

Albert Einstein's life, or parts of it, in the first season of National Geographic's *Genius*

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Genius is a historical, biographical drama produced by *National Geographic* and developed by Noah Pink and Kenneth Biller (*Star Trek: Voyager*, *The Last Man on Planet Earth*). The first season focuses on the life and work of physicist Albert Einstein, based on the 2007 book *Einstein: His Life and Universe* by Walter Isaacson.

The 10-episode season portrays the life of arguably world history's most renowned scientist while focusing little on the science he developed. Neither does the show pay a great deal of attention to the broader intellectual, cultural and political ferment that Einstein was born into. Instead, the series focuses on Einstein's personal relationships, particularly his two marriages and his various love affairs. The results are very disappointing.

There is a great deal one could learn through studying Einstein's life and times. He was 38, for example, when Lenin, Trotsky (with whom Einstein shares a birth year, 1879) and the Bolshevik Party led the Russian Revolution in 1917. Einstein witnessed the emergence of ferocious anti-Semitism and then fascism in Germany, the growth of official, state anti-Communism in the United States and two world wars. From an early age, he embraced internationalism and rejected racism and nationalism, going so far as to renounce his German citizenship as a teenager. And of course, Einstein had an enormous influence on the development of modern physics, most notably working out his theories of special and general relativity.

Einstein himself summed up the drama of his life in a letter to his sister Maja: "If everybody lived a life like mine, there would be no need for novels." At the time, he was only 22 and had yet to develop special relativity, much less go through the social and political upheavals of the first half of the 20th century.

Little of this, however, makes its way into the *National Geographic* series. Certain moments do stand out—for example, when *Genius* introduces the audience to Einstein's various thought experiments which he used to work through complex scientific concepts. There are also the sequences in which he opposes Germany's involvement in World War I and, later, fights against the development of nuclear weapons in the Second World War. Some of the strongest moments belong to Geoffrey Rush as the older Einstein, including the treatment of his friendships with Fritz Haber and Max Planck and his interview at the US consulate in Berlin in 1932.

The presentation of the scientific advancements Einstein made and his moments of personal courage, however, are overshadowed and drowned out by the largely invented or exaggerated melodrama that runs throughout the series.

In particular, the show provides a false account of Einstein's relationship with his first wife, Mileva Maric. The two met during Einstein's first year at the Swiss Federal Polytechnic in Zurich and developed a friendship and then a romantic relationship during their years as students. Part of their mutual attraction was a shared interest in going beyond the physics taught in the standard curriculum, even going so far as to pursue the same diploma dissertation topic (experimental studies of heat conduction).

This was, according to the historical record, more or less as far as Maric got in her scientific career. When she became pregnant by Einstein in 1901, a scandal within her family that is depicted with some degree of sympathy by *Genius*, she discontinued the pursuit of her doctorate and turned her focus towards the burgeoning Einstein family. This is borne out both by the accounts of Einstein's friends and colleagues and

by Maric herself in letters to her closest friend, Helene Savic. There is not, however, any compelling evidence that she assisted Einstein, for example, in developing special relativity.

This is nonetheless the account that *Genius* offers its viewers. In many ways, the series picks up threads from the 2007 PBS segment *Einstein's Wife*, which made the now discredited claim that it was Maric and not Einstein who came up with the ideas and mathematics for special relativity and that Einstein essentially stole her ideas. In *Genius*, this take on their relations forms the basis for numerous arguments between husband and wife, which are taken as the starting point for their eventual separation and divorce, as well as the bitterness and resentment of Einstein's sons shown later in the series. Maric largely comes across as a shrew, rather than as someone who challenged but ultimately became a victim of the realities and conventions of her time and social class. The whole multi-episode plotline is cringe-worthy.

Then there is the matter of the program's obsession with Einstein's sex life and his various affairs. This could be the legitimate subject for drama if it were presented thoughtfully, connected to the general development of Einstein's personality. Instead, *Genius* uses various scenes of Einstein having sex to artificially create tensions between the characters. The series never makes clear or argues coherently whether or not these dalliances had an impact on Einstein's larger intellectual-moral-scientific development.

Furthermore, Einstein's own politics are heavily distorted. The last third of the season deals with the efforts by the FBI, led by J. Edgar Hoover, to have Einstein arrested or deported to prevent him from speaking out against both the building of atomic weapons and the anti-Communist purges. Left unsaid—and quite deliberately, because it is a well-known part of the historical record—is that while Einstein was never a member of the Communist Party (he was a strong critic of Stalin), he did believe that the establishment of genuine socialism, social equality and a rationally planned economy was the only way for humanity to avoid the nuclear devastation of a third world war. It was for this reason the FBI was targeting him.

What *Genius* lacks above all, however, is a serious portrayal of Einstein's scientific legacy. The viewer

receives no sense of the myriad of incompatibilities that emerged in the mid- to late-19th century between Newtonian mechanics and astronomy, thermodynamics and electromagnetism, nor of the developments within these fields themselves. There is not a serious portrayal of the truly Herculean efforts by a generation of scientists to resolve these contradictions, as more and more basic questions about the nature of matter emerged. And there are only rudimentary discussions of just how many of these questions Einstein played a key role in answering. It's like watching a series about Vincent van Gogh without being shown a single painting—or perhaps just one!

A special note needs to be added to help clarify one aspect of Einstein's scientific development not properly treated in *Genius*. In the later episodes, Einstein and Niels Bohr discuss back and forth about quantum mechanics and the peculiar fact that it is impossible to measure a single particle's position and momentum simultaneously. Einstein felt that this could in fact be done and worked feverishly in his last years to try and prove it. He was, however, shown to be wrong three decades later. Nature is inherently probabilistic on the quantum scale.

In any case, these and other failings seriously damage the production as a whole. *Genius* portrays an Einstein largely crafted from the developers' imagination rather than the complex man who actually lived and breathed and thought and fought. It would take a sharply different approach to make an engaging and thoughtful series about the life of Albert Einstein.



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