



New World Colonial Churches that Function as Astronomical Instruments



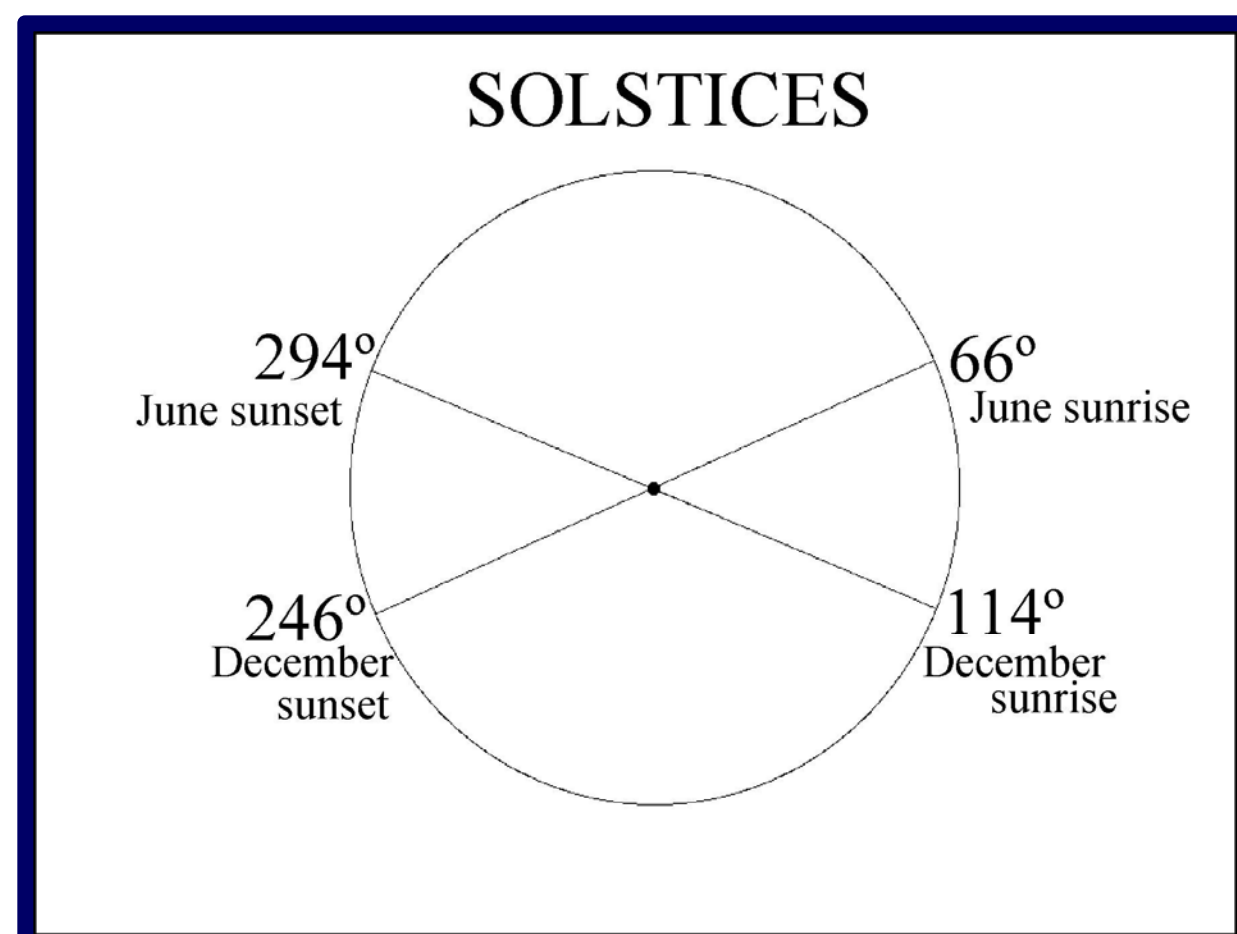
Robert A. Benfer—University of Missouri

66th Annual Meeting of the Society for American Archaeology, New Orleans

Abbreviations

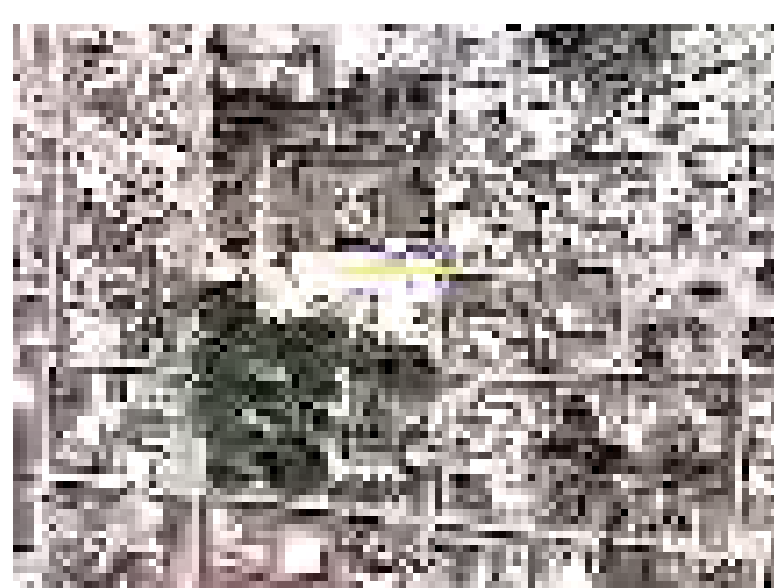
- JSSR: June Solstice Sunrise, 66°
- JSSS: June Solstice Sunset, 294°
- DSSR: December Solstice Sunrise, 114°
- DSSS: December Solstice Sunse, 294°
- SCLS: San Cristóbal de las Casas, Chiapas

ORIENTATIONS OF SOLSTICES, FLAT HORIZON



EQUINOCTIAL ORIENTATION

Sto. Domingo, SCLC, 90°



MU main building, 90°



INTERCARDINAL DIRECTION ~45°

San Juan de Arco, Chiapas 45°43'



Aquespala, Chiapas 40°28'



Las Margaritas, Chiapas 48°24'



San Joaquín, Chiapas 1914 AD, 45°



CROSS-QUARTER DAY (FEB. 7)

Pulpit, Sto. Domingo, SCLC



JUNE SOLSTICE SUNRISE, 66°

Fields near Teopisca, Chiapas 66°



Casma, Perú, 65°25', JSSS 1500 AD 65°36'



