Spatial illusions and still-life objects

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SPATIAL ILLUSIONS AND STILL-LIFE OBJECTS

by

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SPATIAL ILLUSIONS AND STILL-LIFE OBJECTS

Ever since Brunelleschi discovered the laws of perspective and Alberti formalized a mathematical system in his treatise, artists have been utilizing or rejecting their use on the basis of individual needs and service to their end products. Many artists have been successful in creating the visual appearance of three-dimensional objects on a two-dimensional surface but have not been as successful in creating a convincing three-dimensional illusion; the image the eye perceives is part of a picture-world and not a three-dimensional reality in and by itself. Too often the observer attributes incorrect terminology to objects of art without challenging the veracity of the term in its application to a given object: "the painting looks as if you could walk into it" or "the fruit looks good enough to eat."

There are many other phrases which may well fit a given situation. But the viewer is never really overwhelmed by the illusion of the objects in the third dimension, enough so as to force the touching of the surface in order to assure the viewer of the object's "real-ness" or "picture-ness."

The objective of my thesis is to create spatial illusions that are based on geometric forms common to man's experiences but not based on natural objects, and to control
their visual impact by the additional portrayal of objects which are part of man's natural environment; that is, fruit.

I have chosen three geometric configurations to serve as the basic structure for my paintings: the octagon, square and rectangle. The familiar stop-sign shape is a convenient bridge between the cone and the square and, because of its eight points, affords a multiplicity of line-origins (see Figures 1, 2, 5 and 6). Figures 3 and 4 are squares with four foot dimensions and are a product of a long sequence of development beginning more than a year previous to the formulation of this paper. Each painting is a product of a mental image which can be best described as a geometric construction based on no conscious prototype. The idea received definition through drawings, and the drawings were then transferred to large, paintable surfaces.

I selected acrylics as the medium for the paintings because of their rapid drying-time; freshly painted surfaces can be repainted and/or "masked" in about twenty minutes. I soon learned that the careful modelling of fruit required a slower-drying paint and oils best served that end. Sanding "under" the fruit and applying a coat of white acrylic before painting in oils greatly facilitates the compatibility of the mixed media. Drying time for the oils (depending on thickness and color) was about five days.

Each of the eight paintings deals with single-point perspective, that is, one vanishing point for all recession-
Preliminary studies have indicated that the illusion of space or depth does not entirely depend upon perfect perspective; optical confusion on an organized level is an adequate substitute. However, each of the eight paintings submitted as my thesis strictly adheres to the single-point principle.

The use of values employs several violations of what would be considered "true to reality" in terms of scientific analysis. The fruit, or any still-life object, merely serve as controls; one must see the geometric illusions in a manner dictated by the superimposition of the fruit on the two-dimensional surface. In other words, the tunnel-like appearance of the octagonal paintings could be seen as cones or vice-versa if not for the placement of fruit within or on top of the illusionary structure. In the cases of the rectangular and square paintings, the depth of the illusion is controlled by size-relationships in the ever-diminishing structural forms.

The color range used in the group of paintings is entirely analogous with exceptions existing only in the inherent color of the particular fruit(s). Some of the color relationships (structure-fruit) are entirely analogous, as in Figures 1 and 3 and some are complementary, as in Figures 7 and 8. Great care was taken to avoid close-value-relationships in order to maintain a sense of "optical order" within the structures. Previous paintings which employed comple-
mentary colors in opposition and close-value-relationships (not unlike "hippy posters") have served to confuse or bewilder the eye and don't lend themselves to order or clarity. Only one of the eight paintings approaches a close-value-relationship, that being Figure 8.

The method of painting can be best described as "hard-edge" and my version of its use is accomplished through the utilization of masking tape; each juncture of different colors is hard and precise. The use of upsom board for the paintings' surfaces enables the execution of extremely fine "lines" and textural consistency that canvas doesn't offer. Furthermore, the stretching of canvas over an octagonal shape is extremely difficult and construction is greatly simplified by the use of upsom board.

"Hard-edge" implies a lack of modelling; solid, flat forms or planes are placed in juxtaposition to others which, in this group of paintings, adds a quality of dramatic lighting and color brilliancy. Only one painting, Figure 7, has any modelling of color within the planar structure, and only to indicate a change in light source (see immediately above and below isolated "orange"). I found the above modelling a necessity after failing to solve a light-source-transition problem through the hard-edge method.

