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The Story of the Water Cube

DENIS WEAIRE, TCD, Dublin

The National Aquatics Center or “Water Cube,” constructed for the Beijing Olympics, is unusual in that its very structure has a physical significance. It consists of a massive framework of steel beams that are arranged as in the Weaire-Phelan structure of an ideal foam, with an outer facing of transparent “cushions.” Brilliantly conceived by Tristram Carfrae of the Arup Corporation, it makes a spectacular impression on those who enter. It provokes thoughts on aesthetics, order/disorder, optimisation, and the frequent recurrence of bubbles/foams in our literary and artistic culture. The story of the Water Cube will start in the nineteenth century, when William Thomson (Lord Kelvin) first posed the problem: what kind of foam of equal-sized bubbles minimises area (or energy)?