

Infallibility & Deconfliction - Part 1 by Rolf Witzsche

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Infallibility & Deconfliction - Building an Infallible Civilization

What is a Renaissance?

A Rolf A. F. Witzsche exploration production.

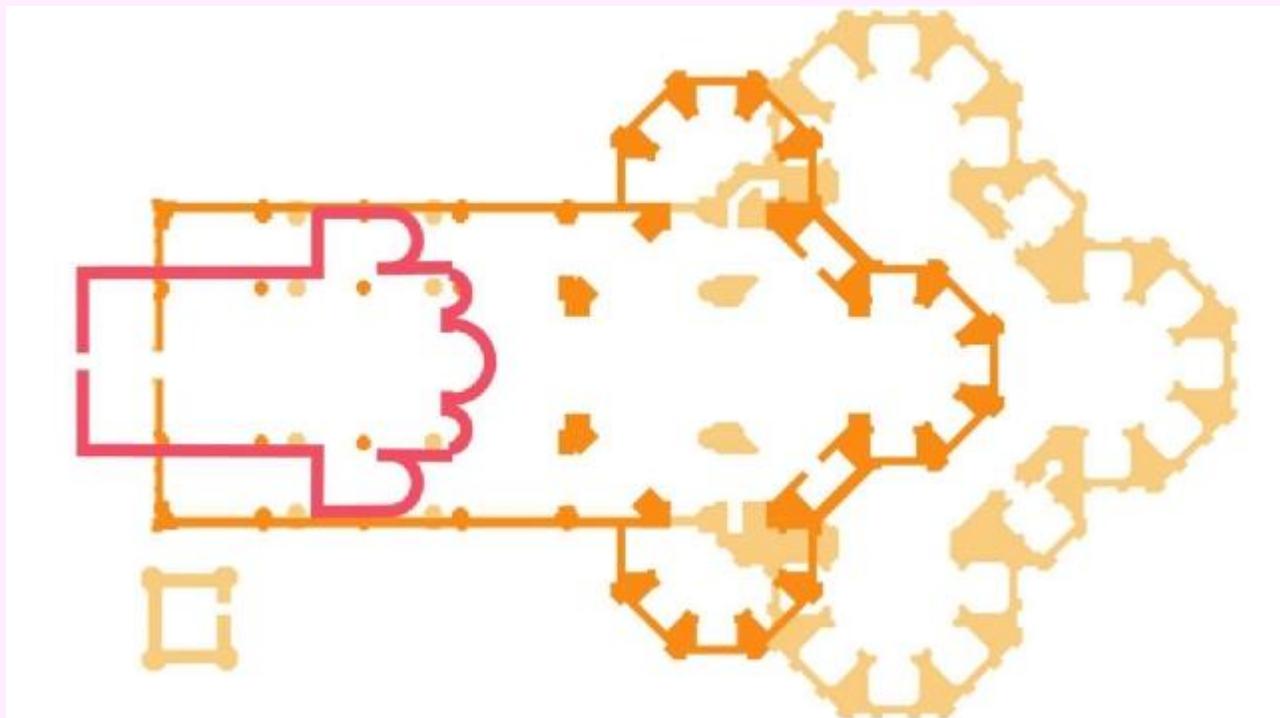
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(A birthday gift)



The building of an infallible structure of civilization may appear as impossible today as it may have appeared in historic time to build a dome over the wide open space of the giant cathedral that was being erected in the 14th century in the city of Florence in Italy.



The plan for the cathedral had become evermore ambitious throughout the planning state. The hall became longer, the arena for the altar became larger and wider, and to build a dome over the twice enlarged space for the altar may have seemed physically impossible at the time.



