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Biophilic  
Urban  
Acupuncture:  
The  
Importance  
of Biophilia  
in Urban  
Places

Jonce Walker  
October 21, 2015

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([http://www.terrabinbrightgreen.com/report/14-](http://www.terrabinbrightgreen.com/report/14-patterns/)

patterns/) and *The Economics of Biophilia*

(<http://www.terrabinbrightgreen.com/report/econ>

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(<https://twitter.com/hashtag/14patterns>).

As our cities expand and densify simultaneously, there is a need to design places to connect people

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## FEATURES



Transparency in Business: Shedding Light on New

design places to connect people to nature. If we are not careful, our commute and daily experience within the city will be nothing more than glass, steel, and concrete. This post articulates the need for biophilic interventions in urban places, offers good examples found in NYC, and suggests easy solutions you can take now to help.

Our access to wild places and “nature” is shrinking and so is our will to get to those places. According to the **Bureau of Labor Statistics**

(<http://www.vox.com/2014/8/18/6030429/american-are-taking-fewer-vacations-than-they-used-to>), over 80% of Americans took at least a weeklong vacation in 1977. Compare that to less than 60% of Americans taking a

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... of Americans taking a weeklong vacation in 2014.

Additionally, trips to our National Park system has also been in decline. The **Journal of Leisure Research**

([http://www.fs.fed.us/nrs/pubs/jrnl/2014/nrs\\_2014\\_stevens\\_001.pdf](http://www.fs.fed.us/nrs/pubs/jrnl/2014/nrs_2014_stevens_001.pdf))

published a report in 2014 that shows per capita visitation to our National Park system has declined 19% since 1997. If we are trending towards getting “out into nature” less, we need to actively design our cities to bring nature in. As we continue to select urban places to live, the impetus to embed nature, and specifically urban biophilic acupuncture, is paramount.

## Biophilia

(<http://www.terrabinbrightgreen.com/blog/2012/05/biophilia-bkgrd/>)

is humankind’s innate biological connection with nature.

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It helps explain why crackling fire and crashing waves captivate us; why a garden view can enhance our creativity; why shadows and height instill fascination and fear; and why animal companionship and strolling through a park have restorative, healing effects.

Terrapin Bright Green has published two extensive reports on the subject of biophilia, *The Economics of Biophilia*

(<http://www.terrabinbrightgreen.com/report/economics-of-biophilia/>) and *14 Patterns of Biophilic Design*

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(<http://www.terrabinbrightgreen.com/wp-content/uploads/2014/09/14PatternsHeader.jpg>)

Moss and birch garden in the NY Times Building by Renzo Piano is an excellent example of a biophilic intervention. Image copyright Hubert J. Steed.

**Urban Acupuncture** is a socio-environmental theory that combines contemporary urban design with traditional Chinese acupuncture, using small-scale interventions to transform the larger urban context. Just as the practice of acupuncture is aimed at relieving stress in the human body, the goal of urban acupuncture is to relieve stress in the built environment. Urban acupuncture is intended to produce small-scale but socially catalytic interventions in the urban fabric. No needles necessary.

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## **Biophilic Urban Acupuncture**

**(BUA)** is the theory that threads and nodes of biophilic interventions in specific urban places can help improve people's moods, connect people to place, and help improve mental health. Biophilic urban acupuncture blends two very important design concepts, biophilia and urban acupuncture.

BUA has higher levels of effectiveness in dense cities versus suburban places due to the ease of pedestrian mobility. A resident that lives in a dense city will spend at least some time each day outside just by the fact that they will be walking to transit, walking to work, or walking to get a meal. Even though BUA is likely needed in

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more suburban places, the auto-centric street design and sprawled land-use typically does not lend itself to high quality biophilic opportunities.

### ***Threads and Nodes***

Smaller BUA interventions should be placed in locations throughout the city which, in a web-like structure, users with different destinations will experience biophilic experiences no matter where they traveling to. These smaller biophilic interventions do not need to be grand in scale to have an impression. Positive impact on self-esteem and mood has been shown to occur in the first five minutes of experiencing nature (Barton &Pretty, 2010). Daily, unintentional exposure should be a priority when



planning a BUA intervention. The intervention should be placed in a location that receives a large number of users but is embedded into an everyday habitat or commute.



([http://www.terrabinbrightgreen.com/wp-content/uploads/2015/10/Highline-Park\\_Dean-Shareski-via-Flickr.jpg](http://www.terrabinbrightgreen.com/wp-content/uploads/2015/10/Highline-Park_Dean-Shareski-via-Flickr.jpg))

The High Line Park in New York City is a converted disused elevated railroad tracks into a much-loved biophilic intervention. Image courtesy of Dean Shareski via Flickr.

