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Alexander Wylie's Comparisons of Algebra between China and Europe, and Its Historiographical Provenance

Abstract - Alexander Wylie(1815~1887) was an British protestant who arrived in China in 1847. By collaborating with Chinese mathematician Li Shanlan (1810~1882) and translating Augustus De Morgan's (1806~1871) *Element of Algebra*, Wylie first introduced the modern symbolic algebra from the West. Apart from this important work, he wrote the "Jottings on the Science of the Chinese. Arithmetic" and some other works, in which he drawn the comparison between the history of algebra in Western and Chinese mathematics in Song and Yuan Dynasties (960-1368). Influenced by the Society for the Diffusion of Useful Knowledge and its publications, Wylie obtained a perspective of knowledge about Western algebra and its history from the articles written by De Morgan in *Penny Cyclopaedia*. On the other hand, benefit from the restoration of studies on mathematics in Song and Yuan Dynasties, Wylie could employ Luo Shilin's *Interpretation on the Rule of Four Sources*, learn from Chinese scholars such as Li Shanlan, therefore he understood the characteristics in "procedure of extracting roots", "procedure of Heavenly Source" and "procedure of Four Sources". It is the key that the comparison could be drawn much deeper. Wylie's view on the history of mathematics is also influenced by De Morgan and other British historians, with a tendency of "Whig interpretation of history". The combination of this tendency and the aim of mission work caused a historiographical goal to focus on the understanding, studies and transfer of the mathematic knowledge at present, which embodies in Wylie's works after the "Jottings".