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Reflections on the shift from Medieval natural philosophy to amaterialist/mechanistic view of the earth and the surrounding heavens:the case of Galileo

Over the years I have been intrigued by the problem posed by Joseph Needham: why did the so-called modern sciences appear first in Western Europe and not in China? One result is that I have come to ask a related question: why were there no Galileos, Stevins or Harriots in Hellenistic Alexandria? We commonly acknowledge that what happened in the decades around 1600 closely followed the re-acquisition of Euclidean and Archimedean mathematics and mechanics in those years. But what, if anything, was different about Renaissance Europe? Here, starting with a reflection on certain remarks by Galileo in the "Dialogo", I would suggest that already from about the turn of the millennium, 1000 AD, there existed in the West seeds which evolved and shaped the cultural, economic and practical environments in which "science" could emerge.