

John Wheeler's Quantum Ecumenism: From Niels Bohr to the Cosmological 'It from Bit'

Wednesday 10 December 2025 18:50 (20 minutes)

In the early 1970s, following the crisis of the geometrodynamical view of the cosmos inspired by general relativity, John Wheeler (1911-2008) suggested a few provocative ideas about the role of the observer or, as he called it, the “observer-participator”. While this notion has often been portrayed as a radicalization, or perhaps an ontologization, of Bohr’s views, its genesis was actually fostered by very different considerations, in part even cosmological. Moreover, in that same decade Wheeler, as shown by his archival papers, was exploring different facets of quantum physics, quite apart from the alleged “Copenhagen orthodoxy”. These explorations, and their intertwinement with general relativity and cosmology, would later flow into the grand vision labeled with the famous - and often misunderstood - slogan “it from bit”. In this contribution, we will document how, throughout the 1970s, Wheeler’s views about the role the observer in quantum physics underwent subtle metamorphoses, becoming more and more de-anthropomorphized, and how this was related to the pressing question that Wheeler repeated until the end of his long life: “How come the quantum?”

Authors: PULEIO, Daniele; FURLAN, Stefano

Presenter: FURLAN, Stefano

Session Classification: Communications IV