Early Mathematical Giftedness and its Social Context: The Cases of Imperial China and Soviet Russia

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The paper discusses the phenomenon of mathematical giftedness, especially manifested at early stages of life of future outstanding mathematicians, taken in its socio-cultural context. The authors suggest that the images of mathematical giftedness are formed differently in various cultural contexts and thus can imply different settings of the educational institutions that can accordingly ignore, encourage, or restrain the students considered gifted. The paper focuses on the cases of traditional mathematics in several Asian countries (China, Vietnam, and Japan) and of modern mathematics in Soviet Union/Russia in order to provide examples of different patterns of forming the image of mathematical giftedness and of the corresponding educational approaches.

mathematical giftedness of children; mathematics education
Russia's TIMSS 2015 results in mathematics placed its fourth graders in seventh place (after only Northern Ireland among European countries) and its eighth graders also in seventh place, but first amongst its European peers. Finally, the current system of education in Russia is rooted both in the educational traditions of Imperial Russia and the post-Revolutionary traditions of the Soviet Union. Boris Teplov (Теплов, 1961) developed a theory of abilities and giftedness; and Boris Anan’ev (Ананьев, 1977) investigated age-dependent changes in the structure of cognitive functions from a systemic point of view. In this context, Kholodnaya stresses, the issue is not how to identify and educate giftedness Early Soviet tax policies endeavored to chip away at this urban-rural fiscal divide, but this quickly lost momentum, as Kotsonis documents based on a wealth of archival material in Chapters 10-12 of Part 4. Soviet authorities lowered exemption levels for the income tax, thereby doubling down on the commitment to connect taxation and citizenship. However, social science historians without special interests in Russia might feel put off by the absence of direct connections to more familiar literatures and methodological approaches. A third, related, issue that might limit the appeal of this book to the broader economic history community is the nature of the questions it tackles. While Imperial Russian authorities and policymakers might have been deeply although the Academy has dominated Russian and Soviet science, other scientific societies also existed. Although not on Soviet science, his paper must be seen in the context of Soviet events that fundamentally affected its form and substance. By the early twentieth century Russian mathematicians were working at the leading edge of mathematics in many areas: Chebyshev and A. A. Markov in the theory of numbers and probability; V. A. Steklov and A. N. Krylov in differential equations; D.F. Egorov, K.A. Andreev, and A. K. Vlasov in geometry; D.A. Grave, S. O. Shatunovskii, and F. E. Molin. More idiosyncratic is Dominique Lecourt, Proletarian Science? The Case of Lysenko translated by Ben Brewster (London: NLB, 1977).