

CHAPTER 17

Head movement

Introductory

Having learnt to find the eye-line, we are ready to make further use of the analogy of the opening window. The purpose of the next two chapters is to become better acquainted with some of the many anomalies of visual perception that regularly plague attempts at accurate drawing from observation. In this way we will learn to become more sensitive to aspects of appearances that we might otherwise overlook. Three particularly pervasive sources of anomalies are:

- *Turning the head (whether from side to side or up and down).¹*
- *The imposition of axes of symmetry by our visual systems.²*
- *The constancies of size and shape.³*

This chapter and the one that follows give examples of each of these, which will appear under three headings: “head movement”, “axes of symmetry” and “the constancies”. Although for explanatory purposes, it is convenient to treat them separately, we find that any combination of the three can be affecting our perception at the same time. We start with “head movement”.

HEAD MOVEMENT

For the next part of the linear perspective demonstration, I take students to the low boundary wall that runs along the entire length of the esplanade.⁴ It is long enough (nearly 200 metres) to provide a convenient and unequivocal demonstration of the well known rule of linear perspective that the nearer end of

1 *“What Artists can Learn from Scientists” Chapter 11 is about the power of movement as a generator of visual cues.*

2 *“What Artists can Learn from Scientists”, Chapter 10.*

3 *“What Artists can Learn from Scientists”, Chapter 15.*

4 A small section of which appears behind the tree in *Figure 7* in the previous chapter.

a rectangular surface it taller than the further end, which appears to get smaller with increases in viewing- distance.

Figure I illustrates a well known anomaly that arises if the laws of perspective as described in many books are taken too literally.

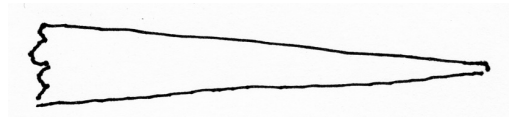


Figure 1a : Looking right down a long wall

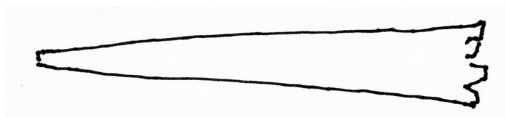


Figure 1b : Looking left down a long wall

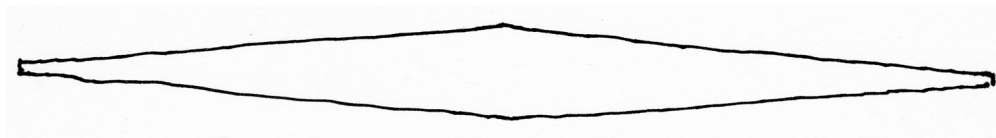


Figure 1c : A composite of the two views

Figures 1a and *1b* represent two views of the esplanade wall made from a vantage point situated half way along it. One is looking to the right and the other to the left. In line with the laws of linear perspective, each gets smaller as the distance from the eyes increases. The anomaly becomes evident when the two triangles are juxtaposed to create a composite form. As indicated in *Figure 1c*, they meet at an angle, whereas the front-on view should give two parallel lines, as in *Figure 1d*.

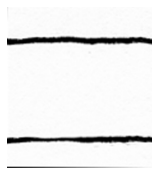


Figure 1d : Actual head on view

This is an old chestnut of linear perspective, trotted out by authors like Ernst Gombrich⁵ as something that should surprise people. Actually, as he well realised, if it does surprise anyone, it shows that the people concerned do not understand one of the fundamentals of linear perspective. Their surprise indicates that they have not taken into account the importance of viewing angle on appearances. It is therefore significant that I cannot remember a single *Painting School* student who has been aware of this seeming paradox and few who, when asked, have been able to come up with a ready explanation.

If the students remain perplexed, the lesson continues with one of them being asked to go through the motions of sketching the wall from the right-hand end to the centre, while the others are instructed to stand in front of her and watch her head. As the pretend-drawing progresses, they see that it is moving. To start with, the eyes are turned to the right so as to be able to look towards the far end of the wall. As the drawing progresses, the student's gaze swivels steadily left-wards until she is looking straight ahead at the wall in front of her.

The significance of this head-movement can be clarified by reference to the open/closed window idea. Thus, when looking to the right, the front face of the distant wall is in the position of the open window and, when looking to the front, it is in the position of the closed window. In terms of our conceptual tool, *the progressive turning of the head has steadily closed the window*. From the practical point of view, the result should be a continuous change in the angle of the line being produced. In other words, it should come out as some sort of a curve, along the lines of the one roughly illustrated in *Figure 2*.

