

SCIENCE

Even Einstein's Research Can Take Time to Matter

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Observatory

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In science, a “sleeping beauty” refers to a research paper whose importance is not recognized until many years after it is published. A new analysis of 22 million studies, published over more than a century, finds that sleeping beauties are common.

“We followed the history of these papers from the moment they were published to the moment they received maximum citations in other papers,” said Alessandro Flammini, an associate professor of informatics and computing at Indiana University and one of the study’s authors.

One prominent example: a paper published in 1935 by Albert Einstein and his colleagues on quantum mechanics. It was only in 1994 that this study started being widely cited by other scientists, Dr. Flammini said.

Many statistical studies from the 1930s are also sleeping beauties, Dr. Flammini and his colleagues found. “A lot of important work was done in statistics then, but large data sets were not available at the time to use the statistical tools they describe,” Dr. Flammini said.

The new study, published in Proceedings of the National Academy of

Sciences, suggests that scholars should not be judged by the immediate success or failure of a publication.

The next step is to understand more about how and why some old papers suddenly become popular among scientists.

In other words, what wakens a sleeping beauty?

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