

storypole



Photo courtesy of Austral Brick

Fashion Influence of the Built Environment

by Betty Stansbury Young

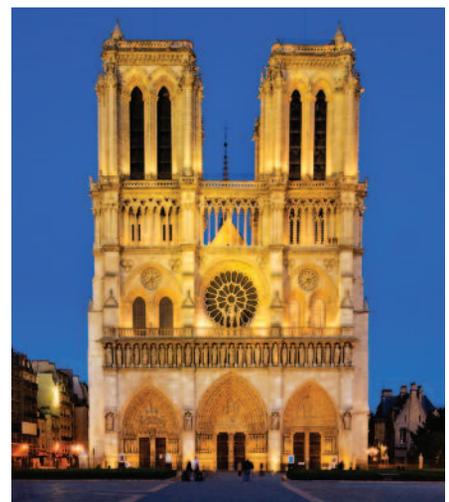
The great downtowns, whether in the cities of Chicago, Detroit, New York, Dallas, Washington DC or those smaller yet historic and quaint, showcase grand beautifully articulated masonry lining the streets, often dating to the 1800s in the US.

European cities of magnificent masonry date to the beginning of their existence, centuries ago. From Romanesque cathedrals reflecting the wealth and prestige of the city dating to the 10th to 12th centuries to complex Gothic systems, circa 12th to 16th centuries, with flying buttresses allowing masons to carry the weight away from cathedral walls to

American Colonial of the 1600s, Arts and Crafts of the 1800s and skyscrapers of the industrial age after the turn of the 20th century, masonry has always been the fashion influence of the built environment. Stone masons were the most articulate of craftsmen trained by their fathers, a tradition remaining today.

Majestic cathedrals of Europe, monumental temples and ancient shrines were all built to the glory of the gods. They were constructed of clay and stone, abundant to their environments, following the logic of mathematic proportions in harmony with music, nature and the human body.

Australia's Austral Bricks unveiled a mural of President Barack Obama welcoming him to Australia. This tribute is a special Brick Art demonstration of the versatility and contemporary nature of what can be achieved with brick, a piece of art that will inspire architects and designers to create stylish, contemporary feature panels in buildings.



Since completion in 1345, after nearly 200 years in construction, Notre Dame Cathedral, Paris, has been hailed as one of the finest examples of French Gothic design and one of the earliest to incorporate flying buttresses. The elaborate stone cathedral has endured fires, wars and desecration. It remains an important religious and architectural icon.

Photo courtesy of Elizabeth Young



Masonry functions as added fire protection and provides structural redundancy. Inherent arching action held the Pentagon together leaving only the hole where the nose of the plane blasted through.

Envious Sustainability

Authentic and iconic, masonry is often imitated, never equaled. Only in its appearance can it be even be imitated. Myriad inherent qualities are its DNA. Unmatched.

Wars, tornadoes, fires and other devastations have left nothing behind except ruins. Rows of chimneys in residential neighborhoods. The Pentagon, with merely a hole where an airplane tore through the building, endured due to masonry's inherent arching action. Even reinforced masonry can withstand brutal gale-force winds of whipping hurricanes.



Chicago's Water Tower survived the Great Fire of 1871. Today, situated along the Magnificent Mile of luxury, fashion and nightlife, the Neo-Gothic limestone castle-like structure is haute couture amidst modern skyscrapers setting a magnificent tone for the chic fashion district.

Imaginative. Distinctive.

Architects have created the most majestic masonry for kings and emperors, embassies, communities and their peoples. Always the fashion statement.

A look through archived catalogues for the past 80 some years of The Belden Brick Company, which President Bob Belden generously shared with me, helps track the history of influences of colors, blends, textures, bond patterns, sizes, shapes and special shapes.