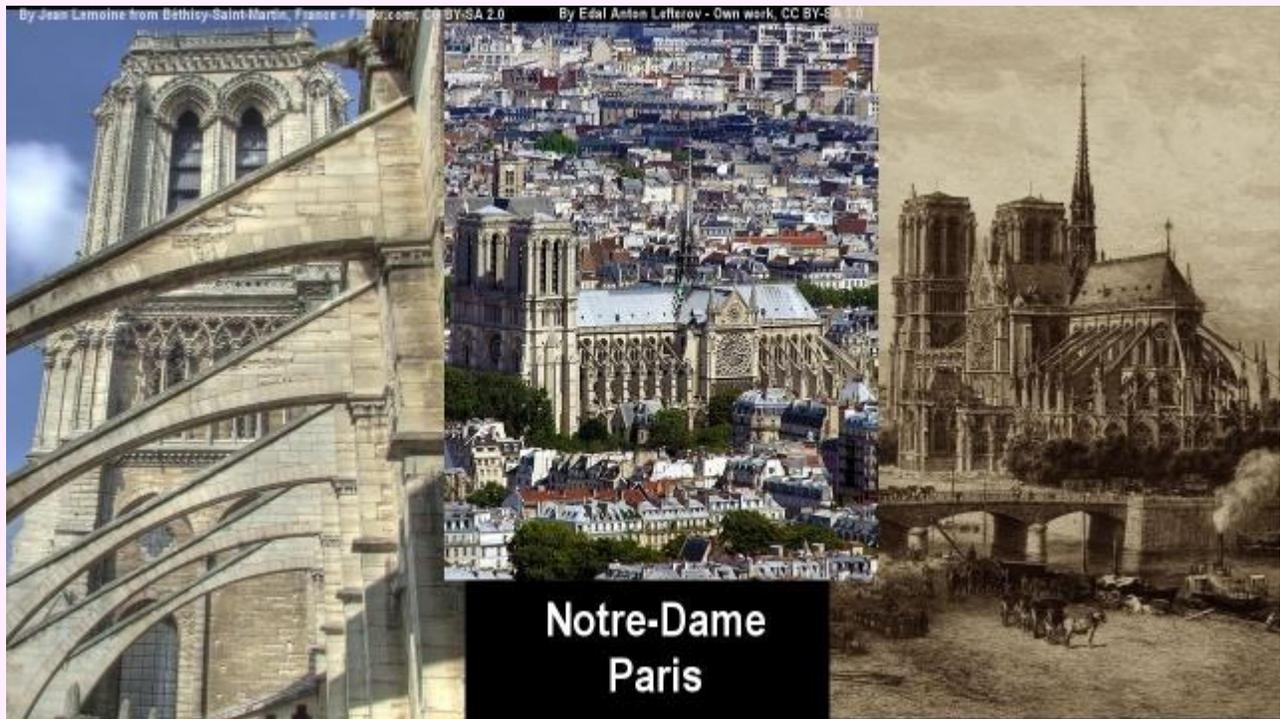
The Dome, as if completed, in a fresco by Andrea di Bonaiuto, painted in the 1360s, 60 years before the start of construction

The Dome, as if completed,
in a fresco by Andrea di Bonaiuto,
painted in the 1360s, 60 years
before the start of construction

The construction of the cathedral itself began in 1296. However, at the beginning of the 15th Century, after a hundred years of building, the church still lacked its dome.

The reason appears to have been that the principle that would enable the specified

dome to be constructed, hadn't been discovered at the time. The design called for a larger dome than had ever been built anywhere in the world.



In addition the dome was specified to be built without external buttresses that are typically used in gothic designs to prevent the walls of the domed structures from spreading, as in the design of Notre Dame.

Nevertheless it became imperative for the church in Florence, regardless of the challenges, that its dome be built as specified - that it was built elegantly, and without the flying buttresses that were deemed ugly.

Filippo Brunelleschi



one of the most influential architects and engineers in history
and one of the founding fathers of the Renaissance

Art by Aislesalvotimeingh - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=41164235>

So it was that in 1418 - 124 years into the construction period a design competition was announced for constructing the required dome as it had been specified, but in a manner that could actually be built.

Filippo Brunelleschi won the commission. He is credited to have been one of the most influential architects and engineers in history, and one of the founding fathers of the Renaissance itself,.

It appears he had a miracle to perform. History records that he lived up to his promise. But was it a miracle?

The Santa Maria del Fiore cathedral in Florence



with the largest brick dome in the world

No it wasn't a miracle that he succeeded.

He may have looked at the conflict that had been built into the challenge and discovered a principle that he could apply to solve the problem. With the discovery made, he could not only build the dome with confidence that could not be built otherwise, he also built it in a manner that rendered it inherently infallible. It became infallible by the principles applied.

The construction of the dome was started 2 years later, and after 16 years of building it, the project was completed. The dome still stands. It stood for 581 years to date, weathering storms, sun, rain, and earthquakes, and it remains to be the largest dome of its type in the world.

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the principle enabled an infallible structure to be created
Can this deconfliction create an infallible civilization?

A conflict with reality was overcome with a principle.

The principle enabled an infallible structure to be created.

Can this deconfliction also create an infallible civilization?

What started out as a conflict with reality was overcome with a principles by which the structure became infallible. Can this process of deconfliction be applied to creating an infallible civilization

Part I

The Infallibility Principle



The infallible design of the dome of the Florence Cathedral

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Part 1 - The Infallibility Principle

The infallible design of the dome of the Florence Cathedral

How does one build an infallible structure?

by understanding and utilizing efficient universal principles

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By understanding and utilizing efficient universal principles.



Brunelleschi's Dome

An octagonal dome higher and wider than any that had ever been built, with no external buttresses allowed to keep the dome from spreading and falling under its own weight. And it needed to be built without scaffolding, while the church remained in use.

To solve the problem Filippo Brunelleschi engineered the dome with a catenary arch made of light weight bricks. He solved the spreading with internal stone chains, serving as barrel hoops, embedded within the inner dome.

When it was completed in 1436, it was the largest dome in the world, and remains the largest brick dome to date. It was built without scaffolding, from a platform supported by inner stone ribs that had notches cut in them.

