
stood in this wooded condition that had been there for multiple decades. That was the strategy that my parents insisted upon, and enrolled the builder to ensure that they did not harm the trees within the property. They were preserved, and the house was sited around them. I appreciated all of what they did initially, but also what they did in providing shade and comfort throughout my childhood.

**Sophie Beaudoin**

Probably many things. When I was a child, we had two months of summer vacations, because my parents were teachers. Next to the house was a lake and mountains. I think that I was in the forest every day, and in the lake as well. My two major natural environments that I grew up with were water and forests. The other thing also is that when I was a student of landscape architecture, I was working in the Montreal Botanical Gardens. We were doing some reproductions of trees. My job was to walk all around the arboretum and to pick up little branches from different trees and shrubs. It was really fun. I think that I learned a lot about trees at that time.

*How do you think your time at the Montreal Botanical Garden influenced your perspective of trees?*

It added to my respect of trees, and seeing the importance of them. Including all of the benefits that trees provide.

**Virginia Burt**

-I grew up in an apple orchard until I was ten. From that perspective, the influence of trees is that they are so multi-faceted. They are so influenced by weather. One year you get a better crop than the other one because the cold wind was blowing on one side of the tree, and the bees could not pollinate on one side. So you would have trees filled with apples on one side. There are so many variables that all go together.

-Trees have helped me have a more holistic view about how important all of our environment is. My earliest memories are of walking in the orchard and the trees were full of blooms, or applies, and full of the scent of apples.

-They are woven into my story in a way that perhaps is deeper than others who might not have had that opportunity.

**Ryan Wakshinski**

*Childhood*

-Loved Climbing trees and taking refuge from the sun in the hot Winnipeg summers; multi-stemmed hybrid/Russian poplars, allowed for easier climbing by providing foot and hand holds

*Undergraduate Degree (Environmental Design)*

-Appreciation for the essence of a tree/the entire system of a tree
Learning to draw trees helps you to study their form, how they grow and how the structure is evident at multiple scales.

*Masters Degree (Landscape Architecture)*

- Experience of the space, looking at ways in which to use trees to strengthen/augment design concepts, whether it be in the ‘classic’ park style (“random”/ “natural” arrangements) or more modern treatments (grids, lines)

*Work experience as a landscape architect. Ex. the design work you did with Manitoba Conservation/Sustainable Development:*

- Trees are something we always try to retain in the landscape as they are fundamental to the essence of a site/place. They help define the character of a place.

- Planting trees has both a capital cost (to install the tree) and an operational cost (to establish and maintain the tree). There is not always universal agreement on how much to spend at either end.

*Work experience in other professions*

- Golf course maintenance; did not overly influence perspective. Trees were something to mow around and something to clean up in the fall (raking leaves for golfers). But again, they were fundamental to defining the character of a place and physically defining spaces for play.

*Spiritual experience*

- Time spent in UK and Europe, being around the historic, twisted and gnarled trees that could be many hundreds of years old. More moisture and mild climate in England means trees grow faster and larger. Older forests have a magical light quality. Think about how many hundreds of thousands or millions of people have walked past/under these same trees. Remember Napoleon would plan English Plain trees wherever he went to provide shade for his soldiers. That is a powerful image.

- Spent time in California in Muir Woods north of San Francisco and Yosemite national park around the ancient giant sequoia and coast redwood trees. Trees so big you can’t see the top and have branches larger than any tree you would find in Manitoba. Awe inspiring and humbling to think that these are living ‘beings’ that have survived fires and untold disturbance for hundreds of years.

- Brokenhead Wetland Interpretive Trail and Boardwalk in Manitoba has some 80 year old Cedar trees that are equally inspiring to me, the green filtered light quality, smell of the cedar and texture of the bark is very atmospheric and calming. Trees that ‘twined’ around each other like corkscrews for no apparent or understandable reason. A spiritual place for Indigenous peoples for obvious reasons.
Professor Charlie Thompson was a bit of a maverick and inspiring lecturer, talked about the importance of looking after a landscape and how you can have the most amazing design in the world, but if it is not cared for and the trees are not maintained, it will not work in the long term.

My father loved to prune trees and would limb them up every year until you couldn’t reach the branches and they would become top heavy and start leaning over. I have inherited his “tree cutter” spirit to some degree, but I am a bit more restrained.

Do you think that your time spent in the UK shaped your perspective of trees? Do you think their perspective of trees is different than here in North America?

- Yes

- More respect for nature/public space

- Because the physical size of the landscape is limited, and resources are limited, more care is taken to look after the landscape in terms of amenities, views, existing vegetation, history, etc

- Britain and Europe have better tree protection measures limiting development around special, historic, large trees compared with North America. In the UK they might make you put up a full chain link fence around the drip line of a tree versus strapping some 2 x 4s to the trunk of a 100-year-old elm on Winnipeg streetscaping projects.

- In Winnipeg we let developers drive design because there are no physical limitations or policies in place to influence design. We are desperate to grow and increase our tax base, but we do this at the expense of good design and the landscape and its resources. In the UK, I had government planning and design officials commenting on the type of trees and shrubs we planted, the layout of the planting and the density. That has never happened in Winnipeg.

Colleen Mercer Scott

Probably a little from childhood, because there is a really neat forest near my house that we used to always play in. The Don Valley was part of our playground too. When I was eighteen to about twenty-two, I worked in a nursery, and it was great, because I got to dig trees, learn about trees. When the nursery wasn’t running, we got to plant them in residential places. You learn about soil at that time because you are digging trees and learning about which tree balls in what types of soil held together, the ones that...all of the
elements of the soil were pretty important as well. I was a geography major at the time, and I really liked physical geography. It all sort of flowed together.

| **Karen Landman** | -Grew up in the country  
-Respite in crab apple tree with book (still alive-cared for by brother)  
-Climbing trees as child, building tree forts  
-Interaction with trees as a child  
-Firewood, splitting wood  
-Spouse: carpenter (both interested in trees)  
-Built a log home  
-Time spent living in Boreal Forest in Northern Alberta  
-Time spent sitting beneath trees and contemplating/meditating  
-Community of tree  
-Agency: we are able to make choices; tree has the ability to make a choice (heal itself, warn each other of predators, affect how we feel-good or bad-sometimes scary, like old fairy tale) |
| **Robert Wright** | -I grew up when I was younger in Europe: St. Germaine-rm-Laye, in Paris, and Fontainebleau, in France. My dad was in the military, so that is why I was there. I played in the Fontainebleau forests, which is one of the great urban forests of the world. It is a totally managed forest. To the Europeans, including the French, trees are sacred. And they use them in all of their designs. You will see them growing out of the sidewalks. Their climate is much different than ours. When I came to Canada, I really liked wilderness areas or wild areas. So somewhere between my love of cities, and my love of wild areas--in fact if I said I didn’t like a landscape, it would be a rural landscape. It is my least favourite. I did wilderness canoe routes for Parks Canada. Being in Newfoundland, and doing that in the Terra Nova Provincial Park and the surrounding landscape, it was just amazing to see--the Boreal Forest, it is just just an amazing ecosystem. Trees that are 2-3ft high, but literally hundreds of years old. They are surviving in very harsh conditions.  
-Who doesn’t love trees? The bottom line is, there is something there that we feel a close relationship to--whether it is the ‘canary in the cave’ standpoint, in that they are good indicators of the health of the environment, or that they are
these beautiful objects, or that all of these environmental effects are amazing. It is hard to think of some other one thing that can do all of that.

*Do you find that trees are thought of as sacred here as well?*

-It depends on who you talk to. Some people don’t even notice them. They appreciate them, but don’t really notice them. In other places, if we talk about our indigenous communities, they are absolutely sacred, and they live in the forests. It is their home, and it is their livelihood, and it is their survival. And we are just learning about that through reconciliation, with a better understanding and through their knowledge the strong impact trees have had on their culture.

-If they didn’t have it, they would die. It is part of their survival, and part of their sacred language. Their mythology, their stories, are very much about the forest.

*Can you expand on what you mean by sacred language?*

-You would have to get into more philosophical aspects of linguistics. But if you think about it, if you use the word nature, or ecology, these are human created ideas. If you think of nature as an ecological system with gravity, and chemistry, and physics--this soup of amazing things going on--I don’t think it actually considers itself nature. It doesn’t have that type of consciousness--it is a wide ranging experience. “Nature eats her mistakes. There is thousands of years of evolution. But when we talk about nature and environment, those are human concepts. Even ecology is a human concept. If you look at the definition of ecology, if you buy into the ecological theory--by virtue of definition, there is nothing outside of it. There is no such thing as a non ecological environment. There is only the value system that we put on those different environments.

-Here at UofT, the President and Vice President of planning and facilities have a standing order that no tree will fall without their explicit permission. That is how important they are to the community around the university. Because the university is seen as having a wide collection of trees, and they are very important to the community. When the community comes out to talk about designs that are happening on the campus, and they are participating in that, they look for the trees. How many trees did we lose, how many trees are we planning. Trees. Trees. Trees.

*What else influenced your perspective?*

-Through practice and being a principal at an office, I had incredible mentors. One of my mentors was Art Buckley, who was the curator of the national Arboretum in Ottawa. Art taught me so much about trees. He taught me all
sorts of stuff about horticulture. He came from the Kew Gardens, he wrote the Perennials of Canada, and he worked on numerous books on horticulture. He was the consummate horticulturist and biologist. He taught me a huge amount about trees, survival, and our attitudes towards them.

-When I was in practice, Owen Scott was one of my mentors in the field. Owen’s father was a nurseryman. When I was working with Owen, and visiting all of the nurseries, and seeing all of the plants, and how plants are produced, it had a huge impact on me as well. Because these were people who are growing living material and dealing with the day to day of if they will survive or not survive. So the nursery industry is a great source of knowledge when it comes to trees. Because their livelihood is dependant upon them.

**Emily McCoy**

I'm certainly a tree hugger. Starting at a young age, I've played in trees. My Mom was a biology teacher. She taught me how to identify trees at a young age. I have a very close association with trees.

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**Has your perspective of trees changed, how, and what influenced the change?**

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<th>Name</th>
<th>Answer</th>
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<tr>
<td><em>Linda Laflamme</em></td>
<td>Do you feel that your perspective has changed over the years? No. I think that it just been reinforced. That reinforcement came from your education and work experience? Yes, exactly.</td>
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<tr>
<td><em>Jim Vafiades</em></td>
<td>I'm sure it has. I think learning about how other people view nature--learning that some people think forests are scary...it was hard for me to believe that at first because it was always a place of solace and protection for me. We had a friend who was a city boy who hated the feel of grass under his bare feet because he had never felt it before. I remember from being very young. I think that hearing people's different stories and perspectives and respecting that and then trying to create designs that accommodate those fears and either help people get over them, or make is so that people don't have to get over fears. Even like taking the landscape architecture exams for CLARB---learning about crime prevention, how to use trees and other plant material for safety and how to not plant it so that a car will hit it, or so that it will not become a visual obstacle at a corner, or how to limb things up so that a park becomes too enclosed and prevent crimes from happening. Facilitate healthy community activities. That is stuff that I had to learn, having grown up in a</td>
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<td><em>Naomi Sachs</em></td>
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pretty rural space where you just didn't worry about that. Even as a kid, I might have been scared in the woods after dark by myself, but it was more about ghosts than it was about strangers or criminals.

