Remark 3.j.46. [27H] *Historical notes.*

- *The proposition "*$|A^2| = |A|$ holds for every infinite set" *is equivalent to the axiom of choice. This was demonstrated by Tarski [**?**] in 1928 ; the article is online and downloadable and contains other surprising equivalences. See also [**?**] Part 1 Section 7 page 140 assertion CN6.*

- *Jan Mycielski [**?**] reports:* «Tarski told me the following story. He tried to publish his theorem (stated above) in the *Comptes Rendus Acad. Sci. Paris* but Fréchet and Lebesgue refused to present it. Fréchet wrote that an implication between two well known propositions is not a new result. Lebesgue wrote that an implication between two false propositions is of no interest. And Tarski said that after this misadventure he never tried to publish in the Comptes Rendus».

  *This anecdote shows how in the past (before the works of Godel and Cohen [**?**]), even the most respected mathematician had a feeble grasp of the importance of the Axiom of Choice.*