© Malcolm Park – Excerpt from 2001 PhD Dissertation:
Ambiguity, and the engagement of spatial illusion within the surface of Manet's paintings

Appendix 1
COMPARATIVE SPATIAL SHAPING: Text

Notions of the engagement of spatial illusion within the surface of a painting involve contrasting aspects. There is a separation, both perceptual and metaphorical, with one endeavouring not to be the other. And yet, at the same time, there is an integration involved with the illusion held within the surface. It is where it is made, seen only by means of the other. Evidence of such illusion and its engagement can be identified as aspects of *literal representation*, *iconography*, or *translated meaning*, but it can also be seen as a *surface order*, and it is in such a context that it is considered here in terms of spatial geometries, spatial shaping and spatial cohesion. The relevant theoretical and art practice implications of these aspects are described here as background information for an overview of Manet's oeuvre in Chapter 4, and the case studies in Chapter 5.

The descriptions are set at the level at which the geometries are involved. There seems no point, for example, in describing pictorial configurations in terms which have no relevant relationship to Manet's process or their actual engagement in a painting. Neither the research nor its exposition required a description of these configurations in terms of basic geometrical categories such as *metric*, *similarity*, *affine*, or *projective*, as the theory is too many steps removed from the context in which the configurations are discussed. And at an art practice level, conventions are understood only as required for application, not as theoretical geometries. The two modes of spatial geometry of interest are termed here *linear perspective* projection and *parallel* projection.

The psycho-physiological processes of visual perception involved in this interplay between the creation of spatial illusion and surface are relevant here only to the extent that, although visual perception is still not fully understood, relatively recent research

has indicated that the *natural perspective* of actual space and the *linear perspective* of spatial illusion are perceived with the same eye/brain processes, in both cases almost instantaneously, and without any intermediate conceptualising process involved in the perception of spatial illusion.[1]

a) Spatial Geometries

The means available to artists for the visual representation of spatial illusion on a two-dimensional surface are many and varied, including *spatial geometries*, *atmospheric perspective*, *colour distance* (in terms of *hue*, *value*, and *intensity*), *overlap*, *form modelling*, the perceptual implications of *surface texture*, cast *shadows* as a confirmation of a *spatial geometry* and surfaces in *shade* as an aspect of *form modelling*. Within the context of this dissertation's proposals the use of *spatial geometries* as a means of visual representation is of primary interest, but the other techniques are discussed in the context of the adjustment of spatial illusion in (b) below.

Spatial geometries manipulate and give order to the surface of a painting, transforming it into a field upon which views are constructed. Although they can treat the view/surface relationship in many ways, a common denominator in most of these geometries is that the space which is being depicted is itself homogeneous and isotropic. This applies to the most usual mode of spatial geometry used in Western art, that of *linear perspective* as developed in the fifteenth-century Renaissance.

i) Linear Perspective

The subject of perspective is an extremely complex one and its forms and processes have been many and varied. In The Poetics of Perspective, James Elkins has set-out ten classes of Renaissance perspective methods,[2] and in setting perspective into an overview of other projections and branches of mathematics, has noted eleven methods of linear perspective.[3] Often, however, many published descriptions of perspective present construction procedures as principles[4] and ignore the singular principle that parallel lines in space, including one set through the viewpoint itself, are seen to converge to a vanishing point at infinity.

Linear perspective involves the projection of sight lines from a single viewpoint to relevant points seen in space onto a picture plane set perpendicular to the centre of vision. Although its geometry can present distorted views, within the parameters of a single viewpoint, a single centre-line of vision, a consistency of scale, and a limited cone of vision, its geometry is regular and consistent and presents a reasonable approximation of a space as seen by *natural perspective*. The inherent vanishing-points to which any series of parallel lines converge establish the consistent and characteristic relationship between size diminution and the increase in distance from the viewpoint. The many apparent variations in linear perspective, such as those described as *one-point*, *two-point*, and *three-point* are nomenclatures determined by the viewpoint, the direction of view and the related orientation of the primary planes and objects to that direction of view. They can be explained as discrete processes but, importantly, many views from one viewpoint and one centre of vision can incorporate any number of combinations of one-point, two-point, or even three-point geometries at the same time. The underlying geometries are evidence of what is included in the view, not the converse.

