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Higher education, dissemination and spread of the mathematical sciences in Sardinia (1720–1848)

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Abstract

This paper outlines the results of a study aimed at charting the spread and development of the mathematical sciences in Sardinia over the period from 1720, the year in which the island was awarded to the Savoy dynasty following the Treaty of The Hague, to 1848, the year in which King Charles Albert of Sardinia placed Sardinia on a level political and administrative footing with the Kingdom's mainland territory. In particular, the paper analyses the role played in the transmission and spread of mathematics by the Savoy educational institutions.
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Sommario

In questo articolo vengono riassunti i risultati di uno studio finalizzato a ricostruire i processi di diffusione e di sviluppo delle scienze matematiche in Sardegna nel periodo compreso fra il 1720, anno in cui l'isola fu assegnata ai Savoia dopo il trattato dell'Aia, e il 1848, anno in cui il re Carlo Alberto equiparò sotto il profilo politico e amministrativo l'isola ai restanti territori di terraferma. Si analizza, in particolare, il ruolo svolto dalle istituzioni educative sabaude.
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1. Introduction

Under The Savoy reign, which began in 1720 and ended in 1861 with the unification of Italy, Sardinia underwent important political, cultural and social changes. The transition from the previous Spanish dominion to the Savoy dominion was extremely difficult due to many factors and principally:

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– The profound differences existing between Sardinian culture, of Mediterranean origin and Piedmontese culture, of a continental Italo-French origin;
– The transition from the Spanish to the Italian language that had repercussions on a social, cultural and economic level, and in the relationships between the island and the other states on the continent;
– The lack of interest of the House of Savoy with regard to Sardinia which had been considered for many years a possession to be exchanged with other territories because of its limited economic resources and the high costs required to defend its coastline.

Recent studies have also highlighted the development of mathematical knowledge (and the teaching of mathematics) reflecting the local context in which it was carried out but at the same time also influenced by international processes and historical facts [for example Karp, 2014; Schubring, 2006 and 2010]. According to Schubring, for example, this knowledge is transmitted in particular historical periods and in a particular way by some centres of development towards other regional areas and once received are modified and modernised in their new cultural context [Schubring, 2006, 671–673]. Sardinia in the Savoy period, however, represented an example of an "underdeveloped"[1] region in which mathematical knowledge was spread with great difficulty. The low level of scientific knowledge inherited from the Spanish domination, the geographical isolation of an island in the middle of the Mediterranean and at that time several days navigation from the mainland, Savoy policies built on absolutism and not geared to the needs of the island, all contributed in creating this "underdeveloped" status of the region.

Moreover, the case of Sardinia is characterised by another particular aspect: after the French Revolution, the island was not invaded by Napoleon's Armada and as a consequence was not subject to the same changes in the field of education that other Italian and European states were, with the import of French scholastic models. The exchange of mathematical knowledge in that historical phase remained limited at a local level and important global changes that occurred outside produced limited effects which would occur later.

Starting with this data, I would like to analyse the transmission and development of the mathematical sciences in Sardinia over the period from 1720, the year in which the island was ceded to the Savoy dynasty following the Treaty of The Hague, to 1848, the year in which King Charles Albert of Sardinia placed Sardinia on an even political and administrative footing with the kingdom's mainland territory. What were the historical circumstances and the determining factors in this process of transmission and diffusion of mathematical knowledge? To what extent did they condition such a process? To what point can Sardinia be considered an atypical case in the framework of the changes which in that period involved other Italian and European situations and influenced the transmission, the modernization and the teaching of mathematics? In that period, what was the state of mathematical knowledge in Sardinia? Was there (and in what way was there) a process of modernisation of this knowledge? In particular, I will analyze the role played in this process by the Savoy educational institutions.

To date, the theme of the spread of scientific knowledge in Sardinia between the 17th and 19th centuries has been only partly addressed by historians and never with a specific focus on mathematics.[2] In two previous papers, my attention was focused upon some aspects that regarded the teaching of mathematics at the University of Cagliari [Scoth, 2006 and 2013]. In this article, I intend to extend my field of study and to examine, for the first time in a general way, the spread and development of mathematics on the island in modern and contemporary times. I intend to integrate and develop the previous knowledge with new elements, the result of new more detailed archive research.[3]

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[1] I use the same term used by [Schubring, 2006, 672] as regards the Brazilian experience in the period of Portuguese colonisation.

[2] For an overview of the circulation of scientific knowledge in Sardinia in modern times, see: [Mattone and Sanna, 2007; Nonnoi, 2009].

[3] This research has allowed me to reconstruct a first list of printed texts on mathematics written by Sardinian authors or published in Sardinia in the Savoy period (see the specific section in the references).