Photos courtesy of FEMA



The Pentagon, constructed primarily of concrete beams, girders, slabs and columns, with 5" thick limestone over 8" thick unreinforced brick infill, only experienced partial collapse due to direct impact of the airplane on 9/11. Limestone and brick absorbed significant impact energy. Wing portions of the aircraft did not penetrate due to the masonry and stiffness of floors. Despite damage to the limestone, brick infill remained intact providing fire protection above and limiting its spread from initial explosion. Brick infill stiffened exterior frame. The wall acted as a truss to span missing columns.

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Courtesy The Belden Brick Co

A Belden Brick leather bound catalogue from the 1930s fashionable description for its exquisite Sylvan-Glo blend with chocolate mortar reads: "A brick full of life and good strong color with a texture interesting and original adds greatly to highlights and shadows of the wall. Blues, browns, greens, goldens, reds and polychromes blend gracefully and naturally. There is no conflict in this riot of color. Of purest shale, burned to vitrification, the colors will remain throughout the years. If brick are right for color and quality to harmonize with the architecture, the color of the joint is a mere matter of taste."

Imaginative. Distinctive. (cont.)

Conservatism of the '50s, '60s and '70s witnessed the *less is more* attitude of Mies van der Rohe, where simplicity reigned boldly, abandoning ornamentation altogether. The '80s brought back the beauty. Masonry began blending architectural block with brick and stone for new looks. And blend it did with the more traditional masonry. Yet contradictory to Mies' evolution to steel and glass, even though his early career was working in his father's stone-carving shop, the new masonry became much more sought for its beauty and its fresh appeal. And all of masonry's inherent attributes. Using Masonry for ALL Its Worth, architects profit from

masonry's sustainability and myriad areas of LEED compliance, as well as its economic benefits.

As architects and designers began asking for variations on the beloved masonry theme, the techies have gleefully delved into the possibilities.

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Allow me, please, to introduce you to the next generation of the masonry world that you have grown to love and appreciate. Continuing to dominate the fashion scene in the built environment. Reflecting a New Attitude.

Color Evokes Emotion

Most appealing and available most widely in masonry, color has been evolving since the '50s. Natural mineral oxides have been added to the reds of clays, yellows of shales, greys of concrete and beiges of sands for masonry and its mortars. Designers can create whatever the client wishes to portray. Definition of volumes and spaces. Uniqueness to add distinction. To match school colors. Corporate colors. Reflecting cultural and community moods and attitudes. Color adds a lively dimension. It lifts the spirits. It gives an anticipation of how one will feel in the space. It adds connection.

International Colorist Denise Turner, ASID, CID, CMG, talks about color defining emotion. "Color can have a profound effect on mood. It affects our brain waves, heart rate, blood pressure, respiratory rate and mental state. Exposure to color has an effect on our biological systems."

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Photo courtesy of Craig Architects

Smooth beige and brown brick were combined with subtle cast stone curves and arches to exhibit a feeling of warmth, welcome and security at the Women's Health Center, Grand Rapids, MI.



Photos courtesy of St. Francis Hospital

St. Francis Hospital, structurally and functionally sound, in need of a face-lift.



St Francis Hospital, after staining yellow brick red for improved perception.

Red is passionate and exciting, yet traditional as a brick color. In a market research study by St Francis Hospital in Evanston, IL, focus groups rated technologies, physicians, employees and quality of care to be inferior in a yellow building to that in a red building. Hospital executives were convinced that the exterior could be a liability to attracting new patients and staff in a largely affluent suburb of Chicago. Color defines expectations. Staining was the answer.

Mixologist Russell Gray, president of Nawkaw, manufacturer of color staining products for masonry, confidently stated, "Tell me what you want to match and I'll have it for you by noon tomorrow." Staining is healthier than painting for masonry as it does not trap moisture in the

wall system. Commonly used for restoration, toothing in windows and doors or additions.

Ancient Roman, Egyptian, Chinese and Greek cultures were aware of the importance of Color Therapy. Hippocrates, the Father of Medicine, circa 400 BC, is said to have used different colored ointments and salves, as well as to have painted his treatment rooms to promote healing.