Six of the paintings give illusions of containing their own light sources and the other two, Figures 2 and 6, indicate an outside light source which is indicated by direc-
tion of shadows and light definition of the geometric structures. It is noteworthy that these two paintings are the only two to give the illusion of protruding from the wall, instead of receding into it. Figure 2 has been "doctored" by increasing the values so as to maintain an illusion of protrusion and is very difficult to reverse the image. Figure 6 can be inverted with less difficulty by simply ignoring the grapes. At the same time, even though Figure 2 was painted to represent a receding cone (compare shadows and values with Figure 5), it is impossible to see it as a receding cone because of the adjustment of the values on the closest "knob."

In Figure 1 each receding segment of the octagon has precisely the same color and value in each band; in other words, the light source doesn't determine the nearest band as being the lightest and, likewise, each dark value is exactly the same color and value. Therefore, the eye is dependent upon the line direction for definition and not on the value differences. To prove that Figures 1, 5 and 6 can be seen as protruding cones, simply turn the slides upside-down and attempt to read-out the fruit; they are all inverted cones. Figure 1 contains no cast shadows and was painted as a protruding cone. The fruit does truly control how the figure must be seen.

Figures 3 and 4 are studies in the illusion of surfaces which appear to recede and protrude at different
planes of depth and are the most successful spatial illusions I have done. If viewers are introduced to the paintings under ideal perspective and lighting conditions, the depth illusion is so convincing that only touching the paintings with their hands will convince them that the painting is flat. The inclusion of still-life objects in conjunction with the geometric illusions complicates the perception of the total painting in terms of the third dimension. The illusions can exist by themselves. Therefore, the fruit must be executed in a totally coherent and plausible manner. Only then can it lend authenticity to the illusion of depth or protrusion. The strength of the illusion depends on each individual's depth perception and cannot be predicted with absolute certainty.

A short anecdote supports my contention that the illusions are convincing: As I was preparing the set-up that the photographer was to use in photographing the thesis paintings, I placed Figure 7 on an easel and returned inside the house for more paintings. A woman was hanging clothes out on a line adjacent to my apartment and her child was playing in the area. The four-year-old approached the painting and called to his mother and said something about "oranges." She just nodded and mumbled something and, not knowing that the oranges were wet oil paint, continued with her work. The child again said something about "oranges," reached up, placed four tiny fingers on top of and one tiny
thumb under the closest orange...and pulled. He didn't touch as if he were inquisitive, but attempted to take the orange off the "ledge." The result was four long finger-marks drawn down and through the orange. He was convinced that he was about to get an orange. I was convinced that he had ruined an orange.

Earlier in this paper I referred to a lack of modelling in the geometric structures which comprise the majority of the painted surfaces and that only one exception to this point is in evidence (Figure 7). Adequate modelling would probably strengthen the illusionistic qualities of depth or space in each of the paintings. Yet, I have chosen to simplify, and, at the same time, complicate the illusion-producing structures with the nearly-total lack of modelling. The imaginary surfaces are simplified into divisions of geometric configurations and complicated by sheer numbers; there are one hundred and seventy individual forms in each of Figures 3 and 4.

As for the use of octagonal shapes, I find the form a convenient one in more ways than the one mentioned above. Figures 1, 2, 5 and 6 become pyramids or cones with each apex located at different points within the outer frame of the paintings. By simply rotating the slide into different attitudes one can readily see that each has the properties of a space-age nose-cone on an Atlas missile. Figure 5 can be visualized either way, almost at will. At times this
can be an ambiguous quality as it seems to challenge the viewer into combat for control.

Another convenience in the use of the octagon is in its infrequent use as an art object; I wonder if its shape is prohibitive on the basis of form or symbolic (traffic) meaning. I find it a beautiful, mathematically perfect shape and interesting if not exciting in implication. The decision to use an octagon was brought about by a questioning of whether or not the shape would lend itself to an illusion which came to me as a kind of "tunnel" vision; the "nose-cone" effect was only apparent after the initial drawings. I find it a happy discovery, not an invention.

Other discoveries and re-discoveries soon emerged during the development of the ideas and choosing of colors and values; many initial choices of values seemed appropriate in the isolation of the palette but required a great deal of adjustment after having been placed on the painting; unpainted portions of the paintings interfered because of the interaction of colors, or environmental reaction. I find it somehow sad that I didn't begin this kind of painting much earlier in my academic life because now my earlier paintings are unsatisfactory from a color standpoint. The analogous color schemes and variations of values within the schemes are the fundamental basis upon which I have built the sense of depth in each of the paintings. For example, in Figure 7 the light-blue plane upon which the two oranges
rest is the same value and color as is painted in the corresponding light-blue bands on the right and left of the single orange of the second tier. Optically they appear to be different—they are locked in by totally different values and react accordingly. I have varied the intensity of color and value in agreement with a logical, disciplined approach to the effects of light on a surface, altering the optical appearance as the surface recedes, and I have maintained the same value on a-like surface regardless of its illusionary depth. Both systems work. But, in all cases, either the shadow or the light, one or the other and sometimes both, is altered with recession. One exception to this is Figure 1; all corresponding planes are precisely the same.

