Aim

The accuracy of eyewitness accounts of how the Titanic sank (whether it was intact or breaking apart as it sank) was the focus of the present study.

To investigate empirically the accuracy of archival eyewitness accounts of the Titanic’s final plunge. Purpose of this research was to evaluate the accuracy of archival eyewitness testimony from Titanic survivors.

Participants/Method/Procedure

There are two reasons it is possible to investigate eyewitness testimony from Titanic survivors about how the ship sank. First, there is substantial archival data available from the 1912 United States Senate hearings and from the hearings the same year of the British Board of Trade to allow for an empirical investigation.

A sufficient number of eyewitnesses testified about the state of the Titanic during the final plunge so that both investigations were able to make final determinations (both concluded that the Titanic sank intact).

Second, there is now forensic evidence that can enable researchers to evaluate the accuracy of the testimony about the state of the ship before it sank. In contrast to the original determinations, the forensic evidence indicates with “no doubt” (Garzke, Brown, Sandiford, Woodward, & Hsu, 1996, p.250) that the main hull of the Titanic was breaking apart while the ship was still on the surface of the water.

We limited the participants in the present study to those cases (n = 20) that directly commented on viewing the condition (i.e., intact or breaking apart) of the ship. Seventy-one eyewitnesses were either not asked to provide testimony about the state of the ship during the final plunge (n = 68) or could not comment because of limited visibility (n = 3). We independently reviewed the testimony of survivors who testified at the U.S. hearings (April 19-May 25, 1912) and at the British (May 2-July 3,
1912) hearings. We independently identified and evaluated testimony that commented directly on viewing the state of the ship (i.e., intact or breaking apart) during the final plunge.

Result
Of the 20 identified eyewitnesses, 15 (75%) indicated that the Titanic was breaking apart during the final plunge. A chi-square goodness-of-fit demonstrated that the results were statistically significant, \[ \chi^2(1, N = 20) = 5, p < .05 \]

Most of the eyewitnesses' testimony (15 eyewitnesses out of 20) is consistent with current forensic evidence that the Titanic was breaking apart as it sank, even though the survivors witnessed a traumatic event (there were more than 1,500 deaths) and even though the perceptual conditions in which the memories were formed were not ideal (i.e., limited visibility). The results of the present study are consistent with the previous literature that demonstrates that central details are often recalled accurately when they are formed during traumatic conditions (e.g., Christianson & Hubinette, 1993; Yuille & Cutshall, 1986), and they indicate that memory of traumatic events is "in many ways similar to memory for more normal nontraumatic events.

Evaluation/Critical Analysis

EYEWITNESS ACCOUNTS OFTEN CONTAIN INACCURACIES
inaccuracies occur primarily when eyewitnesses recall peripheral details. In contrast, the results of both laboratory and real-life research have demonstrated that central details are typically remembered with greater accuracy. The results of a limited number of real-life studies have demonstrated that central-detail recall of traumatic events is also accurate. For example, most individuals who witnessed (a) a shooting as a bystander (Yuille & Cutshall, 1986), (b) a bank robbery as a bystander or a victim (Christianson & Hubinette, 1993), or (c) various types of violent crime (homicide, rape, robbery) as a victim (Kuehn, 1974), accurately recalled the central details of their experiences (typically with accuracy greater than 70% across various central details). Concentration camp survivors have demonstrated that although some central memories deteriorate with time, others can be accurately recalled for decades afterward despite the available evidence that indicates that memory recall of traumatic events is similar to recall for distinctive nontraumatic events because memory...
studies that involve eyewitnesses to real-life traumatic events are limited in number more research is needed to replicate previous findings and to increase generalizability.

The final plunge of the luxury passenger liner, the Titanic, is a unique real-life single-occurrence traumatic event that produced eyewitness testimony but that has received no attention in the eyewitness literature.

To rely on a subsample of the total eyewitness population is a methodological limitation that has occurred in other real-life studies. Because the testimony from the hearings has been described by historians as sometimes ambiguous and contradictory, we decided a priority was that we would limit the analysis to those cases on which we agreed unanimously. The testimony about the state of the ship during the final plunge was straightforward, and we identified and classified the testimony with 100% Agreement. However, it should be noted that this study (a) was limited to the evaluation of the accuracy of recalling a single central detail and (b) does not provide any evidence about the eyewitness accuracy of peripheral details (i.e., the specific details).

Two potential methodological limitations of this study deserve special comments. First, it is possible that the eyewitnesses who were used in the study are a specific subgroup and are not representative of all the eyewitnesses. However, if the selection and questioning of the eyewitnesses at the U.S and British hearings created any substantial bias, it would likely have been in the direction of the confirmation of a preexisting belief (Skov & Sherman, 1986), which appears to be that the ship sank intact. Second, there is no way to determine the effects of postevent information on the testimony. However, newspaper accounts reported both versions (intact and breaking) of the final plunge (Bryceson, 1997; Caren & Goldman, 1998). Also, the first 3 eyewitnesses, who were well respected (the two highest surviving Titanic officers and a former military officer), all testified that the ship sank intact (see Table 1). Thus, although it is impossible to determine the effects of postevent information (media, ordering of eyewitnesses, etc.), we know of no evidence that would suggest that there was a substantial bias towards "break
Finally, it should be mentioned that this study contains all the other limitations inherent in this type of research, including (but not limited to) eyewitnesses with different vantage points, a small sample size, a nonrandom sample, an inability to manipulate variables, an inability to interview eyewitnesses firsthand, a specific type of traumatic event that may have limited generalizability, and an inability to measure perceived trauma.

Todd C. Riniolo Titanic study

https://docs.google.com/a/wis.edu.hk/open?id=142e7XjweZieJYxoKw7i4-KGC59TPnHT_JFv5VQxR5Wc