

Presentation and discussion led by David Bodanis, author of $E=mc^2$, the biographer of Einstein and scholar at Oxford University, for the Wimbledon Philosophical Society on October the 15th 2017.

The theme of the evening ' Philosophy, Science and Creativity - Einstein and Beyond was approached in four sections :

The first described Einstein's concept of science as the pursuit of understanding and truth in a Platonic sense of 'absolutes' waiting to be discovered. David used the metaphor of a library which had to be entered, a floor which had to be crossed, and finally a book which had to be reached and brought down, containing the wisdom of the Universe. The book containing the famous equation he reached down in 1905 at the age of 26. Even more powerful was the Theory of General Relativity ten years later in 1915 which revealed unimagined features of time and space, explaining why black holes exist, showing how the Universe began, and laying the foundations for revolutionary technologies such as GPS and others still emerging. Many consider him the greatest genius of modern time.

How he achieved that was the second part. Einstein was a good student in physics and maths but not outstanding. He went to a good University but ended up working in the Patent Office in Berne. So far so good but nothing exceptional. At school he was told "You will never amount to anything" and he went on to drop out of school at the age of 16. Later he was turned down by the Polytechnic in Zurich. What then was the magic dust? David suggested a mix of things including practical experience at a very early age of the new wonder of science - electricity; obstinacy - he described himself as having the persistence of a mule recognising where he needed help from others with better 'tool sets' than he had; extraordinary intuition about possible worlds and the ability to always look at problems from a different angle.

The third section was devoted to a sample of his work using a bouncing ball to demonstrate time 'dilation'. He predicted and mathematically demonstrated that light bends as it nears the sun and that time similarly bends depending on how strong gravity is around it. This was mind boggling stuff, and not for the faint hearted. Chaim Weizmann, himself a distinguished scientist, commented " Einstein explained his theories to me for weeks, and by the end I was convinced that he understood them".

The fourth part emphasised that all this weirdness was still very precise and consistent with the platonic ideal which drove all of Einstein's work'

David delivered all this with great fluency and referred members to his latest book Einstein's Greatest Mistake for the chapter and verse behind the presentation. The subsequent discussion centred on the tantalising concept of creativity, what else remained to be discovered from Einstein's fundamental breakthroughs, and how potential is best developed in education and within families.