

# The mathematics of music history

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Together with colleagues from London and Amsterdam, MIB postdoc Niels Chr. Hansen, analysed thousands of musical themes composed by French, Italian, and Austro-German composers living in 1600-1950.

During these years, rhythmic variability in French [music](#) was initially low - just like in Italian music and language. Later on, it increased towards the [natural equilibrium](#) for Austro-German music and language before the rhythms of French music finally diverged into two separate stylistic schools of composition.

Niels Chr. Hansen's research provides the first quantitative test of key assumptions in historical musicology regarding national influences on European. Specifically, the findings support that (North-)Italian music culture dominated Europe throughout the Baroque Era, followed by increasing influence from Austria and Germany in the Classical Era. In the (National-)Romantic Era, European music culture became more decentralised. The analysis also disproves recurring claims that French composers stubbornly resist foreign influence.

The article "Non-linear Changes in the Rhythm of European Art Music: Quantitative Support for Historical Musicology" was published in the international, peer-reviewed journal *Music Perception* and can be read here:

<http://webprojects.eecs.qmul.ac.uk/marcusp/papers/HansenSadakataPearce2016.pdf>

Provided by Aarhus University

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