Color influences for 2011, according to Turner, relate to protecting our natural resources, inspiring a better world through global fusion, repurposing materials and happy retro-hues. Fresh optimistic vegetable hues display a need for happy colors in a down economy and the realistic desire to continue moving forward.

Turner further states that happier colors do make us feel better during these challenging times but they are more inclined to be used on more disposable accessories. Long-term investment products such as masonry should be colors that look beautiful when new and age gracefully.

Masonry is the only façade of endurance that comes in color, requiring no paint and almost no maintenance. Hundreds of standard colors and every custom color designers desire. Even beautiful blends. History can be traced with brick colors. At the turn of the 20th century, very dark colors were common, not showing the coal soot from the furnaces or passing trains. During the roaring '20s, art deco buildings introduced a range of colors.

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Shiawassee

Saugatuck

Petoskey

Grand Haven

Photos courtesy of
Hanson Brick

Color Evokes Emotion (continued)

According to Brian Trimble, PE, LEED AP, senior director, engineering services & architectural outreach, Brick Industry Association and member of the International Brick Collectors Association for 25 years, the addition of manganese made brick harder, suitable for paving, and turned it brown. Zinc sprinkled atop the brick prior to firing gave it a greenish cast, cobalt gave a blue cast. High temperatures during the firing process created a chemical reaction.

Depression and war years were very conservative. Color blossomed during the '50s, '60s and '70s. As did white glazed brick in Manhattan in the '50s and '60s. Many are trading in the white brick to a more classic red brick or taupe façade for the future. A comfort zone. It's what people expect. Yet some appreciate the happier, brighter feeling of a white brick. Slurry coatings of color emerged during the '70s, faux trends during the '80s. The coveted brick look was imitated by every cladding, material and fabric. The '90s brought a global fusion influence.

Hanson Brick is known for its bold fashion statement in ads which speak volumes about the fashion of brick. Hanson's marketing director Greg Snowman shares their latest midwest colors. Michigan's Corunna plant is producing sand molded brick named for beloved towns along the state's sandy west coast bordering Lake Michigan and one for Shiawassee County in which the plant is located. Shiawassee is a blade cut fudge brown.

In this issue, we reflect the color and texture of the peachy Saugatuck wire cut bedded with creamy sand on the cover masthead, as background for the Table of Contents, Chuck Ostrander's Pushing Forward and Partners in Publishing column. Grand Haven is a deep red with dark sand, simulated tumble. Petoskey a simulated tumble white slurried warm brown with flashed color variations reminiscent of the mottling of the Petoskey stone. All are full bed and thin veneer so the same chic can easily navigate to fabric of interior lobbies, conference rooms, the board room and more, setting a stunning tone.

Function, the Newest Fashion

Just ask J Gregg Borchelt, president and CEO of Brick Industry Association, how communities with masonry planning policies benefit from increased property values and population growth. Masonry, historic and brand new, adds value by providing a sense of place and permanence to a community.

Eric Krebs, director research and training, the Besser Company and co-director World Center of Concrete Technology, reminds us that the block industry looked into using recycled bottom ash in the 1950, but it did not catch on until architects began to realize the power of sustainability as defined by the US Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system early in the 21st century. Pigments integrally colored block as early as the '60s. Splitting and rocking faces of CMU gave yet a new flair as did various scoring patterns.

National Concrete Masonry Association (NCMA) forward thinking Executive Director Bob Thomas says this is an exciting time to be in the concrete block business. There are so many fashionable options. Integrally pigmented in nearly every color imaginable to last forever and throughout. Split faced. Rock faced. Chisel faced. Ground faced to expose the most interesting texture of the aggregate and with great selection in aggregate size, shape and color distinguishing the look. Highly polished ground face, textural and shiny. Fashionably green contributing to LEED compliance in myriad ways.

Harry Junk, NCMA marketing director, adds that the new chic of block is its comfort level resulting from the thermal performance of well insulated wall construction. NCMA has produced a concise catalogue of concrete masonry wall assemblies with R-values to help designers easily fulfill a project's energy efficiency requirements.

