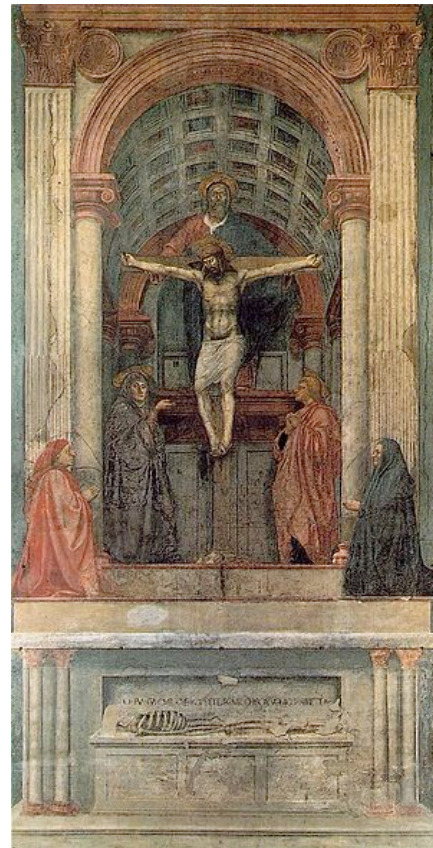
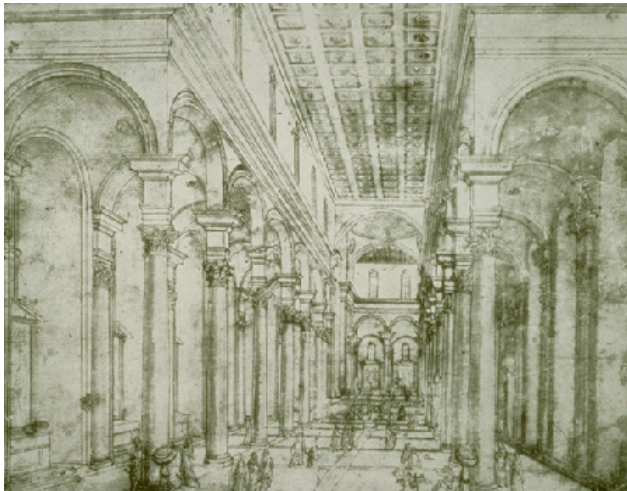


## ***Applications of Linear Perspective in the Renaissance***

### **Smart History**

Text by Professor Joseph Dauben

In Brunelleschi's case, it seems reasonable that he devised the method of perspective for architectural purposes—he is said by Manetti to have made a ground plan for the Church of Santo Spirito in Florence (1434-82) on the basis of which he produced a perspective drawing to show his clients how it would look after it was built.



Masaccio, Holy Trinity, Santa Maria Novella, Florence (1427)

We can compare this drawing with a modern photo of the actual church. It is clear how successful the new art of mathematical perspective was in depicting spatial reality.

But this was just the beginning. Ten years later, Masaccio applied the new method of

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mathematical perspective even more spectacularly—in this fresco of the "Holy Trinity", where the barrel vaulted ceiling is incredible in its complex, mathematical use of perspective.



Here lines following Masaccio's actual geometric framework are overlaid to make clear the structure of the perspective itself.

From the geometry it is actually possible to work backwards to reconstruct the full volume in measured accuracy of the 3-dimensional space Masaccio depicts, and this illustrates exactly the sort of flexibility Brunelleschi had in mind in being able to translate schemata directly between two and three dimensional spaces.

While we cannot know how far Brunelleschi intellectualized his system mathematically, it was not long before a decisive step was taken by Leon Battista Alberti, who published a treatise on perspective, *Della Pitture*, in 1435. Once Alberti's treatise was published, knowledge of perspective no longer had to be passed on by word of mouth. For some it became a matter of consuming artistic, even philosophical interest.

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