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BIOPHILIA—CREATING HABITABLE BUILDINGS

Excerpts from Corey Griffin of RMI.org & BuildingGreen.com

"Why does a house designed by an architectural individualist for the special purposes of a special client appeal so much to the public in general?" - Edgar Kaufmann Jr. commenting on Frank Lloyd Wright's Falling water.

Kaufmann's question is a good one as over 140,000 people visit Fallingwater in remote Western Pennsylvania every year. In a poll of its members in 2000, the American Institute of Architects named Fallingwater "Building of the Century". Despite Fallingwater's structural issues (which a multimillion-dollar renovation has recently fixed) and other problems, this unique building is still regarded by many as the single finest piece of American architecture.

The appeal of Fallingwater may lie in its multiple connections to the natural environment and, consequently, *biophilia*. Harvard biologist Edward O. Wilson, Ph.D., coined the term biophilia in 1984, arguing that human beings have an innate and evolutionarily based affinity for nature. He defined the term as "the connections that human beings subconsciously seek with the rest of life."

Today, the technology and knowledge exists to create a building that touches the earth lightly during both construction and day-to-day operations. However, what has been often neglected by creators of low-impact "green" buildings is the need for spaces to be *habitable*. Occupants of built environments don't want simply to work, play, eat, or sleep in a functional building. They want to be inspired, invigorated, comforted, and reassured by their surroundings. They want spaces that will make them more productive and healthy, and they want spaces in which they love to be – spaces that create delight when entered, pleasure when occupied, and regret when departed.

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The concept of biophilia deserves a deeper explanation. Wilson first described the concept as "the innately emotional affiliation of human beings to other living organisms. Innate means hereditary and hence part of ultimate human nature." The hypothesis is that this affiliation leads to positive responses in terms of human performance and health—even emotional states. Roger S. Ulrich summarizes this idea best in his essay on biophilia and natural landscapes:

Today, the technology and knowledge exists to create a building that touches the earth lightly during both construction and day-to-day operations.

"The speculation that positive responses to natural landscapes might have a partly genetic basis implies that such responses had adaptive significance during evolution. In other words, if biophilia is represented in the gene pool it is because a predisposition in early humans for biophilic responses to certain natural elements and settings contributed to fitness or chances for survival."

Biophilia evolved to guide functional behaviors associated with finding, using and enjoying natural resources that aided survival and reproductive fitness—and avoiding those that are harmful. Biophilia, evolved as an adaptive mechanism to protect people from hazards and to help them access such requirements as food, water and shelter. This translates in present conditions into the strong preference people exhibit for features that suggest those evolutionary roots. Today we see this in our office environments when people gravitate to offices with scenic views. We replicate nature by including potted plants (even artificial ones), artwork that depicts the natural environment, and images of nature on our screen savers.

But why does biophilia matter? There are two primary reasons that give biophilia importance. First, it is becoming increasingly well demonstrated that biophilic elements have real, measurable benefits relative to such human performance metrics as productivity, emotional well-being, stress reduction, learning and healing. From an environmental standpoint, one of the most compelling reasons to incorporate biophilic design features in buildings is to inspire interest in—and appreciation of– nature. This appreciation, in turn, can motivate people to protect the environment and preserve natural areas.

Richard Forman, Ph.D., a professor of landscape ecology at Harvard University and a widely published author in the landscape design and planning fields, argues that in addition to the anthropocentric benefits of buildings, biophilic design offers significant benefits to nature itself. "Structures can be designed to provide habitat that is targeted to rare species, enhancing surrounding eco-systems".

Balancing biophilia with other "green" design options can be challenging. The Sky Ceiling system, in particular, has many documented health benefits. However, by incorporating this biophilic feature energy conservation goals may be difficult to achieve. Other strategies, such as large glazing areas of high-visible-transmittance glass, operable windows, and indoor/outdoor spaces that connect people with nature,

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may carry even more significant energy penalties.

On a different level, providing large open areas, around buildings, to serve the evolutionarily based desire to look out on savannah-like vistas that many biophilia proponents suggest we have, may conflict with the strategy of high-density development, or may encourage sprawl.

These conflicts are real, but they are surmountable. By understanding these potential conflicts and working with integrated design teams to address them, all of these goals can be achieved. Designers may need to work a little harder to maximize energy efficiency elsewhere in the building to compensate for some energy penalities with biophilic designs, and building owners or developers may have to invest more in ecological restoration and landscaping to turn urban brownfield sites into beautiful biophilic assets, but these are doable. Biophilic design involves understanding potential conflicts and achieving the right balance.

