



Brian Little as introvert

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tween a born extravert and a pseudo-extravert? Usually you cannot.”

Acting “out of character” can mean acting away from one’s character, but can also be behavior chosen on behalf of character, says Little, adding, “Character traits have an evaluative dimension, but personality traits are generally not evaluative.” (He notes that the *Journal of Character and Personality* evolved into the *Journal of Personality*, and asks, only half-kidding, “When did we lose our character?”)

Courage often means acting out of character. For example, while extraverts seek out reward cues, introverts, who have lower pain thresholds, instead tend to avoid punishment cues. “An introverted kid in a soccer game who is kicked hard in the shin might show her pain and hear someone say, ‘Don’t be a wuss,’” says Little. “But the introvert who hobbles back onto the field with a tear in her eye is even more of a hero than the extravert—she’s acting out of character for the sake of her team.”

In such instances, says Little, analysis of character in terms of free traits and personal projects opens “lines of commerce” between psychology and moral philosophy. “As scientists, we cannot adjudicate these moral questions,” he says,

“but we can inform their adjudication.” He refers to the work of Amartya Sen (who returns to Harvard in January as Lamont University Professor), who argues that even though having “rights” is well and good, those rights mean little if one is precluded from the means of converting them into viable projects. “Human flourishing,” says Little, “is achieved through the sustainable pursuit of one’s core projects.”

Although free traits can advance core projects, prolonged periods of overriding one’s inborn temperament do take their toll. “It exacts a price in health, and can cause burnout—unless you have a restorative niche where you can indulge your first nature,” Little explains. “After an hour or two in front of a class, my introverted side restores itself by taking a quiet break in the washroom, or stepping outside for a breath of fresh air. With spouses and bosses, we can strike a bargain: I’ll act out of character to advance our joint project if you will grant me a restorative niche. What we need is a Free Trait Agreement.”

~CRAIG LAMBERT

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quickly,” to “transform Western thought, slowly.” Individuals activate their free traits, expressing or stifling inborn tendencies, in service of “core projects”—the endeavors linked to their deepest values. “Out of love for our wives or kids or our professions, we enjoin ourselves to act ‘out of character,’” Little says. “For example, even though I’m a classic introvert, when I give a lecture for my students I perform with great passion. Introverts, when they are ‘on,’ become pseudo-extraverts. Can you tell the difference be-

PARK BENCHES FIGHT TERROR

Sidewalk Bulwarks

THE 1995 TRUCK BOMBING of the Murrah Federal Building in Oklahoma City hastened a revolution in urban design and planning. Architectural terms and security phrases like “Jersey barriers,” “setbacks,” and “bollards” turned up as people began to consider the need to guard against car and truck bombs. Similarly, the terrorist attacks on September 11, 2001, made design security an issue not just for important buildings like the White House, but for every large corporation and building complex. Nearly two years later, many cities are now clogged with hastily erected concrete barricades.

Jersey barriers (which the New Jersey

Highway Department introduced in 1955), ring the Washington Monument and block off Pennsylvania Avenue in front of the White House. Bollards, the concrete pots and metal posts designed to stop trucks, surround corporate headquarters and public sites like Times