**Julie Michaud**

**Michael Ormston-Holloway**

**Mark Steele** Yes. Certainly. A greater appreciation, and hopefully a better understanding of trees.

**Hank White** I’m sort of an odd duck, in that I wanted to be an architect ever since grade school. Primarily through the influence of my parents hiring an architect to design our family home. I was fascinated and really struck by all of the renderings and all of the drawings. And how the technical drawings, to describe a structure, were prepared. I began at a very young age by studying those drawings, visualizing the structure the spaces as three dimensional in my mind. And then witnessing the actual construction of the building within this mature landscape setting. The process was illuminating to me. Because the process was very concrete and so real. So seeing something from a two dimensional condition be realized in actual form was a fascinating process for me. That started my journey in pursuing the creation and design of things in the landscape. My interest in garden design, horticultural design, plants, and how they are another cultural and artistic expression. I saw how that was underutilized skill and talent, and one that was deeply understood. I did a lot experimenting with just my own hands on gardening and garden design that continually to this day educates me with landscape design, in particular planting design.

-As I became more and more educated--as a child, I did not necessarily understand or see. I was not trained to see the subtle differences between different tree species. So now of course I can look at a tree with or without leaves, and identify the species and variety--that is all through education and experience. As a child I was only able to distinguish larch; deciduous trees from coniferous; some *** a pine and a spruce and a fir; understory trees from canopy trees; the basic shapes and forms. Knew some of the prevalent varieties, and I could identify those. When you start learning about the plethora of all of these (*break in conversation*) The more you know, you realize how little you know. It is this constant building of knowledge: Of subtleties of structure, of seasonal performance, activity, features. This is why I love going to nurseries. The nursery industry is constantly expanding with new varieties and cultivars of well known species that have very distinct shape and form characteristics that have incredible design opportunities of creating really distinct landscape designs because of these very distinct forms.
of these various new cultivars. We are working with columnar tulips that are a native species to where you are and to north America (by and large): they have bioengineered these new shapes where they have varying degrees of columnar forms. These are new developments within the nursery industry where you can use trees that have all of the strong characteristics of native plants, but have distinct shapes or forms where through the artistry of using those particular forms, you can really use creative design opportunities. That is what exciting for me, because it is constantly changing. When I visit nurseries I am always inspecting: “what are you developing, what is new.” When I see something that I don’t particularly recognize, or I’m attracted to that particular form, I learn about it, or get informed, and I get inspired: “I’m thinking about a landscape design, and that tree might be perfect for that location.” I never would have thought of that if I hadn’t seen that tree up close in the nursery with that particular shape or form. That is what is exciting about visiting the nurseries. It is like an interior designer going to an antique fair and finding furnishings and objects that they wouldn’t have otherwise known about and see their relevance for whatever their design may be. That is my metaphorical parallel.

| Sophie Beaudoin | Yes, because I was not aware about all of the technicality. What it takes to make a tree grow in a healthy manner in our cities. As opposed to in nature. In the city it is not the same thing. |
|Virginia Burt    | I think it became deeper. Deeper in understanding the nuances of their shapes, their colours, their forms, their abilities. Their indicators, their beauty. Or in some cases, not so beauty |
|Ryan Wakshinski  | No. That is interesting to me. Because I had that experience when I was a kid. My mother was green to the elbows. Because there were no nurseries in my town when I was growing up, she would order from mail order catalogs. She would consider the zones as a personal challenge. I remember coming one summer when she was in her late 70s and there was bok choy on the counter. She had grown it in the backyard. She grew everything, she grew roses the size of goldfish bowls. Just because it was her hobby. She felt that if you grew things, you should take care of them, and they will do things well for you. I have never been able to duplicate her prowess. I'm just not as good as my mother was. I think my attitude towards trees was sculpted when I was that little girl crying over the birch trees. When I was a girl guide, and when I was on the river fishing with my dad in the spring of the year. When we were camping, we would always try to be in a nice treed lot. Trees were just really valued to my family. It was interesting because my family has been in Newfoundland for at least 400 years. They were fisher folk who inhabited a relatively harsh coastline. A lot of rock, pockets of soil, not the big open... |
fields that you see here. So farming was a challenge, but they farmed and they supported themselves. Trees were important in those villages. You planted trees. It was the English, Irish, Scottish culture. What I have seen in areas in Atlantic Canada, that are old areas that came out of the old Canadienne French culture, they view trees entirely differently. Their properties are generally bare of trees. Maybe some flowers, but they don't plant trees near their houses. I've never really understood it. I've talked to a few people about it, and they would say that their parents just never wanted trees around the house. I found it interesting, but I've only dabbled in historic landscape and the cultures for historic landscapes. For our family, trees were always important. We would always stop to look at that tree. "Isn't it gorgeous!"

When they put in a new row of birches, my parents would go out every Sunday on a dirt road to view this forest of paper white birch. And underpinned with the three foot tall Ostrich fern. You could see for miles under this tree canopy. They were stunning. They didn't last of course, because they were probably at the last stage in their life. But it was a great tragedy in my home town that those birches didn't survive. That is the unfortunate thing, they don't last like maples and oaks. One of the provincial parks near town...when I was a kid, we would go there for picnics every Sunday. The reason we would go is because it is in an aspen grove. These were the tallest trees I had ever seen. The biggest grove of aspen I had ever seen. We would sit there having tea after dinner, because my mother said the sound of the wind in the aspen trees was like the waves on the ocean. She would have us sit and listen. I remember these things from a working class family. These were things that we did. We didn't think that they were weird. So I don't think I've changed in my perspective, it has just increased my responsibility. Now I am of the profession that is supposed to be speaking out loud the things that my parents spoke to me when I was a kid. Now that is my job. I have been empowered by knowing more, both as an ecologist and as a landscape architect. Now when I speak, and I speak to my neighbors, I speak from a point of authority. "You need to water that tree! If you don't want to, I'll come water it for you."

Jim Melvin

Do you think your perspective of trees has changed from your childhood to now?

Probably a little. I really like going to Botanical gardens, so I like seeing varieties of trees. It probably moves from...I like being in nature, but I really like going to Botanical gardens because I really like seeing the compositions that are being put together in those kind of gardens.

Is it fair to say that you have developed more of an appreciation for the design of it?

Yes, I think that happens as a landscape architect. That just happens. Don't get me wrong, I really like doing planting plans.
| **Karen Landman** | - Yes  
- Come full circle  
- Innate connection to trees as a child-formal educational training-return to appreciation for tree a being unto itself  
- We need trees more than they need us  
- Irrational and emotional understanding of trees as a child; ability to remove oneself  

*What influenced the change?*  
- Deepening knowledge of trees  
- Continual education  
- Increased understanding of how trees communicate with one another  
- Deepening knowledge of how complex trees are  
- Amazing longevity of some species  
- Scientific knowledge  

*What is the most significant change in perception you can think of?*  
- For me, that there is a complexity in tree life, in tree community life, and with tree/soil interactions  

| **Robert Wright** | - I think that the awe has grown. I am more and more amazed by them.  
- In a project that I did in Laurentian University in Sudbury, where I did the site planning for the school of architecture, there is an oak in the middle of the courtyard which represents the 10 millionth tree that has been planted in Sudbury. Sudbury, with its history relative to sulfur dioxide and acid rain—slowly, as they cleaned up that act, they have slowly been planting millions of trees. I have assisted with different groups that have worked to get different grants. There is a project going on right now headed by Michael de Pencier is to plant 10 million trees along the Highway of Heroes. This is a growing thing. If landscape architects aren’t on the forefront of this, then where are they?  

| **Emily McCoy** | *What influenced your perspective of trees the most?* }
Because I studied ecology, the evolutionary history and the role that trees play in a natural setting, and understanding that functional role. To me, is what I think about when I look at trees.

Do you think your perspective has changed since your childhood to now?

I think at the core, it hasn't changed. But I think the more that I know about the specifics of how trees function, whether it be rates of transpiration of water, or providing habitat for certain species. All of the more detailed aspects of a tree, the more I appreciate a tree. In that way, it has evolved.

How do you think your perspective influences your design decisions?

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<td><strong>Linda Laflamme</strong></td>
<td>I think in a positive way. The example about forcing the issue of grading around the big oak tree for a project I looked at a month ago. I had no second thoughts. I just looked at it, I looked at the report. It said it was in really good condition, it was a nice mature size. We said why can't we retain this, we should, it is a beautiful tree and we can retain it. It was a no brainer. We made the effort to make sure we saved it.</td>
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<td><strong>Jim Vafiades</strong></td>
<td>Do you think that you take that perspective and use it in your designs and your research?</td>
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<td>I do. I'm not quite sure how. The forest that I grew up with is different from what a lot of people have access to and experience. I hope that I bring my respect for trees and my gratitude for trees into what I do. I think that is part of what why I became a landscape architect--having a positive experience close by my house. Having the nearby forest so close by</td>
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<td><strong>Naomi Sachs</strong></td>
<td>-I like to ask much as possible refer to my work experience. The first time you use something, for instance, silva cells, you don’t really know how it is going to work, but after you have done it, it is good to refer to your own experience and you specific projects rather than research you read about, or other people’s projects. In terms of silva cells, I have seen with my own eyes that the irrigation is really nice. How beautiful and fast these trees are growing compared to the tree that we just planted in the ground with no *** that are just left on their own. It is nice to refer to. Then again, when you are just starting, you have to refer to research and other people for experience.” \</td>
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Do you make your design decisions based on positive past experiences that you have had, based on trial and error?
Yes

Do you think the design decisions you make would change if you had a different perspective of trees? For example, a preference for native trees was expressed previously. Would that preference change if you had a different perspective based on different experiences.

Maybe I would use more of mix. Maybe I would looking at trees for their aesthetics, rather than the effect I’m trying to have. Because the thing with native trees is, they are so beautiful, but they are not as showy as the ornamental varieties. *** select things like crab apples, or Norway maples--things with a very specific characteristic in the way they look and the effect they have, whereas the native trees have a subdued effect. But we know the value of native trees over the showy trees.

-Probably. If I didn’t have a different appreciation of trees. For example: If your childhood was different, would you make different design decisions? “Someone who doesn't interact with trees...We work with people, residents, that often call us to say 'we don’t have any trees, they are too much work, or we don’t want to rake leaves, or we don’t like bark’. So some people have a different vision of trees. So, yes, that is possible.

-Your design decisions affect the people you are working with. You are usually working on a project with other professionals. I work mostly on parks, so people using the parks would not benefit from trees that provide shade, healthy environment (if different decisions were made). The design decisions made would affect people in the park

Do you think it is important to understand how you are making these decisions including what is influencing those decisions that you are making?
-Yes. The better you understand how you are making your decisions, the better you can improve your decision making.

-Relying on science based information, rather than experiments made by other other people have not been proven.

-Climate change: if we think the weather is going to get warmer, should we think about changing the species that we are planting. In the city of London, we are trying to reach a canopy cover around 30%. Shade is going to be very important, looking at cooling costs, sheltering from the sun, and considering species that can survive in an altered climate.
<table>
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<th><strong>Michael Ormston-Holloway</strong></th>
<th>From everything we discussed before, do you think understanding or recognizing our personal perspectives is important as a landscape architect?</th>
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<td>- Yes, I think so. That is what drives you in a way. Things you find important. It is nice to be working on things that you believe will make a change and will improve your environment.</td>
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<td>- I notice that in the questionnaire that I did yesterday--and I made one error, I meant to hit safety on the very last one. Some I notice that maybe I had thirty selected. There were one or two pages that I selected every single option, because that is what I do. I work as a landscape architect on projects where I am in the public realm, I need to do the right thing, we need to have a nice hardscape, amenity space, pools, gardens, and there may be a couple of trees there and a little bit of soil. There are those projects. Or there are projects like Public Work where they are working on the Bentway. They are really my competitor, but I also work as their ecologist and certified arborist. I work often with my competitors to be their ecologist, or arborist, or natural playground specialist. Because of that, often I am on a project advising soil, where I will be getting soil tests analyzed. I will be working with very difficult contractors who aren't used to working with someone like me. Or, I will go to nurseries, I will select trees, I will select trees that need shipping tomorrow. I will select trees that are going to be dug in four years, and I will talk about pruning exercises now. I will go to nurseries to get them to grow certain species for me. I'll study by hardiness zones. There are nurseries that are in other parts of the continent that you wouldn't expect to have the exact same hardiness zone as a 5b of Toronto for example. So there is that lens. And then, for example, I am working with the TCH on a couple of projects now, and they are so concerned about tree spacing from their building, people climbing the trees and getting onto their balcony. So we are talking about form and spreads, things that will be wide and branch out. I can work on the smallest details of the trees in the soil, or I can work on the comprehensive project and how that trees fits in the public realm, or the rhythm of that neighborhood, or the genera or family of the tree species. Is this resilient, or are we going to have something like the emerald ash borer take 100% of the trees down the street.</td>
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<th>Do you think that you rely on your past experiences to make these design decisions?</th>
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<th>Do you think that due to your perspective, you approach tree selection differently than other landscape architects?</th>
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-Yes.

