

JOURNAL OF THE INTERNATIONAL MAP COLLECTORS' SOCIETY

SUMMER 2016 No.145

ARTICLES

- Spain's leading nineteenth-century cartographer: Francisco Coello
de Portugal y Quesada (1820–1898) 20

Richard Smith

- The business maps of Stephens & Mackintosh: 28
Some background information

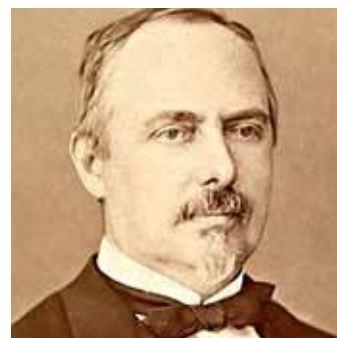
Derek Deadman

- Nansenbushū bankoku shōka no zu: 35

南瞻部洲萬國掌藁之圖 [南瞻部洲万国掌藁之図]

The first Japanese printed map of the Buddhist world

Toshikazu Kaida



REGULAR ITEMS

- A Letter from the Chairman 3

- From the Editor's Desk 5

- New Members 5

- IMCoS Matters 7

- Cartography Calendar 49

- Book Reviews 55

The Curious Map Book, Ashley Baynton-Williams • *The Oxford Map Companion – One Hundred Sources in World History*, Patricia Seed • *Metropolis: Mapping the City*, Jeremy Black • *British Town Maps: A History*, Roger J. P. Kain and Richard R. Oliver • *Dury & Andrews' Map of Hertfordshire, Society and Landscape in the Eighteenth Century*, Andrew Macnair, Anne Rowe and Tom Williamson

- Guidelines for Contributors 63



Copy and other material for future issues should be submitted to:

Editor Ljiljana Ortolja-Baird, Email Ljiljana.editor@gmail.com 14 Hallfield, Quendon, Essex CB11 3XY United Kingdom **Consultant Editor** Valerie Newby **Designer** Catherine French
Advertising Manager Jenny Harvey, 27 Landford Road, Putney, London SW15 1AQ United Kingdom, Tel +44 (0)20 8789 7358, Email jeh@harvey27.demon.co.uk

Please note that acceptance of an article for publication gives IMCoS the right to place it on our website and social media. Articles must not be reproduced without the written consent of the author and the publisher. Instructions for submission can be found on the IMCoS website www.imcos.org/imcos-journal. Whilst every care is taken in compiling this *Journal*, the Society cannot accept any responsibility for the accuracy of the information herein.

ISSN 0956-5728

Front cover
Detail from 'Shumise no zu',
maker unknown, late seventeenth
century. 130.4 x 55.8 cm. Woodcut,
contemporary hand colouring.
Private collection.

SPAIN'S LEADING NINETEENTH-CENTURY CARTOGRAPHER

Francisco Coello de Portugal y Quesada (1820–1898)

Richard Smith

Little known outside Spain, Francisco Coello can nevertheless lay claim to having been one of his nation's leading cartographers, and there is no need for the excuse of anniversaries to describe his contribution. The enormous output and quality of his cartographic and geographic work as a military engineer, a government employee, founder and member of geographic societies and congresses and especially as a private entrepreneur of the map trade is magnified by his continuous struggles in the complicated political environment of nineteenth-century Spain which included three civil wars (1833–40, 1846–9 and 1872–6) and continuous changes of government.

Francisco Coello was born in the city of Jaén in Andalusia into an upper class family with some pretensions to nobility on his mother's side. After receiving a basic education and no doubt influenced strongly by his military father he was enrolled as a cadet in the Army at the age of thirteen. Two years later he was engaged as a second lieutenant in a regiment in Madrid and took advantage of his spare time to study mathematics in order to pass the difficult exams for entry into the Academy for the Corps of Engineers which he achieved in 1836 (Fig. 2).



Fig. 2 Undated portrait of Francisco Coello.

By 1839 Coello had completed his studies and was sent as a lieutenant to the front in Aragon during the first Carlist War where he distinguished himself by organising artillery batteries under enemy fire from Carlist rebel held strongholds and for which he received military decoration. Some of his siege plans still exist and clearly demonstrate his drawing and engineering skills. (Fig. 1)

In 1841 he met Pascual Madoz (1806–1870), a key event in Coello's future. Madoz was not only an important liberal politician and government minister but also a distinguished academic, including interests in geography and statistics. Combining his public responsibilities with his academic leanings he had the ambition to produce a *Diccionario Geográfico, Estadístico e Histórico* (a Spanish nineteenth-century equivalent to the Domesday Book) which would provide a solid basis for the many needed reforms in public administration. Madoz collected the material for his *Diccionario* during a period of fifteen years via an extensive network of over 1,000 fieldwork collaborators and published the results in sixteen volumes between 1845 and 1850.

