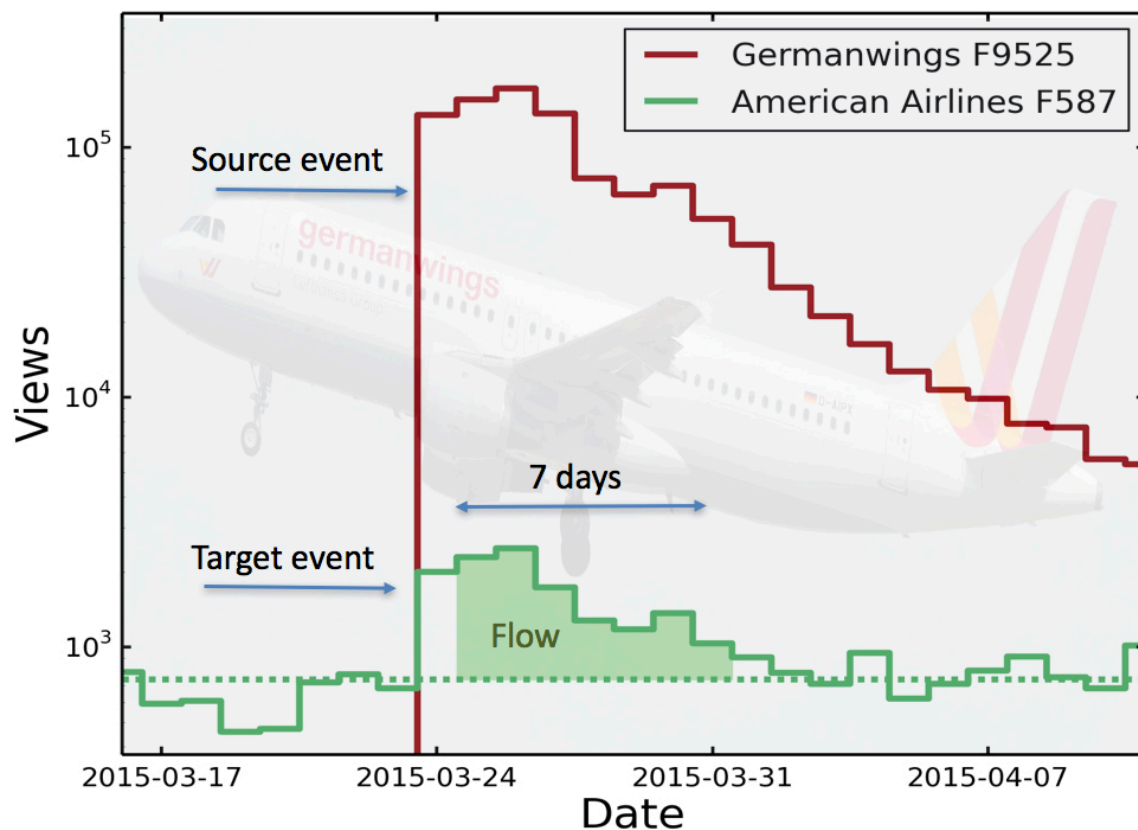# Research into why we remember some aviation disasters and forget others

April 5 2017

View flow from Wikipedia articles on a recent "source" event (the March 2015 Germanwings Flight 9525 crash) to a past "target" event (the November 2001 American Airlines Flight 587 crash). The graph shows that in the days following the 2015 crash, viewership spiked for the 2001 crash article. Credit: Taha Yasseri, Oxford Internet Institute, University of Oxford, 2017.

Oxford University researchers have tracked how recent aircraft incidents or accidents trigger past events and how some are consistently more memorable than others. Using the English version of Wikipedia, they analysed articles about airline crashes that occurred between 2008 and 2016. They then measured how the traffic to articles about airline crashes or incidents before 2008 changed due to more recent events. They analysed page views of nearly 85,000 pairs of articles (which they named as "source articles" and "target articles") and found there was a short-term attention span for recent crashes. More people appeared to look at articles about past crashes they remembered when their memory was triggered by the recent event.

Their mathematical model, presented in the [article](#), allows the researchers to find, for example, that the case of the co-pilot who in 2015 deliberately crashed a plane on a German flight, led to three times more views of a 'target' article about an incident in 2001 in New York in which pilot error played a part. The researchers' model shows that, on average, when target events from the past are combined, they attract 142 percent more [page views](#) than articles about the original source events.

The researchers also discovered that interest slumps to near zero in articles about aircraft incidents that happened more than 45 years ago. In their research paper, they explain this could be because people who were adults at the time have since died, forgotten about the event or, if still living, simply do not use Wikipedia.

Generally, air crashes that happened in the same location did not appear to be linked in the public's collective [memory](#), says the study. This is despite a previous study, also based on page views of Wikipedia articles, showing public interest in individual crashes was determined by where the plane came down.

