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Einstein's Wonder

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In his Autobiographical Notes [1] Einstein recognizes the importance of wonder in the cognitive process by stating that it occurs when an experience comes into conflict with a sufficiently stable world of concepts. It is through this emotion that our intellectual world reacts and seeks a solution to the contradiction found; it is as if conceptual development is a continuous escape from wonder. Already in classical philosophy, wonder is considered the starting point of philosophizing as Plato highlights in Theetetus [2] and Aristotle in Metaphysics [3]. The Stagirite himself states that wonder corresponds to the state of not knowing (e.g. amazement at the immeasurability of the diagonal on the side of the square), that is, that aporetic condition which is the task of philosophizing to overcome. The emotion Aristotle speaks of is recognized as an 'interrogating wonder' [4, 5, 6] - to distinguish it from the 'contemplating' one with more aesthetic characteristics - and is the basis of scientific research (also known as epistemic wonder). To describe what the interrogating wonder consists of we will make use of the Dynamic Frames proposed by Barsalou [8] and used profitably in the philosophy of science to explain conceptual changes [11] and to represent knowledge in general [9, 10]. In this communication we will also focus on the role of wonder in the years of Einstein's formation [7] and in particular we will examine the famous mental experiment in which he tries to chase a light beam [12, 13], showing its aporetic conditions with respect to classical physics.

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