-I do. It is disheartening in a way. I wish there were more people who seemed to care about these things. I am working in front of the ROM right now. There is going to be a performance terrace built this year. The architect really wanted honey locust. And I really have an issue with honey locust. It is a great tree, it is a medium sized tree, it isn't a canopy tree, so it isn't going to do the ultimate infrastructure things that we want trees to do, which at the end of the day is what we want. We want these larger canopy trees on our street, but they are not always appropriate. So they want honey locust, and I don't want to plant honey locust. They are over planting honey locust in this city. There are other things to think about when you consider a tree. We say that trees are infrastructure, but what is that?--they will shade the pedestrian level, or it will clean the air, but how much does it clean the air, and how much does it shade the pedestrian realm. There is the idea of a leaf area index--if you stand under a Norway Maple, you wouldn't get ray of light. There would be no sunlight that gets through that canopy. It is invasive, and things that we do not like about Norways, but it has an incredible leaf area index, so it has this amazing potential to shade the pedestrian realm and clean the air. You can stand under a mature honey locust and still be bathed in sunlight. It is not cleaning the air to the same degree, it is has a completely different photosynthetic potential. It is very rare to have a landscape architect talk about leaf area index when they are planting a tree. If I have a patio, that would be the perfect spot for a honey locust, because you may want some of that light to dapple down and not have one hundred percent shade. The context matters, the use matters, the infrastructure potential matters. My major issue with honey locust is that so many people have it in their back pocket and they use it. It is there, it will work, they can wash their hands of it and be done with the project. But we have to think--if a whole block or neighborhood is sixty percent honey locust, then we are doing a disservice to the resiliency of that landscape. We are seeing the emerald ash borer now, and it is too bad that we saw that because we should have learned our lesson with the elms. We shouldn't have seen the elms, because we should have learned our lesson from the chestnuts. So what we learned is that we now use linden, honey locust, freeman maples, and that makes up the block. So I look at the neighborhood, I look at the block, I think about the soil I can get in--am I in a parking flat, how much soil volume do I have. Matching soil volume to the growth potential of that tree so that I don't plant something that is going to struggle for the next couple of decades and be chlorotic. Plant something that will thrive in those conditions.

Do you think you would have approached these design decisions if you had a different background?

Yes. For sure. Often when I was younger, I would scratch my head and think "what am I doing," and embrace soil chemistry and think that is not quite right, so I would lean more towards forest ecology, and think that is not quite
right, and then the whole time—I drew growing up. I had comic strip for years in the Ontarian and in a couple of other papers, and I knew that I loved to draw, I loved soil, and trees, and ecology. I was fascinated with the city. When I look back at it all, I couldn’t have planned that better to be a landscape architect. Because these are all of the tools that I use every day. Every degree I got is critically useful to what I do. Does it change how I look at things? Yes. And not being afraid to do things that are not in the typical scope of work that is in a landscape architect’s job.

*Could you elaborate more on that?*

There is the scope that the LAs work on: we specify trees in the urban forest and that is one of the things that we do. I teach in urban ecology and plant design at the Daniels Faculty. The reason I do that is that at the end, a lot of the students will apply to my firm, I want to know which ones actually learned the plants, or learned the more technical details. I teach it because I see a hole in the education. And I do not want to be critical of the school. We need to know more about trees as stewards of the urban forest. There is no one that works more with the urban forest than landscape architects. And unfortunately, a lot of our graduates will not be able to identify trees. If you make it a little more complicated by asking, "what is that, and why is it stressed right now,"--I have found very few people who can logically step through that.

The urban forest is an ecological forest, and I believe that we need to know more about it. Soil chemistry should be a critical part of our professional degree, because we all get soil tests. Every project we get soil tests. Every office gets soil tests. You need someone in your office that can read it. So often it is always going to the same person, or there is no one there who can read it. I have friends at other firms who will bring me soil tests because they know I’ll read it quickly for them

**Mark Steele**

-I think it would be hard to not.

*Could you provide an example?*

-I try to preserve as many trees as I can, but I’m not always successful at that.

*Is that coming from a place of understanding the value that trees have in a landscape?*

-Yes, and in particular that longevity that we spoke about before. Where the lifespan of a tree spans generations of people and ties us together, but appreciating that a tree takes so much time to reach maturity, there is a value in that
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<th><strong>Hank White</strong></th>
<th>Is it fair to say that you rely on your past experiences/your perspective to make you design decisions?</th>
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<td>Of course. That is why people hire me. As you become more and more a veteran of your field, you have more and more experience to base your recommendations upon. Like an artist matures, and has various phases of his or artistic development, you can see that throughout all the lifetimes of the masters. It is the same for any designer: a building architect, landscape designer, a graphic designer, a fashion designer. There is constantly a design evolution that occurs within the human spirit. That is what is wonderful about growing old in this profession.</td>
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| **Sophie Beaudoin** | I like to think of a tree as a living thing. To put my hand on the bark, for example, and to feel it as it is, a living thing. What is also really important for trees is the link with other plants around them that participate in their growth and health, the microorganisms. This is only one example, but there plant associations with trees that benefit trees. That is why I like to think of them as a living thing. |
|                    | Do you plan for that connection in mind? |
|                    | Yes and no. It depends. It depends on the context. I am very careful about the planting material that we are using. I chose them very carefully in nurseries. When they are damaged because of their manipulation with the machines, or so on, I feel very bad because they have been grown in the nursery for many years. We pick them, we choose them with a lot of attention, and then they are damaged so we have to replace them. It is never easy to replace a tree. |
|                    | How do you think your perspective influences your design decisions? |
|                    | It is the way it is in keeping the balance between open spaces really open to the sky, and the filter that trees provide, and also to always be careful about planting the trees too close to each other, or too far away from each other. Having in mind what you want to create as a landscape. It depends. |
|                    | Do you think your respect for trees influences the design decisions that you make? |
|                    | Yes, because I'm not going to plant a tree in a location or condition that will not allow the tree to thrive |

| **Virginia Burt** | -Our story influences every design decision that we make. Perhaps even every decision. I think it becomes woven as a piece of one of the things you have in your toolkit. We learn--there is the good news, hopefully--we are comprehensive learners [***] as we assign greater value. |
-I think it is our time as landscape architects. Never before has it been more important for our work to influence human experience.

**What is an example of a time when your perspective influenced your design decisions?**

Almost every day

**What influences your design decisions the most?**

- Certain things that influence you at different times. I think travel is so important to be able to see and look at other landscapes. I think new research is so important to create the structure that is needed to ensure that a tree is doing ok. I think that there are new pieces, and new designers that elevate the profession, and we have an opportunity to learn from them. I think we come up with new ideas that push the envelope and we learn from experience--good or bad. I think that these pieces all contribute. For me, I think it is the whole package that influences me at any given time.

- There are times that it varies: it could be piece of poetry, a play, somebodies dance move, a song, a book, a mentor. There are so many variables, that I think influence us as designers. I think reflection is an important aspect of that--not just, going to another country or another garden; it is reflecting on the things I have seen that help life yourself up and lift up others.

---

**Ryan Wakshinski**

*Do you think your perspective of trees has an influence on the design decisions you make in regards to trees?*

- Yes

- Native vs. non native: perspective was formed through education, experience

- Remembering that they are living things that need to be looked after and maintained to retain their design influence/objective

- Knowing what to plant and how much to plant to be sustainable is important. When you can and should spend money and when you are better off being restrained

- Spiritual aspect of projects, trees reflect the soul of a place

- Try to plant as many as possible because some inevitably die out so to ensure the trees have an impact, more gives you a better chance at success. “The best time to plant a tree was ten years ago. The next best time is today” Just thought of this quote!
Which influence of your perspective do you think has the greatest influence on the design decisions that you make?

Practically, maybe a bit sadly, cost-effectiveness. In this day and age things are done less because they should be and more because they make financial sense. That is always on the minds of designers and clients. You have to fight to do the right thing. Are the trees you plant going to be looked after so that they last and retain their benefit to your design/landscape.

Colleen Mercer Clarke

What is an example of a time when your perspective of trees has influenced a design decision you have made?

-Many. We were siteing a Sobeys store in Halifax. We were doing many Sobeys stores. It was the groceries wars between Superstores and the Sobey's stores. I had a beautiful site. It had a grove of young oaks. 15 or 20 year old oak saplings. All down one side of the grade. When I got the grading plan from the civil engineer, I went back up to see my colleague and asked him why he had graded from the supply doors top curve down to the top curve of the road way at 2%. I said, "that whole side is a copse of oak trees." And he said, "ya, but I can't concern myself with that. We have to get this thing done and out the door. We are low bid tender on this. We just don't have any time. We can't do a detailed grading plan." So not wanting to rip those trees out, I offered to do the grading plan. So he looked at me and he sighed, and he said, "alright. If you want to do the grading plan, you are going to have to do it on your own time." When we went into see the VP for Sobey's that was handling the property acquisitions and development, he looked at this and said, "oh thank God. I heard you were on the job. I was just out at the site last week, and I was scared to death that the heavy equipment would be there." And I said, "they were." And he said, "Yes, but you kept the trees!" It was interesting to me that it got to be known that if there was a tree on the site, you cut that down on your peril on the landscape architect seeing that. I can't give you one sentinel example where my perspective of trees affected my design decisions. My perspective of trees ALWAYS affect my design decisions. What I would have to do is assess the species, age, longevity of that tree against the cost of adjusting the design. There are things that have happened in Halifax that are the reason why I live in Ontario today. I just go so frustrated with that I just couldn't stand living there anymore. To put up a Sheraton on top of a historic structure downtown, they took out six, three hundred year old chestnuts, that were the only surviving downtown trees of the Halifax explosion. There was never a consideration by the architect to do a footprint that would allow those trees to remain. I could not talk him out of it. He just wanted to plant more, because it was "no big deal. They would grow again." I just could not get people to see the trees as a historic artefact. An asset the same as buildings. I have probably changed more because of things I couldn't change myself.
Do you think people are starting to see trees as historic artefacts?

