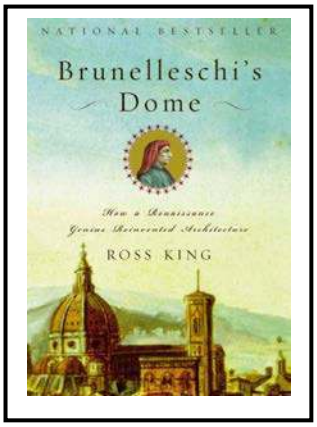
Book Review

May 2015

Brunelleschi's Dome,
How a Renaissance Genius Reinvented Architecture

Ross King, Bloomsbury USA, New York, 194 pages, 2000.



Summary

Ross King has given us a highly readable and fascinating story of an extraordinary fellow who produced an enduring work that all thought impossible. The story has two messages:

- First, it illustrates the power of one person's determination to create something great. Not only was the engineering invented, but so were tools and machines necessary to move great weights to staggering heights.
- Second, it serves an object lesson for the importance of properly locating, leveraging and executing grand civic projects.

Brunelleschi's plan was revolutionary. Until that time, all domes used "centering" to solve the structural problem of supporting the dome until the self-supporting keystones were inserted. Centering a dome of 70 million pounds over 100 meters in height posed unique problems that conventional techniques could not solve. Brunelleschi's solution eliminated centering as a technique and used a series of vertical and horizontal arches and rings to hold the pieces of the dome in place, unsupported from below, during construction.

Until 1881, Brunelleschi's dome had the longest span of any dome in the world. Mr. King's recounting of the process has enough detail to explain the method without overburdening one's math skills. A riveting, page turner.

The story is about Filippo Brunelleschi's ingenuity and inventiveness. The story also reflects the town leaders desperate quest for a magnificent cathedral. The construction problems of today were present in the 15th century with tight budgets, labor shortages, competing design teams and local politics. But in the end, the people who mattered insisted on, and got, quality that has lasted. Art was honored; enduring quality was valued.

Implications for the American City

Though an extreme case, the Santa Maria del Fiore Cathedral demonstrates the power of a community-based building to capture the interest of the residents, provide terrific economic impact and create an image for the town that makes it immediately identifiable around the globe. The story is also about a man driven to prove his idea in a skeptical world.

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The World's Largest Domes by Span

1.	**Dome of Santa Maria del Fiore, Florence**	Built: 1420-1436	Span: 45 Meters
2.	**Pantheon, Rome**	Built: 27 B.C. -128 A.D.	Span: 44 Meters
3.	**Saint Peter's Cathedral Dome, Rome**	Built: 1546-1591	Span: 41.6 Meters
4.	**Hagia Sophia Museum, Constantinople**	Built: 360-537	Span: 31.87 Meters
5.	**Saint Paul's Cathedral, London**	Built: 1685-1710	Span: 30.7 Meters
6.	**U.S. Capitol Dome, Washington**	Built: 1822-1823	Span: 29.3 Meters

Source: Wikipedia, wckplanning.com

YouTube: In addition to the reviews cited below, check out:

"Filippo Brunelleschi, the most elusive and secretive genius, embarked on technically impossible task in year 1418. It kicked off the European Renaissance and rest is history."
Published on Feb 15, 2014
https://www.youtube.com/watch?v=-fL04WjCZMk

Published Reviews

Brunelleschi's Dome

"How did a hot-tempered goldsmith with no formal architectural training create the most miraculous edifice of the Renaissance?"
http://ngm.nationalgeographic.com/2014/02/il-duomo/mueller-text

The Kahn Institute's take:

https://www.khanacademy.org/humanities/renaissance-reformation/early-renaissance1/sculpture-architecture-florence/v/brunelleschi-dome-of-the-cathedral-of-florence-1420-36

The PBS Series: "Few men have left a legacy as monumental as Filippo Brunelleschi. He was the first modern engineer and a problem-solver with unorthodox methods."
http://www.pbs.org/empires/medici/renaissance/brunelleschi.html

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