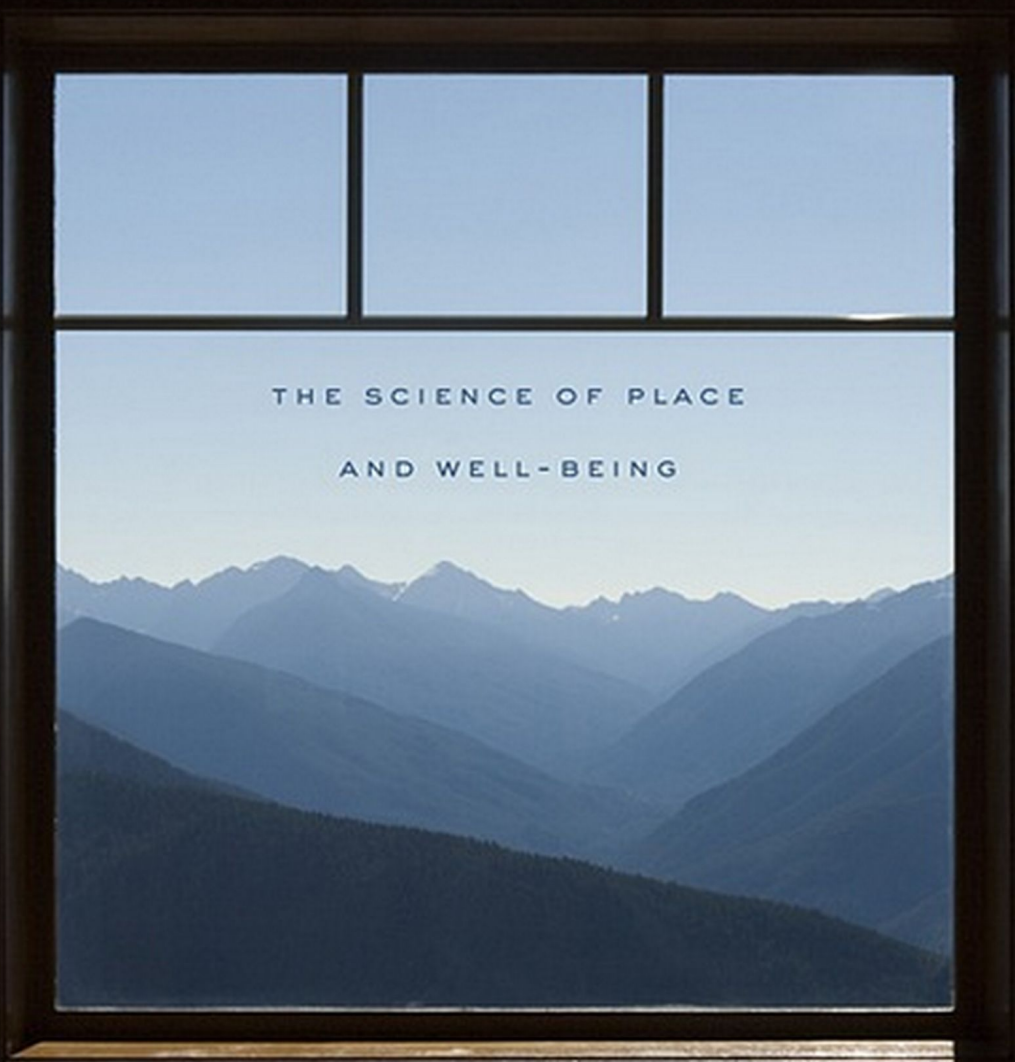


healing spaces

The image depicts a window with a dark frame. The window is divided into four panes: three small rectangular panes at the top and one large rectangular pane below them. The large pane shows a landscape of blue-toned mountains and valleys, with the text 'THE SCIENCE OF PLACE AND WELL-BEING' centered in the upper half of the view.

THE SCIENCE OF PLACE
AND WELL-BEING

ESTHER STERNBERG, M.D.

HEALING SPACES

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Esther M. Sternberg, M.D.