-Not as much as I would like. Too often, it is because the profession either comes in too late in the design process, especially if you are working in a deep inner city environment, where there is always a plan to do a tower, or an overpass, or widening of the road. But also, because I think that there is not enough emphasis on the landscape architect as the steward of the natural landscape. We kind of value the urban design, the hard urban design: Plazas, walkways, fountains. More than we value the natural environment. I project managed the first team after the hurricane in Halifax, and the damage done to the public gardens in Halifax, which is the oldest Victorian landscape in the country. One of the issues we grappled with in that landscape was that the hurricane might have been the best thing that happened to it, because it had been pretty much neglected and forgotten for thirty years. It had a team of its own gardeners, but nobody was watching the underpinnings of the natural elements that made the part flourish. The park was already a clear meter below the grade and the surrounding roadways. The natural stream that had flowed through it had been piped into stormwater, so there was only a small lily pond, two small ponds, and a day lighted ditch that connected them. But there was no functioning stream. A lot of the stuff coming from the roadways was polluting it. The trees that were in the park already had their roots too deeply in the water table to thrive. It took us a long time because that was such an iconic landscape to so many people, and not just people from Halifax. It took time to convince the powers that be that we start to recreate the underpinnings of the park. Most of the money in that first stage, was spent on significant inground drainage in that park. We actually put a purification system in that recycled the stream to keep the salt and everything out of the groundwater table there. We put a heavy emphasis on the existing plantings for the park. I think we developed a culture around that, where people started to understand that these trees had already been there for many years of their lives. Like all older people, they needed more help, not less. I think we still have that Judeo-Christian attitude towards the environment that really plagues us. Which is that we were given dominion over everything, and it is there to serve us. So there is a lot of that that exists. It depends on the culture that your client comes from---it depends on how your client grew up. The culture that influenced their upbringing, not just the culture that influences yours. Because, if you are from the Middle East, your culture towards the outside environment is quite different. You build internal gardens in courtyards, but you don't go into the arid external environment because it is not favorable to you. I used to talk about creating an oasis, and that would really wake my clients up tremendously. Or, if you are from inner city London, you might think that all trees should be in a park. A lot of inner city Americans are very much that way. They do have a suspicion of trees. In my early days, I took a lot of time presenting information to clients proving that park lands in inner cities were not shelters for criminals. There was a real sense that behind every bush, there was someone hiding and ready to grab you. You see Central Park
all of the time as an example. It was always, "there are too many trees, cut them down.

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<th>Jim Melvin</th>
<th>How do you think your perspective has an influence on your design decisions?</th>
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<td>I think I'm pretty much like anyone else.</td>
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What informs your design decisions when it comes to trees?

-Soils, environments, design, intent, program. All of those things. Some of it is just approvals-- for example, you need a boulevard tree every nine meters.

When we first started, I was working at ALP, a firm...we had subdivision design in Erin Mills, all of the North section. Cadillac Fairview had a deal with the City of Mississauga. Instead of just planting boulevard trees one every nine meters along the street, they did front yard landscaping. We were able to compose a streetscape that went from the front of the house on one side, to the front of the house on the other. It was way better than just boulevard trees. Because if you drive up those streets now, I remember drawing those group of evergreens that frame this view, and do this...it was a great experience, especially because all we did was planting. So it was planting plans forever. But it was really fulfilling. You go to learn your plant material, you go to create a streetscape, not just from the boulevard from house to house. That was kind of neat. No one does that anymore.

Is there anything else that you would like to prefer to be done with trees?

-I think PMA itself as done a couple of projects where we have planted forests. The tree is not the answer, it is the forest. That was all about preparing the land, and preparing the soil, than it was about planting the trees. If you prepare the soil, and till, then you plant small trees---in our planting plans, we would use a mother tree with some baby trees around it of the same species. There was also successional trees that we planted to. We created a space that would grow into a forest. There should be more planting like that, but it is hard to find large tracts of land to do together. Habitat is important too.

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<tr>
<th>Karen Landman</th>
<th>-Educating the client</th>
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<td></td>
<td>-Consider why one species is better than another for the job at hand</td>
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<td></td>
<td>-Plant native species when possible</td>
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<td>-Ecological value of trees</td>
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| Robert Wright | -Everything I have said--my ecological background, environmental background. And I try to plant more trees |
-... People identify with trees, whether they climbed them as kids, or have seen them in the cities, [and they identify trees with] the health of a place, because if trees can’t grow, then there is a big problem somewhere.

*Do you design with that in mind? That people have such a deep connection with trees?*

- Yes. In my design, I try to plant as many trees as I can. I always tell designers, to plant more trees.

*Is that a personal decision, or something that stems from your education and training?*

Education and training, both from an ecological...and now with climate change, urban heat island effects, carbon sequestration, oxygen production, and you can go on and on--much has been written on the subject.

*Emily McCoy*

I think I am a little more careful on species selection and understanding where a tree might succeed best, and different types of landscapes. Microclimate environment. I feel that the understanding helps me choose species with a different perspective maybe than others, because of the performative aspects a tree could provide in that setting.

*What do you think informs the design decisions that you make?*

I would start with the uniqueness of a place, whether it be culturally or naturally. In our practice, we never arrive to a place and have preconceived notions about what a design should be. It really starts with a place and the desires of the client and trying to merge the two...sometimes clients do not have the same perspective of meaning of the place because they are embedded in it the entire time. Those essential characteristics of a place, both cultural and natural aspects and trying to weave it together so that the client’s goals is where we start with design.

*If we could apply those design decisions to trees, do you think your answers would change?*

No, not at all.

**Do you think that landscape architects are well versed in trees?**

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**Linda Laflamme**  
Yes. I think they are. Especially my generation, or the generation that went through plant material courses at school, and have continued on in private practice, or the design field. We had a very good plant instructor at Ryerson, and we had plant courses all throughout the semesters. So we were well educated in plant material. And of course, we learn as we gain experience.

**Naomi Sachs**

**Julie Michaud**

**Michael Ormston-Holloway**

**Mark Steele**  
It depends on the LA that you talk to. I don’t think of myself as being particularly well versed in the science of trees. But speaking with some of my colleagues, that is their cup of tea, they could tell you all sorts of information. But I am always trying to read more, find out more, and improve my knowledge.

**Hank White**

**Sophie Beaudoin**  
No, not really. There are landscape architects that are paying that attention that is deserved. This is mostly because of people like James Urban, for example, who are teaching us about a tree as more than an object. A tree's world is a huge one. We have to do good for a lot of things. There are a lot of landscape architects who do not know enough about trees. They do not know how to plant trees, so that in 10-15-20 years, that tree will still be the right tree in the right place.

*What is a technical resource*

All of the books, literature, people like James Urban who is really important to us because he studies trees and soil. Soil is a component that we do not know that much about. Soil is not just what you dig here and there, it can be pretty complicated if you are thinking about the engineering soils, which are made to respond to a really particular need. We are planting trees more and more in 100% urban environments. When we are walking in a plaza or a park, 80% of the time it is a concrete slab underneath. So it is not the same thing as planting a tree in a park where you have full soil depth. So a technical resource is James Urban, for example, a book Up By Roots, and Michael Durr, whose books we have at the office. He knows trees really well. It is difficult to find information about, for example, the root system of each trees. So we need to find those very particular authors who take time to explain, and
to do some research about the root systems. There is also all of the botanical garden websites that can be really amazing, because there is a lot of information there that they can compile over time. I'm thinking in particular about the Missouri Botanical Garden, they have a tool called a plant finder on their search engine. This is very useful.

*Are there anything about trees that you would like to know more about, where the information is not quite caught up yet?*

This is something that I'm interested in, but there is not a lot of time to do research in our professional lives. We are talking a lot about canopy, and the benefits of the canopy. In our city [Montreal], when we are cutting some trees because they are not in the right spot, because they are not the right species for that spot, or they are invasive--everybody is talking about canopy. We cannot cut down any tree because of the canopy. I think that a young tree is also better in terms of environmental benefits because of all of the photosynthesis. A young tree will do a lot more photosynthesis than an older tree. So yes, you have the canopy effect. But you also have other environmental benefits--so what is the balance between the other environmental benefits. If you cut down three big trees that are providing a huge and large canopy, but you are planting 20 new ones, smaller younger, but they will do a lot in that environment. So what is better between those two situations? I'm sure this information exists, but it is a question of having a database that would put together that information that could be useful.

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<th>Ryan Wakshinski</th>
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<th>Colleen Mercer Clarke</th>
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<th>Jim Melvin</th>
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<tr>
<td>No. Absolutely not. They used to, but I think it is gone.</td>
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<th>Why?</th>
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<td>I don't think people are learning about them. I think people should be reading James Urban's book, read nurseries catalogs, read new introductions. Read the soils books. I don't think any of that happens. I think it is what looks cool and trendy of the day rather than some of that basic stuff. It is grading---grading is really important.</td>
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<th>Karen Landman</th>
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**Robert Wright**

**Do you feel that landscape architects have the proper knowledge or tools to help a tree live a long life?**

Landscape architecture is a discipline of disciplines. One thing that landscape architects do is work with other disciplines to create a successful design solution. Is a landscape architect an expert in soils? No. Are they an expert in all forms of botany? No. Are they an expert in drainage and storm systems? They know a little bit about it, but they are not the experts. All of those things are required to use trees in a landscape.

- We work with arborists, urban foresters, a host of people to provide and understand the kind of conditions necessary to plant survival

- Like a good education, it is not knowing everything—it is knowing how to know.

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**Emily McCoy**

**Who or what benefits from your perspective of trees, and the design decisions you make?**

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<td><strong>Linda Laflamme</strong></td>
<td>- Public, as they walk, or bike through the escarpment</td>
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<td>- Enhance user experience; character of the escarpment</td>
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<td>- Animals: shelter, habitat</td>
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<td><strong>What sort of benefits do people receive from the trees that you plant/manage?</strong></td>
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<td>Shade, visual attraction, animal / bird watching</td>
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<td><strong>Jim Vafiades</strong></td>
<td>- The users of our spaces. It could be people that are enjoying a picnic in a park. It really boils down to the users that use our spaces that we design. I shouldn't forget about the birds and the animals. The squirrels.</td>
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<td>- We will select a tree for a specific colour, whether it is to provide spring colour, or fall colour. If it is an orchard, because we are doing an agrafarm, or a community garden, we could be planting some fruit trees that they could utilize. It is all about the user and how we can create a space that is going to be enjoyable for them year round.</td>
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<td><strong>Naomi Sachs</strong></td>
<td>I would hope that for now, since by research is mostly about health care facilities, that it would be patients and visitors and staff. I hope that from the</td>
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research, and the design that I have done gets to someone who puts the plantings in place and creates more than the plaza with the one tree. I would love to teach at some point, hopefully in the near future. So, in my case, I would hope that those students would also benefit from what I know. Hopefully you are. That's one thing that I like about doing the research as opposed to doing design. Because I feel like, especially when I was doing residential design, it was a one by one, or family by family. It didn't feel like enough. What I'm trying to do now is have a broader influence. I would love it if the work that I do, the research that I do, could have a larger policy implications. Not just from health care facility to health care facility, but a city or government entity might look at this research. Maybe they will see that green space reduces crime, and they will choose to invest in it, rather than put another cop on the street.

**Julie Michaud**

**Michael Ormston-Holloway**

**Mark Steele**

Hopefully the clients that use the spaces that I have designed. People now, and I hope people in the future. I think about a park I worked on in Burlington that is at the Niagara escarpment. A piece of a land had some point been in private hands and they had stripped the top of the escarpment for trees. We had an opportunity to come in and replant that. We planted both saplings and had a contractor come in and collect native seed material, take that back to their facility, grow it, and bring it back and plant it on the site. Obviously, I probably won't see those mature trees, but my kids might, and their kids will as well. I find that very exciting.

*On people in the future enjoying the site?*

That is a huge part of it, at least for me and LAs that I have worked with.