San Agustín, Teopisca, Chiapas 66°



Tzimol, Chiapas, 67°

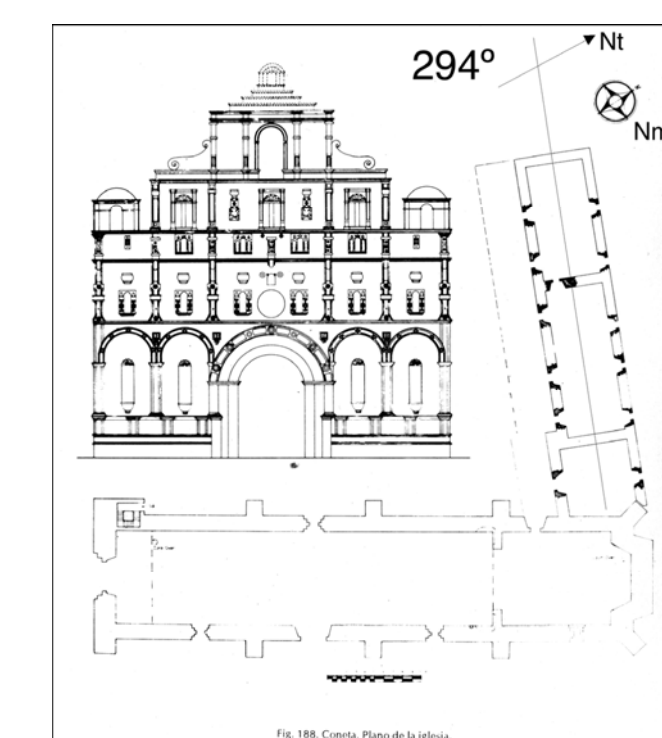
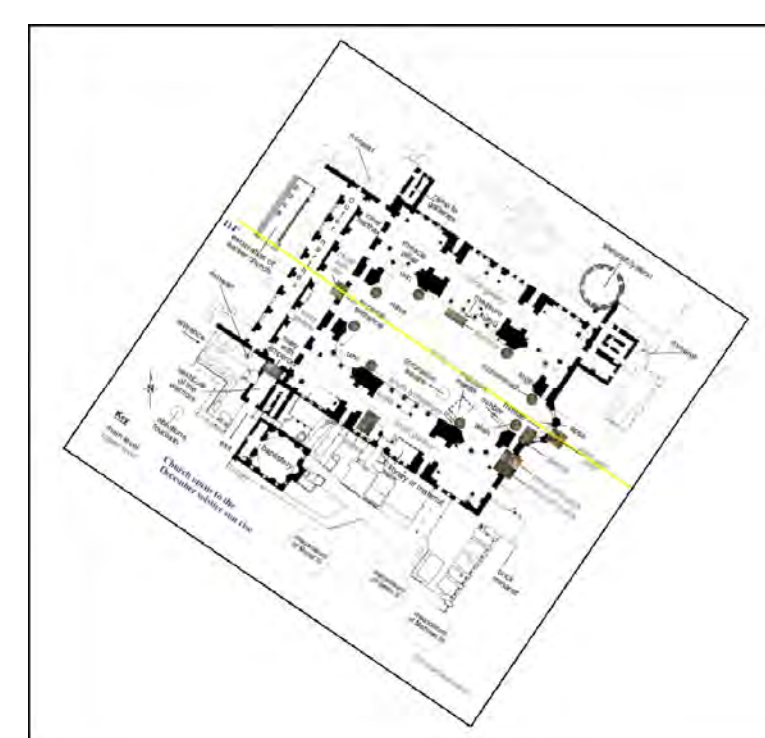


La Trinitaria, Chiapas, 48°



DECEMBER SOLSTICE SUNRISE (114°), JUNE SUNSET (294°), Turkey, U.S.A, Mexico, Perú

Hagia Sophia, Turkey 400 AD, JSSR Sto. Tomás, Guate. San Juan, San Antonio, TX Coneta, Chiapas 114°/294° Zinacantan, Chiapas 114°



Dome lighted door, La Caridad, SCLS, JSSR



Tojolabal Maya fields 114°



Ixtapa, Chiapas 112°

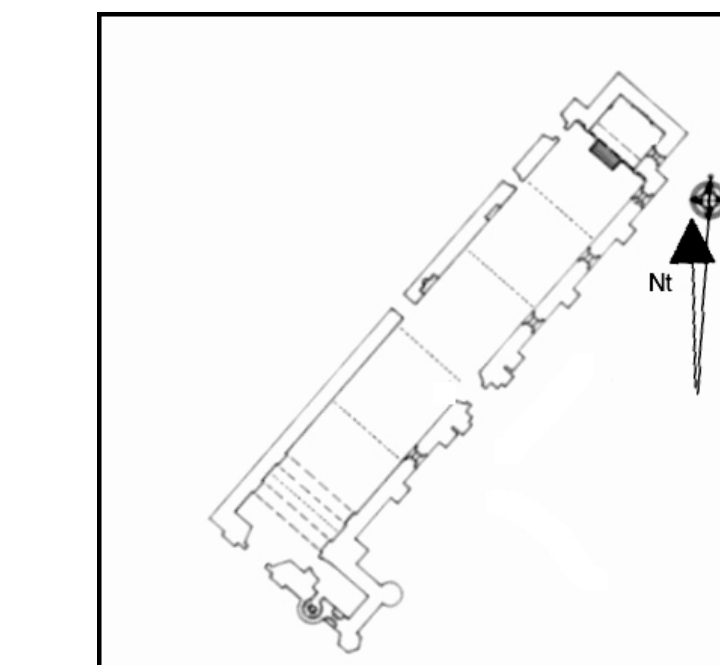


Arequipa, Perú 114°



DECLINATION JSSS 66°; OFF 7-10°?

