

PHYSICS

Einstein said that — didn't he?

As the physicist's papers reach volume 15, **Andrew Robinson** sifts attributed quotes.

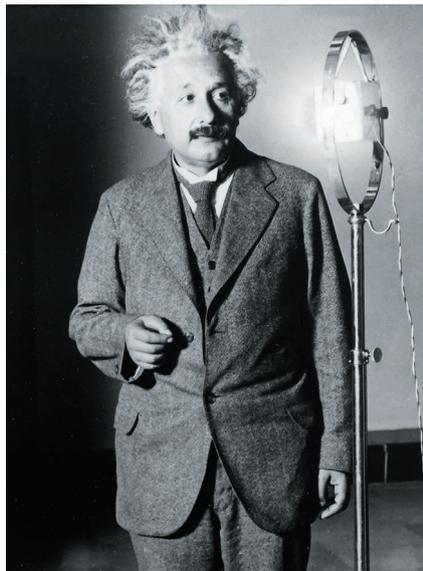
Beyond his towering contribution to physics, Albert Einstein was an avid commentator on education, marriage, money, the nature of genius, music-making, politics and more. His insights were legion, as we are reminded by this month's publication of volume 15 in *The Collected Papers of Albert Einstein*. Even the website of the US Internal Revenue Service enshrines his words (as quoted by his accountant): "The hardest thing in the world to understand is the income tax."

"There appears to be a bottomless pit of quotable gems to be mined from Einstein's enormous archives," notes Alice Calaprice, editor of *The Ultimate Quotable Einstein* (2011); one detects a hint of despair. Indeed, Einstein might be the most quoted scientist in history. The website Wikiquote has many more entries for him than for Aristotle, Galileo Galilei, Isaac Newton, Charles Darwin or Stephen Hawking, and even than Einstein's opinionated contemporaries Winston Churchill and George Bernard Shaw.

But how much of this superabundance actually emanated from the physicist? Take this: "Astrology is a science in itself and contains an illuminating body of knowledge. It taught me many things and I am greatly indebted to it." These lines, displayed by some astrology websites as Einstein's, were exposed as an obvious hoax by the magazine *Skeptical Inquirer* in 2007. The real source was the foreword to a reissued book, *Manuel d'astrologie* (1965), first published by Swiss-Canadian astrologer Werner Hirsig in 1950. Einstein's only known comment on astrology is in a 1943 letter to one Eugene Simon:

I fully agree with you concerning the pseudo-science of astrology. The interesting point is that this kind of superstition is so tenacious that it could persist through so many centuries.

Among the hundreds of quotes that Calaprice notes are misattributed to Einstein are many that are subtly debatable. Some are edited or paraphrased to sharpen or neaten the original. "Everything should be made as simple as possible, but no simpler" might, says Calaprice, be a compressed version of lines from a 1933 lecture by Einstein: "It can scarcely be denied that the supreme goal of all theory is to make the irreducible basic elements as simple and as few as possible without having to surrender the adequate representation of a single datum of experience." More certain is the provenance of "The most incomprehensible thing about the Universe is that it is comprehensible". That rewords a



Albert Einstein in Caputh, Germany, in 1929.

passage in a 1936 article in the *Journal of the Franklin Institute*: "The eternal mystery of the world is its comprehensibility... The fact that it is comprehensible is a miracle."

Even "God does not play dice", arguably Einstein's most famous quote, isn't quite his words. It derives from a letter written in German in December 1926 to his friend and sparring partner, theoretical physicist Max Born. It is published in the new volume of Einstein's papers, in which the editors comment on its "varying translations" since the 1920s. Theirs is: "Quantum mechanics... delivers much, but does not really bring us any closer to the secret of the Old One. I, at any rate, am convinced that *He* does not play dice." Einstein does not use the word 'God' (*Gott*) here, but 'the Old One' (*Der Alte*). This signifies a "personification of nature", notes physicist and Nobel laureate Leon Lederman (author of *The God Particle*, 1993).

Einstein's name has also been affixed since his death to quotes from elsewhere. "The definition of insanity is doing the same thing over and over and expecting different results," for instance, was traced by Einstein archivist Barbara Wolff to US writer Rita Mae Brown's *Sudden Death* (1983). "Not everything that can be counted counts, and not everything that counts can be counted," was penned by sociologist William Bruce Cameron in his *Informal Sociology* (1963).

This cosmos of quotes — real, massaged and faked — speaks to Einstein's status. More than 60 years after his death, his fame remains paramount. I feel there are at least four

reasons why we are still fascinated by him.

One is that Einstein's discoveries are elemental and existential, unifying concepts of space and time, mass and energy and forces. They shifted our picture of reality. And he made more than a stab at explaining them to the non-physicist. Hence his part-joking encapsulation of relativity to the hungry press in 1921, on his first visit to the United States: "It was formerly believed that if all material things disappeared out of the universe, time and space would be left. According to relativity theory, however, time and space disappear together with the things."

There is also widespread empathy for Einstein's resilience in his long struggle for security. His performance at his German school was good, but far from brilliant; he disliked the school for its regimentation and eventually abandoned it. He failed to get an academic position after graduation from university, partly because he mocked his physics teachers. In 1901, although semi-starving, he recognized the value of not conforming. He wrote to his fiancée that "impudence" was his "guardian angel". It would guide him throughout his life.

Einstein was also highly engaged politically and socially, and often in the public eye. He supported the creation of a Jewish home in Palestine, helped to establish the Hebrew University of Jerusalem, and in 1952 was offered Israel's presidency. Yet he had written in a speech in 1938: "My awareness of the essential nature of Judaism resists the idea of a Jewish state with borders, an army, and a measure of temporal power." In 1933, he had publicly opposed Nazi Germany, fleeing to the United States by way of Britain, under some risk of assassination. Despite encouraging US president Franklin D. Roosevelt to build an atomic bomb in 1939, he was horrified by its use in 1945 in Japan. He spoke out against racial and ethnic discrimination in the United States. In the 1950s, he trenchantly criticized the hydrogen bomb and McCarthyism, and, right up to his death in 1955, he was targeted for deportation as a Soviet agent by FBI director J. Edgar Hoover.

Finally, there is Einstein's ineffable wit. It is encapsulated by this aphorism, composed for a friend in 1930 (really: I've checked with the Einstein Archives in Jerusalem): "To punish me for my contempt of authority, Fate has made me an authority myself." ■

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