**Hank White**

Anybody who is walking through a designed landscape where the organization of the trees, the spatial and visual rhythm in which they are used and organized heightens one's awareness of the trees. The trees form, its seasonal performance qualities. We highlight these features by designing landscapes that bring these features to the forefront and its part of the manipulation of the spaces, the sequence and how we envision people using space while they are in it, or while they are moving through it. It would be very difficult not to become aware and present to these qualities of these trees, or the other related vegetation, and all of the materials being used--the composition of that. Anybody (that is not buried in their device, or looking at their device with their head down) with their head up and looking while walking through the space and being in the landscape that they are in, will
become aware of these trees, and their characteristics and their distinctive qualities. That is our aim. That is our goal of our designs. That we are taking something that people frequently take for granted--“trees are everywhere, they are abundant, we have them, we don’t need to protect them,” but you don’t understand their value until they are gone. It’s like that Tony Mitchell song, “You don’t know what you’ve got till it’s gone.” What we do in our landscape design is to bring that familiar reference out of nature and manipulate it in some form of abstraction that gives it a distinct visual personality that makes one pause and reconsider what they are looking at. That is how we influence many people, particularly in urban environments where they are divorced from many natural world elements. This is an opportunity for them to become reconnected to the natural world, through the elements and see it in this different light and enhance one’s awareness of those qualities. Hopefully, ultimately a higher level of sensitivity. So that when they go back to a native or rural landscape, they will start seeing that a little bit differently because of this experience in a man made designed landscape.

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<tr>
<th>Sophie Beaudoin</th>
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<td>-Ultimately it is people who are going to use those outdoor spaces that we create. It is all about making people happy</td>
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<td>-I hope that we have an influence on our clients sometimes. To make them accept that it is a bit more expensive to plant a tree than what they are thinking of. For example, when we are using soil cells, like silva cells for example, we plant a tree...the structural capacity on top of it. They think that it is expensive, and we have to demonstrate why it is what we have to do for the tree so that it can grow.</td>
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<td>How do you convince a client to invest in a tree?</td>
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<td>I think that we can use some examples. There are a lot of examples of bad planting--when they remove soil around an existing trees 20 years after it was planting, and that tree has a compacted root system like a plant in a pot. I think that those kind of examples are usually pretty efficient.</td>
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<th>Virginia Burt</th>
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<td>-Trees, our environment--are a great benefit to each other. As we plant more trees, I think that we are making a global impact. Every move makes a difference.</td>
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<td>-It not only affects our global community, but also our country, and our county/region. Crosses political boundaries and nature boundaries.</td>
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<td>-Because I have the advantage of doing both public and private work it becomes personal.</td>
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<td>-I am affecting the entire world and myself at the same time.</td>
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It is almost a spiral. Plant the tree, and know that you have influenced the world. Look at the world and know that a tree is will be supported.

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<td>Robert Wright</td>
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We benefit here at PMA because we get paid. I think you have to say the community that interacts with the spaces that we design benefit. Of course, the environment benefits as well. The more trees the better.

- The world :)

- Has done a lot of tree planting

- Clients (advised client to not cut down cedar; they thought it had a disease - turns out it was just a fungus that would go away)

What sort of benefits do people receive from the trees that you plant/manage?

Shade, shelter, bird habitat, beauty, emotional benefits, many more

Would you agree that the benefits provided by trees extend beyond the property line of designed landscapes?

- Yes

- Migratory bird route

- E.g., Giant Swallow Tail butterfly needs hop tree

- Some landscape architects might design with a larger impact in mind (especially those involved in ecology), but others might not

Do you think you have an influence on the way others perceive trees?

Yes: clients, students (clients of those students), public (policy)

-I certainly do. As a practitioner, I am pretty respected for what I know about living plant material and how it goes in. But from an educational perspective, I share that joy and awe with my students. Whether they buy it or not, you would have to ask them.

-I do a lot of work in urban design, so try to plant as many trees as possible. My scale is from the city, down. While I have done it in the past, my scale is not so much into the regional planning. I am much more design focused, and urban focused. My challenge is how we make these living systems work within cities.
Emily McCoy

- The greater community in promoting [***], the placement and design, using trees in the landscape that provide these services. But also the client in that...because we think in detail about making sure that we are choosing the tree for the right conditions, and also detailing the soils and conditions, and the place that the tree goes in, to make sure that [***]. In addition to long term management guidelines for the people that will be maintaining the trees. Supporting the client, and investment in that tree.

- Policy makers.

- Other creatures. Ranging from pollinators, insects, worms, all beings benefit from the right tree selection.

Would you agree that the benefits provided by trees extend beyond the property line that tree is planted within?

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<td>Naomi Sachs</td>
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<td>Julie Michaud</td>
<td>In reality, we work within a property line, but I think it is nice for people, if there is an opportunity to work with a partner or a school for instance, or even if there is a business, you plan for beyond your specific site. Because then you can have joint projects that tie in together, rather than limit yourself to your own property. Like a campus park, for instance beside a school--sometimes it is tricky because a school board is concerned with safety these days. So what used to be a big open space, now they tend to put a fence in the middle to control who goes on their property, so sometimes it is not always possible.</td>
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Can people receive benefits from trees even if they do not step on the property that tree is planted on?

Yes. That has been well documented. If you are in a hospital, rooms with trees and greenery, people are getting better faster. There are psychological benefits to looking at trees. Even if you are not directly in a park, but there is a park in your neighbourhood, there is a difference in air quality, and all of that.
Michael Ormston-Holloway

Yes. I believe that landscape resiliency, in respect to the urban forest, is all connected. So yes. You don't want all one species, or genus, you don't even want something of all one family. I find that a lot of LA's--the best we will do is think of genus and very rarely are we talking about families. If you look at pest for instance, the emerald ash borer is now eating [***] trees. So it is easy to pick the lock in the genus, but it is harder to pick the lock in a family. From a pest perspective, and from an ecological perspective, yes

Mark Steele

Yes

Hank White

Sophie Beaudoin

Virginia Burt

Yes

Ryan Wakshinski

Yes, and no. Providing habitat for birds allows the birds to extend their habitat, gives them a place to rest along the way in a greater system

Colleen Mercer Scott

Jim Melvin

Karen Landman

Robert Wright

In an ecological system, where is the boundary? It is not a line on a map. It is that watershed level, ecozone level, climatic level. The tree does not sit there and say, “I’m on this side of the yard, and that is on that side of the yard.” Its roots extend beneath the roads and into other neighbouring yards, so it does what it needs to do to survive.

Emily McCoy

What sort of influence do you have on how others perceive or experience tree?

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<tr>
<td>Linda Laflamme</td>
<td>-Have a professional responsibility to make the best recommendations</td>
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<td>-Make the best recommendations that are suitable for design and</td>
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<td>environmental conditions</td>
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<td>-landscape architects are communicators and facilitators for the public</td>
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- People may not value trees because they do not align with what they want: may be in the way of development; do not see the value in them

- Help people to understand the importance of trees, especially native species

- Educate them about invasive species, such as Norway Maple and pests such as emerald ash borer; the importance of diversity - not planting only one species of tree

- Monocultural planting provided for a line of trees with consistent characteristics along a street; diversifying species will change the ability to create this kind of design. Affects design;

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<th>Jim Vafiades</th>
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<td>- Hopefully we have enriched their lives. That they could go away feeling better, feeling in a more positive light. That they have had a greater experience, whether it be sitting under a shade tree or enjoying the profusion of flowering colour that would occur in the spring for example.</td>
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<td><em>Do you think of tree differently when designing for healing gardens?</em></td>
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<td>Yes. We would be more thoughtful in terms of the species selection. Both from an aesthetic perspective, but also just from a functionality and the idea of it being able to survive in a certain condition in terms of the client. From an aesthetic perspective and an emotional perspective, yes. We would be selecting plants that provide spring flowering because to me that is what we would call &quot;new growth,&quot; the &quot;new beginning,&quot; when things come alive for us here in the Canadian climate. To me, that is really important from a healing perspective. Someone actually has a great feeling that things are getting better, either physically, or perhaps subliminal in terms of being able to see the buds break on a tree, or a flowering tree. Those would be some reasons why. Colour sometimes plays into that too. We avoid blues, we look more to yellows and pinks, the warmer colours</td>
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<td>- I would hope that my experience of designing spaces for users, such as healing gardens and other gardens, that others would be able to understand why we did certain things. We sometimes have the opportunity to showcase it and discuss it with others, and they would then be able to implement it. It is all about sharing.</td>
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<td><em>Is there some sort of influence you would like to have on how the public perceives trees?</em></td>
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<td>I think maybe they might be misled about what they read and what they have been told. More so from a functionality perspective. The public is more lay-people, in other words, they may not understand that a tree requires X amount of space to grow in terms of roots and that kind of stuff. So the functionality</td>
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or the more technical aspects is something that I would like to impose or at least provide to the public.

| Naomi Sachs | **How do you frame your argument for the trees, and who are you giving it to?**
It depends, but I am framing it to the clients. Trees are expensive. If you do a line by line item, it is going to be a lot cheaper to buy a shrub. If you look at it in plan view, you can have one shrub that could fit in the same hole as a tree--so why would you spend so much more on this tree. In general, the tree is going to get a lot bigger, and you will get for value from that investment. I've had clients where I talk about how they can be home to birds and other insects. I've given the book "Bringing Nature Home," by Doug Tallmay, to clients--it talks about how the suburban lawn with a couple of trees, even though it is the oak-Savannah-landscape that we are all supposed to like, it is not a natural landscape that provides good habitat. It doesn't facilitate the insects, and the whole cycle of life, for the chain of life. Trees and shrubs and perennials provide all of this together as a system. When I was living in Beacon, New York--it is a small city in the Hudson Valley. They have these beautiful, but rather pesky London plane trees. Big London plane trees that were planted along the sidewalks as street trees, all down part of Main Street. Then they have these really obnoxious pear trees that limbs fall off all of the time. Without telling anyone, they started cutting these Plane trees down because they were tearing up the sidewalks, which were heaving. Rather than trying to come up with another strategy, like shaving down the sidewalks, or seeking out the help of an arborist, and finding out how much of the root structure they could try to deal with, they just started cutting the trees down. Fortunately, Beacon is a very active place, and there is a lot of tree hugger type people like me--so we were able to stop it from happening. It took a couple of years altogether, but we were able to provide an alternative solution. Part of what I did coming from a research background was to quickly Google and find articles about the value of trees to business districts, and how people spend more money when there are trees, and how we are happier and nicer to each other, and spend longer on a tree lined street. A lot of the people in the city felt like the trees were a nuisance--the leaves dropped, and they kept having to sweep up after them, and they were heaving the sidewalks, and they got in the way of their signage, and you couldn't see the building. It really took some education about what trees do for you, and why they are worth it, and how they provide so much more shade. When they cut a couple of them down, the air conditioning bills for the people that were south facing went up. For urban situations, that is the argument that I would make. From a public health standpoint--when we talk about urban ecosystems, I think the way that trees can clean the air and provide greenery, and the forest bathing Shinrin yoku research that talks about the phytocides--the resins that are emitted, especially from pine and spruce and evergreen trees, that somehow interact with us and stimulates NK cells, which are the natural killer cells which attack the cancer cells in our bodies, and stimulate serotonin and other positive...
hormones. I think we are starting to see vegetation and the urban forest, and urban ecosystems as really important parts of public health.

Who is we?

Me! Fortunately, it goes beyond landscape architects at least in this country, and perhaps other countries may be even more enlightened. The U.S. Forest Service is very interested in doing research and advocacy about urban forests. The CDC, the Centre for Disease Control, is also looking into that and seeing it as a public health issue--parks, and trees in particular. So, even if it not a full fledged park, there are trees along a streetscape that will shade the sidewalk and the buildings and create these more intimate spaces for people to be in. The National Park Service is also doing research and advocacy. I'm seeing it in a lot of different places and on a much larger scale than when I first started in the profession 20 years ago--when it was just gardeners and landscape architects saying that we need trees. It seems like more people are getting it. You look at cities like New York city, that five years or so ago, had the million tree program. I think in Chicago there is something similar to that. I'm sure in Canada there is stuff like that too. There is a concerted effort to plant and maintain trees along streetscapes and in parks, and to get the community involved. That is when it is the most successful, especially in urban environments--when people understand the value. The people in the neighborhood, rather than someone just plopping in a tree, and people asking "who is this, and why is this here, and do I have to sweep up after it." Getting people involved in the process and allowing people to take ownership and be stewards.

