Mathematician and chronicler of political murders

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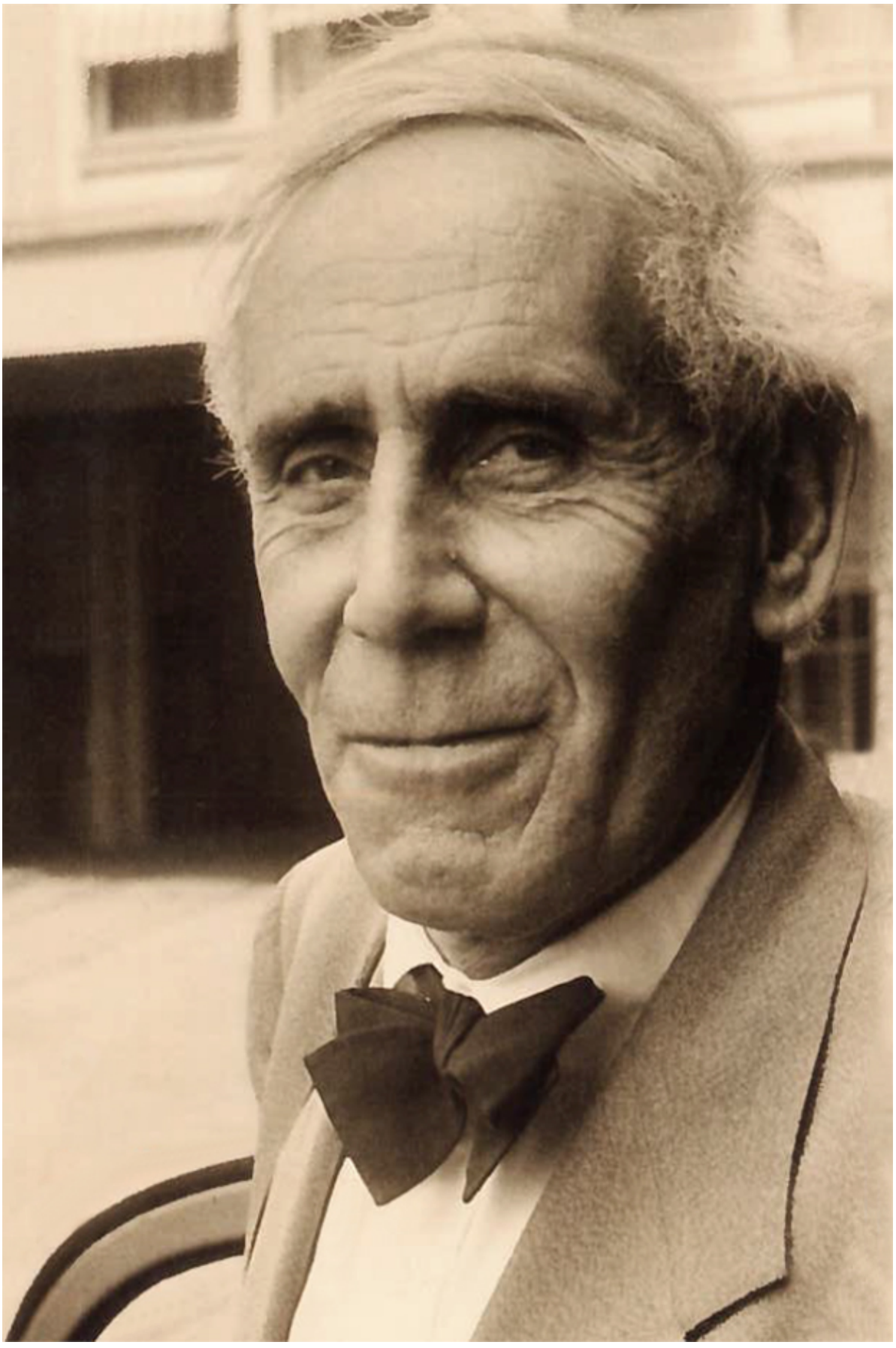

Emil J. Gumbel's mathematical formulas are fundamental for extreme value theory. This statistical discipline describes extreme incidents, such as floods or storms. Little is known, however, that he was also a pioneer of modern data journalism, unveiling the patterns of political murder in the Weimar Republic. Credit: Technical University Munich

Emil J. Gumbel's formulas are fundamental for extreme value theory. This statistical discipline describes extreme incidents, such as floods or storms. Little is known, however, that he was also a pioneer of modern data journalism, unveiling the patterns of political murder in the Weimar Republic. Professor Matthias Scherer and his team at the Technical University of Munich (TUM) now intend to fill in the gaps in what the world knows about Gumbel.