Spain was still without a scientific national map despite numerous plans and false starts (the first in 1753) and Madoz was eager that his *Diccionario* should include modern cartography. When he was near completing his own work he suggested that Coello might like to undertake this part of his project and the latter happily agreed. As a result, they formed a simple partnership with the objective to fill a cartographic gap that almost 100 years of government had failed to undertake, but this seemingly naïve project was to achieve some remarkable successes, at least cartographically. The project, however, was unable to produce sufficient revenue to cover costs and was kept going only through occasional government subsidies.

They decided that the maps would not form an integral part of the *Diccionario* but be published as individual sheets for each of the new 45 provinces that had been created in 1833 to replace the previous regional administrative structure, and also include a

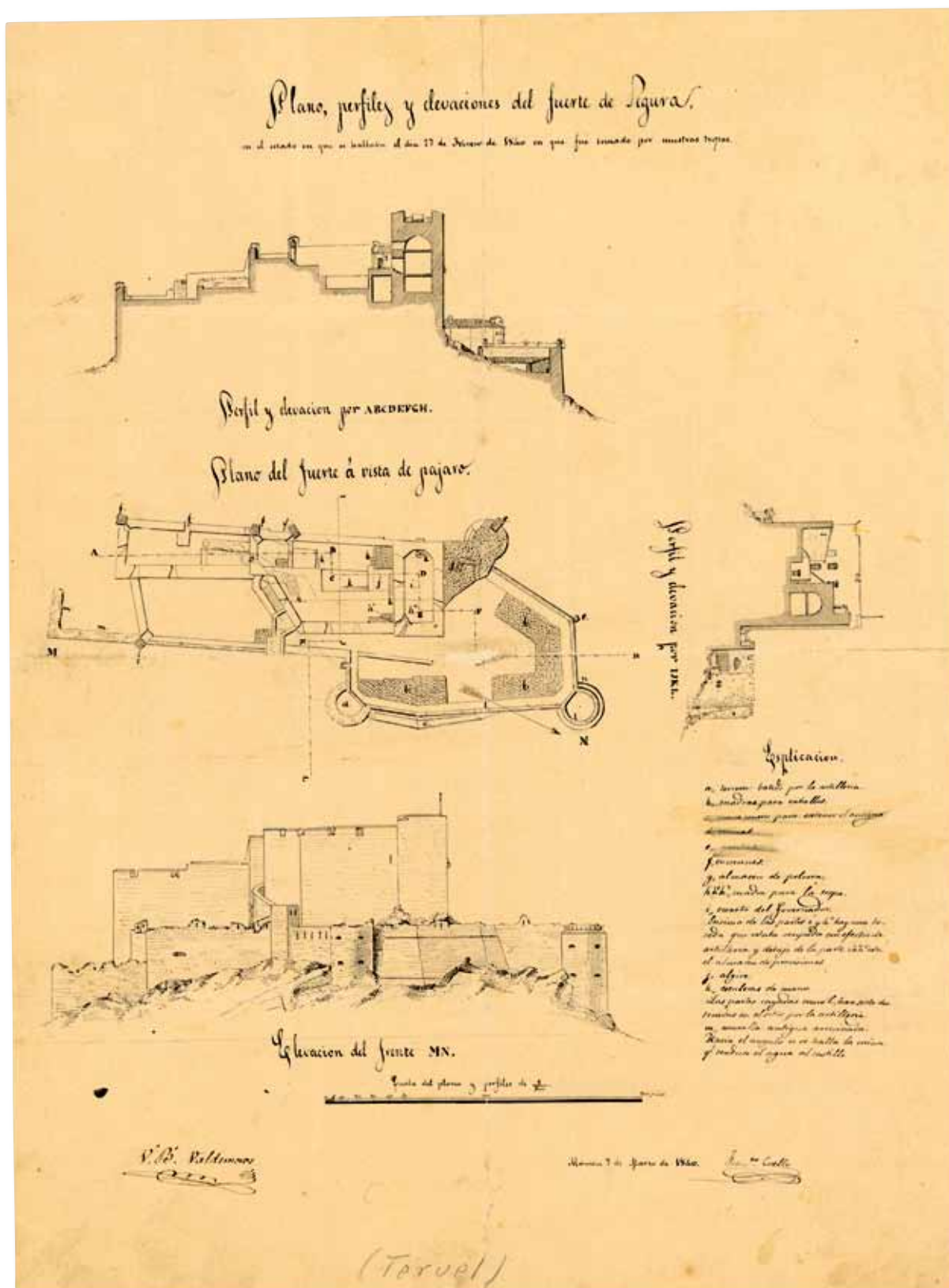


Fig. 1 Coello's manuscript plans for the bombardment and capture of the fort of Segura on the Aragon front by Royalist troops in 1840. Courtesy Spanish Ministry of Defence: *Archivo Cartográfico y de Estudios Geográficos del Centro Geográfico del Ejército*; Aragón 247.

map of each of the few remaining colonies under the title of *Atlas de España y sus Posesiones de Ultramar* (*Atlas of Spain and its Overseas Possessions*). Coello took leave of absence from the Corps of Engineers and converted the upper rooms of his large home in the centre of Madrid into a drawing office, where he employed eight assistant surveyors and draughtsmen. The engraving and printing of the maps was undertaken in nearby establishments. The maps were produced from a synthesis of their own fieldwork including some triangulation and existing cartographic material. Sources of the latter included the military depots of the Army and Navy in Madrid plus some 80 collaborating 'correspondents' throughout the country who supplied whatever local material they could find such as engineering plans for new roads and bridges. When a conservative Government came to power in 1853 liberal Coello was forbidden access to the depot and the frustrated cartographer took himself off to Paris where he was given free access and copies of much valuable French cartography produced during and after the Peninsular War (1808–14). He was also able to acquire a large part of the important collection of Felipe Báuza (1764–1834) the former Director of the Spanish Hydrographic Office who had been exiled in London from 1823 until his death.

