Curvilinear perspective plays an interesting but largely unresolved part in seventeenth century Dutch painting. The reason why it should be more important in the art of that period than in many other periods is explained by the nature of curvilinear perspective itself. Taken in its most general sense – as I will use it here – curvilinear perspective denotes any departure from linear perspective which can be attributed to a wide angle of view. Standing in front of a long wall, one sees it growing smaller to the right and left; and its top and bottom seem to swell in large curves (like round bellies, as Schickhardt said). In linear perspective the top and bottom of the wall are required to be straight, and any representation which deviates from that rule and approximates the curves is an example of curvilinear perspective. From this it is apparent that curvilinear perspective pictures are often attempts to record the appearance of objects which are not imagined but actually beheld by the painter: few of us remember straight walls as curved, but an acute observer of a wall may be struck by its curved appearance. Since the curves pose problems for artists used to straight lines, and since linear perspective is always available, a picture done in curvilinear perspective usually implies a close attention to the peculiar appearances of the world. The artists who produce curvilinear perspective pictures are close observers of real objects, unwilling to rely on imagination or habit. It is this quality which makes the subject so important to seventeenth century painting. There are isolated instances of curvilinear forms in Roman wall paintings, the early Renaissance from Maso and Ambrogio Lorenzetti to Uccello, in Fouquet, in Baroque quadratura, and in the past century from experimenters such as Hauck and Escher to architectural draughtsmen like Muirhead Bone. But no period furnishes the variety of examples of seventeenth century Holland and Utrecht, or comes as near to providing a catalogue of the possibilities of curvilinear perspective.

A number of studies in recent years have touched on the general subject of the Dutch skill in rendering visual detail. If no comprehensive treatment of curvilinear perspective itself has appeared, it is largely because the subject remains encumbered by the lack of a fixed terminology – even the name ‘curvilinear perspective’ is still far from generally accepted and by fundamental disagreements as to its mathematical and experiential foundations. Some hold, for example, that curvilinear perspective is a deviation from linear perspective, so that curves in paintings are ‘distortions’ of the linear perspective norm; and others have insisted that a wall will not appear curved unless the head is waggled unnaturally back and forth. And the problem of defining curvilinear perspective is more involved than the example of the long wall implies.
last fifty years, it has seemed best to try for a purely mathematical theory, and not to rest content with curves 'like bellies'; and a surprising number of competing theories continue to be generated, many bristling with arcane formulæ. In short, it seems risky to bring curvilinear perspective into the mainstream of art historical investigation.

An example of this reticence is provided by Svetlana Alpers' study *The Art of Describing*. Her thesis that Dutch art is related to vision more closely than it is related to the conventions of Italian art points in the direction of curvilinear perspective, and at one point the connection is explicit. Alpers takes Kepler as her model of the Northern interest in vision and 'describing', and it was Kepler, as Panofsky has reported, who corresponded with the mathematician Schickhardt regarding the phenomenon of lines that appear curved. The first line of the title of this essay is Schickhardt's triumphant challenge to painters: try to justify the continued use of straight lines where your experience shows you curves. Kepler's reply to Schickhardt includes the observation that it was his education in linear perspective which had prevented him from seeing the curves — an idea with direct bearing on Alpers' thesis, since she is interested in showing the influence of Italian habits. Even so, Alpers only mentions curvilinear perspective once, in passing, when she says the 'art of describing' allows for 'curved

In this paper I will review the major kinds and causes of curvilinear perspective in seventeenth century Dutch art, and introduce what I hope will be a convenient terminology for dealing with its appearances in painting. Seventeenth century Dutch art, possibly unlike that of any other single period, approached curvilinear perspective from three quite different sets of concerns. Each approach is telling for a single tendency of Dutch art, and they share the common interest in precise observation which characterizes the period as a whole.

First and most accessible are the unlearned but acute observations of genre painters such as Adriaen van Ostade and Jan Steen. While they concentrated on the play of rural dances or the disorder of country inns, the perspective of the backgrounds developed wide curves or skewed segments. Given the asymmetric and tilting architecture of the setting, it is inevitable that they did not always bother to apply even the simplest corrective measures of linear perspective in order to bring their pictures back in accord with the conventional norm. The results form a catalogue of curvilinear perspective types which occurs again and again in historically isolated circumstances where acute vision was recorded unaltered.

A second type concerns architectural painting. Elements of curvilinear perspective in the wide angled church interiors of Pieter Janszoon Saenredam, Gerard Houckgeest and Emanuel de Witte are more complex largely because they were constantly aware of the rules of linear perspective, and wouldn't have tolerated the liberties taken inadvertently by Steen or Ostade. Their compromises between linear and curvilinear forms are unparalleled, I think, in their subtlety. Saenredam was largely conscious of curvilinear forms, because he removed them when he prepared his detailed construction drawings, and substituted other departures from linear perspective which were intentionally more distant from visual experience.

As an example of the third direction which brought Dutch art to curvilinear perspective, Carel Fabritius' *View in Delft* stands alone. As we have it - mounted flat on a board — the painting is in curvilinear perspective; and it can be shown that even if it was originally bent and placed in a perspective box (to be viewed through a peep-hole), its curvilinear forms would still be apparent. The