CHAPTER 3

Some essentials of painting

Introductory

It is difficult to imagine a more useful first guide to painting than the dogmas of Professor Marian Bohusz-Szyszko. However, they have their limits. Fortunately, as I believe the remainder of this book will make clear, it is both possible and worthwhile to go much more deeply into the reasons for both their strengths and their limitations. One approach to doing this is to trace the roots of the Professor's assertions in the work and ideas of his artist predecessors. Another, is to focus on the history of science and how it illuminated the subject of picture perception. Whichever our choice, it is inevitable that there will be much overlapping. The reason is that, in the nineteenth century, a particularly high proportion of the ideas influencing the community of progressive artists were rooted in the new ways of thinking about the world we live in that were emerging from science.

To prepare the way for the combination of theory and practice which is to be the subject matter of the remainder of this book, this chapter offers a first introduction to basic factors that are necessarily in play when selections of artists' pigments, mixed with various mediums are arranged on a circumscribed, flat picture-surface in such a way as to excite the feelings of people.

The main reason for starting with these fundamentals is because:

- *Taking them into consideration can help artists to achieve a surprising number of widely sought after goals.*
- *They provide reference points and context for so much of what follows.*
- *Their importance is too often overlooked by practicing artists.*

*The basic factors in question will be presented under the headings, "**real surface/illusory pictorial space ambiguities**", "**whole-field colour/lightness interactions**", "what **paintings can do that nature cannot**" and "**the human element**".*

REAL SURFACE/ILLUSORY PICTORIAL SPACE AMBIGUITIES

At their most basic level, both drawing and painting are skills that involve making arrays of marks on circumscribed flat surfaces. What form these will take can vary considerably according to the aspirations and skills of the artist concerned, but whatever the nature of the artwork:

- Our eyes and our brains will face the problem of *making sense* of it.
- Our feeling centres, influenced by a unique lifetime of experience, will *respond* to it in individual ways.

Although the final outcomes of these actions will never be identical for any two people, this does not mean that the process of arriving at them has no common features. On the contrary, the basic eye/brain mechanisms required are essentially the same for everybody.

It is for this reason that all artists, of whatever level of accomplishment, will find themselves faced with a number of common problems and opportunities when painting and drawing, whether or not they fully realise what these are. For example, everyone who finds that an arrangement of lines and/or colours on the flat surface of a picture support that conjures up an image containing seemingly three dimensional relationships, will always be confronted with two levels of sense, namely:

- An illusion of objects or abstract forms situated in a pictorial space.
- A perception of an actual surface.

The intrinsic ambiguity of this situation means that the push/pull between objects in an illusory space and real-surface interpretations is an unavoidable aspect of all figurative and the vast majority of abstract paintings.

Dealing with the picture-surface

Before the ***Modernist Revolution in Painting***, artists had no reason to emphasize the picture-surface. On the contrary, because they wanted to encourage illusions of real world experiences, it was in their interests to minimize its influence. However, from the 1870s onwards, many, now celebrated artists (starting with the *Impressionists*) have deliberately emphasised the fact that paintings are objects with flat surfaces. Some were simply trying to avoid the risk that the eyes of the spectators might be deceived into confusing image with reality.[1] Others

1 It was at this time that the phrase "*Trompe l'oeil*" came to have its negative connotations.

sought to explore the dynamics offered by the push and pull between the two interpretations.

However, despite these precedents, many, indeed probably most, artists have happily got on with their activity without giving a thought to the possible influence of the perceptions of the actual picture-surface on the experience of looking at their productions.

This is a pity because the *real picture-surface/illusory pictorial-space* ambiguity is a main source of the problems with which artists struggle. What many do not realise is that the perceptual tug-of-war between incompatible interpretations will always, to a greater or lesser degree weaken the effectiveness of pictorial illusions and create a situation that is inherently disturbing. Thus, as will be explained in later chapters, incompatibility of interpretations is one of the main reasons why:

- Paintings are perceived as being either "*discordant*" or "*garish*".
- Images that achieve the highest levels of accuracy, can still appear as being somehow wrong.

Whichever way we look at it, the subject of ambiguity is of major importance for artists. It is also a one that has been illuminated by scientists.

