

COSMOS. My favourite place to visit is vast.

Astronomers measure its vastness by how far light travels in one year. Light moves quickly - one thousand million kilometres per hour - it orbits earth seven times in one second and travels to the sun in eight minutes. In a year it traverses ten trillion kilometers - six trillion miles.

The cosmos is ninety billion light years across: about 500,000,000,000,000,000,000 miles.

There are a hundred billion stars in our galaxy - the Milky Way - which is a hundred thousand light years across. It is one of a hundred billion galaxies. There are billions of trillions of stars in the cosmos - and billions of trillions of planets.

If that is not enough - this is truly astonishing:

Most of the universe is empty. The nearest star is four light years away - the nearest galaxies as far as a million light years. Were we randomly inserted into the cosmos, the chance that we would end up on a planet is one in a billion trillion trillion, a one with thirty three zeros.

The most compelling pictures from space are of the nebulae - cosmic clouds of dust - many of which measure several light years across. Dust particles at most are a tenth of a millimeter in size. Their density in the cosmos is one particle per cubic centimeter - on earth the density of dust is a hundred particles per cubic centimeter.

How can we humans get a perspective on the cosmos as regards our selves, our spirituality?

Lao-tse wrote in the Tao Te Ching (600 BC): "There is a thing confusedly formed - born before heaven and earth - silent and void - it is capable of being the mother of the world - I know not its name - so I call it The Way."

The Way is Tao * - the order of the universe.

Everything in the world is an expression of Tao; furthermore, Tao is man's inner, divine power.

In Taoism man is a microcosm for the universe.

The Upanishads ** (800 BC) reflect this view:

"A little space in us is as great as the universe - and so the whole universe dwells in our heart."

My reading list for cosmic armchair travellers: Cosmos - Carl Sagan; A Brief History of Time - Stephen Hawking (treat yourself to the illustrated edition); The Elegant Universe - Brian Greene; When the Clock struck Zero - John Taylor; Wrinkles in Time - George Smoot; Creation Revisited - P. W. Atkins; Theories of Everything - John D. Barrow; Chaos - James Gleick; The Edge of Infinity - Paul Davies.

These are my favourite cosmic picture books: The Invisible Universe - David Malin; Universe - Heather Couper; The New Atlas of the Universe - Patrick Moore; Full Moon - Michael Light, with an essay by Andrew Chaikin. For a dimensional journey from Microcosmos to Macrocosmos (and more amazing numbers) go to DNA's Cosmos: <http://www.shekpvar.net/%7edna/Publications/Cosmos/cosmos.html>

* See also TAO

** See also VEDANTA