Julie Michaud

- Probably, because we do a lot of teamwork and work with community groups. As a profession, landscape architects can be seen as a group that has an influence on people's’ views of trees.

- As a planner, “Master plan--why trees are a good thing. Working for a municipality, we tend to think of our own boundaries. Regionally it is probably has an impact as well. London is interesting because it is surrounded by farmland, so the preserves of large spaces. Try to have lots of trees, and park space. Has an impact on habitat, and birds. Big networks around river corridors. Wildlife movement that uses the river corridor to cross through the city. So that would be linking the networks outside of the boundaries.

What sort of impact do you think you have on the greater network? “Helps in terms of wildlife--allows them movement through the area. Lots deer, coyotes, trails along the river for recreation. Possibly planning for linkages along with other municipalities.
Michael Ormston-Holloway

Health of people:

We know that canopy trees have infrastructural benefits: air quality, the shading of the pedestrian environment.

Social implications:

I work a lot with BIA I frequently promote things like, trees on streets calm people down, they slow people down, they linger longer. I’ve often tried to quantify the value of a tree, but there are all of those unknown things like how it makes you feel to be under a tree, to walk down a treed street where canopies connect and you can hear birds chirping. I believe that people congregate around trees.

Environmental benefits:

The sun, the earth, the critters. We know that trees with different tops, with different branch architecture, disperses wind, mitigates wind, that helps people, that helps buildings, that helps critters. That it can provide habitat for migratory birds, or non migratory birds. Even the little critters that we don't like to talk about, but we have in our city, like skunks, possums, raccoons, squirrels--they are here, and they benefit from trees too. Lot's of environmental benefits.

Economic benefits:

I am in the process of publishing something through the Daniels faculty. I am referencing Gary [***] work, and the U.S. Forestry Service's work, and in 2012 the Chief Economist started to put his finger on the dollar value of trees. If a tree can be on a street for 50 years, than it has saved us $160,000 in quantifiable benefits. Whether it is environmental, or shopping, or shading, or storm water. I think, if anything, it is a little conservative. They are worth way more than we would ever specifically say.

Do you think that your design decisions have an impact on the benefits received from trees?

Yes, absolutely. If you think about them at the design stage, rather than at the end, then you can solve a lot of these issues. One of the main things that I have found every project come against is soil volume. Everyone wants to have space under the sidewalk. But trees need that space a rootable voids too. Even just in regard to soil volumes and real estate, and what it is worth below ground and [***]...These people who are promoting a 2 meter pit and trying to get a connected trench, or access to that soil with some sort of drain that you can fertilize and irrigate.
**Do you think that your perspective has an influence on others, including other landscape architects and the public?**

I desperately try. It is important to me to talk about this stuff. I feel that I was privileged in my indecision to enable the study of a bunch of other things that are related. Other LAs do not have the privilege to sit in two years of soil chemistry classes to really get to know soils. I try to speak at events. I'm speaking at the ISA Ontario conference for the next couple of days. I was as the World's Design summit in Montreal in the fall, and I was speaking there. I was speaking about landscape architecture and the urban forest, and what we are doing, what's good, and what we can do better. I teach courses, I try to do a panel whenever possible. I try to publish what I can. I really do try to promote the work that I do and the message in there.

<table>
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<tr>
<th>Mark Steele</th>
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<tr>
<td>-Hopefully, it is a good influence.</td>
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<td>-I may have an influence on the students, as an associate professor. My kids, although they get tired of me naming trees.</td>
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<th>Hank White</th>
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<th>Sophie Beaudoin</th>
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<td>I hope that they will see trees as an important component of a landscape</td>
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<th>Virginia Burt</th>
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<tr>
<td>-Yes</td>
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<td>-I have clients that weren't tree people before, and became tree people after we started working together.</td>
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<td>-I have the opportunity to do a lot of public speaking, so I find myself being able to stimulate and invite people to value our landscape.</td>
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<td>-I am in a unique position.</td>
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<td>-Ex. Schneider Healing Gardens in Cleveland: hundreds of thousands of people have moved through both of those spaces, and or, look over them. In the case of Schneider, there are 3000 of beds that look over the gardens. It has now been in place for 7 years. You can imagine the number of turnover of people--family members, staff (who are just as important as the patient for places like that). I think that our public spaces and places touch...landscape architects are in a unique position--we touch thousands of people with these spaces and places. To me I look at it like a sacred trust that we have to be able to prepare and do as many of the things as we can to be able to make those spaces successful</td>
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**Ryan Wakshinski**

*As a landscape architect, what sort of effect do you think that these design decisions have on others? For example: on the health of people, social implication, environment, economics, etc.*

- Provide shade
- Carbon dioxide and ground water sequestration
- Reduce stress through visual delight, colour, flowering, smell, shape, texture
- Important for defining spaces, accentuating geometry and views in a landscape

*Do you think that your perspective influences others? (landscape architects, the public)?*

Sure. If I do my job well and correctly, it will hopefully influence the way others perceive and interact with trees.

---

**Colleen Mercer Clarke**

*What are a few things we could do to educate people about trees?*

Certainly in southwestern Ontario, there is an important lesson to learn. I called the arborist with the City of Waterloo, and I got a person who would not have a discussion with me about the problems we were having with the trees—the Norway maples in our subdivision. They were all lollipop trees. They were not growing. I was quite concerned about them because they looked 15 years old, but they were actually 30 something years old. I called back another time and asked to speak to the lead arborist. He came to see me the next day to talk to me about my trees. He wanted to know why I was interested, so I told him that I was a landscape architect. We were corner lots, so we had six of them. Bob said, well they are Norways, they have girdling roots, they are choking each other out, you have have to give them as much help as you can, you need to water them. I told him that we were under water conservation, but he told me to use the water from the rain barrels I had to water the trees right before it starts to rain. He told me to tell my neighbours to water their trees as well, and asked me if I fertilized them. I asked him why the city wasn't doing that, and he said "I don't know!". He would come back every year and kept a lookout for the trees. I don't think we educate people. My neighbours don't know how to care for their trees. It is a really close neighbourhood, and they know I'm a landscape architect, so they will ask me about trees. I'll tell them about the fertilizer sticks and how to use them, and to water them. My neighbours I've noticed are really happy, and they are calling arborists and tree specialists so that they don't have to cut their trees down. But in other parts of the subdivision these trees are coming down. I think that some of them are being taken down for good reasons, while others are being taken down because people think that they are dying and there is nothing they can do to help them.

*You seem to have a positive influence on your neighbors.*
I think so. I think that there is a vocalism that landscape architects need to do at all scales. I think one of the thing you will learn is that scale is one of the most important things we should know and hold at the core of being a landscape architect. In everything we do, we do at the scale—from one little newly planted tree, all the way up to the Tundra forests of the nation. We work across all of those scales. No other planning and design profession does. Our presence is as important in your neighbours back yard as it is in the planning and management of large landscapes in Canada. It is in maintaining the tree canopy that we can contribute one of the most important things that we do. Even when it is talking to the people who are taken aback by the burning of the forests in Banff. At that time, you should say, "Yes, it is tragic, but it is necessary. Those forests do not thrive if a forest does not go through them once every 30 or 40 years. So unfortunately, the park service has to do a controlled burn so that they do not get out of hand and the whole mountain doesn't burn. Some of those tree species will not propagate unless their seed columns are burned. It takes that to release the seed." People are fascinated by this because they might have thought that they were burning the timber because it doesn't look so good anymore. If the controlled burn, the wildlife will survive. If you get a forest fire, or a wildfire, they won't. Canadians are just so fascinated by their environment. When you correct them about the things they might be doing improperly, they go, "really?!" So you can change a lot of minds. I think right now we need to put a big push on people's minds about tree canopy in urban areas. Canada is trying to reduce its greenhouse gas emissions, and to get our carbon footprint down as a nation. We live in a hostile environment. We did not construct a lot of our buildings in concert with that environment. We constructed them with the idea that we can heat that, and cool that, and we can use as much energy as we want because we don't have a limitation on energy. As a result, we have a lot of environments where things are not sheltered. We cut down the trees. We don't build into the trees. We cut them down and grade them differently so that we can get more lots. We are not creating aesthetically, positive environments, or attractive environments, and we are not creating environments that function well. This little subdivision called Crossing Bridge in Stittsville on the west end of Ottawa. The houses are 20 something years old and there is actually a design vernacular here. They have replicated the Victorian brick farmhouse, with the gingerbread and the whole thing. They planted trees in the whole area. The developer here put the trees here, and they are on every lot. They are not street trees in the sense of the typical street tree: three feet off of the roadway. They are actually back 15-20ft away from the road. Every house has at least one, if not two, large canopy trees, conifer trees. Where we have lost one, the owners have put back trees. So we do have a mixture of age groups now coming up. Compared to the immediate area around the subdivision, it is like night and day. It is like this area is 200 years old, and the other areas are 10 years old. In some cases, the other areas were built in the 60s, but the trees are not as tall and strong as they are in this neighbourhood. It also has an effect on the
microclimate around our house. It seems like the trees are affecting the amount of snow accumulating in our backyard. This has an impact on how fast the snow melts from our yard, and how quickly bulbs will bloom. Bob Brown wrote a lot about microclimate. Microclimate is critical to the work that we do as landscape architects.

*What influence do you think you have on how other people perceive trees?*

When I was an ecologist, I felt strongly that humans are an interesting species. We need a personal experience to have an emotional response. I was very strong on this with my own kids, and I was a guider, and my husband was a scouter for a long time. We believed that children should be exposed to nature in a very personal way. To see nature not as something they have to conquer, but that they can just be with—they can be quiet and listen to the trees in the park. That they can have these experiences with nature. They are a part of nature and nature is a part of them. It is not the same as watching a documentary on television, no matter how good your TV is these days. You have to go out into the environment, you have to experience it. That has always been for me the biggest challenge, which is to introduce people to new environments. I don't know how many people my husband and I took snorkeling on the East coast, because we were both divers. People see water in North America, not just the ocean, but the lakes—they don't see below the lens. The water, the air in our face. It is like everything below the surface of the water is cold, dark, and slimy. When you show them the beauty that exists beneath that horizon, they are blown away. It is for the same reason as when you take people out to Gatineau and have them walk there. The Mackenzie estate in the fall when the maples are in bloom—the majesty of it all—you can see it impact them. I think that is the biggest learning thing that we have, is to give other Canadians a perspective on their world, the same perspective that landscape architects see when we look at it. It is an interesting thing. When a landscape architect looks at brownfield, we don't see the brownfield. We see what it can be. That is something that I never clearly got an understanding to until I was working with plans at home late one night for the restoration of an open pit mine, including the diversion of a river—my husband came to look over my shoulder as I was coloring in the final presentation drawings. He said, "what is this? What are you doing?" So I told him that I was diverting the river there, and we were going to have a copse over there, and over there we were going to create a pool where the quarry used to be. And he stopped me and said, "you can see all that, can't you." And I said, "see what." He said, "when you talk about it, I can see what you see. But I can't see that on that two-dimensional drawing. I can see the isobars, so I know that the topography goes up, but I can't see the hill." Through my practice, I have learned that we see in our head, the final product. And when we shape a landscape, we are not shaping it two-dimensionally on the plan, or even three-dimensionally in CAD. We are shaping it in our head. We are changing how it looks and what it might become, because we can see that. One of the most useful things I
learned that night from my husband is that my client can't see that. So he said, "don't show him your plans, he is a mining engineer, tell him what you see instead." And when I went into the next morning, I asked the guy if he could see what I see, and he said, "no, I see coloured ****, I'm sure it will be great, but I can't see it." So I sat him down in the chair and I went out and got one of the guys to bring in a bag of rocks they had around the place, and a piece of plywood. I layed that down on the table and started shaping, and he went, "oh! we are going to do that! I really like that!" So it was really interesting to understand that there may be something that preselects people into landscape architecture. What we see in front of our eyes, the reality of what we see, is not what we know it can be, and we can see in our head what it can be. But to respect and understand that not everybody that looks at it and sees it the way we do. We have a real need for communication. That is why there is such an emphasis on presentation, and presentation drawings. Because we are creating a picture in our client's mind, and in the public's minds that we can see, but they don't until we actually put those kinds of communication tools up.