As previously stated, Figure 1 relies on line direction for its illusion of depth. But in the initial layout, the lines were not strong enough to support an illusion. The drawing was just that; a drawing. Flat. So, considering that the colors do not change and that lines alone do not convince, the viewer's knowledge must enter the scene. The dramatic-light-effect, an awareness of light-source, and the direction of the cast shadows produced by the fruit must contain the answers to the sense of depth. I don't mean to imply that the illusion is a strong one, as strong as Figures 2 or 7, but that one does exist.
Humans have binocular vision and the laws (theory) of perspective only work as tools to represent physical realities on a two-dimensional surface; everyone knows that the rails of a railroad track do not come together or join in the distance but only appear to do so. Our eyes are not telescopic but can focus at different distances within the limits of each individual's ability, and cannot focus at that point which seems to be the juncture of the railroad tracks. Therefore, the "joining" is an illusion. Our true focus (considering the total "cone" of vision) is extremely minute. But normal, human eyesight is limited by range and this limitation is also responsible for the creation of illusions. And, if humans were monocular (as is the lens of a camera), the illusions of the paintings and the railroad track would be even stronger.

Since our eyes must re-focus with each succeeding level of depth as we cast our eyes about a room and see varying objects at different distances, how can an illusion of depth painted on a two-dimensional surface still cause the eye to react as if it were seeing into the third dimension? I suggest that if the viewer is "locked-on" to an illusion he will think he re-focuses at each succeeding illusionary level or plane. This appears to be the same sort of phenomenon that occurs when one looks into a mirror, in which the eye may first focus on a blemish or isolated spot on the face, then to a reflected background image, and then to a
spot of dust on the mirror's surface. All three require a change of focus. This simple experiment gives one the feeling that he doesn't look onto the mirror's surface but into. The fact is the eye's line of vision travels from the eye to the mirror and from the mirror to the object. The illusions produced in the thesis paintings seem to confuse the focal length of the eye and, differing from the mirror episode, convinces the mind that the eye is seeing at a different focal length and demands refocusing, if only mentally. Hence, a convincing depth-illusion.

Considering the geometric structures out of the illusion-producing context, they become unnatural or imaginary environments which do contain plausibility; there is a certain element of "other-worldliness" that suggests Surrealism. The paintings join what seems to be two incongruous symbols of thought; an unnatural geometric structure and the juxtaposition of ordinary fruit.

The unnatural setting is a surprise and if that fact brings questions to the forefront then perhaps they deserve an answering. The surprise exists because the fruits are not in a natural environment. Are the structures symbolic of something metaphysical, or enigmatic, or supernatural? The original intent behind the construction of the forms did not include any conscious consideration of the psychological implications; the structures were simply "environmental vehicles." But as the results grew on my conscious-
ness I became more and more aware of a possibly new existence
and reason for existence. Something very mysterious still
prevails in my contemplation of the objects (fruit) in a
very different world...a very unreal, yet plausible, world.
Therefore, the paintings enter the realm of Surrealism,
another existence, totally supernatural.

The fruits have a new and different role in this new
and different setting. Once past the superficial or more
formal aspects of the paintings, it is my hope that the
viewer will become involved on an aesthetic and intellectual
level...as I have done. A certain air of nobility pervades
my perception of a simple orange, or apple, or plum. Not
only am I conscious of it (the fruit) but I feel that it
can be metaphysically conscious of me; a metaphysical re-
relationship exists...a nonsensical communication. Now, if
someone else said to me what you have just read, I would
worry about him. But this is my sincere feeling about that
which I have created. Let me reiterate that these are after-
thoughts and not realized goals.

As for supernatural or quasi-religious implications,
Figures 2, 3, 4, 5, 7 and 8 bear geometric configurations
which can be described as Latin crosses, or the "X" symbol
which fills the void between the arms and the staff of the
crosses. Again, this is not the result of a deliberate plan,
but an observation of the product.

Now the paintings must speak for themselves.