The first provincial map (Madrid) was published in 1847 and new ones came out sporadically until 1875, by which time thirty had been issued and a further twelve were in various stages of preparation. All the planned 'overseas' maps of Cuba, Puerto Rico, the Philippines, possessions in Africa and possessions in Oceania (Marianas, Palaos and Carolinas Islands), had been published between 1849 and 1853. In 1875 however, the first sheet of the Government's new geodesic National Map was produced and the Government saw no need to continue the subsidies that they were making to Coello and Madoz. Although the *Atlas* sold well – usually 2,000 copies of each province and in many cases with reprints – it was impossible to continue without outside financial support.

Although this project could not pretend to achieve the same quality as the new National Map Coello's maps were far superior to those of Tomás López produced between 1756 and 1802. López was the leading, if not virtually the only, private map producer in Spain during the eighteenth century and, despite many errors, his provincial map series was still regarded

as the maximum expression of national cartography in the first half of the following century. The description and illustrations opposite and overleaf (Figs. 3 and 4) are taken from Coello's 1849 map of Segovia as typical of the general layout of all the provincial sheets:

Title and authorship: In this case 'Segovia' followed by the names of Coello and Madoz. References to the *Diccionario* and the *Atlas* are given at the top of the sheet above the neat lines.

The topographic map of the province at a scale of 1:200,000.

Plans of the provincial capital (1:10,000) and its surrounding area (1:100,000) and other important locations (here, Santa Maria de la Real de Nieva and Sepulveda, again at 1:100,000).

A long description of the province with detailed statistics on population, municipalities, judicial areas and electoral roll, education, industry, commerce and character of the inhabitants.

Scale bars (leagues of various definitions and marine miles), legend and details of longitude and latitude.

Advertencia [Notice]: a very welcome detail on the sources used, including the names of 'collaborators'.

The main map is in black and white but hand colour has been used for provincial, judicial and ecclesiastic boundaries as well as the provincial capital and the urban centres of the judicial areas. In the map of Segovia the legend contains nineteen symbols including, for example, castles, churches, watermills, telegraph positions and astronomic and triangulation points. Coello shows three different types of road communication and also three sizes of river plus canals. Great attention is paid to forms of crossing main rivers: four types of bridge (suspended, wood, stone, iron), ferries and fords are identified. Not surprisingly the choice of symbol representation is the same as was currently applied in the Corps of Engineers which, in its turn, was largely derived from French military topography.

Budget restrictions didn't allow for the calculation of quantified contours, but relief is well shown through figurative contours based on simple observation and a series of spot heights in Castilian feet (1 foot = 0.2786 m) on the province's south-eastern border along the Guadarrama sierra crest. Coello's estimate for Peñalara, the main height in the sierra, is 2,532 metres (datum unstated) compared to 2,428 on today's maps (datum mean tide, Alicante). Land use is shown for arable land, market



Fig. 4 Detail from the 'Provincial map of Segovia' showing part of the Sierra de Guadarrama. Note the figurative contours. Author's collection.

gardens, olive and orchard groves, vineyards, pine forests (especially important in Segovia commercially) and woodland.

Although the *Atlas* lacked the detail of the new National Map Survey at 1:50,000, Coello's provincial maps represented not only a rigorous cartographic vision but also benefited from Madoz's rich source of socio-economic data which made them a key reference for national and local government planners as well as many other industries and professions. The decision to suspend the government financing of the project was understandable in theory, however, the practical restrictions on the progress of the National Survey, which took 90 years to complete, show it to have been a very bad one.

Some of the overseas maps are equally impressive visually as can be appreciated in the illustration below of that of Cuba (Fig. 5). These maps, however, unlike the provincial series, were based purely on the office synthesis of existing material. Although Coello applied

the same rigorous approach to the task he was seriously hampered by the lack of sufficient good material, except for the area around the capital cities and the coastline for which he had available the excellent charts of the Spanish Hydrographic Office. These new maps were important for Government diplomatic and military planning at this time as the sovereignty of most of their overseas possessions were under threat from imperial rivals.

Although Coello's *Atlas* is the focus of attention for map collectors it was far from being his only cartographic activity and even arguably not his most important contribution. It is not possible in this article to enter into detail on his other activities but some mention must be made to them in order to give a complete picture of his stature. These activities encompass his military maps, Government service, contribution to thematic maps and his role in national and international geographical societies and institutions.