Norman Foster on Architecture + Sustainability

An essay on the influence of architects in shaping sustainable cities

Environmental issues affect architecture at every level. Buildings consume half the energy used in the developed world, while another quarter is used for transport. Architects cannot solve all the world’s ecological problems, but we can design buildings to run at a fraction of current energy levels and we can influence transport patterns through urban planning. The location and function of a building, its flexibility and life-span, its orientation, its form and structure, its heating and ventilation systems, and the materials used, all impact upon the amount of energy used to build, run and maintain it, and to travel to and from it.

Adaptability is one of the most important tools in sustainable architecture. Working patterns have become much more flexible over the last two decades. Many people now work from home on a laptop computer, connected to their colleagues via email and fax. In response to technological developments, working patterns will no doubt continue to change. We cannot predict the precise nature of these developments, but we can build flexibility into the structure of buildings so that they can contribute to being useful as circumstances alter.

Sustainable architecture is not concerned merely with the design of individual buildings; it must also address the context of our ever-expanding cities and their infrastructures. Unchecked urban sprawl is one of the chief problems facing the world today. As our cities grow horizontally rather than vertically, swallowing up more and more land, people are forced to travel greater distances between home and work. Between 1900 and 2000 the average distance traveled by an individual per day in Britain increased from 1.5 miles to 25 miles; and today 90 per cent of all shopping trips in Britain are made by car. As architects we are rarely given the opportunity to influence the urban environment on the broadest scale through planning an entire city or neighborhood, but we can improve the environment at a local level by insisting on the need for mixed-use developments. The ‘clean’ post-industrial nature of much work means that workplaces can be combined with housing and retail accommodation to create localized communities.

Architecture is both an interior and exterior experience. The best architecture comes from a synthesis of all of the elements that separately comprise a building, from its relationship to the street-scape or skyline to the structure that holds it up, the services that allow it to work, the ecology of the building, the materials used, the character of the spaces, the use of light and shade, the symbolism of the form, and the way in which it signals its presence in the city or the countryside. I think that holds true whether you are creating a landmark or deferring to a historical setting. Successful, sustainable architecture addresses all these things and many more.

Norman Foster is the founder and chairman of Foster + Partners. He became the 21st Pritzker Architecture Prize Laureate in 1999 and was awarded the Praemium Imperiale Award for Architecture in 2002. He has been awarded the American Institute of Architects Gold Medal for

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