The different spatial contouring or *shaping* characteristics of pictorial spaces constructed with those *one-point* and *two-point* perspective geometries that are of most interest here are illustrated using the same subject in Fig.G1, with the space articulated by means of the grids set to the series of co-ordinated planes. Categorisation is made in terms of centre-point (CP), one-point (1P), or two-point (2P) perspective, and frontal, angled or offset views from frontal or offset viewpoints as required to clarify the types of shaping used by Manet. These categories are descriptive rather than prescriptive as often the transition from one type to another is not clear-cut. All centres of vision in the diagrams are set horizontal, and the examples using offsets to the right are indicative of similar geometries to the left.

The constructions of the perspectives involving projections onto a picture plane (PP) are not shown in the diagrams, but the comparative variations in picture plane alignments and cone of vision angles (angle of vision) and angles of view are indicated.

Within the illustration of the different shapings, standard terminology such as *viewpoint*, or *station-point* (SP), *centre of vision* (CV), and *vanishing point* (VP) is used. It is recommended that reference to perspective manuals is made for more detailed descriptions of these terms.[5]

CP-frontal

The characteristic one-point perspective, described as a *centre-point* (CP), from viewpoint SP1, with the space set parallel to the picture plane, and the vanishing point for orthogonals at the position of the centre of vision. The view is obviously frontal but is categorised as such for comparative purposes, centred laterally around the centre of vision, and set within a reasonably narrow cone of vision, or angle of vision (av), avoiding edge distortion.

See: *Guitar and Hat* (Fig.17a)

1P-frontal

A one-point perspective, from viewpoint SP2, with the space set parallel to the picture plane. With the use of the fixed subject for comparative purposes, it can be seen that although the basic geometry is the same as in the centre-point, with the space set parallel to the picture plane and the view frontal within a reasonably narrow angle of vision, the view of the subject is offset slightly to the side.

See: *Races at Longchamp in the Bois de Boulogne* (Fig.38); *Mme Manet at the Piano* (Fig.33)

2P-frontal

A two-point perspective, from viewpoint SP2, with the centre of vision at a slightly angled direction, with the space almost parallel to the picture plane and one vanishing point set very close to the centre of vision. The view is still considered frontal rather than the more typically angled view of a two-point perspective.

See: *Lola de Valence* (Fig.11a)

2P-angled

A typically angled view of a two-point perspective, from viewpoint SP3, with the space angled in two directions to the picture plane from vanishing points to the left and right of the centre of vision.

See: *Léon on the Balcony, Oloron-Sainte-Marie* (Fig.49)

1P-offset

A one-point perspective with the subject seen from the offset viewpoint SP3. The space is set parallel to the picture plane but the extent of view (ev) in which the subject is seen is to the left of the centre of vision as part of a widened angle of vision, and thus involving edge distortion. In such an offset view the orthogonals projected from the vanishing point are so angled that, when seen in isolation, the space within the limited extent of view seems to be as angled to the picture plane as parallel to it. Such an arrangement, with the space seen as both parallel and angled to the picture plane, has the potential to create spatial ambiguity within a painting, as discussed in (d) below.

See: *The Execution of Maximilian* (Fig.36b).

2P-offset

A two-point perspective with the subject seen from the offset viewpoint SP3. The space is slightly angled to the picture plane, but the extent of view in which the subject is seen, as for the 1P-offset, is to the left of the centre of vision as part of a widened angle of vision, and also thus involving edge distortion. With one vanishing point very close to the centre of vision, the shaping of the space within the limited extent of view seems to be angled as if in an angled 2P-angled space. Although the potential for spatial ambiguity therefore still exists, with the space already seen as a two-point space, even if only slightly angled, the potential for spatial ambiguity is less than with the 1P-offset arrangement.

See: *Chez le Père Lathuille* (Fig.75a).