Thermal comfort is added to the long list of benefits that make masonry the attractive choice.

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STL Architects' design development for Back of the Yards High School in Chicago included a beautiful, brightly colored glazed brick mural, capturing the cultural diversity and vibrancy of the community and student population.

Photo courtesy of STL Architects

Striking Visual Appeal

Kerry Von Dross, technical director at Premier Block, tells us that burnished block has been in existence for 30 years now and that designers love to use this cost effective means to simulate mineral laden granite at a mere fraction of the cost. Integrally pigmenting the block gives a permanent rich distinctive coloring. Color of the sand and aggregate as well as size of the aggregate can significantly enhance the block's appearance. One or more sides of the block can be ground and polished to reveal the mixture of natural aggregate within. Aggregates are so unique, colorful and with distinctive shapes creating a peerless work of art. Whether limestone chips, granite chips or pea gravel, each aggregate gives a characteristic look. Technology has improved the grinding process and blades so the end result is now highly polished.

Glazed Brilliance

Glazed units, crafted by bonding a permanent colored liquid plastic resin facing to one or more surfaces of a lightweight concrete masonry unit or brick, originally were developed in limited colors for sanitary walls impervious to chemicals and bacteria. Today, an expansive palette of vibrant colorful masonry units almost acts as packaging, drawing attention to a special section of a building or room. The smooth finish may be high gloss or velvety matte.

Paul Rauch, owner of Rauch Clay, remembers that "in the 1940s, there were only a dozen colors for glazed brick. Light tan and beige were popular. Yellows and blues were added. Mottled finish adding texture was introduced in the 1950s. By the '60s, colors seemed unlimited. Twenty years ago, neutrals gained popularity. Trend setter Carol Ross Barney, FAIA, led us in a new direction using primary colors on schools." Colors are vibrant and cheery. Designers like the impact of vivid color.

Color Speaks

It is amazing how a tinted mortar can change the look of the building.

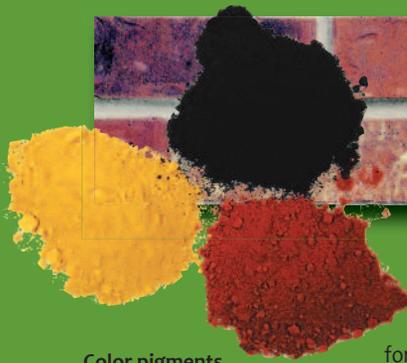
"Mortar joints represent about 20% of masonry surfaces" states Essroc's Chris Sieto, market manager masonry products. "Use of colored mortars with brick or architectural block enhances curb appeal and provides an enduring, maintenance free building exterior or interior. Pigmented masonry is more environmentally friendly and cost effective over time than paint. Paints are petroleum products (acrylics based on the polymerization of methyl methacrylate) based on imported oil and have a life expectancy of less than 10 years on exterior surfaces. Masonry products are locally manufactured, with a life expectancy of well over 50 years, and qualify for LEED credits."

It also covers the most fashionable neighborhoods.



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Color Speaks (continued)

Color pigments are made from natural and synthetic iron oxides (red, black and yellow), cobalt (blue), titanium oxide (white), and chromium oxide (green).

Pigment supplier Rich Solomon, president of Solomon Colors says buff is, without a doubt, the most popular tint for mortar, but today architects like to make an impact with pronounced mortar color like using orange to frame a red brick. "Lighter or darker shades complementing the brick are a current look. Architects are likely to use more colors of masonry on each project which often means more colors of mortar. Our labs are always challenged and busy trying new things to meet designers' demands."

CalStar fly ash brick come in eight colors, all of them green. Mineral oxide pigments used have a track record of decades.