When you can see the future of what a project could be, could we relate that to seeing the value of a mature tree even when it is only a small sapling?

Absolutely. As I said, it is scale. Scale in time, scale of space. When we put a tree on a drawing, we don't ever see the tree we put. We see what the tree will become. When we do a drawing, we don't draw the little 3ft diameter sapling. We draw what the canopy of the mature tree is likely to be. And I think that is another aspect that we really need to be using to educate the public and the client---that this is what you see now...but...I'll tell you one trick I've learned to use---if I can get a client to bring their kid with them, I love that. Because I will say to the kid, "we are planting maple trees today. You can't tell right? Because it is just this skinny thing and they all look alike. Do you know how big this tree is going to get? I want you to come back when you are 60 and I want you to remember today. This is your tree (just don't pick one that is on the side of the road). I want you to come back when you are 60 and I want you to point at this tree and say, "I was here the day this tree was planted."" Little kids faces will light up. I had one client come back to me who told me that their kid makes them go see the tree every week. It is a sense that, the responsibility is to keep it alive. There are places in Atlantic Canada where they will plant trees in supermarket parking lots, and commercial parking lots, with the intent that the trees will die. They have to put them in because the city requires it, but I have had the owners ask me if it will be dead in a year, because they just want to plough it over and get rid of it. It was a big thing to educate those clients that if that tree died, they would just have to plant another one, and so on if they kept dying. We would give them a maintenance volume that outlined how to keep the trees alive. I'm pleased to see that in more parking lots the trees are actually surviving now.
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<tr>
<th><strong>Jim Melvin</strong></th>
<th>What sort of influence would you like on how others perceive trees or experience them?</th>
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<td>I don't know if we can have any influence. How could I influence how you feel about trees? I think that we can plant a bunch of trees, but I don't think I can influence you. Some of the things that are important in Ontario are the way we cleared the land hundreds of years ago. When we moved the stones into rows at the edge of the property, those became the seed beds for hedgerows. Now we have hedgerow topography. That's not someone planting that, that is someone just creating an environment for seeds to land and grow. It wasn't cultivated, so of course you get hedge rows. Other hedgerows, are made to be windbreaks. You can tell the difference from the others, because they have mix of coniferous and deciduous. You can see those two different designs in terms of where they occur on the property.</td>
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| **Karen Landman** | -Have the ability to tell a story  
-To make sure that trees are cared for properly  
-Educate people |
|------------------|---------------------------------------------------------------------|

| **Robert Wright** | -There is a project going on right now headed by Michael de Pencier is to plant 10 million trees along the Highway of Heroes. This is a growing thing. If landscape architects aren’t on the forefront of this, then where are they?  
*Is that one of the roles that landscape architecture can play?*  
One of the roles. We are a pretty cool group. What I love about landscape architecture is that throughout my whole life, I have worked on so many different projects, and scales of projects. It is just awesome. In an office, because our projects are smaller, we will do more projects, and a range of diversity of projects, then let’s say, in an architectural office, where you could get a major building that’s, let’s say, $1440 million dollars. That project can carry an office for 2-8 years to get it build. For us to do that same amount of billing, we would have to design a thousand projects.  
What sort of influence to you think you have on how others perceive/experience trees?  
-I have no idea. You would have to ask them.  
-It is nice, that as Dean of Forestry right now, I don’t have to convince anyone anything about trees.  
-We can never translate the experiences we have with the experiences others may have on a site. You could go to a site after your parent has died, and have a totally different emotional reaction to things than you would if you were |

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taking your children on a picnic. We often think that, when we are designing, we are designing experiences. But the reality is we cannot control the experiences that other people have in our spaces. We just hope that we create spatial opportunities for people, so that people may have a multitude of experiences.

-It would be incredibly arrogant to say that, “I plant trees, and everyone gets great joy out of them,” etc. I think that they are valued, and they will be more valued over time. We are living in 100 year old parks now. It is hard to say--I had a very good friend who was into ecological aesthetics, and he used to say, “the purpose of design is to bring meaning to your life, and meaning to the lives of your clients And then he used to laugh and say, “but that meaning does not have to be the same.”

*Do you agree with that?*

Absolutely. We do stuff in our designs that are for us, that might mean something to us, in terms of the shape or form, etc. I am modernist and a minimalist, so I try to do as least I can in terms of expression and geometry--very clean, very modern materials. That may mean something entirely different to me, because I can put that into that historical context of my own certain style or aesthetic which has evolved over my career, which has been around 40 years or more. But someone experiencing the site may not notice it. My partner Erica, whenever we are travelling, and I’m looking at the grading, or if something isn’t detailed right--she just looks at me and says, “can’t you just enjoy the space, do you have to do a constant critique of how it was built.” When landscape architects look at a space, they will look at it completely different than other people would, because we design those spaces. When you go to Central Park you are in awe. That is such an amazing park, and it has such an amazing history, and has done such amazing things that you begin to appreciate the foresight that went into it.

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<tr>
<th>Emily McCoy</th>
<th>How can a landscape architect be an advocate for trees?</th>
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<td>-We inform the nursery trade by the plants that we specify. We advocate for their use just by specifying them and putting them on our drawings. But also, not just new trees, depending on the type of landscape architect you are, you may influence tree conservation in a built environment as well. We will have conversations with clients, we will talk in terms of the benefits beyond the aesthetics that trees provide, so that we can either protect them or specify them.</td>
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*Do you find that people see the value in the trees that are planted?*

I think that a lot of users do not necessarily connect high quality space with a tree, even though it may be there, and providing that benefit. I think it is more
an intangible thing that they may have a feeling, but they may not be able to
pick up the pieces that support that feeling.

*What sort of influence do you think you have on how others perceive or experience trees?*

I am directly related in research. Different aspects that we do, and there are
things that we capture that tree performance that we then document and
disseminate, whether it be in journal articles or popular article magazines, or
conference presentations.

*What do you wish people knew more about trees?*

The multi layered benefits that trees provide for us. The multi-layered
performance that a tree provides for a small investment, if it is maintained
properly. I don't think a lot of people know about the ecosystem benefits that
trees provide. Some folks see it as a nuisance because they drop leaves, drops
fruit, its messy. I think if you are that type of person, maybe understanding the
magnitude of the benefits--whether it be human health benefits--if more
people knew about them, than it would change their perception.

*What are some ways we could change the perception of others?*

Through education and outreach with communities. Making the invisible
benefits of trees visible. Or maybe even through technology. There has been
some movement though citizen science of connecting people with the actual
benefits of what trees--maybe making that more accessible for people.
Making the benefits visible in place would be a compelling way to do it.
Otherwise, advocating with the communities, and quantifying the benefits of
the trees would be another way to help communicate that value.

<p>| <strong>How do you think the influence of landscape architects is different than other tree related professions?</strong> |
|---|---|
| <strong>Name</strong> | <strong>Answer</strong> |
| Linda Laflamme | Ecologically and environmentally landscape architects, ecologists, arborists etc are often aligned in their approach to the selection of species as well as the maintenance &amp; protection of existing trees (working together). |
| Jim Vafiades | Yes. The most related would be arborists. Although we do have arborists here in our group...I think we have the same opinion. We try to retain them when we can. We assess them for their values. I'd say that from that perspective, we are probably equal in our desires to maintain and retain if we can. |</p>
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<tr>
<th>Naomi Sachs</th>
<th>Is it fair to say that landscape architects can see the bigger picture, including the future, the constraints, and the connectivity of it?</th>
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<td>Yes, I hope so. I like that word connectivity. One of the wonderful things that separates landscape architecture from planning, or from architecture, or from interior design, is that we have to work at these different scales. Everything from someone's tiny little pocket garden in their back yard, or front yard, or rooftop garden, to a giant park, or a master plan for a city. You do have to see those connections and think about things on a much larger scale. Because we are educated with that, we can start to think how &quot;these trees do this over here, and this forest does this, and how does it work 1000 miles away; these birds that migrate and use this forest here...where do they go when they migrate, or these butterflies that hang out in the Eucalyptus in California and then they go to Mexico. What will happen when the Eucalyptus trees go away.</td>
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<td>Do you think that is one of the benefits that landscape architects have, that we can see the versity in those trees?</td>
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<td>Yes, definitely. I think that if we have had a good education, I don't think that we choose the same tree. We know that there are other possibilities beyond what they carry at Home Depot, or beyond the brantford Pear. We can provide people with those options. We know that it might look beautiful, but it has other issues. And we know that one tree might look beautiful and do other stuff. I think that our knowledge about it is important because it is deeper than what most people will ever learn. Which is fine. That is why they pay us the big bucks.</td>
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<tr>
<th>Julie Michaud</th>
<th>Yes. Lots of other professionals do not have as much of a sensory appreciation for trees. They create a space, they are outdoor architecture. Other professionals may see trees more in terms of habitat for wildlife, or ecology. But I think we are more concerned with the sensory experience: in terms of smell, visual, even taste (from fruits and nuts).</th>
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<td>Different than other landscape architects?</td>
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<td>Probably. I would hope most landscape architects have a sensory appreciation. But it is such a wide field, and people work on such different types of projects. I think there would be a variation. There are some landscape architects do not like trees.</td>
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<p>| Michael Ormston-Holloway                                                  | Yes. Certainly, as a landscape architect, I am a development friendly arborist. What that means is there are some people who might come into an area and think, &quot;we can't cut this down,&quot; and I see that argument. But on the other hand, I live and work in a city and know that when you live and work in cities, you need to be nimble to development needs. The fact that I work well with |</p>
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<tr>
<th>Mark Steele</th>
<th>I would think that arborists have a very technical relationship to trees, whereas landscape architecture has a more artistic interpretation and cultural aspect to it. Hopefully it adds value, and that value is appreciated at some point.</th>
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<tr>
<td>Hank White</td>
<td>Do you think that is what sets landscape architects apart from other tree-related professions? That we bring the value to the forefront so that others can gain the appreciation of those tree? Absolutely. We use the trees as a design instrument. Whereas arborists use a tree on more of the scientific scale--from a forestry benefit. We are doing that, but we are also using it as a design tool. We are merging the art and the science. That is where we give it meaning, as opposed to it being used as a utilitarian element: which also has its place. We need trees to be used as a utilitarian element. We need to plant forests for the sake of replenishing forests. We need to reforest. That is primarily a science based, and ecological based, not necessarily a design oriented activity. That is where it separates us.</td>
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<td>Sophie Beaudoin</td>
<td>Yes, because I think that landscape architects have a...in viewing trees, among all of the materials. A horticulturalist, for example, will use only plant material in their profession. We are using many other things. So when we are using a tree, or planting a tree in some spot, it is not in placement of something else, it is really because we want a tree there. So I think that it is part of a larger picture or gesture.</td>
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<td>Virginia Burt</td>
<td>How do you think landscape architecture is different in terms of affecting people’s lives? We make spaces people can walk into. People can experience it intrinsically, whether it is a mind journey or a film journey--whether they can walk into it, or just look at it. I think that we have a unique opportunity to actually make and design that people can walk into and enjoy--live their life in. Do you think landscape architects treat trees differently than other professions? It depends on the profession -A lumberjack is going to treat a tree differently than a landscape architect. We assign a different value. We assign a value of a tree in place. Whereas a lumberjack sees it as something that can be cut down to feed his family, because of the dollar that comes with it.</td>
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-Yes, we have a unique perspective. Is it the same as other professions? No. Some people see it as a commodity. One of commodity is a completely different perspective than a landscape architect’s.

