





THE IMPORTANCE OF DAYLIGHT AND FRESH AIR IN DESIGN

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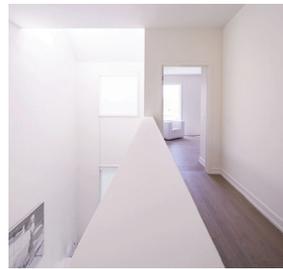
Buildings are more powerful than ever in the daily lives of people that spend most of our time inside. The thoughtful design of a space or building has become particularly significant in creating an indoor environment that has the potential to rejuvenate and enrich our lives. Well-designed architecture has the unique ability to cultivate a space that is comfortable, enjoyable, and beneficial in the health, development, and well-being of our bodies and minds. Our relationship with the outdoor world need not be lost, but can be revitalized in the simple act of letting in daylight and fresh air into our homes.

The design of a healthy home directly impacts its residents and surrounding environment. Numerous studies and research have shown the link that exists between comfort, human health, and environmental sustainability. An understanding and implementation of naturally-occurring strategies regarding solar gain, natural ventilation, lighting and dynamic shading can produce optimal natural light, adequate indoor air quality, and pleasant thermal comfort. Such conditions are essential in the flourishing of our physical and mental health. Daylight and fresh air thus form the essence of comfort and well-being while providing natural sources of energy to create a responsible model of sustainable living.

The sun is earth's vital source and sustenance for all life; without it, we cease. The proper functioning of our bodies and minds hinge on the sun's presence. We are genetically bound to the natural rhythms of daylight to guide the body in cellular growth, secretion of hormones, and capacity for learning. Openings angled towards to the sky provide a doorway to the outside where we experience a powerful connection to the circadian rhythm by accepting direct light from above. Furthermore, our bodies undergo an important physical and psychological reaction to the sensation of such direct daylight and visual access to the sky. Though vertical openings provide a sense of location and activities, horizontal or angled apertures in the roof greatly amplify the connection to the skyscape, define an enhanced sense of space, and provide more than twice the amount of light than that which comes from the side. It is no doubt that an internal environment filled with natural daylight can elevate the human spirit and sustain the emotional health of its occupants.

Achieving a good indoor environment in many ways should resemble the feeling of being outside on a mild summer's day. Both daylight and fresh air are essential factors for good indoor climate and continued occupational health. As more of our time is being





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spent within buildings, we must ensure that exhaust air which contains high amounts of CO², moisture, and pollutants is being pushed out while new, clean air from the outside is being brought in. Cross-ventilation and stack effect utilizes the natural pressures and currents of air for optimal airflow and comfortable temperatures. The natural thermal variations from the outside become a powerful agent in stimulating the human physique and enabling maximum comfort for our daily activities. Natural ventilation, coupled with solar heat gain, can effectively exploit the natural power of moving air and the sun to bring about

a comfortable indoor environment that keeps us connected to the outdoors.

When we open our homes to the changing daylight from above, allow the sun's heat to penetrate our living spaces, and let fresh air to thoroughly ventilate our buildings, we are able to experience the phenomena of the natural world from inside. Well-thought architectural design enables light and air from outside to become a significant factor in the health and wellness of residents. By taking advantage of the natural power provided by daylight and fresh air, we can create for ourselves indoor environments which grow our bodies, stimulate our minds, and enliven our human experience.