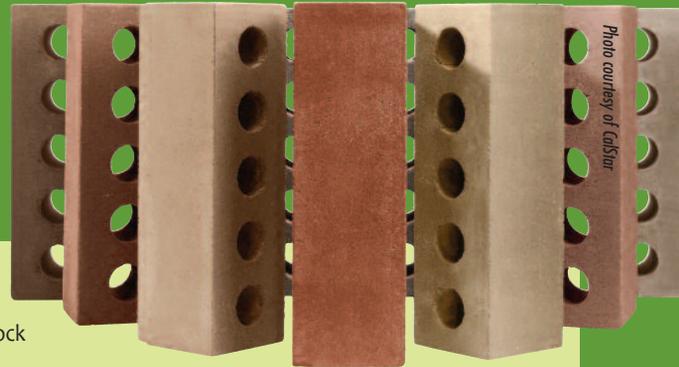


Photo courtesy of CalStar

Looking Forward

Sustainability has influenced what we value, how we protect natural resources, cost and longevity of materials and components. The abundance of natural resources in every part of the world has made masonry products prevalent, cost effective and appreciated. Yet even the most sustainable building material is looking at ways to improve.

There are always those who are experimenting with new ideas. If it can be accomplished, can it be accomplished with brick? with block? with mortar?

CalStar is leading the way with environmentally friendly brick made from high content of class C Fly Ash, a product captured from smokestacks of coal-fired power plants, as we featured in *New Architectural Masonry Units Lower CO₂, Energy Consumption* by Gene Guetzow and Julie Rapaport in *MasonryEdge/the StoryPole | Sustainability*.¹

on products and materials in the state-of-the-art equipped block plant at the World Center for Concrete Technology. Alexander authored *Industry Research at the World Center for Concrete Technology | Concrete Masonry Producers – Recyclers to the World in the StoryPole | Building Green*.²

Most all block producers are now utilizing this technology to be good community citizens, using materials that would otherwise become products of landfills. Color them GREEN!

Innovative smog-eating permeable pavers have been installed in Chicago's Mary Bartelme Park and University of Michigan's Transportation Center. Essroc Cement's new TX Active poured over Unilock's Eco-Priora pavers, manufactured and distributed by Unilock Chicago in Aurora, is a photocatalytic cement that reacts to sunlight and accelerates the oxidation of pollutants, rendering them harmless salts, reducing nitric oxide in the air. In addition, the pavers filter rainwater into the ground, rather than local sewers. Photocatalysis is a natural phenomenon in which a photocatalyst uses light to expedite the rate of a natural oxidation process. Photocatalysts induce the formation of strong oxidizing reagents which quickly decompose some organic and inorganic pollutants and prevents their accumulation. Photocatalysis is an accelerator of oxidation processes that already exist in nature.

CMU eats CO₂. The AIA Environmental Resource Guide, 1996-98, states unpainted, unsealed concrete masonry units will absorb

carbon dioxide from the atmosphere over time. Absorption is higher for concrete masonry than for poured or web cured concrete products because of its greater porosity, according to research done by Portland Cement Association.

Photovoltaic brick pavers have over 35,000 hour average life expectancy and can be used in walkways and other hardscape applications...

The world's first commercially available translucent concrete block Litracon® is a combination of optical fibres and fine concrete developed in Hungary by architect Aron Losoncz. Due to the small size of the fibres, they blend into concrete becoming a component of the material like small pieces of aggregate. Litracon is a fully handmade product which results in an exceptional and individual pattern of light in each piece. According to Losoncz on Optics.org, "loadbearing structures can also be built from the blocks as glass fibres do not have a negative effect on the well-known high compressive strength of concrete. The blocks can be produced in various sizes with embedded heat isolation too. The fibres work without any loss in light up to 20cm."

Stay tuned for what other new ideas are about to emerge. ■■■

¹Issue Vol 5, No 1, 2010

²issue Vol 38, No 4, 2008



Photo courtesy of Unilock

Smog-eating concrete pavers in Chicago's Mary Bartelme Park.

Old tires, municipal waste, wood chips and sawdust, shot blasting plastic, crushed glass and burned earth are among waste products being incorporated in CMU according to Peter Alexander, training specialist at Besser, who performs testing

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