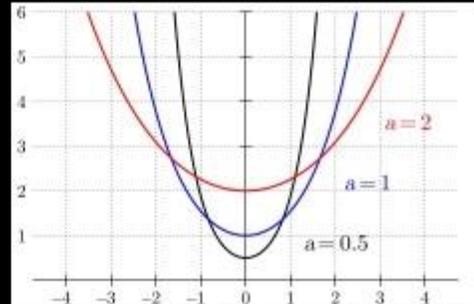
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One of the numerous problems that Brunelleschi faced, was that the giant dome needed to be built without scaffolding for its construction, so that the cathedral could remain in use during the construction period. He solved the problem ingeniously. The dome was built from platforms supported by concealed stone ribs that had notches cut in them.

To solve the difficult structural problem, Filippo Brunelleschi engineered the dome with a catenary arch.



The catenary is the curve that a hanging chain assumes



The catenary is the curve that a hanging chain assumes by the effect of gravity and tension. It is affected by the length of the chain relative to the distance between its anchor points, but the shape will always be unique, reflecting the catenary principle. Brunelleschi turned the catenary shape upside down into an arch. Here the same natural gravity to stress relationship applies in an inverse manner, which creates thereby a stable structure that is inherently infallible by the principle involved. Large archways can be constructed by this principle. Brunelleschi utilized the principle for constructing the the dome for the cathedral. He may have been the first to pioneer this principle. And to prove his confidence in the principle, he constructed the dome out of building bricks.

Only one problem remained after that - the spreading problem. When a chain hangs, each link is pulled towards the center. When this is inversed, each brick is pushed away from the center. Brunelleschi solved this spreading problem by building an inner dome and surrounding it with several stone chains that serve like barrel hoops, which he embedded into the wall of it. With these two principles in place, the dome was designed to be infallible.



Vasari's fresco begun in 1568,
and completed by Federico Zuccari in 1579.

by Livioandronico2013

When Brunelleschi presented his revolutionary solution to the masters of the church, he may have been asked if what he proposed is really possible. Is there any chance that it will fail?

He would likely have answered confidently, that once one understands the principles involved, and adheres to the principles, the structure cannot possibly fail. It is infallible by its design. Failure is impossible then, when the principles are infallible, as principles are.



The cathedral dominates the landscape of the city as if it was built on a hill. But this isn't the case. It has that effect, because the structure is extremely large. It dwarves its surroundings. It stands 376 feet tall, which makes it 78% as tall as the Great Giza Pyramid in Egypt. That's why it towers above everything.

While the Golden Renaissance itself has failed over time, that the cathedral had been a part of and served as the seat for it, such as by hosting the Council of Florence in 1439, the renaissance dome, however, has not failed.

The construction challenge for creating an infallible dome was evidently far less complex than the challenge to create an infallible civilization. Nevertheless the construction of the dome serves as a foundation for it, in principle.

Human society has stood tall many times in history and in different lands, and has reached to great heights in building its civilization. However, the created structure of civilization have all collapsed in various ways at various times for the lack of some principle that has been overlooked in the building process.

These deep failures, of course, are not inherent in the nature of our humanity, but come to light merely as opportunities not fully realized towards achieving the

seemingly impossible.

Thus, the grand achievements, though they have failed over time, stand as invitations to society to advance its discoveries, its scientific recognitions, and its commitments to apply the discovered principles more fully and more extensively. On this path amazing progress has already begun.



Humanity is out of the starting gate on this front. The repeated failures in the past no longer imply that it is impossible for an infallible civilization to be created. The goal to do this is now on the table. It is recognized that infallibility in civilization will be achieved when the principles for it are fully discovered, scientifically understood, and meticulously implemented in the manner as Brunelleschi had done in building the dome of Florence.



Vasari's fresco begun in 1568, and completed by Federico Zuccari in 1579.

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Brunelleschi faced an additional challenge for reasons that the dome was required to have an octagonal shape, rather than a circular shape. A circular design enables the most ideal weight distribution



The principle that that Brunelleschi used to overcome this problem, was also quite simple. He made the walls of the inner dome so thick that the octagonal dome became functionally a circular dome within the walls. It was this feature that had enabled the surrounding chains of stone, linked with iron spikes, to be placed within the walls of the dome to prevent the outward spreading of the structure. The principle is such a simple one that it could be relied on to prevent the structure from ever collapsing. It helped make the dome inherently infallible regardless of its hexagonal shape.



The result was a stronger and freer structure, and a much more elegant one than could otherwise be built. The dome, as it was built, will likely stand forever.

It also appears, as things shape up in the world in modern time, that the dome will likely outlast civilization itself.

After 2 1/2 million years of human development, humanity has not yet achieved the stage of building itself an infallible civilization.

The history of civilization is full of tragedies of failures. The great Greek Classical civilization has failed itself. It was drowned in the Peloponnesian War. The Golden Renaissance too, has failed. It was drowned in the 30-Years War. The American Republic is on the fast track of failing, being consumed by conflicts and war. Even Christianity is failing, and likewise Islam, and so on, for much of the same reasons. But those numerous types of failures are all but technical issues, not inherent issues. The fact that we have achieved near miracles in the past, has reduced the still-ongoing failures to but issues of refinement to be made.

How to create infallible civilization? a human world that is not possible to fail

It is done by building on a platform that is free of failing elements

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