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NOTES & DÉBATS

A note on Pérez de Moya's newly discovered Principios de Geometria (1584)

M. Céu Silva & Antoni Malet

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NOTES & DÉBATS

A NOTE ON PÉREZ DE MOYA'S *PRINCIPIOS DE GEOMETRIA* (1584)

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Abstract. — In 1584, the Spanish mathematician Juan Pérez de Moya published a geometric work strongly practical in character titled *Principios de geometria, de que se pod[r]an aprovechar los estudiosos de artes liberales, y todo hombre que su officio le necessitare a tomar la regla y co[m]pas en la mano. Con el medir, y dividir tierras.* While a copy is now kept in the National Library of Lisbon, as far as we know no Spanish public library holds a copy of it, nor is there any reference to it in the secondary bibliography. In this article we briefly describe the *Principios de geometria*, pointing to the main differences with Moya's other geometric texts.

Résumé (Note sur les *Principios de geometria* (1584) de Pérez de Moya)
En 1584, le mathématicien espagnol Juan Pérez de Moya a publié une géométrie pratique intitulée *Principios de geometria, de que se pod[r]an aprovechar los estudiosos de artes liberales, y todo hombre que su officio le necessitare a tomar la regla y co[m]pas en la mano. Con el medir, y dividir tierras.* Un exemplaire en est conservé à

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Mots clefs. — Géométrie pratique, xvie siècle, peninsule ibérique, Juan Pérez de Moya.

la Bibliothèque nationale de Lisbonne. Pour autant que nous sachions, aucune bibliothèque publique espagnole n'en possède un exemplaire et le texte n'est jamais cité dans la bibliographie secondaire. Dans cet article nous présentons une brève description des *Principios de geometria*, en nous arrêtant tout particulièrement sur les différences avec d'autres travaux géométriques de l'auteur.

1. INTRODUCTION

As is well known, Juan Pérez de Moya (Santisteban del Puerto, 1513 – Granada, 1596) was one of the most popular sixteenth-century mathematical authors in the Spanish Monarchy, then a vast and loose aggregate of European principalities and kingdoms and of newly conquered territories in America. A Roman Catholic priest and a competent mathematics teacher, Pérez de Moya addressed his many writings mostly to a public of mathematical practitioners. [1] Besides his mathematical writings, he also published in 1585 an interesting *Philosophia secreta: donde debaxo de historias fabulosas, se contiene mucha doctrina, provechosa a todos los estudios: con el origen de los idolos o dioses de la gentilidad*, a work that draws inspiring moral lessons from classical sources and mythology. His best known and most influential work doubtless was his *Arithmetica practica y especulativa*, first published in 1562 and countless times reprinted through the mid eighteenth century. The National Library of Lisbon keeps a work by Pérez de Moya titled *Principios de geometria, de que se pod[r]an aprovechar los estudiosos de artes liberales, y todo hombre que su officio le necessitare a tomar la regla y co[m]pas en la mano. Con el medir, y dividir tierras.* [2] Printed in Madrid in 1584 by Francisco Sánchez, it features Moya's authorship in the title page and is dedicated to Juan Baptista Gentil, a patron of Pérez de Moya who supported the publication costs of Moya's *Philosophia secreta*. The *Principios de geometria* is a little octavo volume, bound in parchment, with 127 numbered sheets of which the first is missing. It ends with a non-numbered sheet reading: "Printed in Madrid, in the house of Francisco Sanchez. Year one thousand

1 On Pérez de Moya, see [Leal y Leal 1972], [Clavería 1995] and [Valladares Reguero 1997].

2 The book belongs to the Biblioteca Nacional de Lisboa and is catalogued as Res. 6553P. It is referenced in the catalogue *O Livro Científico dos Séculos XV e XVI, Ciências Físico-Matemáticas na Biblioteca Nacional* [Leitão & Martins 2004]. This catalogue was printed following the exhibition *Conta, Peso e Medida: A Ordem Matemática e a Descrição Física do Mundo*, opened to the public in the National Library of Lisbon from 2 December 2004 through 5 March 2005.

and five hundred eighty four". [3] What makes this little book interesting is the fact that apparently no Spanish public library holds a copy of it, nor does it appear in the *Catálogo Colectivo del Patrimonio Bibliográfico Español* (CCPBE) [4], nor is it mentioned in any bio-bibliography of Pérez de Moya examined by us or in general bibliographies—excepted the very recent one edited by V. Navarro et al. [5] Classical sources like [Fernández de Navarrete 1851], [Picatoste Rodriguez 1999], [Domínguez Berrueta 1899], and López Piñero's *Diccionario histórico de la ciencia moderna en España*, as well as the recent and careful articles by [Leal y Leal 1972], [Clavería 1995], and [Valladares Reguero 1997], which have so much contributed to clarify Pérez de Moya's life and social context, contain no reference to Moya's *Principios de geometria*. Not surprisingly, therefore, there is no secondary literature on it. More generally, it is also true that Moya's geometry has scarcely received any attention so far. In what follows, we present a brief description of the *Principios de geometria* introduced by a few considerations about Pérez de Moya's approach to geometry in general.

2. PÉREZ DE MOYA'S GEOMETRY

Pérez de Moya first dealt with geometrical topics in the *Libro quarto* of his *Arithmetica practica y speculatiua* [Pérez de Moya 1562]. In keeping with the general orientation of this work, geometry was presented in three short chapters of a utilitarian character under the title "On the rules of practical geometry useful for measuring estates". [6] Essentially, they contain some results related to land measuring. With little modifications, these topics reappear in the many successive editions of Pérez de Moya's influential *Arithmetica practica y speculatiua*. [7]

The brief extension devoted to geometry in the *Arithmetica practica y speculatiua* should not mislead us as to the general interest that Pérez de

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3 *Impresso en Madrid en casa de Francisco Sanchez. Ano de mil y quinientos y ocheta y quatro.*

4 The on-line Catálogo Colectivo del Patrimonio Bibliográfico Español is found at `http://www.mcu.es/ccpb/index.html`. Consulted on 31 July 2008.

5 [Navarro Brotons et al. 1999]. The book was already referenced in PORBASE, the union catalogue of Portuguese libraries, which can be consulted on-line at `http://opac.porbase.org`. Consulted on 31 July 2008.

6 *Trata algunas reglas de Geometria pratica necessarias para el medir de las heredades.*

7 Keeping account only of editions whose year of printing is known, there are four editions in the 16th century, eleven editions in the 17th, and ten in the 18th (plus the modern, critical 20th-century edition).