The Natural Progression of Play

The ideal setting for play

Whether having experienced it firsthand – or heard it recalled fondly by others who have – most of us are familiar with the notion of "nature play" as a sort of ideal. Escaping to forest and meadow to climb trees, cross streams, build forts and explore exemplifies play in its most natural state – free from artifice, and totally organic.

As natural spaces – and children's access to them – become increasingly scarce, these pure, all-natural play experiences become more and more rare. The question is: if we lose the connection between nature and play, what else do we lose?

Evidence of the Nature-Wellness Connection

There is widespread agreement that nature is good for humans. Even the most desk-bound of us benefit from having a window nearby with a view of some green foliage. And for children, the benefits are even more profound.

The list goes on. Outdoor play has been shown to battle the ill effects of childhood obesity (now at a high-water mark of 17% of all U.S. children)[2], as well as mitigate the symptoms of ADHD (another health crisis of U.S. youngsters, with approximately 11% of children aged 4-17 diagnosed with the condition as of 2011).[3] Furthermore, 70% of U.S. children have vitamin D deficiency, which can cause rickets and ultimately lead to osteoporosis.[4] To produce the necessary amount of vitamin D, the body must receive at least 10-15 minutes of sunlight twice a week. With 70% of kids not hitting that mark, it's easy to see how Richard Louv, children's health advocate and author of Last Child in the Woods, arrives at the term "nature-deficit disorder."[5]

Louv stresses the fact that, for many children, the playground is one of the few or only outdoor places to roam somewhat free. Reinforcing that point of view, author and play advocate Tim Gill points to a study that found that from 1971 to 1990, the average 8-year-old's "home habitat" (the area in which a child is allowed to roam alone) shrank to one-ninth of its former size.[6] He compares this reduction in habitat to the practice of keeping other species in captivity – and the historically poor outcomes typically produced.

In *Playing Naturally: Why Kids Need Nature!* architect Ron King gives a succinct, compelling research-based case for outdoor play:

Taylor says that exposure to the natural world improves the ability of children to concentrate (2002), Crain says it increases their powers of observation and creativity (2001), Pyle says it improves their awareness, reasoning, and observational skills (2002), Wells & Evans say it increases their ability to deal with stress and adversity (2003), and Grahn, Fjortoft, and Sageie say that children who play regularly in natural environments show more advanced motor fitness, including coordination, balance, and agility, and are sick less often (1997, 2000).[1]

All of this makes the work of the playground that much more important. If a majority of children no longer have access to nature in their backyard – and the playground is a primary (or the only) source of outdoor play – how well are today's playgrounds providing a connection to nature? Are they providing opportunity for kids to connect, on their own terms, with the natural world?

Recapturing the missing link

Seeking to deliver more engaging, enriching play experiences, playground designers are discovering the compelling potential of nature. Witness the explosive growth of Bienenstock Natural Playgrounds – which founder and subsequent TED-talker Adam Bienenstock estimates ranges from 40-100% annually since its founding in 2009.

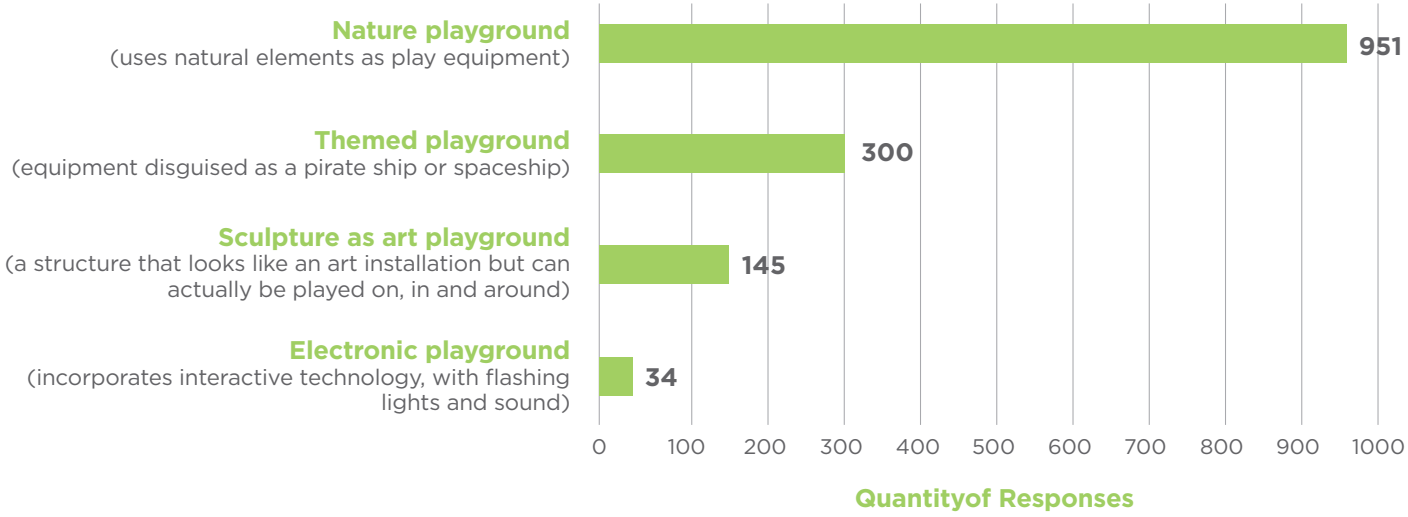
A landscaper for more than 30 years, Bienenstock now creates playscapes with natural elements and features: hardwood log obstacle courses, climbing boulders, slides built into grassy hillsides. He remembers his childhood, with ample free time spent playing, unsupervised, in the woods, and he's working to restore some semblance of that habitat to today's children. He believes natural spaces are more engaging, and a 2011 University of Tennessee at Knoxville study backs that up, having found that the typical treeless playground engages children for an average of nine minutes, while a natural playground averages 60 minutes or more.[7]