The larger biophilic experience should be placed in an area of the city that can serve a larger amount of the population and

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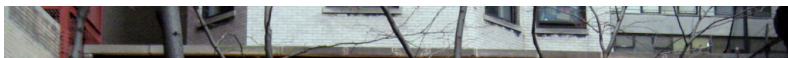
should include as many biophilic patterns as possible. These are typically parks such as the Olmsted designed Central in New York City or the Tommaso Francini designed Luxembourg Garden in Paris. Large parks that are centrally located within a city and connected by good transit will provide a robust BUA experience to a greater number of residents than parks located in the periphery.

### ***BUA Examples***

#### THE FOUNTAINS AND WATER FEATURES OF NYC

A space with a good Presence of Water condition feels compelling and captivating. Fluidity, sound, lighting, proximity and accessibility each contribute to whether a space is stimulating, calming, or both.

In the urban environment, there are two ways to capitalize on the multi-sensory attributes of water to enhance the experience of a place. First, simulating or constructing water features (water walls, fountains, or falls; aquaria; water imagery) in the built environment—indoors and out—creates positive effects for inhabitants. Although, it is worth mentioning that water and energy intensive installments may create other issues. Second, it is possible to amplify the presence of naturally occurring water (lakes and ponds; streams, creeks, and rivers; rainfall; arroyos) to help inhabitants become increasingly aware of the surrounding environment.





([http://www.terrabinbrightgreen.com/wp-content/uploads/2015/10/Paley-Park\\_Wally-Gobetz-via-Flickr.jpg](http://www.terrabinbrightgreen.com/wp-content/uploads/2015/10/Paley-Park_Wally-Gobetz-via-Flickr.jpg))

The water wall at Paley Park is a wonderful and captivating intervention. Image courtesy of Wally Gobetz via Flickr.

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## THE TREES OF NYC

A space with a good Visual Connection with Nature feels whole, it grabs one's attention and can be stimulating or calming. It can convey a sense of time, weather and other living things.

## MillionTrees NYC

(<http://www.milliontreesnyc.org/html/home/home.shtml>)

is a citywide, public-private program that has planted one

million new trees across the City's five boroughs over the past decade. Beyond the numerous ecological benefits, strengthening New York City's urban forest plays a positive role in helping inhabitants reduce stress and bolster self-esteem, mood, and parasympathetic activity.

### PopUp Forest

(<http://www.popupforest.org/>): Times Square is emulating the pop-up restaurant experience by transforming a public plaza in Times Square into a large-scale, temporary urban forest installation. The goal is to foster a movement to re-define cities with nature in mind and to create an urban oasis for wildlife while helping New Yorkers get more familiar with nearby nature.





([http://www.terrabinbrightgreen.com/wp-content/uploads/2015/10/Trees\\_TimesSquare.png](http://www.terrabinbrightgreen.com/wp-content/uploads/2015/10/Trees_TimesSquare.png))

A proposed art installation, PopUp Forest, will bring a forest into the ultra dense Times Square. Image copyright <http://www.popupforest.org/>.

## BIOMORPHIC SUBWAY ART



([http://www.terrabinbrightgreen.com/wp-content/uploads/2015/10/Jay-Street-Metrotech\\_Wally-Gobetz-via-flickr.jpg](http://www.terrabinbrightgreen.com/wp-content/uploads/2015/10/Jay-Street-Metrotech_Wally-Gobetz-via-flickr.jpg))

Natural scenes and biomorphic forms and patterns can transform a dreary subway passage. Image courtesy of Wally Gobetz via Flickr.

## Biomorphic Forms & Patterns are



symbolic references to contoured, patterned, textured or numerical arrangements that persist in nature. A space with good Biomorphic Forms & Patterns feels interesting and comfortable, possibly captivating, contemplative or even absorptive.

Biomorphic subway art illustrates how this concept has been implemented in New York City subway stations. The passageway between 42nd Street and 5th Avenue includes artistic depictions of natural systems such as tree roots and animal burrows, and the Jay Street/Metro Tech Station depicts glass mosaic art with various animal species, including starlings, sparrows, lion fish, parrots, tiger beetles, and koi

fish.

#### BROOKLYN BRIDGE PARK TIDAL WETLANDS

A space with a good Connection with Natural Systems evokes a relationship to a greater whole, making one aware of seasonality and the cycles of life. The experience is often relaxing, nostalgic, profound or enlightening, and frequently anticipated.