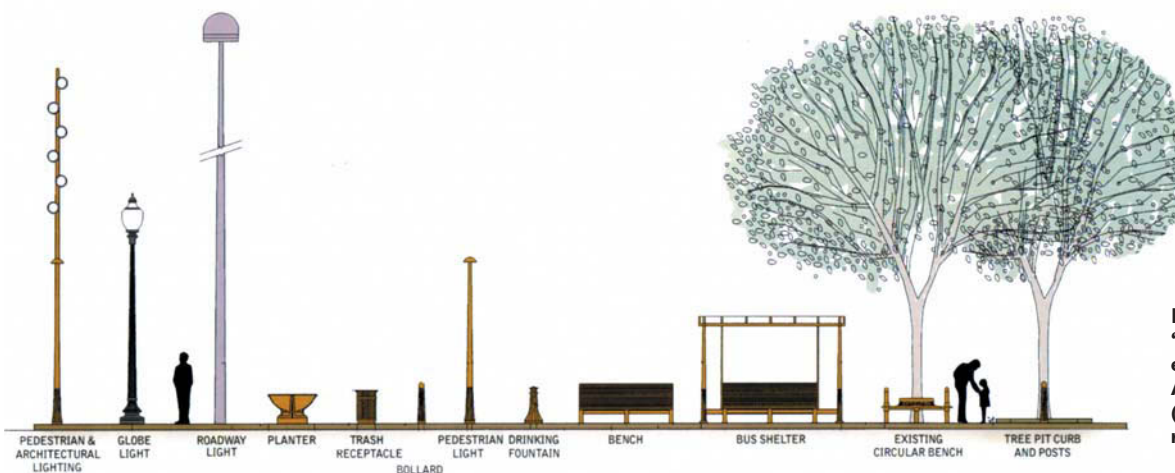
Square. With no sign that the threat of attack has abated, design professionals say, nevertheless, that the new emphasis on building security poses a danger of its own: subverting important aspects of public space.

Intrusive, highly visible structures like Jersey barriers may actually foster more worries than they prevent, heightening fears that there is something to be afraid of. In response, Alex Krieger,

Introduced in 1955 by the New Jersey Highway Department, “Jersey barriers” are now widely used for protection and security.



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Hide in plain sight: proposed “hardened” streetscape elements for Pennsylvania Avenue in Washington, D.C. (left), and a streetscape rendering (below).

M.C.U. '77, professor in practice of urban design, is at the forefront of a movement that hopes to both preserve and enhance the public realm while “hardening” potential targets by making them more impervious to attack. In March, a two-day conference at the Graduate School of Design (GSD) on “Designing Streetscapes and Landscapes for Security” brought together design and security professionals to discuss the new threats they must now consider.

Krieger’s architectural firm, Chan Krieger and Associates Inc., served as the coordinating architect for a study by the federal government’s National Capitol Planning Commission (NCPC) on how best to redesign Washington, D.C., to meet security needs. A 100-page report, released at the end of 2002, is now working its way through various oversight commissions. It provides radical solutions that Krieger hopes will make the nation’s capital both a more welcoming place for visitors and a more difficult target for terrorists. “This project was meant to make security less off-putting, less conspicuous,” says Krieger, who also chairs the GSD’s urban planning and design department.

Although the NCPC project examined some *Star Wars*-like technologies—such as invisible force fields around potential targets, or “smart roads” that would sense the approach of an explosive-laden vehicle and deploy barriers—the final report suggested ways to hide security measures in plain sight. The design review suggests replacing the loose configuration of dirt-filled concrete



Trash Receptacle Bus Shelter Pedestrian Lighting Planter Bench Tree Pit Curb and Posts

planters and Jersey barriers with “hardened” versions of regular street objects.

“You deputize the normal accoutrements and incorporate those into your security design,” Krieger explains. By building street benches, lampposts, trashcans, or even parking meters and drinking fountains to more rigorous specifications and then anchoring them deeper in the ground, designers could provide protection while maintaining the historic grandeur of famous boulevards like Pennsylvania Avenue. The result is a streetscape that protects against car bombs yet allows pedestrians to move through it without a sense of unease.

The large-scale rethinking of Washington’s physical security exemplifies one of the most pressing issues facing security design professionals: how to safeguard conspicuous buildings in urban settings where other structures may not need such measures. Tougher versions of everyday objects would allow hardened and unhardened buildings to intermingle: a hardened street bench in front of a po-

lice station would look the same as one in front of a restaurant down the street. Depending on the level of security necessary, architects can also harden buildings themselves, using a variety of techniques. Increasing a building’s set-back from a road, for example, can lessen the damage from an explosion, and plastic glazing on windows—like that used to secure the Pentagon—can prevent shattering.

