



NO MATTER

BY DAVID LOWE

At the moment my daytime job is presenting a television programme in which I play an eccentric scientist—a mix of Stan Laurel and Einstein. I have a PhD in nuclear physics and trained as a clown, giving me an authenticity seldom seen on television. For the show I meet lots of fellow scientists and find real pleasure in talking to them. Given a choice between meeting Sophie Marceau or a CNRS research physicist, I'd choose the latter without hesitation, even though the former would possibly help me with my acting career—but what's a career compared to understanding the cosmos?

Well, what's troubling me at the moment is the fact that apparently, despite appearances, there's almost nothing in the universe. For example, when you see a picture of the solar system in an astronomy book, the image is all squashed up so you can fit it onto the page. Reality is far different. If the sun is a football, then the earth would be the size of a peanut three kilometres away (I haven't checked this, so don't quote me). The next planet would be situated at Orléans, assuming the football was placed in front of Montparnasse station, and assuming nobody kicked it first. The next planet would be swimming in the clear blue sea off the Maldives and so on. A few bits of stuff fly around in between but, on the whole, there's nothing out there, just empty space.

The eternal silence of this infinite empty space terrifies me but, as with Pascal, it gets you published.

Made dizzy by the thought of these vast expanses of nothing, I turn my thoughts to smaller things. After all, you can express a universal truth by talking about the stars in the sky or the flowers in your garden.

However, what I read quite innocently on a crowded train the other morning has put me in a quandary. Apparently, if an atom were the size of a cathedral, then the nucleus would be the size of a fly, and, what's astonishing and quite disturbing, 90% of the (visible) mass of the universe is contained in these fly-sized nuclei. As if the cathedral weighed nothing, it was that little fly buzzing around that tipped the scales. There's a limit to metaphors, but you get the point.

So the atom that you see innocently drawn in text books—a nice fat nucleus with little electrons flying around—is as misleading as the drawing of the big cosy sun, acting

as a sort of motherly hearth to her dear little planet children. An atom is mostly empty space. Solids are, like the universe, largely empty.

So if we're surrounded by and made up of empty space, then why does my life seem so cluttered up with objects? I forgot to mention that I'm moving house which is now quite futile, since I'm just trying to move a bulky empty space that weighs a ton through a largely empty space to another empty space.

Why not just dump everything, put my essential belongings in a rucksack and walk away as free as an elementary particle? Because my rubbish though consisting of empty space is full of memories, which are the time part of rubbish. Not only do "I exist" in space but "I also exist in time", and this is where Einstein comes along to further complicate the Stan Laurel dilemma of not even being able to get through a door without insurmountable problems.

My removal should be looked on as a displacement in four-dimensional space-time and I'm not just shifting mass, but shifting from one place to another the slight curvature of space-time caused by the heavy part of matter, or the flies in the cathedral if you prefer.

So halfway through an amusing explanation of Foucault's pendulum for this television programme the other day, I found myself smiling for three cameras, while inwardly teetering on the edge of a vertige existentiel, which I suppose is as good a definition of a clown as any... and also for that matter why Einstein stuck his tongue out in that famous photograph.



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