

Many paths to enlightenment

Modern physics bears the imprint of Western and Asian philosophies.

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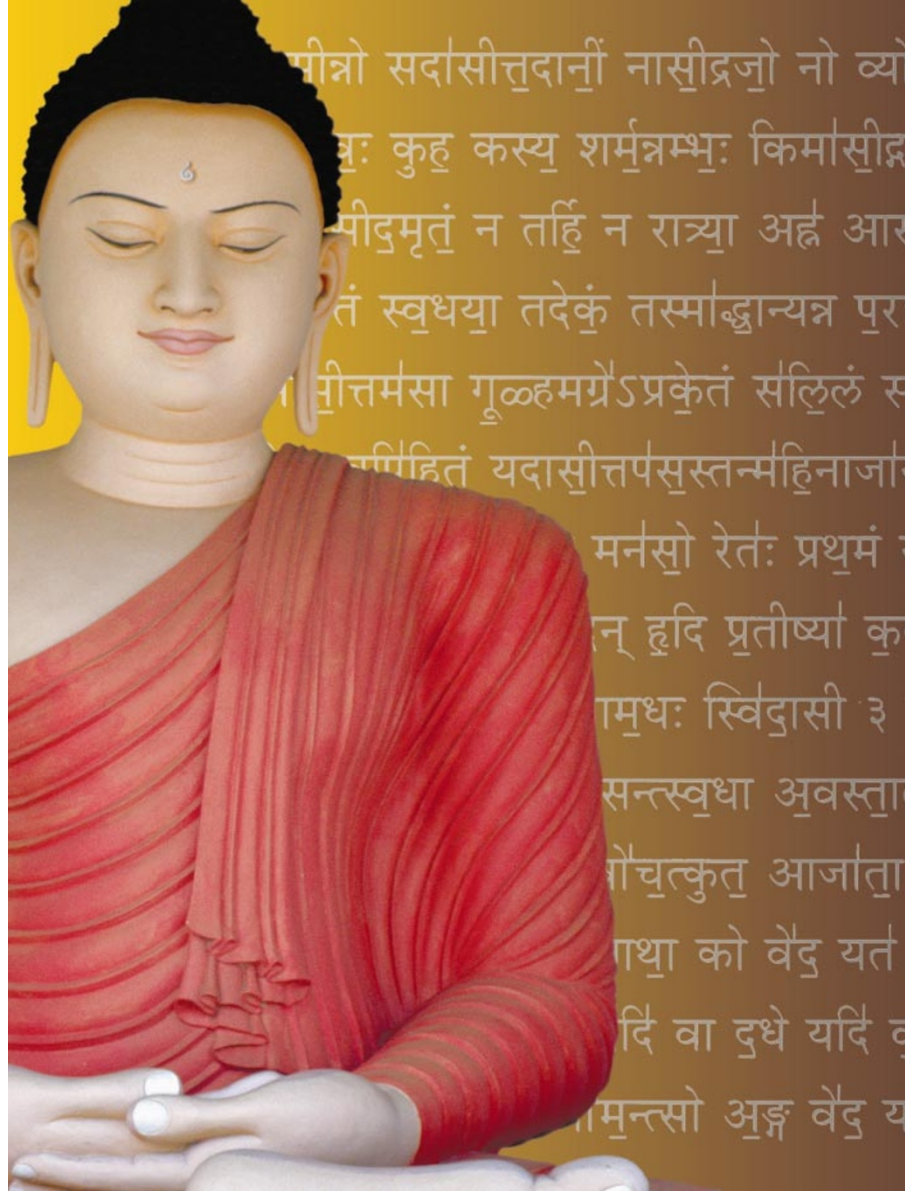
The discovery of the physics of relativity and quantum mechanics meant that the process of observation had to be radically reorientated. Relativity deemed all observational platforms to be equivalent, whereas in the quantum world, the act of observation itself changes the field of observation. The key theorists in the two realms, Albert Einstein and Erwin Schrödinger, were both deeply influenced by philosophy.

Einstein had been reading the philosophers David Hume and Ernst Mach just before he wrote his paper on special relativity. Their work helped to prepare the ground for Einstein's theories — he expressly credited Mach with influencing his thinking on special relativity, and wanted general relativity to conform to Mach's ideas. Einstein used Mach's principles to discount as a non-verifiable notion the possibility of two events happening simultaneously at different points in space.

In quantum physics — where common sense again breaks down — new philosophical insights are needed to transcend Newton's classical world. Schrödinger, whose equation defined the behaviour of particles and waves at the microscopic level, was influenced by Mach and Arthur Schopenhauer. In addition, Schrödinger declared himself a 'Vedantist', a category of Hindu philosopher.

Einstein and Schrödinger's influences resonated with south Asian philosophy. Both Hume and Mach believed that the self was a transient observational platform — Buddhists hold almost exactly the same view. Several commentators have noted the similarities between the thoughts of David Hume and Buddhism on the idea of the self. The philosopher Nolan Pliny Jacobson has observed that in both these philosophical viewpoints, which are separated by more than 2,000 years, "there is no thinker but the thoughts, no perceiver but the perceptions, no craver but the cravings. ... The similarity ... is striking". Jacobson's explanation for these parallels was the influence of Chinese culture on Europe during Hume's lifetime, which led to the spread of Buddhist ideas.

Mach, on the other hand, discovered Buddhism via Indian ideas. Some of his friends, such as Paul Carus and Theodor Beer, were Buddhists, and he contributed to Carus's journals *The Open Court* and *The Monist*. His first direct appreciation of a Buddhist position in relation to the relativity of the observer appears when he says: "But to ask that the observer should imagine himself as standing upon the Sun instead of upon the



Earth, is a mere trifle in comparison with the demand that he should consider the Ego to be nothing at all, and should resolve it into a transitory connection of changing elements." In 1913, he wrote of his happiness that Buddhism echoed his view of an unchanging ego as a "deception" and a "foolish notion".

As well as Mach, Schrödinger was influenced by Schopenhauer and Vedantism. Schopenhauer's debt to Buddhism is well known. And Walter Moore, Schrödinger's biographer, has noted that "the unity and continuity of Vedanta are reflected in the unity and continuity of wave mechanics". Ludik Bass, reviewing a biography of Schrödinger, noted that his "adherence went beyond

opinions, almost all that seems strange about him flowing from [Vedantist] philosophy". And Ramjit Nair, in a study of Schrödinger's philosophy, wrote that Vedantism was central to his thought — a strange combination of realism and absolute monistic idealism.

Einstein, in his obituary of Mach, emphasized the need for an interest in the theory of knowledge. This need is all the greater when a radical reorientation in thinking is required. In such instances, the teachings of other civilizations could provide a useful nudge to the scientific imagination. ■

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