Basics of eye/brain systems

So what have scientists taught us about the phenomenon of perceptual ambiguity? This question requires a short journey back to basics.

All human capacities, including visually mediated ones, have evolved over very long periods of time. In the process the eye/brain combination has developed ways to deal with a wide range of contingencies, including what to do when faced with disturbing ambiguity. The key to this achievement has been the evolution of a number of different subsystems, each with a different function. The beauty of this arrangement is that the eye/brain can perform its primary tasks of *making sense* and *recognising* in a greater variety of different situations. However, the risk of having multiple systems is that different ones might come up with alternative interpretations, thus leading to tensions between them.

Fortunately, knowledge of the properties of the various eye/brain systems can help artists to control aspects of the experience of looking at paintings. But they can only make use of them if they understand how to switch them on, switch

them off or alter the relative force of the interpretations which they support. These operations can be implemented in various ways, including:

- Changing viewing conditions.
- Enhancing or interfering with perceptions of the painting-as-object.
- Revising the content of the illusory image.

It will be useful to deal with each of these possibilities in turn.

Changing viewing conditions

Viewing conditions can be changed by closing one eye, by moving closer, further away from the picture surface, by looking at it from different angles or by arranging lighting to emphasise or reduce the impact of surface-texture cues. Accordingly:

- Standing back from a drawing or a painting can result in both pleasant and unpleasant surprises. From arms length or less (the distance from which artists see paintings when applying paint) the surface-perception cues are likely to overwhelm. From further away, they become weaker, allowing desirable or disturbing ambiguities to come into play. From even further away they can become so weak as to be discounted. If so the ambiguities disappear.
- Different viewing angles can influence the degree to which light reflects from the picture surface into the viewers eyes. From some viewing angles the reflections may be invisible, leaving spectators aware only of the painting itself. From others, they may dominate perception to the degree that only the flat picture surface is visible. From the remainder, the effect will be intermediate between these two limiting cases.[2]

If we consider the consequences of these facts, we find that paintings that are judged to be repellent or boring when looked at from afar can, upon closer inspection, reveal harmonious and delightful details. Two reasons why are:

- The reduction in the number of regions of colour encompassed within the visual field.
- An increase in the number of visual systems activated that are only capable of providing an unambiguous flat surface interpretation.

2 It is for this reason that viewers are well advised to take the time and trouble to adopt a viewing angle at which interfering surface reflection is minimized.

In these ways, visual disturbance due to ambiguity can be eliminated or, at least, reduced to the degree that it loses any significance. A main reason why many twentieth century artists require spectators to approach closely to the surface of their paintings is that from that distance ambiguity is reduced to a minimum.[3]

Enhancing or interfering with perceptions of the painting as an object

Ambiguity can also be increased or decreased by encouraging a greater or lesser awareness of the picture-support as being an object with a solid flat surface. This can be done by manipulating the visibility either of surface-texture or of the edges of the picture support. Both tactics push matters in favour real world interpretations as opposed to illusory space ones. This is why, for example:

- Framing paintings can make such a considerable difference to our response to them.
- Many late nineteenth century artist experimented with visible brush marks and twentieth century artists with heavily textured surfaces.
- Many twentieth century artists have painted on extremely large canvas and requested spectators to stand close to the picture surface, where the edges of the picture support cannot be seen.

These examples indicate ways in which real-surface/illusory-space ambiguities are part and parcel of the experience of looking at drawings and paintings. Unless a canvas is painted with one flat colour and looked at from a distance where the picture support will be perceived as an object in its own right,[4] these ambiguities will invariably be present, even if sometimes minimally so. Accordingly, it is always worthwhile and often a priority to take them into consideration. For anyone interested in mastering the dynamics of painting, their importance can hardly be exaggerated.

Revising the content of the illusory image

There are two ways in which the contents of a painting can influence object/illusion related responses to them. The first of these concerns the painting perceived as an image and the second as a collection of colour and texture relations:

3 For example, Wassily Kandinsky, Jackson Pollock, Mark Rothko and Willem de Kooning.
4 In effect, making the painting a sculpture.