In some cases, Krieger and his colleague Martin Zogran, M.A.U. ’99—a design critic in urban planning and design at the GSD and an architect at Chan Krieger—say that they see security hardening becoming a “badge of honor,” that organizations are linking their importance to the need for extensive building security: the more extensive the security, the more critical the work done inside.

This drives many private companies to move ahead with security measures on an ad hoc basis. “Conspicuous buildings that perceive themselves as targets are moving a lot faster than the government,” Krieger observes. Concrete planters now surround the Reuters

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Building in Times Square, for example, and bollards are being erected around the Hancock Tower in Boston. Such haphazard security designs can severely damage the sense of space around a building or along a city block.

Ever since September 11, Krieger reports, his firm has encountered a new interest in security for a wide range of

architectural settings: recently, a group of investors sought a security review for a retirement community. He expects that physical-security reviews will soon be routine. "It's going to be another layer of investigation that any building project is going to undergo—just like air conditioning, heating, or engineering," Zogran adds. "Now

there'll be a security component, too."

~GARRETT M. GRAFF

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NCPC REPORT WEBSITE:
www.ncpc.gov/publications/udsp/Final%20UDSP.pdf

DRAWING ON THE LIGHT SIDE OF THE BRAIN

The Neurobiology of Art

WHEN MONET'S *Impression Sunrise*, a sensuous if sleepy painting of Le Havre's harbor, debuted in 1874, it enraged critics. They abhorred the loose brush strokes and unpolished lines and denounced the painting's unprecedented style as "impressionism"—a pejorative, because the blurry image rendered merely an impression and not reality. Eventually, the vitriol subsided and the painting is now considered a herald of modernism in art. But even today, *Impression Sunrise* startles viewers. Its orange sun, bright as a beacon, seems to throb as it casts an uncanny shimmer on the water. This ordinary scene appears mysteriously infused with faint yet discernable motion.

Like most artists, Monet used color to evoke atmosphere and emotion in his work. But he used a subtler, although equally powerful, technique to give his paintings depth and, as in this pulsating sun, the illusion of motion. By manipulating luminance (i.e., perceived brightness), artists can create a variety of optical illusions such as twinkling stars, waving grass, or the shadowy descent of a staircase. And although we may respond with

feeling to a painting's lush greens or brilliant blues, color plays no role in our abilities to discern movement or three-dimensional shapes—both on canvas and in the world around us.

In her new book, *Vision and Art: The Biology of Seeing* (Harry N. Abrams), professor of neurobiology Margaret Livingstone—a neurophysiologist whose work on art is a spinoff from her research on the brain's visual system—connects art and science by showing how canvases cue neurons. She explains, for example, how our visual system processes two integral components of fine art, luminance and color, in two separate parts of the brain that are

"as anatomically distinct as vision is from hearing." With examples ranging from early Christian mosaics to Matisse's colorful *Femme au Chapeau* to Chuck Close's photorealist portraits, Livingstone explores the biological mechanisms that drive our appreciation of great paintings, that make the paintings ultimately work. Frequently, it's got something to do with luminance, which artists refer to as *value*. "All artists know about value," Livingstone says. "They just don't know about rods and cones."

Most museumgoers probably don't know about value, rods, or cones. It's easy to confuse luminance with the amount of light (i.e., the number of photons) an object or color reflects. However, what we perceive as bright often contains the same number of photons as what we consider dim. Even though each

color in a given spectrum reflects an equal number of photons, the yellow and green portions, for example, appear much brighter than the blue and red. This is because our photoreceptors (the cells of our retinas, such as rods and cones, that respond to light) are more sensitive to the wavelengths of yellow and green light than to those of blue

In Piet Mondrian's *Broadway Boogie Woogie* (1942-43), the yellow and gray are close to equiluminant with the off-white background. Therefore, the squares can seem to move or jitter.

