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**Barbara Ashton\*** ([bashton@bmcc.cuny.edu](mailto:bashton@bmcc.cuny.edu)), Borough of Manhattan Community College, 199 Chambers Street, New York, NY 10007. *Meridian Lines in Cathedrals*.

Early theologians determined that Easter, the day of Jesus Christ's resurrection, should be celebrated on the Sunday after the full moon after the vernal equinox. While it was simple to determine when the vernal equinox occurred in a given year, this determination would not give church authorities enough time to prepare for the special day. One of the most ingenious ways developed to help with this problem was to lay out a "meridian line" from south to north in a dark building with a hole in the roof and observe how long the sun's noon image took to return to the same spot on the line. Cathedrals were natural places to do this. The mathematics involved in determining the correct positioning of the hole and proper orientation of the line will be discussed in this presentation. (Received September 23, 2005)