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MR4467503 01A55 01A60 37-03 65P99

Rosa, Alessandro

An episodic history of the staircased iteration diagram. (English, Polish summaries)

Antiq. Math. 15 (2021), 3–90.

This paper examines the conceptual origins in the nineteenth century of a tool that became popular in late-twentieth-century discrete dynamics: the cobweb plot, also known as a ladder, staircase, Lémeray, or Koenigs-Lémeray diagram, among a host of other monikers. The author seeks historical insight by recalling two related developments: iteration theory in one real variable, and graphical calculus (or nomography). For the former, he builds on Salvatore Pincherle's chronological account [in *Encyclopédie des sciences mathématiques pures et appliquées, II*, Vol. 5, 1–81, Gauthier-Villars, Paris, 1912], although he neglects consideration of Henri Poincaré's qualitative theory of differential equations. As for the history of graphical calculus, the author is inspired essentially by the writings of the historian of mathematics Dominique Tournès [Rev. Histoire Math. **6** (2000), no. 1, 127–161; MR1809208]. From a theoretical standpoint, dialogue between the two narrative prongs is sparse, though the individual episodes on offer are richly illustrated. The paper would have benefited from more thorough proofreading or copy editing. *Scott A. Walter*