An important aspect in understanding the implications of spatial shaping is that with three directions of view taken from the same viewpoint SP3, the different perspectives produced are the result of different projections of the very same view. That is, although the picture plane on which each view is projected is set in a different relationship to the visual rays projected from the viewpoint through relevant points of the object, the very same extent of each object and their overlaps are seen in each view. The shapes are different and the difference lies in the shaping of the space. M.H. Pirenne, in his authoritative book of 1970, Optics, Painting and Photography, clearly elucidated these differences by means of the text, comparative photographs, and diagrams.[6]

ii) Parallel Projections

The conventions in parallel projections use orthographic relationships and the notion of single or double diagonal parallel recession, in order to lay-out the space and show standardised aspects of form. It is diagrammatic space and does not involve single viewpoints, presenting a concept of space that is understood rather than seen as an equivalent to natural vision. Although the vertical dimensions generally remain constant in any of the modes irrespective of the spatial context, the space is shaped or contoured differently in each. A characteristic of these modes as used in Japanese woodblock prints of the eighteenth and nineteenth centuries, for instance, is for the space to be splayed upwards and diagonally across a work's surface, with the resultant 'lifting' of the floor (or ground) planes. Although spatial recession in these modes is consistent, with no diminution of size related to the extent of recession, there are many variations involving the degree of the oblique inclination and the scale(s) of recession. The forms of the two parallel projections which are discussed in the text, oblique and isometric, are illustrated in Fig.G2.

iii) Artistic practice

The principles of these spatial geometries and configurations are not able, however, to be simply and directly applied to artistic practice. There are no set ways in which artists view, assess, and translate the space of the world around them, and their

methods are not necessarily underpinned by the logic of spatial geometries. Their use of the geometries may be intentionally or unintentionally correct or incorrect, complete or partial, or consistent or inconsistent. And the way in which they might translate the motif space to a two-dimensional surface in the field would usually be different to its translation in the studio, where construction of a geometry can be more considered and accurate.

When viewing a motif from one position in the field an artist is typically not constructing a perspective on the working surface but, rather, is translating a superimposed understanding of perspective's principles onto the view. Not only is the artist's eye at work here but also the mind's eye. Rarely would artists limit themselves, or even contemplate doing so, to looking exactly with one, and only one, centre-line of vision from one fixed eye position in an approximation of linear perspective's single viewpoint and centre-line of vision. The understanding of the geometrical concept is, to varying degrees of skill, a knowledge base which can be applied as the need arises. The assessment of the apparent perspective in front of an artist is often with a roving eye and with many centre-lines of vision, notionally used within the bounds of their perceived extent of vision for the work. In such circumstances the resulting perspective views for each centre-line of vision from the same viewing-point are different, notwithstanding the fact that the extent of the elements seen and their respective overlaps are the same, as discussed in (i) above. The direct translation of such multiple-views to an artist's working surface may produce an image which, among its countless possibilities, encompasses all, some, or none of the discrete views, which themselves may be combined or separated with endless possibility. Alternatively, the translation may be brought under the regime of perspective's unifying geometry at the working surface, with the vision organised by the knowledge.

An artist can also view a motif from different viewpoints, with each viewpoint obviously using different centre-lines of vision, and producing completely different and discrete perspectives. These discrete views, in part or whole, can be later combined or blended to form a single image which superficially could be assumed, without prior

knowledge, to be from a single viewpoint. The different perspectives embodied in such a combined view do not necessarily belie the single viewpoint and the aggregated image can often be accepted as a wholly feasible space. The skill and intent of the artist can determine whether the combined image is seen as a unified image, a pastiche of obviously unconnected parts, or a single image incorporating disjunctions and slippages.

No matter where or in what sequence the spatial geometries are applied, their use in the practice of artists is also often inconsistent. The space articulated by linear perspective's geometry can be said to be contoured or *shaped* in a way established by the vanishing-points used. Very often artists will set into these illusionistic spaces the depiction of objects which have not been established by the same geometry. In such a circumstance, a viewer would normally notice the discrepancy between the underlying perspective geometries of the space and the object if the object's geometry were quite specific and uniquely identifiable (although the complexities of spatial perception can at times make even that uncertain). The same cannot be said, however, for objects which are amorphous in appearance or, as living creatures, very flexible. Although the discrete parts of a human figure (head, rib-cage, pelvis and limbs), for example, are spatially structured and any perspective view of the figure is determined by the viewpoint and direction of view, figures can quite easily be set into, and be seen to fit without much discrepancy, the space of a completely different perspectival geometry. This is particularly so if the size of the figure is approximately correct. The slippage between the underlying geometries of the space and figure in such a situation is usually accommodated by the viewer.[7]

b) Adjustment of spatial illusion

The extent of illusory spatial recession can be increased or reduced by many strategies using the various pictorial means set out in (a.i) above. With the specific consideration of this dissertation involving the engagement of spatial illusion within its surface production, the reduction of recession is an obvious means to enhance that