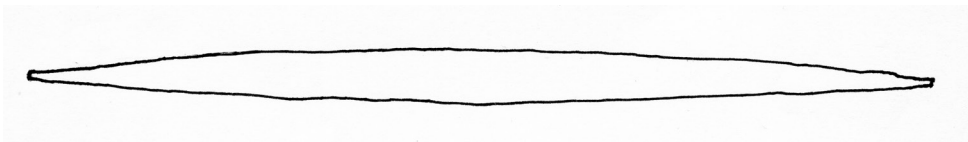


Figure 2 : The anomaly explained

Head movement and curves

The drawing with curves is all very well but it poses a conundrum. Though an accurate representation of a perceptual reality, it looks wrong. Why? One way of approaching an answer to this question is to ask another, “*Is there is a way*

5 Gombrich, E. H., 1960, *Art and Illusion*, Phaidon Press, London.

of making a veridical drawing of the whole length of the esplanade wall, from a central viewpoint?” As it turns out, there are more than one. Each brings up a fundamental issue with respect to the implications of linear perspective for the artist. Here are two of them, one suggested by a student and the other by myself.?:

- The student, remembering the case of the chateau viewed through the studio window, had the bright idea of knocking down the entire village, so as to make it possible to retreat to a viewing position distant enough to allow the whole length of the wall to be analysed without significant head movement. A bit drastic perhaps, but theoretically correct.
- My solution is only a little more practical: construct a large picture-support, the same length as the esplanade, place it at the same distance from you as the wall and draw two parallel lines on it. This would work perfectly for, when looking from one end to the other, both the painting and the esplanade wall would demand the same amount of head movement.

A modification of this second approach would be to make a half-sized picture-support and look at it from half the distance. Effectively, the result would be identical, including the amount of head movement required.

Nor need matters stop here. The same idea can be taken further. Indeed, remembering the man with the pool ball (*Chapter 2, Figure 3*), there is no reason why the picture-support should not be very small. For example, it could as small as the image in *Figure 2*, in which case, the picture-viewing position would have to be commensurately close. In order to find this, it would be necessary to place the eye at the distance from the picture-surface from which the amount of head-movement needed to take in the whole length of the *image of the wall* would be equivalent to the amount needed to take in the entirety of the *real wall* while drawing it from the original viewing position. This would require the eye to be extremely near to the surface on which the image is drawn. Indeed, it would have to be so close that the image would be highly blurred and awkward to see. However, just as in the case of the very close up view of the man with the pool ball, from this viewing position, what seemed so very wrong from further away, will give the sense of being normal.

Up and down head movement

In the illustrations just given, the head movement was from side to side. Analogous problems arise from up and down movements of the eyes, as can

be deduced from the well-known phenomenon which occurs when wide-angled lenses are used to take photographs of skyscrapers. The vertical edges of the buildings appear as curved. Again, like the man with the pool ball and the curved drawing of the esplanade wall, this will look wrong unless the eyes of spectators are so close to the surface of the photograph that they can no longer bring it into focus. In other words, it will have to be looked at from a position where, to see the whole building, it will be necessary to move the head the same amount as would be necessary for looking from bottom to top of the facade of the real thing.

As with side to side head movement, this has implications with respect to the dimensions of the picture support chosen, since the larger it is, the more the head can move when looking at an image that is drawn on it.

Misinterpretations

As a footnote to the subject of *head movement*, it is worth making one last point. Only too often I have witnessed students getting upset when, after completing to the drawing lesson described in “*Drawing with Feeling*”⁶, they find themselves drawing curves to represent what they know to be physically straight edges. Before getting discouraged, they should try and work out the reason why. If they do, they may well find that the offending curves are evidence of progress. This is because, if ever anyone has to *move their head* in order to follow edges, the lines representing them *should be curved*. Certainly, nobody should allow themselves, as many beginners do, to be envious of the capacities of supposedly “*skilled*” draughtsmen who draw straight lines where accurate observation would produce curves. A state of affairs which I have witnessed many times..

Summary of head movement

Both the examples just given show the importance of the same three factors:

- *Viewing distance, whether in relation to objects in the scene being depicted or the surface of the completed painting.*
- *The size of the picture support.*
- *The head movement required to take in the scene being represented..*

For these reasons it will be prudent to reflect carefully before starting to draw any scene which our eyes cannot encompass without swivelling the head,

6 Chapters 8, 9 & 10

whether from side to side or up and down. If we have to do so, not only will there be considerable difficulties to overcome but also the result will be perceived as being distorted from any normal viewing distance.

There is no law in art against consciously confronting difficult tasks. Nothing in the above should be taken as suggesting a total ban on attempts at delineating visual anomalies caused by head movement. They can be a skill-honing and fascinating pastime and who is to say that the visual distortions that result cannot serve some artistic purpose.