How Smart Is Justin Trudeau?

Much has been made of Canadian PM Justin Trudeau's recent exploits, avidly devoured by the press and lapped up by his dazzled acolytes. The latest installment in the Trudeau saga involves a photo just circulated of Trudeau balancing on a conference table in the advanced yogic Mayurasana or "peacock" pose, which has sent the media into yet another Trudeau frenzy and his fans swooning with adoration. Take a look at the image above.

One admirer tweets: "This guy is just too good to be true." Another: "I'm so happy to be Canadian." As CBC News puts it: "*Photo of Justin Trudeau doing yoga makes the internet freak out — again*." In my estimation, this is not a posture befitting a head of state—but maybe that's just me.

A few days earlier, media focus was on Trudeau's apparently uncanny brain power, to wit, a "stunning" riff on the topic of quantum computing. The media, of course, failed to report that Trudeau's Wikipedia stunt was set up by Trudeau himself, who asked to be asked so he could reel off a couple of boilerplate lines he had obviously memorized. According to the *Daily Mail*, "Justin Trudeau stuns room full of reporters and scientists with perfect answer to complex quantum computing question." Here is Trudeau's reply to a journalist's stuttering query ("I was going to ask you about quantum computing, but …"):

> *"Very simply, normal computers work by …," he began before he was interrupted by the crowd's shocked laughter. "No, no, don't interrupt me, when you walk out of here you will know more — well no, some of you will know far less — about quantum computing. Normal computers work by … either the power going through a wire or not. It's 1 or a 0. They're binary systems. What quantum states allow for is much more complex information to be encoded into a single bit. A regular computer bit is either a 1 or 0 — on or off. A*

> *quantum state can be much more complex than that because as we know, things can be both particles and waves at the same time. And the uncertainty around quantum states allows us to encode more information into a much smaller computer."*

So far as I can see, the question is neither "complex" nor the answer "perfect." Note how Trudeau says nothing about the real problem, namely quantum indeterminacy and how to manage the superposition of incompatible states reliably and practically. Nor does he explain how the principle of *uncertainty* would allow us to compress and encode information, which is precisely the issue in question. Indeed, the limitations of quantum computing may well be insurmountable, owing to the scaling problem (working with qubits rather than bits), the inevitability of quantum decoherence effects, the famous observation factor which can change quantum behavior, and the probabilistic nature of quantum solutions—what Brian Cox and Jeff Forshaw in *The Quantum Universe* call "ethereal quantum fluctuations." As science writer Jamie Condliffe admits in *Gizmodo*, "There isn't a huge amount of advantage in using a quantum computer compared to a regular one." Assuming that one could ever be built.

Moreover, quantum field theory suggests that the so-called wave/particle duality is not as cut and dried as Trudeau, the reporters and the audience seemed to believe. As physicist John Polkinghorne writes: "It turns out that in quantum field theory the states that show wavelike properties…are those that contain an *indefinite* number of particles." One would have to study the "wave equations" or at least dip into an explanatory text like Berezin and Shubin's *The Schrödinger Equation* to plot how particles can propagate in the form of—wait for it—"*particle waves*." Everything about the subject seems counter-intuitive. Ultimately, as Richard Feynman confessed in Volume III of *The Feynman Lectures on Physics*, "I think I can safely say that no one understands quantum mechanics"—not even, I would venture, Justin Trudeau.

I go on at some length about the quantum imbroglio because it furnishes an excellent example of Trudeau's glitzy superficiality. A skin-deep performer, he is good at looking the look and talking the talk, but at precious little else. Trudeau's manifold "accomplishments" surely have nothing to do with the intelligence and wisdom needed to govern a G7 nation. Mastering yoga poses, exhibiting snowboarding techniques, horsing around in a boxing ring, stripping for a ladies' charity function, or whiffling (in his case, glibly and without comprehension) on quantum computing are completely unrelated to an understanding of the thorny political and economic issues that go with responsible leadership in the turmoil of national and international affairs—apart from the fact that the dignity of statesmanship has gone by the board.

The truth is, I suspect, that Trudeau's public performances in the physical and intellectual domains, as well as his documented appeal to female effusiveness, is a vivid expression of his followers' utter lack of political sobriety, intellectual acumen and emotional maturity. That a country could give its support and a 66 per cent approval rating to a preening charlatan boggles the mind and beggars the imagination—or would, if Americans had not done the same with a smooth-talking ignoramus like Barack Obama, who thinks the U.S. consists of 57 states and that Austrians speak Austrian.

Canada has gone the way of the U.S. If it were not already obvious, it would take at least the eight limbs of *Samadhi* yogic meditation and petabytes of quantum computing to calculate the likelihood of such prodigious imbecility coming to pass, both in the leadership and the electorate, who appear to deserve one another. It makes me ashamed to be Canadian.