Bienenstock and his clients (including Hildebrandt Learning Centers, who have engaged him on a 52-playground project in Pennsylvania) are not alone in looking to nature for answers on the playground. In a 2015 online survey conducted by PlayPower, 1,430 participants, 89% of whom were parents, preferred (by far) a nature playground to themed, sculptural or electronic options.

Our Survey

Online survey. Sample: 1430 people invited via social media to test their knowledge about playgrounds. April 2015. 89% parents, 69% female

Which type of playground would you be most inclined to bring a child to?



Industry Parallels: The Nature Continuum

PlayPower's Ian Proud, play researcher and advocate, identifies a "nature continuum" that industries, markets, and the overall economy move (and are still moving) through. Each at its own pace, industries from energy to automotive have been working through their relationship to nature. You could say each in its own way cycles through the struggle to improve upon, overcome, and even outcompete nature – then, innovates to find its way back.

The Nature Continuum

	Ignoring	Dressing Green	Nature as Backstory	Living It
Automotive	Most vehicles, most of history	Increasing mpg	Recycled metals in vehicles	Electric cars become mainstream
Food	Bigger is better	'Natural'	Organic food in supermarkets	Community gardens, farmers markets
Playgrounds	Post & Platform	Playground photos with flowers	C2C, Recycled materials	Nature Play

Proud points out that, while the playground industry is somewhat "behind the curve" on the nature continuum compared to automotive and food industries, it is moving forward (and back) to nature. The question is, how best to do that – incorporating what we, as a culture and an industry have learned about play. Some things we've learned to stop doing. Some things have become mandatory for any design.

Potential paths of nature play

Each movement in playground evolution has prioritized a different objective, from enhancing safety to improving engagement. Each era has brought something to the playground, showing us what works and what can work better.

Having arrived at this point in play design, how do we, as landscape architects, educators, park & recreation professionals, and play advocates, apply what we've learned from the role of nature in play? How can we best incorporate nature – both in the interest of extending engagement and providing opportunities to engage with the physical, natural world? The future might lie in one or more of these paths:

All-Natural

Nature untouched. Found, organic playscapes are the original playground and in many ways, the ideal for nature play. But while they (by definition) offer the highest-fidelity nature play experience, they have practical limitations which reduce their viability for most schools and municipalities. A true all-natural playscape has low predictability, and while this dynamic aspect can be seen as a benefit to play experience, it's a challenge in terms of safety, maintenance and liability. Other limitations include location and scale – which are entirely dictated by the naturally-occurring aspects of the particular space.

Divergence & reunion with nature: the evolution of playground design

Reviewing the major movements in the evolution of playground design (based on Dr. Joe Frost's Evolution of American Playgrounds)[8], it's interesting to note how the progression of manufacturing solutions tends to reduce organic influence and dynamics.

Sand Gardens

On a visit to Berlin, Dr. Marie Zakerzewska saw piles of sand placed in public parks to provide a place for children to play. She recommended this idea to the Massachusetts Emergency and Hygiene Association in 1886, prompting them to put piles of sand in the play yards of the Children's Mission in Boston. These were considered the first organized and supervised playgrounds in the U.S. – basically relocating natural play material.