engagement, and can be achieved by various means, including: a limit to the extent to which the spatial geometry projects the space inwards; a disjunction of a spatial geometry with the cues of recession, such as diagonal lines, concealed or confused with other elements; a limit in atmospheric perspective; a related reduction in the fusion of shapes in recession; the painting of planes receding in space to be painted with horizontal or vertical lines or brush strokes rather than diagonal ones in the direction of recession; the painting of receding planes without tonal modulation; the related reduction of form definition by a similar reduction in tonal modulation, resulting in 'flatter' painted areas; an arbitrary modulation of light and shade to reduce the illusory sense of a coherent space and to enhance the sense of a surface or awareness of a surface; an arbitrary casting of shadows to again reduce the sense of a coherent illusory space as well as to confuse the coherent relationship of light source, objects, and surfaces; a limit to the extent and number of overlaps; and the placement of actual or implied planes parallel to the picture plane. Most of these techniques, as used by Manet, are discussed in Chapters 4 and 5.

c) Adjustment of surface

The extent of the apparent spatial illusion or recession in a two-dimensional work can also be adjusted by the nature of its visible surface. The visible surface represents the materiality of the illusion, where the artifice is created. Its identity fluctuates not only from the degree to which spatial illusion is apparent but also with the extent to which the presence of a medium and its manipulation is evident. A surface of even finish has the potential to enhance the apparent depth of illusory space with its so-called *transparency*, whereas a surface that is irregular in texture, with a lack of even finish and evidence of textural variations with brush strokes and other processes of application, reduces the potential for that transparency. These perceptions are, of course, also affected by the distance from which the surface is seen. Although, particularly in his own time, Manet's works were often considered unfinished, as *ébauches*, this aspect is not an integral one in

understanding the modes and applications of his pictorial space, and is therefore discussed in the analyses only where of relevance.

d) Ambiguous spatial shaping

i) Views

The different perspective views and their spatial shapings of the same subject from three different viewpoints and six different directions of view, and their spatial shapings, are compared in Fig.G1. Some of the shapings of these views, such as with the CP-frontal, 1P-frontal, 2P-frontal, and the 2P-angled, are fairly clear and unambiguous. But the spatial shapings in the offset views, the 1P-offset and the 2P-offset, are not so clear. The 1P-offset perspective can be seen to incorporate aspects from the CP-frontal or 1P-frontal, and the 2P-angled views The space remains parallel to the picture plane as for any 1P view but the orthogonals visible in the view are angled in a similar way to that for a 2P view and provide the sense that the view is actually an angled one. The offset view is able to suggest, or to make seem possible, two different shapings within the one fixed image, to be ambiguously seen as both a frontal and an angled view at one and the same time. The spatial shaping of the 2P-offset perspective from SP3 is similarly seen to incorporate aspects from both the 2P-frontal and the 2P-angled views, with its offset shaping providing the simultaneous sense of an angled view, but with its space angled in both directions, even though almost parallel to the picture plane, its offset view is not quite as ambiguous as the 1P-offset.

Such offset views, however, have inherent pictorial problems involving distortion which have the potential to make it difficult for a naturalistic sense to be maintained without adjustment. With an increase in distance from the centre of vision, the square grid of the horizontal plane can be seen to become more distorted and the rectilinear forms of the cubes seen in one set of views become wider. A comparison of the different way in which the rounded forms of cylinders, set in the same positions as the cubes and as seen in the second set of views, do not increase in width is of particular interest here.

Whereas the cubes set furthest from the centre of vision provide ready evidence of their displaced position, the cylinders set in the same position not only provide little indication of their displacement but also illustrate that the use of rounded forms in such positions does not readily make the spatial geometry identifiable. It is this very technique that Manet used to full effect in many of his paintings, particularly in *A Bar at the Folies-Bergère*.

