

A Sighting in St. Augustine, Florida, Revisited

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In the June, 2001 issue of *The Compendium*, there is a brief sighting-report that I wrote about the sundial on the Basilica of the oldest Catholic parish in the U.S., located in St. Augustine, Florida, which is at $29^{\circ} 53'N$, $81^{\circ}18'W$ in the northeast corner of the state. Noted in the report is that the dial showed a large time discrepancy. I recently had an opportunity to revisit the Basilica, observing again the discrepancy. This time, I took a more active step and wrote a letter directly to V. Galeone, Bishop of the Diocese of St. Augustine. Here is a portion of my letter, including a picture of the dial.

“[The following photograph of the sundial]... was taken on November 27, 2005, at about 12:30 PM EST with the sundial indicating about 3:15. The approximate three-hour discrepancy remains evident. After thinking about this some more, I may now have an explanation for the discrepancy and how to remove it. If I am correct, the repair would not be at all difficult.

Because of the apparent symmetry of the sundial about a vertical line passing through both XII and the base of the shadow-casting rod where it enters the wall, the designer of the sundial must have assumed (and may have known) that the wall faces directly South, so I will make that assumption too; it would not be very difficult to check the validity of this assumption. The rod is bent to an angle that should make it parallel to the Earth’s rotation axis. This angle [as measured from the horizontal] equals the latitude of the Basilica, which is $29^{\circ} 53'$ North, as noted on the dial itself. If the rod is bent correctly, the discrepancy occurs because the rod has been rotated, about the axis where it enters the wall, from its original position. This might have happened if the end of the rod was struck by something in the past. It would not be difficult for this to have happened if the mounting of the rod in the supporting wall is not very secure. But then, the correction would not be too difficult either. The rod would need simply to be rotated back to its original, correct position. My approach would be to choose some convenient time and then rotate the rod so its shadow indicates that time. For example, at 12:00 noon, the shadow should pass through XII. This is not quite correct since it does not account for the longitude of the Basilica and the so-called “equation-of-time,” but the error resulting from neglecting these effects is small compared to the present discrepancy. Once the rod is rotated into its correct position, a small amount of some adhesive, such as an epoxy, applied at the wall connection should hold it in place thereafter. A first step in an effort to correct the sundial would be to test whether or not the rod can be rotated easily. If not, more thought for how to proceed will be needed.”



I add an observation here, made by my friend A. Lohr of Lighthouse Pt., Florida, after my letter was written – a hurricane in the vicinity of St. Augustine might reasonably have resulted in a heavy piece of airborne debris striking the gnomon, knocking it out of alignment. Hurricanes are common in Florida, and this is a conjecture made plausible by all the havoc caused in the 2005 hurricane season.

I have received an interesting reply to my letter and will share the relevant portions. It was sent to me by J. Garofalo, Parish Coordinator, who was asked by the Bishop to respond to my letter.

“.... To be honest with you, I was unaware of the time keeping discrepancy and welcome

your advice on correcting the problem.... Given your interest in sundials, I thought you might enjoy some history of our sundial that I recently discovered. It seems that in approximately 1894, Reverend Clarence E. Woodman, of the Paulist Order in New York donated the sundial. It is a copy of one at Oxford University.”

After receiving the letter, I made two internet queries. The first was for dates after 1894 when hurricanes hit in the vicinity of St. Augustine. One occurred in Sept., 1964, with winds in excess of 110 mph and another in Oct., 1968, with 80 mph winds. One of these hurricanes may have caused the displacement of the gnomon, but there is no way to know for certain. A second internet search has so far not yielded a picture of an Oxford University sundial that is similar to the one in St. Augustine.

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