Mass media framing of seismology news

*Kou Yamada[1]

1. Waseda University

In most cases, citizens receive scientific information from experts through mass media coverage. Therefore, the mass media is thought to play a key role in shaping the public's scientific knowledge. However, the mass media streams various kinds of scientific information whose contents range from pure science news to scientific news closely related to society. Seismology has been considered by the mass media as closely related academic disciplines and the mass media is expected to significantly emphasize the social aspects of seismology. Especially the topic of earthquake prediction will be the best one. Regarding seismological information distribution, there is qualitatively thought to be many social closely related news, while there will be the small amount of information on the results of basic seismology. But, it has not been quantitatively analyzed what type of news is reported by mass media. The media discourse on seismology can control the level of public knowledge of seismology. This study aims to examine how mass media has reported about seismology by using machine learning. I use Yomiuri Shimbun, Asahi Shimbun, Mainichi Shimbun, which currently occupies the top three in circulation number, to analyze "seismology news" published from 1990 to 2016. Television is also considered as a main mass media, but it is unnatural to think that their coverage contents are significantly different from those of the newspaper. Hence, by following the newspaper media coverage, it will be possible to overview the entire mass media in Japan to some extent.
This study will collect the news articles by defining "seismological coverage" as follows. In the seismological coverage, experts or specialized agencies will be cited in articles. Therefore, keywords are "earthquake and (research or professor or expert or university or science or meteorological agency)" and extracted about 90,000 news articles from the database. In addition, this study imposed a condition that one of the following words is further included for the retrieved article: "Tsunami, seismic intensity, Earthquake prediction, seismic wave, trench, liquefaction phenomena, landslide, epicenter, earthquake, earthquake, earthquake, earthquake, earthquake, earthquake, earthquake, earthquake, earthquake, seismic source, Nankai, Tokai, magnitude, active fault, Duration ". As a result, about 20,000 news articles with some scientific information on seismology were collected. By machine learning method, 20,000 news articles can be classified into about 25 clusters in the co-occurrence pattern of words. In this presentation, I would like to report how seismological coverage is represented.

Keywords: machine learning , seismology, mass media