It is also of interest to note that in the fixed image of a painting, the only possible spatial variation can occur with the different ways in which the illusionistic space can be read or presumed to have been constructed. Such an approach implies that the one fixed view of the subject can be seen in a different spatial shaping to the one within which it had been constructed. But even though it may be possible for the alternative shaping to be implied, in reality it can only exist within the artifice of the work, as the subject would clearly need to be distorted to provide an appearance as if seen from a second position. Alternatively, two identical views, as images of two very differently shaped subjects from separate viewpoints, could theoretically be superimposed, but then, of course, no spatial ambiguity would be involved.

ii) Ambiguous shaping – surface indicators

Although established by viewpoint positions and directions of view, spatial shaping can be confirmed, contradicted or made ambiguous by the way in which the visible surfaces are rendered. Any markings on a depicted surface which are set in the direction of the spatial shaping confirm that shaping, any surfaces which are depicted without any directional markings generally neither confirm nor contradict an underlying spatial shaping, and depicted surfaces with markings which are not in the direction of the spatial shaping have the potential to either contradict or make ambiguous that shaping. Examples of these techniques as used by Manet are discussed in Chapter 4 and Chapter 5.

iii) Adjusted shaping – fragmentation

Whereas a painting presents a permanent image which has to achieve its dynamics within its created borders, photography provides multiple permanent images which can

also be readily cropped or fragmented. Although the centre of vision of a photographic negative image is also the centre of the image, the fixed image can then subsequently be fragmented at will. By isolating a part of a photographic view which has been ostensibly taken with the underlying angled space of a centre-point perspective, the view can be made to seem as if from an offset viewpoint or with the angled centre of vision of a two-point perspective.

Fig.G3 shows such a photograph, taken from the Trocadéro in Paris looking across the Seine to the Eiffel Tower. Although actually a two-point perspective (2P-frontal) and not an exact one-point perspective (1P-frontal), its spatial shaping is very much a frontal, rather than an angled view. Fig.G3a shows that the centre of vision and centre of image for the uncropped image of the photograph are one and the same, and that the vanishing point for horizontal lines on the axis through the Eiffel Tower is set to the right of the centre of vision as an indication of its slightly angled view. When isolated from the context of the overall geometry, parts of the image take on the appearance of different spatial shapings. The shaping of the segment shown in Fig.G3b, displaced laterally to the left from the original centre of vision and therefore as seen from an offset viewpoint (2P-offset), seems, however, that of an angled (2P-angled) view, and that of the segment shown in Fig.G3c, with the vanishing point of the overall image intentionally set centrally within the truncated image, seems that of a centre-point perspective (CP-frontal). As photographic images, their potential for spatial ambiguity is limited when compared to the adjustments possible in a painting, but they illustrate the way in which the sense of a pictorial space can be transmuted without, in fact, altering anything other than the context of the shaping indicators.

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Appendix 1

COMPARATIVE SPATIAL SHAPING: Notes

DISSERTATION: Volume 2, p.32

NOTES

1. See Chapter 2, n.90.
2. James Elkins, The Poetics of Perspective, Cornell University Press, Ithaca and London, 1996, Table 2, p.87.
3. ibid., Table 1, pp.4–5.
4. e.g. A so-called Ground Line is often described as a basic principle, when it is simply part of a construction method, and an inappropriate one at that, for establishing heights.
5. For an excellent introduction to historical, theoretical and practice aspects of linear perspective, see: B.A.R. Carter, 'Perspective', in The Oxford Companion to Art, ed. Harold Osborne, Clarendon Press, Oxford, 1970, pp.840–61.
   For a an excellent and concise description of the geometrical construction of perspective, see: Martin Kemp, 'The basis of the perspective construction', in The Science of Art: Optical themes in Western Art from Brunelleschi to Seurat, Yale University Press, New Haven and London, 1990, Appendix 1, pp.342–43.
6. M.H. Pirenne, Optics, Painting & Photography, Cambridge University Press, London and New York, 1970, pp.103–113.
7. Even if the size of a figure is correct it is no guarantee that the slippage between the figure and the space is able to be accommodated. Due to the limited grasp of spatial geometry, most painting prior to the Renaissance was an unintentional mixing of spatial orders, often with glaring inconsistencies and disjunctions between figures and their spaces. Even after the development of linear perspective, as a spatial geometry in which figures could be correctly placed, stock figures with predetermined poses or gestures were often used by artists in unrelated spaces, often with results for which no amount of slippage could compensate. Interestingly, figures set in the angled spaces of Japanese prints of the eighteenth and nineteenth centuries were obviously not forced to fit within the constraints of their spatial orders, other than as a reinforcement of their shaping with the turn of a head or the extension of a limb, but were usually seen to be integrated within the diagrammatic spaces.
