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The purpose of developing, adopting and enforcing building codes is to manage risk and uncertainty, not guarantee against building failure. The codes are sophisticated guidelines based on accumulated knowledge about what does and does not work. While highly informed, they are still best guesses based on assumptions of certain general conditions, reached through a process that attempts to balance numerous, sometimes conflicting, needs and demands. Code requirements are continuously evolving as we learn more, deal with failure and innovation, and shift our focus based on new awareness of problems, opportunities and responsibilities, with the overall goal being to protect the public by establishing minimum safety requirements for the built environment.

One area of concern is the growing realization that what is required to make buildings safer often creates harm and risk elsewhere. We all become less safe when we deplete finite resources and undermine the health of the natural systems that support life, and we are beginning to see that the health of these systems is crucial to the health and welfare of current and future generations. With this perspective, we can then acknowledge that we cannot simply make buildings safer without seeing what is connected to what we do. The fact is that we constantly jeopardize some lives to protect others and destroy some things to create others. Only by recognizing and balancing all the risks—including those we are trying to avoid and those we inadvertently create elsewhere or defer to future generations—can we fully discharge our responsibility to protecting the public safety, health and general welfare.

The connection between building and planetary health is undeniably becoming more apparent as we will be joined by an estimated minimum two billion more people this century. Without considering rising standards of living, this population growth alone will have enormous economic and social impacts and force us to completely rethink the way we do almost

everything, including sheltering ourselves. Among human activities, building has one of the greatest environmental impacts—matched only by transportation and agriculture—so responsibility for regulating the built environment is critical to guiding our society either toward or away from a sustainable and healthy future.

A common focus with regard to sustainability is addressing the increasing demands on diminishing natural resources. We must come to recognize that ecosystems are far more than just resource banks—that our survival and well-being are unalterably tied to our dependence on the services that nature provides such as purifying and recirculating our air and water, regulating the global temperature, creating topsoil and maintaining soil fertility maintaining the health of forests, maintaining the health of ocean ecosystems and fisheries, and pollinating plants (including virtually all of our agricultural crops).

As technically proficient as we have become, we have yet to officially acknowledge this fundamental scientific and practical reality. Our best scientists do not really understand how these systems work, and our most sophisticated technologies do not come close to doing what nature does with such apparent ease, efficiency and splendor.

Most importantly, we have yet to comprehend the extraordinary opportunity we now face. We are capable of seeking and creating sustainable and even regenerative systems to meet our needs, but we first need to see what we are doing, where we are heading and what we are risking. Only then might we be able to adopt a more objective perspective and find that we have the will, integrity and—most importantly—the authority to act in support of such a transition.

Nature has no perfect preconceived plan or destination, but there is a code that has guided the Earth's natural systems for over three-and-a-half billion years. Nature does not create two trees exactly the same but rather sets out a general pattern for structure, function and relationship. The individual trees respond throughout their lives to the actual places, conditions and relationships that exist in their immediate environment. Nature's code is totally responsive to reality, not to abstract ideals. At its core lies an affinity for life, interconnectedness, diversity, and the health and well-being of the entire system. We cannot repeal the laws of nature, and the fact that this "alternative" code remains in force means that we still have the ability to begin to design, collaborate and work with instead of against them.

Our building codes need to evolve and shift toward a more performance and proscriptive basis (proscriptions take the form of "Thou Shalt Not . . ."). Performance criteria could be developed for what we want to have happen and proscriptions would serve to protect what needs to be protected. We could create a more responsive, less standardized and rigid approach to building safety—with tenets firmly embedded in places, communities and ecosystems; in knowledgeable responses to local resources, skills, traditions and economics—all in an effort to more fully comprehend and minimize risk and protect public welfare.

Our focus on industrialization and standardization has kept us from seeing the perils of abstraction. By having placed our faith in generalized ways of viewing things, we have come to believe that we can do the same things everywhere with the same results. In spite of overwhelming evidence to the contrary, we continue to design our human systems as though it makes no difference how, by whom or where they are to be used. Depending on technology, resources and cleverness to make up for any discrepancies, only minimal concessions are made to the importance of place, real versus idealized conditions, and actual lives versus hypothetical occupants.

The paradox is that although today's sophisticated information technology could enable us to apply much greater attention to the specifics of place and circumstance, we use it to process greater amounts of work at the same level of abstraction. Vinyl coated drywall, for example, was developed for modular and manufactured housing and works well in the northern, colder climates in which it was originally used but has proven highly problematic in the hot, humid

climates of the Southeastern U.S. In the north, this system keeps warm, moist, interior air from migrating outward and accumulating in wall and ceiling cavities. The same assembly creates a serious health and safety problem when built in the south as the different climate means the moisture barrier is on the cool, interior side of the building envelope, thereby trapping moisture from coming through from outside at the interface between the vinyl and the gypsum. This creates a perfect environment for mold and fungal growth.

What does this all mean for the future of building codes? I invite you to consider that the future starts with the next set of plans that comes across the counter in your jurisdiction. Will that building enhance the well being of everyone in the community? Will the materials used be from sustainable or renewable sources or processes? Will it be easily maintained, repaired, remodeled, reused, disassembled and recycled? Will it be beneficial to the landscape in and on which it sits?

Even more importantly, if that set of plans includes natural "alternative" materials or elements intended to save water or energy through the implementation of passive or alternative methods for lighting, ventilation, or heating and cooling, will it get a better or worse reception as it goes through the review and approval process? Will the process support or hinder the shift to more sustainable and responsible building and development?

When confronted with unfamiliar designs or technologies, caution is certainly an understandable response. When faced with the known risks inherent in the unsustainable designs and technologies of mainstream building—practices that unquestionably threaten the quality of life for our children and grandchildren —should we be any less concerned?

The future of building codes is in all of our hands. The process of change is wide open and the need for leadership is profound. Code officials and building departments can become community resources for this transition. The solutions do not reside in the codes themselves, but in the hearts and minds of tens of thousands of caring, committed people awakening to broader responsibilities and greater possibilities for creating the type of future that we all desire.

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