At the same time, significant synergies can be achieved with biophilic design. Green roofs, for example, can afford contact with natural features in an urban environment while also reducing the volume and impacts of stormwater runoff and helping to mitigate the urban heat-island effect. Restoring damaged ecosystems around a building benefits the ecological health of the area, while walking or jogging trails around a building may benefit the health of the areas occupants. Increased glazing areas (key to biophilic design), when implemented effectively, can reduce energy use for electric lighting and cooling, and natural ventilation (in some climates) can reduce energy consumption for heating, ventilation, and air conditioning.

The Bank of Astoria in Manzanita, OR makes extensive use of natural materials.

Integrating whole-systems and green design is a process of balancing all of these components—and biophilia should be considered as an important ingredient in the process of designing truly habitable buildings for the health and benefit of their occupants. ▪

Key design attributes of biophilic design are:

- The use of dynamic and diffuse daylight
- The ability to have frequent, spontaneous and repeated contact with nature throughout and between buildings,
- The use of local, natural materials,
- A connection between interior and exterior surfaces,
- Natural ventilation,
- A direct physical connection to nature from interior spaces, and
- Direct visual access to nature from interior spaces

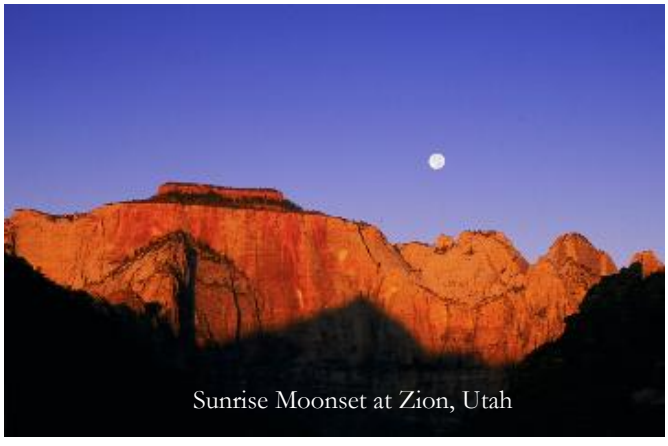
ALUMNI PROFILE...BYRON H. DUDLEY

The Phillips Architecture team would like to introduce you to a past client (alumi) and friend who has touched our lives with his work and his passionate dedication to enriching our community.

Byron H. Dudley is a landscape photographer and writer who was born in Berwyn, Illinois in 1937. He graduated from Michigan State University in 1963 with a bachelor's degree in English and from Oregon State University in 1965 with a master's degree in counseling. He received an administrative credential from the University of Oregon in 1974. He was a high school assistant principal in Eugene from 1974 to 1995.

Dudley has displayed his photography at the White Oak Photography Gallery in Eugene since 1980. His images are concise statements about the beauty of the natural world. He focuses upon the shapes, tones, textures, patterns and colors within the large-scale landscape scene.

Dudley's photography exhibits, "Out of Town", "Elements", "Midwest/Northwest Woods", "The Coast of New Albion", "Northwest/Northeast" and "A Portfolio of Trees" have been displayed in Portland, Eugene, Bend and Sisters.



Sunrise Moonset at Zion, Utah

His work has been published in many national and regional magazines including Sierra, Sunset, Coastal Living, Log & Timber Style, Oregon Home, Oregon Coast, Oregon Outdoor, Cascade East and Inside Cape Cod. He has won several national awards for his photography.

In 2002, Byron and his wife, Nancy, moved to Sisters where he continues to photograph and to write for several publications. His photographs were published in the book, Day Break 2000, and in the 2006 Bend Living book, A Day in the Life of Central Oregon. He is one of 27 contributing photographers for *A Day in the Life* which is a collaborative photo-journal whose proceeds benefit the Bethlehem Inn. He is a volunteer photographer for the Deschutes Basin Land Trust and the St. Charles Medical Center Cancer Center Unit in Bend. Byron H. Dudley is a cancer survivor .

For more information about Byron Dudley's photography and writings, please visit his website at ***www.whiteoakphotography.com.*** *To join us in support of the St. Charles Medical Center Cancer Unit, please visit the Calendar of Hope 2008 website* ***www.calendarofhope.net*** *to donate to this worthwhile organization.*

Badger Avenue Master Planning Project—Redmond, OR
Mixed-Use Residential/Commercial Development

ON THE DRAWING BOARDS

- Aspen Title & Escrow—Klamath Falls, OR
- Badger Community Development Project - Redmond, OR
- Brown-MacIntosh Residence - Sisters, OR
- Hamilton Construction Residence—Caldera Springs, OR
- Diestel Residence—Wyoming
- Hatfield Ranch—Brothers, OR
- Hendgen Residence - McMinnville, OR
- Palmer Homes Townhomes—Bend, OR
- Port Orford Condo/Mixed Use Project - Port Orford, OR
- Rice Residence - Tumalo, OR
- Troike Residence - Sisters, OR

Palmer Homes Rowhouse Project—Bend, OR

Aspen Title & Escrow—Klamath Falls, OR

UNDER CONSTRUCTION

- Baccetti Residence - Owner/Gen
- Bott Residence - Brad Nicholson Construction
- Bowerman Building—Lee Fischer Construction
- Redmond Foursquare Office Bldg - Central Oregon Builders
- Deschutes County Title Co. T.I. - Andy Johnson Construction Co.
- Garrigan Residence - Windriver Builders
- Grossmann Residence - RC Construction
- Hamond Residence - Seibold Building Solutions
- James Residence - Owner/Gen

Hamond Residence—Constructed with AAC (Autoclaved Concrete) Block .