Tecpatán, Chiapas, 56°



Coneta, Chiapas, 59°30'



LIGHT BEAMS TRACE MERIDIAN ON EQUINOX (90°/270°)

Sto. Domingo, SCLC, Dec. 16, dome light south side aisle



Sunrise, La Caridad, SCLC, Sept. 21



La Caridad, SCLC, Sept. 21, Meridian beam

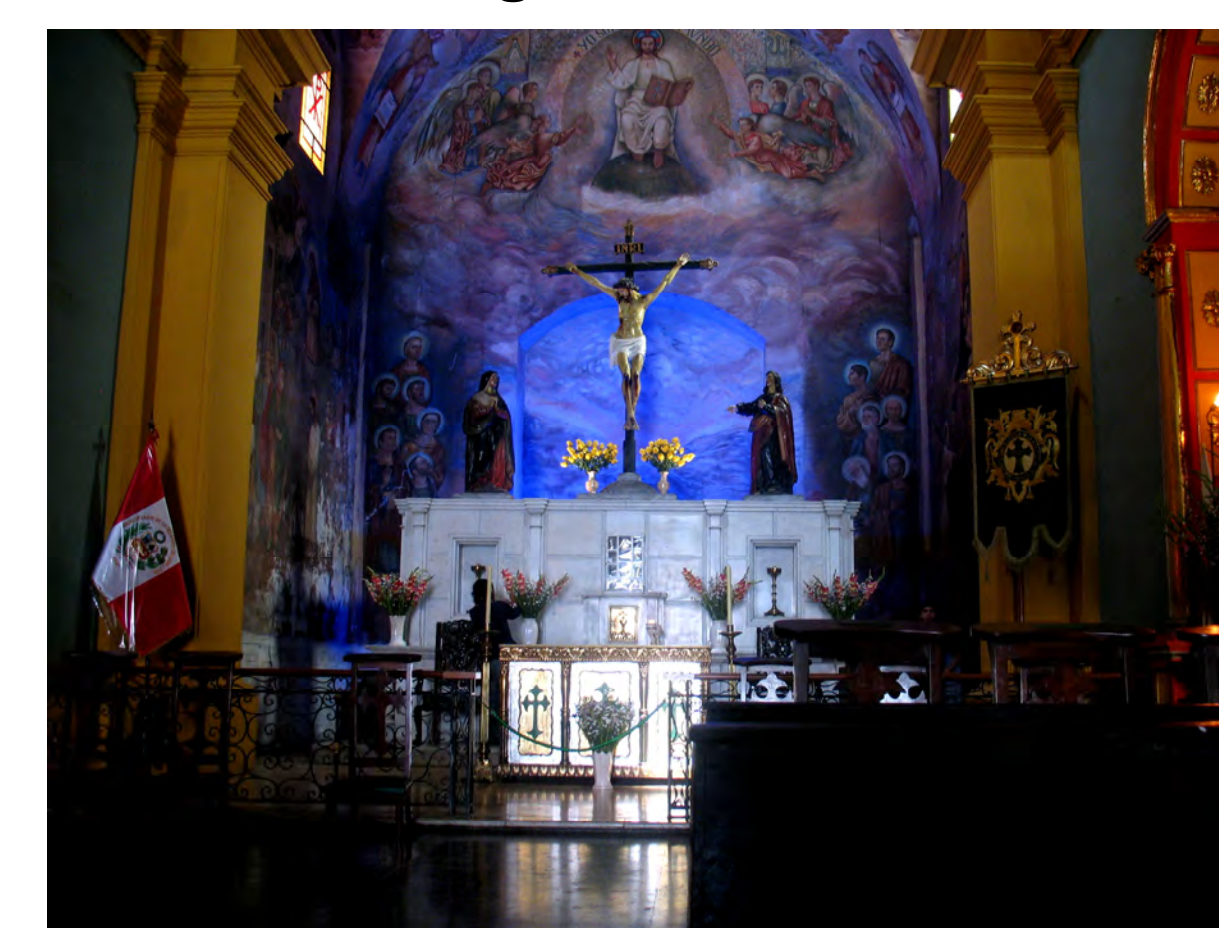


Sto. Domingo, Dec. 21, meridian beam