The tidal wetlands at the recently expanded Brooklyn Bridge Park offers a prime example of connecting an urban landscape with the local ecosystem. The wetlands heighten awareness of natural properties of the East River and hopefully promote environmental stewardship of the Park and surrounding area.





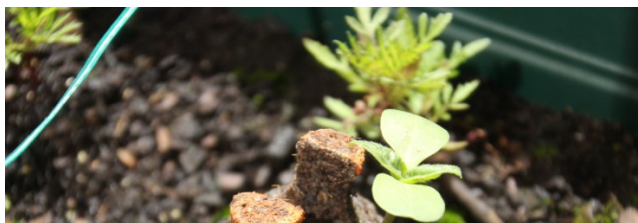
([http://www.terrapinbrightgreen.com/wp-content/uploads/2015/10/TidalMarsh\\_BrooklynBridge2.jpg](http://www.terrapinbrightgreen.com/wp-content/uploads/2015/10/TidalMarsh_BrooklynBridge2.jpg))

Tidal wetlands at the Brooklyn Bridge Park integrate natural with built systems. Image courtesy of Julianne Schaer for Brooklyn Bridge Park.

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### ***DIY Biophilic Urban Acupuncture***

Biophilic Urban Acupuncture does not need to hinge on large budgets or city agencies to have dramatic impact. You can play a role in integrating BUA elements in your neighborhood now. Here are a few strategies to help you get started:





([http://www.terrapinbrightgreen.com/wp-content/uploads/2015/10/7190393508\\_8991888dfe\\_o.jpg](http://www.terrapinbrightgreen.com/wp-content/uploads/2015/10/7190393508_8991888dfe_o.jpg))

Seed Bomb blooming. Image courtesy of KnitSpirit via Flickr.

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**Seed bombs** are balls made from volcanic red clay or compressed soil containing different varieties of native species seeds that can fit in the palm. Usually other additives are included in the ball such as compost or humus to provide microbial inoculants. They can be dropped or tossed onto vacant lots or public places that are in need of beauty and vegetation. Seeds that support pollinators such as honey bees or butterflies are better as they will reinforce the Visual Connection to Nature and Connection to Natural

and connection to nature.  
Systems biophilic patterns.

WHERE: Seed bombs work well in places that have exposed soil and in places that are difficult to access.

HOW: What was once strictly a DIY project, seed bombs can now be purchased online, in stores, or even from **vending machines** (<http://www.thecommonstudio.com/greenaid/>).

**Tree pits** are areas around urban trees that provide a small pervious surface for the roots to breath and absorb water. These can be transformed from a small often neglected patch of soil into a strong BUA intervention. If done with care, you can plant flowers or root bulbs in the pits.

Additional interventions could be

small benches around the tree pit which will create a reason for people to linger under the tree reinforcing the biophilic response.

WHERE: Most trees that are located in public right-of-way (ROW) are the responsibility of the community to take care of. Check with your neighbors about which tree pits are available to improve.

HOW: Using a hand cultivator, loosen the topsoil as this is usually compacted. Spreading a thin layer of mulch will help the tree absorb water and reduce evaporation. Plant in-season flowers and enjoy!

**Guerilla gardening** is the act of planting vegetation in spaces that the gardeners do not have the legal rights to use. These sites



are typically abandoned or areas that are be substantially neglected. BUA can have large impacts in these neglected areas via guerilla gardening because the intervention is typically noticed and appreciated by the community regardless of who did it, and taking care of for years. This intervention supports the Connection with Natural Systems, Visual Connection with Nature, and Non-Visual Connection with Nature biophilic patterns

WHERE: Typically, guerrilla gardening occurs in spaces that are vacant or underutilized spaces. This intervention originated in NYC in the 1970's by residents throwing balloons filled with local seeds, water, and fertilizer into empty lots.

HOW: This BUA intervention is best done with a group of neighbors and/or friends. Locate the site that is in need of the garden and make a plan for the plantings and improvements. Pre-planting site work may need to be done such as cleaning up junk, trash, and debris.

We know that cities will continue to morph. We also know that we enjoy listening to a water fountain, seeing a butterfly, or watching leaves shake with the help of a slight breeze. Let's work to ensure that Biophilic Urban Acupuncture is part of the toolkit to help shape the places where we want to live.

\*Header Image Courtesy of

Header image courtesy of  
Suzanne DeChillo

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**Jonce Walker**

(<https://www.terrapinbrightgreen.com/blog/author/joncewalker/>)

Jonce is an urban planner and sustainability professional creating solutions using cues from nature.

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[m/blog/2015/10/economics-of-biophilia-relaunched](https://www.terrapinbrightgreen.com/blog/2015/10/economics-of-biophilia-relaunched)

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