

# Editorial

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*Rajaram Nityananda, Chief Editor*

Each scientist who has appeared on the *Resonance* back cover was remarkable in some way or the other. But even among these, Buckminster Fuller stands out as impossible to classify. Scientist? Engineer? Designer? Entrepreneur? Artist? Dreamer? Mystic? Perhaps all of these, mixed in a strange proportion – judge for yourself after reading about his life and work. Perhaps his most enduring and visible contribution is the Fuller dome or the geodesic dome, a sphere approximated by triangular panels, which has been used extensively by modern architects. The dome is also used for more mundane purposes like covering a radar antenna – it can be thin enough to let the radio waves through and yet strong enough to bear wind and snow. The geometry is in turn based on the solid with twelve identical regular pentagons as faces – the dodecahedron, which goes back to the times of Plato. Each of the pentagons can further be divided into five triangles, making 60 triangles in all.

Mathematicians have known for long that there are sixty ways such a solid can be rotated to coincide with itself – the so-called icosahedral group. But who would have thought that sixty carbon atoms would assemble themselves in the same symmetric pattern? This is what happens in the new form of carbon, discovered on earth only in the late twentieth century, which is not that difficult to prepare either, as you learn from one of our articles. I say ‘on earth’, because, apparently, the heavens – meaning the space between the stars – have housed these spherical molecules for ten billion years – since the era of the first stars. The humble football reveals the same pattern of pentagons and hexagons. Here, we have a theme which spans sport, astronomy, chemistry, mathematics, engineering, and architecture! We hope this issue enthralls more of our readers to think ‘out of the box’ but also ‘do out of the box’ – surely Fuller was both a thinker and a doer.



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