

Sundials in the Antilles

By Sebastian Robiou-Lamarche

In 1521 Ponce de Leon established San Juan as the capital of the New World empire. Gold and treasure from Mexico made its way to Spain by way of San Juan, enticing the English and Dutch to attack the city. One severe attack was conducted by Sir Francis Drake in 1595, and for decades after, San Juan was a target of opportunity.

Almost as soon as San Juan was established, the Spanish began to construct fortresses. La Fortaleza, authorized by Charles I as a defense against raids by Carib Indians, was completed in 1540. Unfortunately the fortress proved to be of little value against either the English or the Dutch, and instead became the official residence of the Spanish governors. It was twice occupied by the invaders: In 1598 by the Earl of Cumberland and in 1625 by the Dutch General Boudoin Hendricks. Nevertheless, La Fortaleza has remained the oldest Executive Mansion still in use in the New World. [1]

Around 1645, under the rule of Fernando de la Riva y Agüero, a sundial was installed near the austral tower of La Fortaleza, which by that date was firmly set as the governor's official residence. [2] The sundial was constructed on four faces of a large rock cube set on a column. This four direct vertical pillar dial was crowned with a weather vane, as shown in the line drawing of Figure 1:



Figure 1 Pillar Dial at La Fortaleza, San Juan. Circa 1645

1 Doris M. Vasquez, "Spain in Puerto Rico – The Early Settlements", Yale-New Haven Teachers Institute, 1986, <http://www.cis.yale.edu/ynhti/curriculum/units/1986/2/86.02.01.x.html>

2 Adolfo de Hostos, *Historia de San Juan, ciudad murada*, Instituto de Cultura Puertorriquena, p. 225, San Juan 1983

No documentary evidence has been found for the origin of La Fortaleza dial; it probably was not locally constructed, but came from Spain. Westward Spanish ships needed lots of ballast, and this would have made an interesting cargo. It would be interesting to match the rock of the dial to Spanish quarries to see if this hypothesis is correct.

However, there can be no doubt that this sundial was the first to be erected in the Antilles and was probably the second sundial of the New World. [3]

Spanish sundials abounded in other colonial cities. Santo Domingo, founded in 1496 by Christopher Columbus was established as the first Spanish colony in the New World. Here is Alcazar de Colon, the Governor's Palace of Columbus.

During the administration of Francisco Rubio y Pernaranda, in 1753 a massive cube with vertical dials was erected on a tall pillar in front of the Governor's Palace, today called the Museo de Casas Reales in the historic Colonial Zone of Santo Domingo. By the end of the century, probably in 1787, an equatorial dial was mounted on top of the pillar dial, but was broken off by a hurricane. In 1992, as part of the Fifth Centennial Discovery activities, the equatorial dial was reinstalled. A recent photograph taken by the author is shown in Figure 2:



**Figure 2 Santo Domingo Pillar Sundial,
Erected ~1753 and Restored 1992**

3 Mayall attributes the first sundial in the New World to Salem, Massachusetts in 1630. Newton and Margaret Mayall, Sundials: How to Know, Use and Make Them, Hale, Cushman & Flint, p. 25, Boston 1938.

As with the dial at La Fortaleza, there are no historic documents about the exact origin of the Santo Domingo pillar dial. However, it is documented that the dial was used throughout the Spanish colonial years as a time standard and used to set the time of mechanical clocks. [4]

In 1795 a vertical pillar sundial was installed in Banica, a Dominican borderline town near Haiti. [5] Figure 3 is a photograph from Palm's book, clearly showing the dial's date "1795" in Roman numerals.



Figure 3 Pillar Dial in Bianca, Dominican Republic. Erected 1795.

These three sundials are in very good condition and have been posted on the NASS dial registry (www.sundials.org). The author continues his research on these and other New World colonial sundials erected in the Antilles.

4 Sebastian Robiou-Lamarche, "El reloj de sol de Casas Reales: su historia, construccion y uso", *Listin Diario*, July 22 and 23, 1992 pp.6-7 Santo Domingo.

5 Erwin W. Palm, *Los Monumentos Arquitectonicos de la Espanola*, Universidad de Santo Domingo, Santo Domingo, 1955.