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To Penny and Dan, with love

CONTENTS

1. Healing Places	1
2. Seeing and Healing	25
3. Sound and Silence	53
4. Cotton Wool and Clouds of Frankincense	75
5. Mazes and Labyrinths	95
6. Finding Your Way . . .	125
7. . . . and Losing It	143
8. Healing Thought and Healing Prayer	169
9. Hormones of Hope and Healing	193
10. Hospitals and Well-Being	215
11. Healing Cities, Healing World	253
12. Healing Gardens and My Place of Peace	280
<i>Bibliography</i>	299
<i>Acknowledgments</i>	325
<i>Index</i>	327

HEALING PLACES

There is a turning point in the course of healing when you go from the dark side to the light, when your interest in the world revives and when despair gives way to hope. As you lie in bed, you suddenly notice the dappled sunlight on the blinds and no longer turn your head and shield your eyes. You become aware of birdsong outside the window and the soothing whir of the ventilation system down the hall. You no longer dread the effort needed to get up, but take your first cautious steps, like a child, to explore the newfound space around you. The smell of food does not bring on waves of nausea or revulsion, but triggers hunger and a desire to eat. The bed sheets feel cool and soothing—their touch no longer sends shivers through you, like chalk-squeak on a blackboard. Instead of shrinking from others, you welcome the chit-chat of the nurse who enters the room.

This is the point when the destructive forces of illness give way to healing. In every sense, it is a turning point—a turning of your mind's awareness from a focus on your inner self to a focus on the outer world. Physicians and nurses know that a patient's sudden interest in external things is the first sign that healing has begun. But do our surroundings, in turn, have an effect on us? Can the spaces around us help us to heal? Can we design places so as to enhance their healing properties? And if we ignore the qualities of physical context, could we inadvertently slow the healing process and make illness worse?

The idea that physical space might contribute to healing

does, it turns out, have a scientific basis. The first study to tackle this question, published in *Science* magazine in 1984, showed that when hospital rooms have windows looking out on the natural world, patients heal more rapidly.

The sun was setting over Buzzard's Bay as the conference participants gathered for the evening. The sky glowed so brilliantly that even the white wine in their plastic cups seemed to catch fire.

"Look at that. That's got to have a healing effect!" Roger Ulrich waved his hand over the scene—dozens of sailboats moored in a still and fiery sea. He was standing on a bluff overlooking the bay at the southern end of Cape Cod, in front of a rambling gray saltbox-style building: the retreat and conference center of the National Academy of Sciences. It was here in August 2002, near the old whaling village of Woods Hole, Massachusetts, that John Eberhard, director of research at the American Institute of Architects (AIA), was hosting a collaborative workshop for scientists and architects, to explore the interface between architecture and neuroscience. It was the first workshop of what would become the Academy of Neuroscience for Architecture.

Ulrich's relaxed demeanor and boyish face belied the fact that he was a noted authority on the subject. He wasn't making an offhand remark or a haphazard guess. It was he who had performed the landmark 1984 study showing that window views could affect healing. He was responding to a question about what had inspired him to conduct that study.

"It just seemed like common sense," he said. "And the patients were already there, already being monitored for all sorts of things—heart rate, EKG, blood pressure, temperature—everything you could imagine. So we used those numbers to measure whether or not the windows had an effect on healing. We did it. And it worked."

He had examined the hospital records of patients who had undergone gall bladder surgery in a suburban Pennsylvania hospital during the period 1972–1981. He'd chosen forty-six patients, thirty women and sixteen men, whose beds were near windows that overlooked either a grove of trees or a brick wall. Twenty-three beds had views of nature and twenty-three did not.

Ulrich had recorded each patient's vital signs and other indicators of health, including dosages and types of pain medication and length of hospital stays. He'd found that patients whose beds were located beside windows with views of a small stand of trees left the hospital almost a full day sooner than those with views of a brick wall. Not only that, but the patients with nature views required fewer doses of moderate and strong pain medication. The results were dramatic and statistically significant. Ulrich had selected only forty-six patients to study because he was controlling for variables that could affect recovery, such as age, sex, whether the patients were smokers, the nature of their previous hospitalizations, the year of their surgery, even the floor their room was on. Each pair of patients—view of nature, view of brick wall—had been cared for by the same nurses, so differences in nursing care could not account for the differences in speed of recovery. Even doubters had to sit up and take notice.

The notion that nature was important to healing had been around for thousands of years—going back to classical times, when temples to Asclepius, the Greek god of healing, were built far from towns, high up on hilltops overlooking the sea. But by the late twentieth century, state-of-the-art hospitals were generally designed to accommodate state-of-the-art equipment. The more scanners and X-ray devices a hospital had, the more electroencephalograms and electrocardiograms it conducted, and the more sophisticated its biochemical blood and urine tests, the more advanced its care was considered to be. Often, the hospi-