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Electrons are round, π are squared

“In the most exquisite measurements yet, researchers declared the [electron] particle to be a perfect sphere to within one billionth of a billionth of a billionth of a centimetre.”—*The Guardian*, May 25, 2011

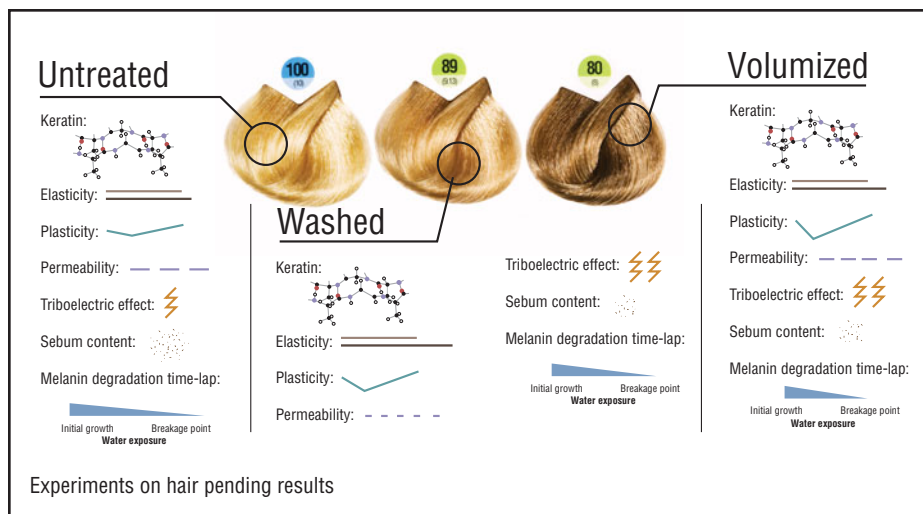
After 10 years of research and 25 million attempts to get an electron to wobble by beating on it with a laser, researchers at Imperial College London stunned the scientific world by reporting in *Nature* recently that the electron is, indeed, to use the most advanced tech-

nical jargon, “round.” Physicist Edward Hinds, the research group leader, said, “If you imagine blowing up the electron so that it is the size of the Solar System, then it is spherical to within the width of a human hair.”

His unfortunate use of the words

“blowing up” prompted the United States Department of Homeland Security to issue warnings to all Americans traveling within the Solar System to be on the lookout for exploding electrons, while maintaining their unending search for unattended luggage. The researcher drew even more suspicion by refusing to answer whether the human hair he referred to was “untreated,” “washed within the past two days,” or “volumized” using advanced shampoos, which surely would affect the accuracy of his calculations. All attempts to get an answer by beating on him with a laser pulse proved to be fruitless.

The news prompted the underground radical scientific group calling themselves the “Plum Pudding Society,” stubborn acolytes of J.J. Thomson who discovered the electron in 1897, to issue a press release from their bunker in Piccadilly Circus saying that they will “defend to the death, or at least to the first ‘significant’





nosebleed,” the theory that the electron is like a negatively charged “plum” embedded in a positively charged “pudding.” (Members of the American Pudding Makers Association have adamantly refused to produce a plum-flavored pudding over the years, despite extreme pressure to do so from groups on both the right and left [but not the center], precisely because of this electron theory. An anonymous source stated that they preferred to make “All-American, electron-free, chocolate and vanilla puddings.”)

“While a plum is definitely round-ish,” the press release from the Plum Pudding Society stated, “it can in no way be said to approach the perfect sphericity reported by Imperial College London, despite the errant, highly publicized report of a perfectly spherical plum grown by a Staffordshire farmer in 1987. That man was a drunk and a cad, and no scientist.” If a plum can’t be round, then neither can the electron, the release concluded with unimpeachable scientific logic.

J.J. Thomson issued his own postmortem press release vehemently stating that the plum pudding analogy was wrongly attributed to him. “Couldn’t even stomach the stuff,” he said.

Notably, and expectedly, the biggest outcry after the release of the “round electron” results came from the quantum chemists and quantum physicists.

J.J. Hudson, D.M. Kara, I.J. Smallman, B.E. Sauer, M.R. Tarbutt, and E.A. Hinds of Imperial College London

“Improved measurement of the shape of the electron”

Nature **473** (May 26, 2011) 493, DOI: 10.1038/nature10104

The discovery of the extreme roundness of the electron by scientists at Imperial College London is a highly significant and, to some, an unexpected finding. A slight distortion in the electron’s shape could help to explain why matter won out over antimatter in a universe that theory suggests started with equal amounts of both. Matter’s victory accounts for the existence of stars, planets, humans, materials—everything. Also, this discovery casts doubt on supersymmetry theories, which contend that every known subatomic particle has a heavy twin. In a supersymmetrical universe, the electron’s shape would have to be slightly out-of-round. Of course, when these researchers are able to examine the electron at an even smaller scale than was done in this study, perhaps some distortion will be detected. They are at work trying to improve their instrumentation to take a closer look. **-T.P.**



Seizing the opportunity—as they never cease to do—to remind us that electrons can be waves as well as particles, they flooded the airwaves with scientific commentary.

“So waves are all bumpy and stuff,” one materials science graduate student said when cornered by a reporter outside the lab in broad daylight—a rare sighting. “They have, like, these peaks and valleys, like a rollercoaster, okay?” he continued. “How can you make a sphere out of that? Have you ever seen a spherical roller coaster? LOL,” he concluded as he rushed off to apply to the National Science Foundation for a grant to construct—in theory only—the world’s first spherical rollercoaster.

The news came as a great relief to textbook publishers who had been using a sphere or even—heaven forbid—a mere dot to represent the electron since its discovery. “I have this recurring nightmare,” said one eminent New York scientific textbook publisher, “that someone discovers the electron is in the shape of a gummi bear. I know that sounds silly, but there is a food precedent in this argument—that plum pudding thing by J.J. Thomson, right?”

Ultimately, it comes down to practical considerations. If electrons were any other shape than spherical—say pyramidal, octahedral, or gummi-bearical—they would get jammed in wires and the electricity would stop flowing, at least until the jam was cleared. Wait—maybe that’s what happens when you’re streaming a video on your computer and it says it is “buffering”—maybe it’s clearing clogged electrons in the wiring. When contacted for comment on this hypothesis, researchers at the Imperial College London couldn’t come to the phone—something about a “volumizing” experiment they were running.

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Author’s note: All quotes attributed to the researchers were taken from published sources; the rest were made up. This spoof is entirely the responsibility of the warped mind of the author, to whom all diatribes should be addressed.