Reconstruction of the Loveparade disaster from the perspective of visitors. Analysis of witness statements

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In the Loveparade disaster in 2010 a very dense crowd situation appeared in which 21 visitors of the dance festival were killed, and several hundred injured. This paper presents an analysis of a random selection of 136 witness statements of visitors who had been within this life-threatening crowd. It combines perspectives from psychology and physics.
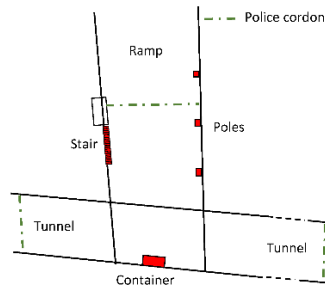

Figure 1: Representation of the location and landmarks in the environment of the deadly crowd

In addition to analyses of the complex, multifactorial overall situation that led to the disaster [1] or of the dynamics of the crowd from above on the basis of CCTV footage [2] this study approaches the dynamics from within, from the perspective of visitors. They had been interviewed by police officers in the hours, day, or weeks after the disaster. This material can now be analyzed scientifically after the judicial process ended in 2020 without a verdict. Eyewitnesses describe how they perceived the situation, how they (and others) behaved and what they experienced. Furthermore, they can provide information about what collective dynamics there were in the crowd and how they affected their bodies.

Psychologically, the situation is characterized on the one hand by a strongly limited perception (only the backs of the direct neighbors are seen, free areas in the back are not noticed, the danger of the situation is noticed only late) and on the other hand by a very good perceptibility of the possibilities to climb out of the crowd caught on the ramp via the stairs or the poles. This has led to a strong pressure in the direction of the stairs and poles. At the same time, visitors most often describe that they helped each other. Even though fear of death is reported, the witnesses contradict the idea that there was a mass panic. As the most dangerous dynamics a combination of falls (often after people had fainted) and transversal waves could be reconstructed. Falling people can create a hole in a tightly packed crowd. Due to the pressure people at the edge of the hole are pulled in, creating a pile of wedged bodies. These results are in conformance to reconstructions of other disasters (i.e. [3]). In comparison to the case analyzed in [3] the situation at the Loveparade is more complex. In addition, the study presented here relies on a larger amount of data, and a more systematic content analysis of physical and psychological aspects. This methodology allows to describe the dangerous dynamics in a high level of detail.

Bibliography

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