

# Saenredam's shapes

**Painting 'portraits' of churches might seem a limiting pursuit. But the seventeenth-century Dutch artist Pieter Saenredam turned it into a paean of praise for the geometrical way in which we perceive space.**

## Martin Kemp

One of the peculiarities of linear perspective is that, the more rigorously we follow the principles of mathematical projection to create convincing illusions of forms in space, the more we become aware of their strange shapes on the flat plane of the picture surface. This is particularly true for geometrical forms that lie near the margins of wide or tall pictorial fields.

Those perspectivists who have most assiduously followed the geometrical rules have also exhibited the greatest awareness of the implications of the surface configuration of projected forms. Piero della Francesca in the Renaissance and Pieter Saenredam in seventeenth-century Holland stand supreme in this respect.

Saenredam specialized in paintings of churches. He transformed the apparently limited subject of sacred interiors into a genre that 'revealed' the geometrical art of seeing space. We know from his drawings and related notes that he made on-the-spot sketches and obtained accurate measurements from building surveys. From these he developed elaborate construction drawings, projecting measurements from a scale along the base of the drawing on to the orthogonals (the lines that converge on the vanishing point).

**He was at pains to emphasize that his was an art of the geometrical observer. He consistently marked what he called the "eye point" on his first sketches, and typically inscribed his presence as a witness somewhere on the fabric of the building in the painted versions.**

On the leftmost pier in the large 'portrait' of St Bavo's we read, "This is the cathedral Great Church of Haarlem in Holland. Pieter Saenredam finished painting this on February 27, 1648".

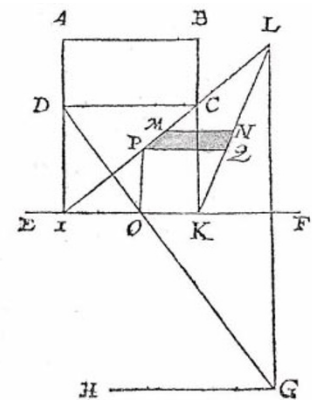
However, a close comparison of the final painting with a precise projection from his viewpoint shows that he has judiciously adjusted some of the shapes, most notably by stretching the two nearest arches upwards, to make his composition function to best effect on the surface of his wooden panel. He balances the requirements of precise illusion with the need to orchestrate the fragile network of lines that endow his surface composition with such tensile beauty.

There is little doubt that Saenredam was fully alert to the way that projective geometry in his era was exploring the transformation and homologies of such figures as squares and triangles in perspective. He is



Saenredam's *Interior of St Bavo's Church, Haarlem, 1648*, National Gallery of Scotland, Edinburgh.

*Perspective Projection of a Rectangle (right) from Stevin's book on perspective, 1605.*



known to have owned volumes by Simon Stevin, the mathematician, physicist and engineer. Stevin's treatise on perspective follows the uncompromisingly geometrical approach of Guidobaldo del Monte, whose perspective book of 1600 set the standard. A series of abstract exercises shows how to project geometrical shapes positioned at any angle behind a plane from a viewpoint at any given height and distance.

For Guidobaldo and Stevin, and for the great French master of projective geometry, Girard Desargues, the abstract mathematics of perspective (for all its practical application in art) held a cerebral fascination sufficient unto itself. For Saenredam, it was the sensate geometry of light that provided the

beginning and end of his quest to reveal the visual wonders of divine architecture. □

Martin Kemp is in the Department of the History of Art, University of Oxford, 35 Beaumont Street, Oxford OX1 2PG, UK.