Model Playgrounds

(swings, slides, climbers)

In the early 20th century, manufacturing began to make its mark on the playground. Exercise apparatus and other equipment joined the sand piles on playgrounds. Manufacturers began to build equipment for swinging, climbing and sliding. Interestingly, the Playground Association of America (PAA) Committee on Equipment, in their recommendations for supervised public playgrounds, mention manufacturers "settling" playground problems "with a scheme of material appliances."

Adventure Playgrounds & Loose Parts

First proposed by Danish landscape architect Carl Sorensen in 1936, "junk playgrounds" – modeled after organic children's play in found garbage dumps and junk yards – emerged in Europe and the UK (and to a certain extent in the U.S.), motivated by a desire to provide playgrounds based on the imagination of a child rather than the imagination of an architect. In terms of its relationship to nature, this concept in playgrounds combined both the organic (trees, plants, streams, etc.) and manufactured materials (discarded mattresses, furniture, tires and other "found" objects).

Nature Inspired

Manufactured designs influenced by organic form featuring functional (rather than cosmetic) biomimicry. These provide non-linear, unpredictable play paths, asymmetric shapes, varied climbing activities and other challenges that recreate the dynamic, unpredictable experiences of climbing trees and vines, traversing rocks and engaging with other natural terrain.

Hybrids Made Easy

Playscapes that blend current manufactured play designs with natural features such as shrubs and plants, using nature as play elements, room dividers and tunnels.

Looking ahead: a smart return to nature play

"The future will belong to the nature-smart—those individuals, families, businesses, and political leaders who develop a deeper understanding of the transformative power of the natural world and who balance the virtual with the real. The more high-tech we become, the more nature we need."

- Richard Louv

Bringing nature back to the playground may be a simple concept in the abstract, but it brings complex practical considerations. The playscapes accessible to most children in the U.S. are school or municipal parks, and these areas have demands and standards that must be met. Viable playgrounds need the durability to make ongoing maintenance practical and financially sustainable; also, sufficient predictability to provide acceptable levels of risk and liability exposure.

This is the challenge and the opportunity for play designers: creating innovative ways to leverage technology and manufacturing capabilities – not to replace nature play, but instead to bring its benefits within reach of more children and communities.

Novelty Playgrounds
From the 1950s to the 1970s, manufacturing exerted its growing influence on the playground, adding to or replacing typical playground equipment with themed or novelty sculptures such as cars, spaceships, animals and storybook characters. While intended to spark the imagination, these structures were generally fixed and not designed to be changed or moved by children. Some critics felt these novelty structures were more appealing to adults than to children.

Standardized Playgrounds
The rise of rounded edges and plastic equipment, powered by ever-increasing manufacturing capability and developed in tandem with growing concern over playground injuries and lawsuits. The '70s and '80s were a period of rede-signing what Frost calls "the four S's" – swings, slides, see-saws, and superstructures, along with the hard playground surfacing typically used at the time. Task forces were formed to develop national standards for playground equipment safety.

The Modern Era
Starting in the late 1990s and ramping up through the turn of the 21st century, the modern era has seen playgrounds diversify to accommodate a wider range of purposes and users – incorporating more diversified materials, spaces, themes and designs.

[1] "Playing Naturally: Why Kids Need Nature!" Ron King. Playground Magazine. Fall 2013, Vol. 13, No. 3, p. 20-21.

[2] Health & Environment Program "Fact Sheet on Children's Health and Nature." National Environmental Education Foundation, 2009.

[3] Data & Statistics: Children with ADHD. (2016). Retrieved December 18, 2016, from https://www.cdc.gov/ncbddd/adhd/data.html

[4] Health & Environment Program "Fact Sheet on Children's Health and Nature." National Environmental Education Foundation, 2009.

[5] The Last Child in the Woods, Richard Louv.

[6] Gill, Tim. (2013). "The outdoor child: doomed to extinction?" Retrieved December 18, 2016, from https://rethinkingchildhood.com/2012/03/15/outdoor-child/

[7] Calleja, D. (2014). "Venture: Why getting kids outside is no walk in the bark." Retrieved December 19, 2016, from http://www.theglobeandmail.com/report-on-business/rob-magazine/venture-why-getting-kids-outside-is-no-walk-in-the-bark/article20199130/

[8] Joe Frost (2012) Evolution of American Playgrounds. Scholarpedia, 7(12):30423.