Gumbel, who later became famous for his applications in extreme value theory, was the firstborn son of a family of bankers in the Munich district of Lehel. Already as a young man, he utilized his statistical methods to counter militarism and the reactionary justice system. His scientific analyzes of court proceedings of the Weimar Republic make him a pioneer of modern data journalism. Due to his political publications, he was soon persecuted and exiled.

"Due to his many-layered works, his life which was twice uprooted as a result of emigration, and not least due to the time that has passed since then, our search for new documents about Gumbel was a challenging endeavor", said Scherer from the Chair of Mathematical Finance at the TUM when speaking about the project.

Over the past three years, the search for the various stages of Gumbel's

life has led him and his research assistant Dr. Lexuri Fernández across Europe and finally to the USA. "At places where he worked, we tracked down contemporary witnesses or their descendants and found new documents in archives", says Scherer.

Calculating the extreme

In the renowned journal *Extremes*, the TUM researchers present new details about Gumbel's personal life. Also published in the journal are excerpts from an interview with Professor Tuncel M. Yegulalp, who knew Gumbel back when he was a lecturer at Columbia University and living in exile in New York. Yegulalp describes his challenging education with Emil Gumbel, which played a formative role in his own path through life.

Gumbel's methods are used today in various areas: for the planning of dams and dikes, for the determination of material fracture strengths as well as in the financial and insurance sectors, where insurance premiums have to be calculated for rare but severe losses, for example for catastrophes such as the hurricanes Harvey and Irma.

Statistics of political murder

"The scientific approach is typical for Gumbel's political writings," explains Scherer. "Characteristic for his publications are arguments based on statistical analyses, the often uncommented documentation of facts, and the resulting scientific objectivity", says the financial mathematician when describing the style of the newspaper articles, magazine essays, and books which Gumbel published in the 1920s without paying any regard to the losses made.

With the help of the statistical evaluation of his newspaper and court

database, he published the books "Zwei Jahre Mord" (Two Years of Murder) and "Vier Jahre politischer Mord" (Four Years of Political Murder), which quickly sold out. "They document the right-wing conservative tendency which the judiciary had lapsed into during the time", says Scherer. According to Gumbel's statistics, 326 out of 354 political murders by right-wing factions in the early Weimar Republic went unpunished, and four out of the 22 left-wing capital crimes.

The "Gumble Case"

Even after joining Heidelberg University in 1923, Gumbel continued with his publication and pacifist activities. When he published the book "Verschwörer" (Conspirators) in 1924, an investigative inquiry into secret military alliances, he was accused of treason. However, this accusation turned out to be untenable in court, as all he had done was document facts.

When he spoke of a "Field of Dishonor" in a speech at an event of the German Peace Society at the tenth anniversary of the beginning of World War I, this triggered a chorus of outrage among national conservative academics and a disciplinary procedure.

Early expatriation saved Gumbel's life

"His fate was sealed when, at a speech in memory of the 700,000 who had perished of hunger in the winter of 1916/17, he remarked that a rutabaga would certainly be a better memorial than a scantily clad virgin with a palm frond", says Professor Scherer. This remark had already been part of his repertoire at pacifist demonstrations for some time, and even though he knew that two Nazi spies were among the audience, Gumbel did not refrain from saying it.

Once again, this resulted in a chorus of indignation and a riot of murder threats, ultimately leading to his dismissal in the summer of 1932. "But that may have saved his life, because in France, where he chose to go in exile, he was safe from persecution for the time being", says Scherer. "He was the only scientist on the first 'expatriation list', and was very proud of that fact later on".

However, the publication in the journal *Extremes* by no means marks the end of the search for Gumbel's life journey for Scherer and his assistant Fernández: Together with Prof. Annette Vogt from the Max Planck Institute for the History of Science and Dr. Isabella Wiegand at TUM they are planning an exhibition in Munich, Gumbel's city of birth, in November of the coming year. The researchers would be grateful to receive any additional material for this exhibition.

More information: Lexuri Fernández et al, Emil J. Gumbel's last course on the "Statistical theory of extreme values": a conversation with Tuncel M. Yegulalp, *Extremes* (2017). DOI: 10.1007/s10687-017-0299-z

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