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Review: Arthur K. Wheelock, Jr., *Perspective, Optics and Delft Artists Around 1650*, (New York, 1977), *Zeitschrift für Kunstgeschichte*, Münster, Bd. 42, (1979), pp. 81-82.

Art h u r K. W heelock Jr.: *Perspective, Optics, and Delft Artists Around 1650*. Garland Publishing Company; New York and London, 1977.

Why did Delft artists around 1650 develop perspectival techniques different from those of traditional treatises on the subject? Dr. Wheelock turns to three standard works Vries, Marolois and Hondius and finds they derive from Alberti and Euclidean optics opposed, he claims, to Alhazen's optics, which continued via Witelo, Pecham, Bacon and served as the basis of Kepler's optical breakthroughs.

This introduces his second question: why did Dutch perspective writers, Marolois in particular, ignore advances in optics? They were, he claims, under the influence of neo-Platonism which made them suspicious of firstly, non-Euclidean optics and secondly, of Vitruvius, who emphasized geometry and architectural designs. Whence they sought to produce a "replica of nature itself" and were reacting against an Aristotelian tradition, championed by Leonardo, devoted to the perceived image of reality.

Daniel Barbaro and Egnatio Danti's perspective treatises are studied to show failed 16th century attemps to reconcile optics and perspective, which serves in turn to explain why Dutch writers, lacking Danti's "philosophical awareness" (p. 152) wrote theoretical treatises steeped in architecturel phantasy and abstract geometry.

With this explanation why perspective treatises cannot illumine us concerning the methods of Dutch artists, Dr. Wheelock turns to examine in detail Fabritius' *View in Delft* (chapter 5), paintings by Houckgeest' and de Witte, with some mention of Saenredam's influence (chapter 6) and Vermeer (chapter 7).

In focusing upon tensions between 17th century optics and perspective, Wheelock provides valuable examples which implicitly raise questions challenging Panofsky's assumption that the optical theory and perspective practice of an age are necessarily in accord. Equally helpful is the wealth of material gathered concerning the use of camera obscuras and other instruments in painting practice.

With regard to Fabritius' *View in Delft* Wheelock provides a good defence against theories (d. Liedtke, 1976) that the painting was originally mounted on a hemicylindrical (or some other concave) surface: namely, these theories do not eliminate distortions in the picture. He might have strengthened his case by observing that while Fabritius name is clear on a flat surface, it becomes distorted on curved surfaces. Similarly the curved awning actually appears more curved on other than a flat surface.

Perhaps the most valuable contribution of the study is the welcome example of an art historian actually using a camera obscura and other devices to experience in practice their

effects. Wheelock can thereby challenge recent speculation (especially Fink 1971) concerning Vermeer's use of camera obscuras, reminding us that much more than a mere copying process is involved in the "naturalism" of these Delft artists.

At the same time certain problems in Wheelock's approach deserve attention. Perhaps most disturbing is his ready equation of Euclidean optics with Albertian perspective. This ignores entirely Panofsky's (1927; although this is cited in the bibliography) important point that linear perspective contradicted one of Euclid's basic theorems (number 8). In discussing tensions between optics and perspective it is necessary to distinguish carefully between rhetorical assertions and theoretical statements both of which may have little to do with actual artistic practice. Egnatio Danti's long list of wrong methods reminds us that the 16th century knew much more than a simple choice between two standard methods.

Equally disturbing is the supposed opposition between Euclidean optics and the writing of Alhazen, Witelo, Pecham and Bacon. Book IV of Witelo contains effectively all of Euclid's *Optics.* Pecham cites the author of *De visu* which, as Lindberg (1970, p. 28) observed, is "doubtless" a reference to Euclid. That we, in retrospect, perceive tensions between Euclid and Alhazen does not mean that mediaeval writers saw or even could see such tensions.

Wheelock emphasizes Leonardo's concern with lateral adjustments to claim he concentrated on "the perceived image of reality" (p. 94). But this problem of lateral adjustments existed in published form by 1494 in Pacioli's work and had been mentioned by Piero della Francesca. Moreover, albeit Leonardo considers subjective methods, the thrust of his work, as Pirenne (1952) has pointed out, is to establish the objective basis of linear perspective.

Inexplicable is Wheelock's claim (p. 152) that the distance point method was "less scientific" than the *costruzione legittima* because "it does not permit the artist to decide the precise distance at which he wants the picture to be viewed". Reference to a standard explanation such as Carter (1970) or even attention to the name of the construction would have avoided this mistake. This uncertainty concerning technical terms may account for the absence of careful perspectival reconstructions which would have been welcome in analysing specific paintings.

The choice of Vredeman de Vries, Marolois and Hondius, excluding Stevin as too theoretical, is puzzling, for this latter's treatise also discussed the importance of the "window" (d. Dijksterhuis, 1943, pp. 105-11). Moreover Stevin, as a practical surveyor teaching at Leiden, was in contact with topographical artists and would probably not have appeared so theoretical to contemporaries.

It should be noted also that in choosing these examples Wheelock has isolated but one strand of the perspective tradition. From the time of Brunelleschi (d. Manetti, 1970, p. 52) and Alberti (d. *Descriptw urbis Romae)* it was usual for artists using perspective to concern themselves also with topography, Rome being a favourite place. Netherlandish

artists such as van Heemskerck and Cock were prominent in this tradition, thus providing a repertoire of real architectural views. The example of van Aelst who depicted the seven major churches of Rome is particularly interesting when considering why Fabritius might have begun depicting Delft churches.

The importance of this topographical tradition becomes all the more obvious if examples such as du Cerceau are also included: here is evidence that interest in real architecture went hand in hand with perspective drawings of architectural phantasies. Had Wheelock taken a wider view of the perspective tradition its significance for the Delft artists would have been more obvious.

The question of a wider view, points in turn to a more fundamental problem: how fruitfully can one hope to understand the "naturalism" of Delft artists of the 1650's without reference to the art historical tradition to which they were consciously a unconsiously heirs? Already in the 1440's Jean Fouquet in his *Pieta* (for Vespers in the *Book of Etienne Chevalier*) had depicted an oblique, rear view of a church, almost certainly Notre Dame, that invites comparison with Fabritius' *View in Delft* (as does an illustration in Viator's perspective treatise, 1504), all the more so because another of Fouquet's pictures in the same book of *St. Martin and the Beggar* (now Louvre, Cabinet des Dessins) shows a curved pavement of another "real" place: the Grande Chatelet, one of the gates of Paris. And in *St. Veranus Curing the Insane* (now Wildenstein Collection, New York) Fouquet had depicted the north aisle of Notre Dame Cathedral.

As for the tradition of church interiors, it may suffice to mention the well known Walters Collection painting, the familiar church interiors of van Eyck, as well as Altdorfer's studies, such as the draft, now in Berlin for the *Birth of Maria.* In asking what was the context of the Delft artists it might have been better to concentrate less on theoretical tensions with optics and more on practical examples in paintings. But at least Wheelock's attention to the practicalities of camera obscuras has brought us a healthy step away from purely abstract speculation.

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