

The tangled roots of the mathematics of the 17th-century Scientific Revolution

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Much new happened to European mathematics in the 17th–18th centuries. Not all of it (in particular number theory) entered interaction with the general scientific revolution, though they can be counted on their own as ingredients in the development. On the other hand, the new double analysis –algebra and infinitesimal analysis –can be regarded as decisive infrastructure of the astronomical and physical ingredients. The second new analysis, moreover, only matured as a tool when it had integrated the first, the new, mainly Cartesian algebra.

The talk will concentrate on the interactions, from the 12th century onward, that shaped and conditioned the 17th-century innovations in algebra –the 12th-century translations of algebraic writings, Fibonacci's Liber abbaci, the algebra of the abacus school and the reshaping of the latter in German Coß, the conditions of mathematics within Latin/universitarian learning, and the 16th-century translations of Greek mathematics.

Presenter: HØYRUP, Jens (Honorary Research Fellow, Institute for the History of Natural Science, Chinese Academy of Sciences)

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