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Discussing how language shapes thought

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Mathematics after the Linguistic Turn of the Early Nineteenth Century: Three Frameworks

Abstract – The early nineteenth century witnessed a linguistic turn of its own, after which European Orientalists increasingly believed language shaped thought. This paper examines the implications of this linguistic turn for European perceptions of non-western mathematics. It distinguishes three broad frameworks for imagining how language shaped thought, each with varying results for the perceived autonomy of mathematics. The tradition of general grammar will be explored first through the debate between Wilhelm von Humboldt and Jean-Pierre Abel-Rémusat over the intellectual merits of Chinese, a language whose grammar, Humboldt insisted, closely resembled a mathematical equation. Did the logical features of certain languages better equip their speakers to make scientific discoveries? The German philosopher and Orientalist Johann Georg Hamann offered a more radical, theological argument for the linguistic determination of thought. His claim that mathematics itself constituted a language will be examined second. Did the peculiarities of certain national languages shape how speakers approached mathematics and explain why particular inventions occurred among certain cultural communities? Thirdly, mapping the origin and genealogical descent of non-western languages within comparative-historical linguistics offered a model for tracking the spread of mathematical ideas. Did the transmission of mathematical knowledge follow the same trajectories as language?