LIMA, PERU, DECEMBER SOLSTICE SUNRISE

Vera Cruz altar light from off-center doors



Vera Cruz light from dome window



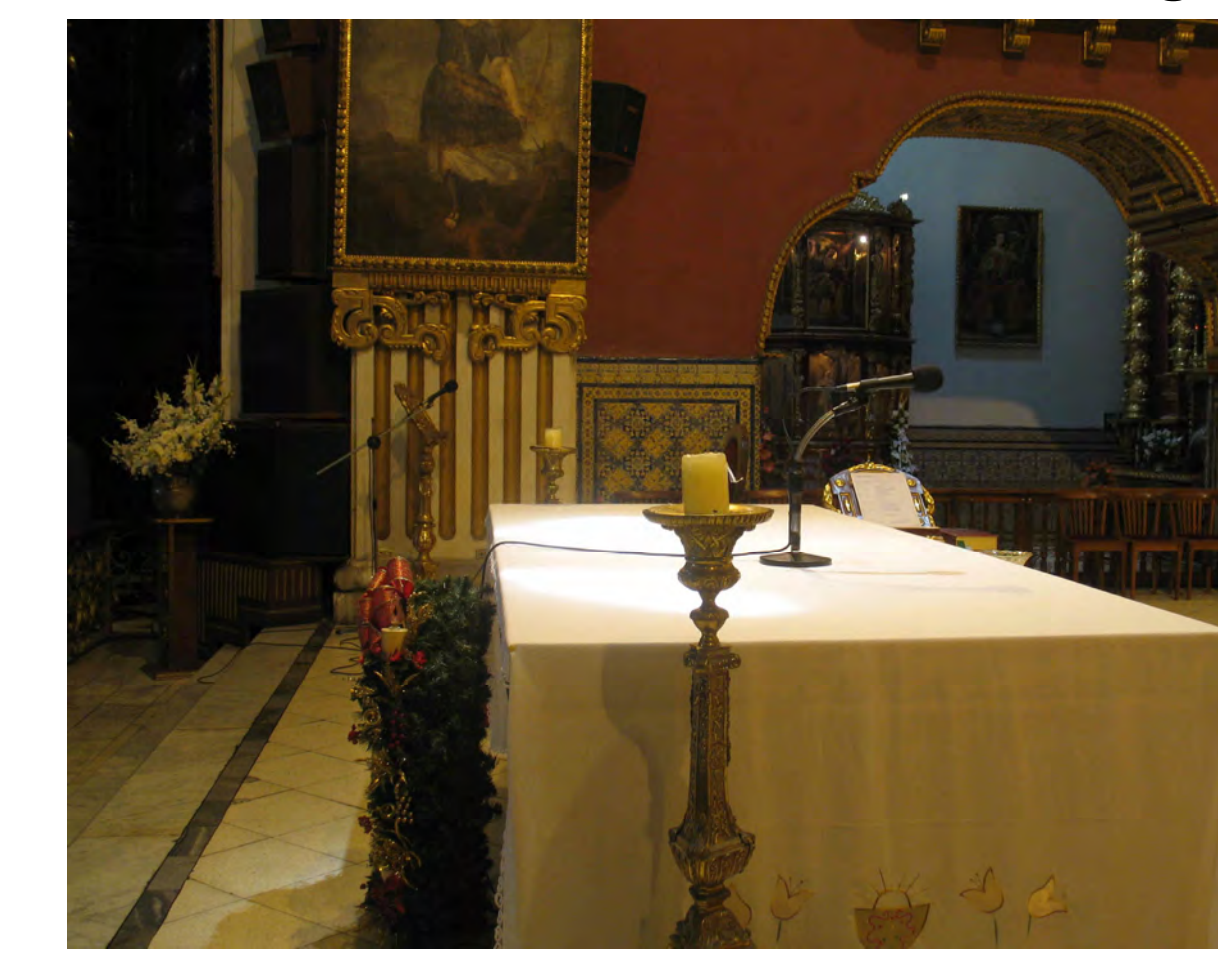
San Pedro, light behind altar, Dec. 16



San Pedro, beams from dome windows



San Pedro, altar, beams coalescing



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