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Historical Semantics of Risk

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Abstract: The key insight in this work is that the events people associate with risk is under systematic change over the past 200 years. Leveraging Latent Dirichlet Allocation (Topics Modeling) and the Google Ngram Corpus, we identified historical and newly-emerging events associated with risk and tracked their relevance over time. We also computed the probability of risk co-occurring with words associated with those identified events to capture a more accurate trend. Several highlights of the findings include: attention on risk has been spreading from one general domain (about losing life and war/battle) to a set of wider, more specific events and activities such as cancer, sex, HIV, smoke, and finance; in addition, the concept of risk has recently become more differentiated, incorporating both cost and benefits, long and short-term consequences. This approach could be extended to study semantic history of a number of other concepts of interest.