- Lantis Remodel/Addition - Cobble Creek Construction
- McColgan Residence - Owner/Gen
- McFarlane Residence - Brad Nicholson Construction
- Place Residence—Windriver Construction
- Plaza Condominiums - Dalke Construction
- Price Residence - Owner/Gen
- Ruiter Duplex - Owner/Gen
- Sampson Residence -
- Shaker Residence - Danny Dark Quality Construction
- Snekvik Residence - Owner/Gen

Four Square Office Building—
Redmnond, OR

Construction by

Central Oregon Builders

GREEN, THE NEW RED, WHITE & BLUE

Excerpts from Thomas Friedman—Syndicated Columnist

For so many years the term "green" could never scale. It was trapped in a corner by its opponents, who defined it as "liberal", "tree -hugging", "girly-man", "unpatriotic", and "vaguely French".

"...scale is everything if you want to change the world, but to achieve scale you have to make sure that green energy sources—biofuels, clean coal, solar, wind and nuclear power—can be delivered as cheaply as oil, gas and dirty coal."

No more. We reached a tipping point this year—where living, acting, designing, investing, and manufacturing green came to be understood by a critical mass of citizens, entrepreneurs, and officials as the most patriotic, capitalistic, geopolitical, healthy and competitive thing they could do. Hence, my own motto, "Green is the new red, white and blue."

How did we get here? It was a combination of factors: Katrina, Al Gore's terrific movie, the growing awareness that our gas guzzlers are financing the terrorists, preachers and rogue regimes we're fighting, the real profits that major companies like GE and DuPont are making by going green, and the fact that even the Pentagon has given birth to "Green Hawks", who are obsessed with powering our army with less energy.

And now, Wal-Mart. Wal-Mart has earned its black eyes for labor practices. But the world's biggest retailer lately has gotten the green bug—in part to improve its image, but also because it has found that being more energy efficient is highly profitable for itself and its customers.

Wal-Mart has opened two green stores where it is experimenting with alternative building materials, lighting, power systems and designs, the best of which it plans to spread to all its outlets. I just visited the one in McKinney, Texas. From the big wind turbine in the parking lot and solar panels on key walls, which provide 15 percent of the store's electricity, to the cooking oil from fried chicken that is recycled in its bio-boiler and heats the store in winter, to the shift to LED lights in all exterior signs and grocery and freezer cases—which last longer and sharply reduce heat and

therefore the air-conditioning bill—you know you're not in your parents' Wal-Mart.

Other big companies are now sending teams to inspect the green Wal-Marts, and customers are asking the manager how they can adopt these innovations at home.

"When I started having people stop me in the aisles and say, 'How do I do that?' or 'Can I do that?' that's when we really started realizing that this isn't just a small thing, this can be really large and can be very rewarding to the planet," said the store's manager, Brent Allen.

Hey, the more energy-saving bulbs Wal-Mart sells, the more innovation it triggers, the more prices go down. That's how you get scale. And scale is everything if you want to change the world, but to achieve scale you have to make sure that green energy sources—biofuels, clean coal, solar, wind and nuclear power—can be delivered as cheaply as oil, gas and dirty coal.

While our embrace of green has finally reached a tipping point, the tipping point on climate change and species loss is also fast approaching, if it's not already here. There's no time to lose. "People see and endangered species every day now when they look in the mirror," said the environmentalist Rob Watson. "It is not about the whales anymore. ▪

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Plaza Condominiums—Bend, Oregon

Top 20 Commercial Projects 2006
Cascade Business News

THE HISTORIC COZY HOTEL

New home of Phillips Architecture & Planning, Inc.

We have relocated to beautiful downtown Bend, in the Aspen Professional Building. 327 NW Greenwood Avenue, Suite 100.

Our "new" office space has a long history in the Bend community. The building was built in 1917, and was a hotel.

For ladies traveling alone, the Cozy Hotel was the only respectable hotel in town.

In those days, the Bend Bulletin printed the guest list of the 3 "higher class" hotels in town. The Cozy Hotel was among them, with its 20 foot ceilings in the lobby and dining area, and a modern central heating system, the Cozy Hotel catered to the most wealthy travelers.