-We value a tree in its place, because a tree in its place is giving us messages. It is telling us a little bit about what the groundwater doing, the type of soil it is in, the problems it might be having, the challenges it has. All of those aspects are an important indicator of space and time. They are an important messenger. For both its life, and our lives as well.

Could those messages be an indicator of our health as well?

-The health of the land, the health of climate change.
-Beech trees are outcompeting other trees  
-Now we are getting this beech wilt that nobody understands  
-Do trees have messages? Darn right they do

<table>
<thead>
<tr>
<th>Ryan Wakshinski</th>
<th>Do you believe that you have a unique perspective of trees being trained as a landscape architect? If yes, how so?</th>
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<tbody>
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<td></td>
<td>Yes, because it helps to understand how trees can be used and the benefits they offer, to understand that they are living, changing things we live alongside in a greater ecosystem. They were here before us and will outlast us. That is a powerful, humbling thought.</td>
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<td>Different than other landscape architects?</td>
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<td></td>
<td>Not so much. I think most landscape architects understand the benefits and uses of trees in a similar way.</td>
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<tr>
<th>Colleen Mercer Clarke</th>
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<th>Jim Melvin</th>
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<tr>
<th>Karen Landman</th>
<th>Do you think landscape architects have a unique perspective of trees? Depends</th>
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<tbody>
<tr>
<td></td>
<td>-Used as a means to solve a problem</td>
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<td></td>
<td>-Is a changing perspective within landscape architecture</td>
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<td></td>
<td>-How is it different than other professions?</td>
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<td>-Use trees to solve a problem</td>
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<td>-Designing at Larger scale as well</td>
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<td>-e.g., Urban heat sink</td>
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-e.g., Stormwater management

*How is the influence of landscape architecture different than other professions?*

People often see landscape architects as artists; but we know it is a balance between aesthetics and function.

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<tr>
<td><strong>Robert Wright</strong></td>
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<tr>
<td><strong>Emily McCoy</strong></td>
<td>In contrast to an arborist or other types of tree related disciplines, the weaving together of how aesthetics, seasonality, and benefits trees provide is unique to the profession of landscape architecture, and how we help others perceive the value of them</td>
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**Do you have a favourite tree or trees?**

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<th>Name</th>
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| Linda Laflamme    | -White Pine (as a species)  
-In the area working in now: the Niagara Escarpment Plan goes from Tobermory to Queenston (in the of Town of Niagara on the Lake)_____. Stretches 750km  
-Chinquapin Oak *Quercus muehlenbergii* must be 200 to 300 years old in Hamilton  
-King Street, Dundas Valley on Parkland  
-Perfect shape  
-Beautiful |
| Jim Vafiades      | Maples, partly because they are Canadian. From a flowering perspective, I like the ornamental pears. They have a nice form, they have a pyramidal form that is stately when you plant them in groups. They are beautiful in the spring with their white flowers, even if they only last a couple of weeks. |
| Naomi Sachs       | That is like asking a mother to choose her favorite child. I do love serviceberries. For most of the reasons that I was talking about before--they are just amazing. When I was living in Texas, there were no serviceberries there, so I really missed them. I'm glad to be back on the East coast. They are also really versatile--they are relatively drought tolerant, they don't mind having wet feet, so they are great for rain gardens, they are really prunable. Serviceberries are awesome. My favorite Latin name for a tree is the dawn |
| Redwood | Metasequoia glyptostroboides. I just love that name. I think the oak might be another one. Not a particular kind of oak, but just the oak--there is so much folklore. They are so beautiful, and they provide such an incredible habitat. They last so long. They are really symbolic to me of strength and life and vitality and resilience. | Julie Michaud |
| Dawn redwood. Because it is a tree that I didn’t know about when I was a student. Because it grows in southwestern Ontario, not in Quebec. It is kind of like a prehistoric tree. It was around during the time of the dinosaurs. There are some in the parks in London. When I went to Alberta to museum of paleontology, they had fossils of these trees. In the museum, they created a garden of plants that would have grown during that time. | Michael Ormston-Holloway |
| When I started to learn Latin, the way Metasequoia glyptostroboides drips off your tongue is so fun. It is so fun to say that word. Who gets to say something that sounds that fun. From a naming perspective, that is a fun one to say. But that can’t be my favorite because it is exotic. Mine would be a little more native. I have always have a soft spot for black maples, Acer saccharum var. nigrum. It is its own species of sugar. They were kind of old guards there. One of my mentors, Henry, used to constantly hammer about the black maple, and how it is a subspecies of our national tree. It has that much more sap to sugar ratio, so it is better for tapping. It is native-ish, it has cultural value, food source value. As a Canadian, that can’t be a bad tree. | Mark Steele |
| No, I don’t have a favourite tree. I have lots of go-to-trees depending on the project. I can find something I like about most trees--maybe not Norway maples. I usually don’t mind trying a new tree on a project that I haven’t tried before if I think that it will thrive and do well. But I wouldn’t pick it just for aesthetic reasons. | Hank White |
| Sort of do. I am biased in that I grew up in the north east. My focus filters primarily in horticultural zones 7-2. My favourite tree is the american and european beech tree: Fagus sylvatica, Fagus grandiflora. There are subtle differences between the two, but they share many of the same characteristics. Primarily one of the reasons is that it is a climax, successional, woodland species. You see beech that are frequently with oaks, you are in the final stage of any woodland successional production. If you see huge beech tree, it has obviously been there for some time, and their majesty--their shape, their form, their bark, density, branching structure--all have beautiful distinctive qualities that immediately evoke 100% reverence to me. I pray to those trees because they represent the final stage of successional forest/woodland, and I call them the granddaddy of trees. They grow very slowly, so they have been there for a long time (when they are big). That evokes a lot of respect for me. | Sophie Beaudoin |
| The silver maple is my preferred tree. Because of the size, the shape, the foliage that is light. At the same time, it is very abundant--is has a lot of | |
| Virginia Burt       | - White pine, *Pinus strobus*  
|                    | - I love its form, its power, its strength  
|                    | - I love the way that they are influenced by the way the wind blows. I love the way they are woven into our Canadian history by such famous painters as Tommy Thompson, the Group of 7  
|                    | - I think that they are almost a mythical tree  
|                    | - I love the softness of their needles [***]  
|                    | - There are so many reasons  
| Ryan Wakshinski    | - Bur Oak tree (*Quercus macrocarpa*)  
|                    | - Shape, branch structure, deep, furrowed texture of the bark, iconic tree that you would see growing alone on the edge of an agricultural field. They grow on slightly elevated pieces of ground where there is less moisture accumulation to drown the tree. Oaks are strong trees that also help to filter pollution out of the air and thrive in places where there is lots of traffic (provided they don’t take too much salt spray during the winter when roads are slippery).  
| Colleen Mercer Clarke | I love trees. Lilacs and Japanese maples in my own garden, magnolias. I have planted them everywhere I’ve lived within a year of arriving. Always. Sometimes I go back to see them on the properties that I left, just to see how they are doing. Paper birch, because they are such a stunning tree in the northern landscape. They are a total anachronism. They look fragile and fairy like, and here they are in the northern forest. Oak, maple, beech. But I love fir trees! Fir trees to me are Christmas, and the smell of them... I guess I don't really have a favourite! Willows, the classic weeping willows down by stream banks, and crack willows, I have learned to love in southern Ontario. Live oaks in Georgia, which is one of my most fun conversations as president of CSLA, "go past the live oaks!" I asked, do you call all of your oaks, "live oaks." They said, "well, yes." I asked, "why? Because they haven't died yet?" There are just all kinds of wonderful stories. When you poke landscape architects and you get them to really talk about trees, I think that it is a large part about why they do what they do.  
<p>| Jim Melvin         | A buddy of mine asks me this question every year---but it is not, &quot;do you have a favorite tree or trees,&quot; its is &quot;what is your favourite tree this year.&quot; Currently, I really like <em>Cornus florida, Niccus silvatica</em>. I am a fan of Plane trees, <em>Platanus acerfolia</em>. It depends on what you are trying to accomplish. I think that it would be <em>Cornus florida f. rubra</em>. |</p>
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<td>Karen Landman</td>
<td>- I have learned to respect the 60 yr. old Norway maple in backyard&lt;br&gt;- Oak (as a genus): beautiful; architecture; habitat value</td>
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<td>Robert Wright</td>
<td>- It depends on the situation. I have a certain fondness for what people might call weed trees, like the ailanthus (Tree of Heaven), or the Acer negundo (Manitoba Maple). Because I think that they are just so tough. They are like the rats or raccoons of the city, and it is amazing to see where they can grow and survive.&lt;br&gt;- I wouldn’t necessarily plant them, because they are weak wooded plants, and they drop their branches easily--which is one of their survival strategies--if they get too much wind or ice, they just let a branch drop and grow another one. If you try to cut them at the base, they will grow up through the roots.&lt;br&gt;- I have a certain fondness for plants that work really well in certain ecological niches and are prone to survival in the worst conditions you can imagine.&lt;br&gt;- Though I wouldn’t necessarily put them in my planting plan.</td>
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<td>Emily McCoy</td>
<td>A hemlock tree. The ecological value in North Carolina, before they started dying. They were seen as the old iconic tree</td>
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What sort of advice would you give to younger designers?

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<tr>
<td>Linda Laflamme</td>
<td>Get out there and be understanding of a tree and how trees are used in the landscape. The advice is be observant. Go out to a nursery, walk around and talk to the experts there. Get first hand knowledge about what a certain plant does in terms of how it grows, what it needs, and physically see it. Then you will have a better understanding about how you can use it in your designs.</td>
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<tr>
<td>Jim Vafiades</td>
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<td>Naomi Sachs</td>
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<td>Julie Michaud</td>
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<td>Michael Ormston-Holloway</td>
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<td>Mark Steele</td>
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**What is one thing you would like people to do to help trees?**

**Plant more. Just plant more. The more that we can.**

**The first thing that students should learn is to learn about plant material. I'm not sure that is happening anymore. That is a huge problem. First, learn about plant material. You can learn about it by wandering in the woods. That helps you learn about trees and their association. When you are in the woods, think about density. How close trees are planted together. What feels comfortable. How big trees grow. What kind of environment trees are in. When you want to learn a little more, go to nurseries or botanical gardens, they are good because they actually name the things. Learn the Latin names, not the common names. Because common names with always screw you up. The problem is that too many students now-a-days use too many precedent images, and precedent studies to steer their direction when they don't understand scale, materials, soils, all of those other things. I think that is it great that they start there, but a lot of times that takes them to...they just don't look at all of the other factors. So take some courses in plant material. That should be a mandatory course. If you don't know your plant material, you fail.

**What is one thing you wished people knew about trees?**

**Linda Laflamme**
Jim Vafiades

Naomi Sachs  I think that people don't often see the versatility. During our conversation, I have listed all of these different things that trees, or even one tree can do--I think for most people, either they do not think about it at all, and they just walk by the tree on the street, or they think about the apples they get from it, or the cute squirrel that lives in the tree, or the swing in the tree, or that is where I do target practice with my gun or arrows, or paper is made from trees. They do so much and so many different things. I think that a lot of people don't know. So there is a not as rich and appreciation of how the different things that they can and do for us, and for the earth.

Julie Michaud

Michael Ormston-Holloway

Mark Steele

Hank White

Sophie Beaudoin

Virginia Burt

Ryan Wakshinski

Colleen Mercer Clarke

Jim Melvin

Karen Landman

Robert Wright

Emily McCoy