

# Atoms and particles

Sir, – Dennis Wrong (February 14) is mistaken to claim, “no two peas in a pod are exactly alike, [and] nor for that matter are any two atoms: every object . . . in the universe has aspects peculiar to it”. This surely is the overwhelming difference between physics and the biological and social sciences – every virus, plant, mouse and person is indeed fundamentally different, but every atom of carbon-12 is essentially the same as every other atom of carbon-12. Identity and interchangeability are at the theoretical heart of the physical sciences, whereas individuality and variation are at the core of the bio-social sciences, rendering them far more difficult.

The reason for the sameness of atoms and particles is less obvious. Indeed, Richard Feynman speculated that perhaps there is only one electron in the entire universe which continually zips back and forwards through space-time, creating the illusion of many identical electrons, just as a slice through a complicated knot appears to consist of many pieces of rope but is in fact just one.

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## Tired old Other

Sir, – It is time that tired old interpreter “the Other” was retired. His multiple appearances in Christopher Duggan’s review of *The View from Vesuvius* by Nelson Moe (February 14) demonstrate too cruelly he is not up to the job these days. Whatever Dr Duggan thinks Edward Said thinks, Europeans are no more defined (even to themselves) by not being Asians than quadrupeds are defined by not being millipedes.

From the same review, incidentally, Yeats’s “near contemporary” Carducci was a few years senior to the Irish poet’s father.

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