- Perceptions of illusory pictorial space depend on the presence of cognitive cues that indicate depth, such as those provided by overlap, relative size, linear perspective, knowledge of the three dimensional nature of the objects being depicted , etc..
- The colour and texture relations are processed and interpreted independently of these cognitive cues. This means that whenever the eye/brain perceives the colours and textures as existing on the picture surface, they will conflict with perceptions of illusory pictorial space deriving from the cognitive cues. The problem that faces the artist is that they will always do this, unless the whole-field colour/lightness relations are modified so as to perceptually release the painted colours from the picture surface. Clearly the implications for artists are profound.

Much more on this subject in the next chapters.[5]

WHOLE-FIELD COLOUR /LIGHTNESS INTERACTIONS

Another defining property of paintings follows from their essential nature as an arrangement of colours on flat, circumscribed picture surfaces. As artists have probably known for centuries and as scientists have provided proofs more recently, this is because each and every colour on a picture surface influences the appearance and impact of each and every other colour on it.

While it is true that the resulting complexity of interactions may cause artists many difficulties, it also provides them with an unimaginable richness of opportunity of a kind that is unequalled in nature. One major advantage for paintings over nature comes because no object (for example, no flower or arrangement of flowers), in no matter what real-world situation, can ever provide the same potential with respect to whole-field relations. The reason for this state of affairs is that the first requirement of eye/brain systems is to *recognise*, and recognition cannot take place until by eye/brain systems have separated out the object (sometimes referred to as the "*figure*") under investigation from its context (sometimes referred to as the "*field*"). What this means is that the first stage in real world visual perception automatically limits the possibilities of enjoying figure/field interactions of the kind that have given us:

5 Also, for the science behind it, see *"What the Scientists can Learn from the Artists", Chapters 11* and *12*

- The vitality to *Op Art*.
- The whole-field colour harmonies of Vermeer, Cézanne, Bonnard and many other colourists.

WHAT PAINTINGS CAN DO THAT NATURE CANNOT

A third defining property of paintings and drawings also gives painting a significant advantage over nature. It is the freedom of choice available to painters with respect to the shapes, colours and textures they use in paintings. It is difficult to grasp the full extent of the possibilities made available to artists by combining:

- Colour-mixing.
- Manipulations of local colour juxtapositions that have been freed, by being placed on a flat surface, from the eye/brain's determination to separate objects from their context.
- Texture variations, whether in the form of surface-profile characteristics or created by agglomerations of separate small marks.
- Whole-field colour/texture interactions.

Colour-mixing alone gives at least hundreds of thousands of colours. Local juxtapositions, surface characteristics, mark-making and whole-field colour relations explode this number beyond human imagination. It is very unlikely that painters will ever exhaust the potential of this extraordinary treasure-trove of possibilities with which they can experiment. One clear outcome is that nature will never be able to compete with the treasure trove of possibilities that are at the disposal of anyone who sets about making a paintings.

THE HUMAN ELEMENT

A fourth defining property of painting and drawing is so integral to our everyday being that it can easily be taken for granted, in the same way as we can easily overlook the miraculous nature of visual perception itself. It lies in the unpredictability of artists' responses to the ongoing eventualities involved in making paintings. The amazing nature of eye-hand-body-brain coordination is made clear by the difficulty of designing computers and computer programmes that can compete. Virtually every feel-system-based decision involved in making either

drawings or paintings is of a kind that as yet completely flaws the combination of man-made machines and programmes. The best hope for achieving the same flexibility for the making of computer-generated images is to make it possible for the machines to mimic:

- The coordinated functioning of human feel-systems, with their constant and lifelong stream of multimodal inputs enabling the build up of the richness of experience that we humans enjoy.
- The genetically determined variations in brain structure (equivalent in computer-speak to *machine design*).

But, despite important developments, these necessary advances are very far from being realised.

An inevitable consequence of being subjected to this inexorable stream of input and memory-determined complexity is that it has an inevitable effect on the build-up and structure of each individual's memory stores. Along with genetic variations,[6] it is this that explains the effectively-infinite variety, not only in each individuals responses to the external world, but also in his or her thought-processes, including those involved in making and looking at paintings.

Implications

This chapter has been about fundamental properties of paintings. While many artists have no doubt produced what they, and perhaps others, consider to be satisfactory work without their ever crossing their mind , the following chapters will show that taking them into consideration can be a mind and feeling expanding process.

6 In computing language, variations in machine design due to the processes of evolution.