Most of the pairs of 'source' and 'target' articles tracked by the

researchers did not contain hyperlinks that linked to one another. However, without hyperlinks the average rate of traffic dropped by only 32 percent as compared with pairs that did contain web links between the articles. However, interestingly, the same general patterns are observed in pairs of articles that are not hyperlinked to each other as articles that carry weblinks. The paper suggests that the memory patterns are more fundamental than the hyperlink networks of the web.

As might be expected, modelling based on page views shows that aviation disasters with large numbers of deaths (involving 50 or more) are remembered more than reported events with fewer fatalities. But the model also shows that there is even greater public interest in articles when crashes result in no deaths, possibly because such events are remarkable for other reasons.

Team Leader Professor Taha Yasseri, from the Oxford Internet Institute and the Alan Turing Institute in London, said: "The way people use Wikipedia is a good proxy for how people use the internet more generally. When we look at the factors that link one event with another and measure the number of page views, we start to see what makes some events particularly memorable and model the collective memory.

"Using English Wikipedia page views, we find that aviation disasters are more memorable if they happened quite recently, involved Western companies, and if the cause of the [crash](#) is similar to the new event. There are major events like the 9/11 crashes, for example, that are more likely to be remembered than the new event that triggers the past. In other cases, however, these similarities and associations might trigger our memory of past events that would otherwise not be remembered very much. This happened in the case of the Iran Air flight 655 shot down by a US navy guided missile in 1988, which was not generally well remembered but triggered far more attention when the Malaysia Airlines 17 flight was hit by a missile over Ukraine. The research for the first

time measures these factors and provides a way of modelling our collective memory."
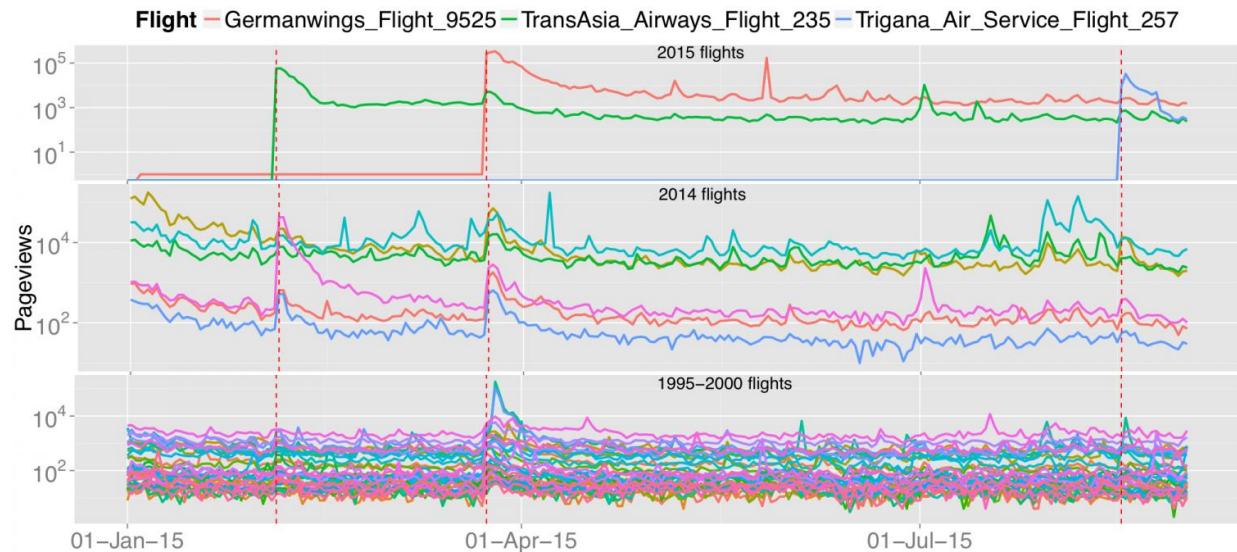
A graph demonstrating how recent airplane crashes (here Germanwings Flight 9525, TransAsia Airways Flight 235 and Trigana Air Service Flight 257) may or may not cause an increase in the viewership of Wikipedia articles about past airplane crashes. Credit: Taha Yasseri, Oxford Internet Institute, University of Oxford, 2017.

Lead author, Dr Ruth García-Gavilanes said: "When we observe these memory patterns, a good question is, "what mechanisms drove people to the Wikipedia pages of those past events?". Here we only describe the patterns, but a next step would be to analyse if memories are what we remember from seeing the news, or social media, or an individual's own recollection of the actual event."

Anders Mollgaard, a co-author from the Niels Bohr Institute in

Denmark, said: "Our work shows that different topics are connected to each other through memory and association, thereby forming an interconnected network of topics. What was particularly surprising as that the memory effect had a larger impact on the number of views than the main event."

The paper, 'The memory remains: Understanding collective memory in the digital age', is by Ruth García-Gavilanes et al. It will be published by *Science Advances* online on Wednesday, 05 April 2017.

  More information: "The memory remains: Understanding collective memory in the digital age," *Science Advances* (2017). advances.sciencemag.org/content/3/4/e1602368

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