JEAN CHARLOT

IN A world clogged with easel paintings a nostalgic memory still lingers of past art periods when painting was a communal need and murals were the norm. On the strength of this feeling mural revivals have been spasmodically staged. Around 1850 the Prince Consort imported to London some Italian muralists to decorate his palace; young English painters were impressed, art magazines prophesied that true fresco would soon be staging a comeback. Later on France tasted in the murals of Puvis de Chavannes as much of the qualities of fresco as can be translated into the oil medium. We experience today another "renaissance" of sturdy make, blown over the border from Mexico.

A mural painting is far from being an enlarged easel painting. Critics agree that there is a mural style, that it involves a composition, a drawing, a modeling and a color that may be called specifically mural. I should like in this article to review those characteristics and to show how they are based, not so much on personal idiosyncrasies as in the case of contemporary easel painting, as on objective physical laws concerning chiefly architecture and optics. If I use throughout as interchangeable the terms "mural painting" and "fresco" it is not that I am unaware of their different meanings; but, desirous of comparing mural and easel modes, I naturally choose to speak of murals par excellence—that is, murals in true fresco. For the same reason I take it for granted that I treat of murals of great size, because small ones do not branch sufficiently away from easel status.

When Leonardo, in a diatribe perhaps directed against Michelangelo, exalted the painter's craft for being daintier than that of the sculptor, he overlooked fresco painting. But

Michelangelo, lying on his back on the mammoth scaffold of the Sistine, with lime, sand and paint dripping from his beard, must have been quite as dirty then as in his most dust-raising moments with mallet and chisel. His own distinction, that in painting fresco alone is a man's job, may be taken as his retort to Leonardo. Truly the man that sits on a scaffold many feet high, and matches the strength of his brush against a mortar of lime and sand chemically tied to the very structure of a building, thinks differently from a man seated at an easel timing the swing of his brush to the elastic bounce of a canvas.

The easel painter may, following his impressionist leanings in search of a motif, plant his easel in a landscape alive with birds and cows; if he fancies classicism his work may send roots into the non-geometric curves and non-arithmetical proportions abstracted from the human body; or, if a romantic, his work may emerge from the dark recesses of his brooding. But the postulate from which the mural painter starts is not of his own choice; he is bidden to work inside the mineral landscape sung by Baudelaire, where organic forms and the "beau désordre" of nature or of passion have given way to a rational order, grooved to architecture. Architecture, as its habitat, conditions mural painting.

A building is planned not only as an organism valid in itself, similar to the animal body which does not imply a witness, but also to the scale of its human parasites. The relationship between architectural elements is governed both by "abstract" esthetics and pragmatic requirements. Buildings are made not only of stone and brick, mortar and steel, but of air; their walls, like the wall of the ribs, define recesses reserved for vital functions; their porosity is both the internal porosity of a lung full of air, and an outer porosity, a breathing relationship which windows and doors achieve between the building, the landscape, and the world.

Regardless of superficial "embellishments," the severity with which buildings are planned is comparable in the realm of painting only to the most radical of abstractions, especially

those of Piet Mondrian. The people who expostulate heatedly at the rigid verticals and horizontals that Mondrian lovingly rules on his canvases would blow sky-high if a similar rigidity and exclusive use of 90-degree angles failed to be stressed in the plan of a building. The rectangular shapes of the two-dimensional painting in three-dimensional architecture become parallelepipeds, those rigidly cubistic creations within which even conservative people make it a point to be born and to die.

Sensitive to the architectural blueprint that has become his world the born mural painter, following a kind of mimetic logic, bids to complete in illusion what the architect has begun in truth; taking naturally to ruler, square and compass, he will add painted perspectives to the built construction, open or stop the vistas and culs-de-sac that doors, windows and walls initiate. If architecture is frozen music, the structure at least of his fresco will be articulated in musical terms—that is, as mathematical abstraction; the issue of subject matter, make-believe and propriety will be superseded by concern for numerical laws, chords of numbers transformed into clusters of proportions, colors, values.

The depiction of actual architectural elements accounts for a major area in great mural paintings. The background of Leonardo's "Last Supper" is his excuse for painting the picture on the wall. Giotto, Fra Angelico, Signorelli, are all adepts at the wiles of the house painter; with paint they match wood grain and marble veins, the bulge of pilasters, the recession of cornices. It is not only those make-believe architectural elements that cement the union of painting and architecture, but all lines and volumes that partake of geometry acquire in a mural functions proper to architectural members. Ruled on a wall, a vertical line not only obeys optical demands, but upholds as does a column; a horizontal is a level certified by the junction of air bubble and sight-line, rather than the far-flung horizon it suggests in a landscape; the arc of a circle obeys the pull and stress to which arches and buttresses submit, rather than obeying the freehand swing it implies on canvas.

Painters who use geometric forms undiluted work thus in a certain mural climate. Picasso, Léger, would acquire renewed validity if transposed into murals. The painted constructions of Poussin beg to be reinforced by a permanent architectural setting. Mural geometry can be as obvious as it is in Byzantine mosaics or in Gleize; it might also be revealed secretly, as bones are suggested by flesh. Invisible axes pierce the cylindrical bodies that Seurat paints, and inner plumb lines hang from the tip of the conical personages of Piero. In Giotto's "Lamentation" the disciples suffer an architectural metamorphose; they become columns when they stand, buttresses and arches when they stoop. In his "St. Francis and the Birds" the trees are spheres dense and full at the top, sturdy enough to receive the weight of the ceiling. Thus all subject matter, inorganic and organic, conspires in a kind of architectural charade. Even the gesticulations of El Greco follow the secret and severe rhythms he learned in his youthful apprenticeship with Cretan muralists. Even the lushness of Rubens swells or narrows according to a circular or spherical logic, as if the thrust and pull to which the construction submits were featured in place of the construction itself.

Buildings are made of spaces and volumes. Painting likewise deals with volumes and spaces. The spaces that the muralist paints acquire also architectural definition. There is fitness when the space enclosed between the walls of a given room opens into a painted space similarly limited and ordered. Perhaps it is the "open window" illusion, the unlimited space inherent to impressionism, that makes it unfit as a mural language. Ordered space develops by sliding in depth the front plane that constitutes the painted area. This plane may rotate backwards around one of its vertical sides, creating a triangular recess like that existing between a door frame and a door half-swung, as in the "Embrace at the Golden Gate" of Giotto or the "Bishop Cabañas" of Orozco. More often the plane of the picture recedes to a position parallel to its starting position, becoming the back drop of its own shallow stage; a cube of space is created,

as if an open box were lying on its side, its opening flush with the picture itself. It is such defined space that gives a monumental feel to Seurat, whose "Grande Jatte" is after all a mural in search of a wall.

A painting can be said to consist of soul and body. In easel painting the body is the canvas stretched on a wood frame and coated with pigment; in fresco it is a mixture of lime, sand and pigment, tightly packed against inner strata of lime and sand backed by the cement, brick or stone constituting the thickness of the wall. At the finger tips of the blind, or bumped against in the dark, the body of a picture is made manifest yet does not function as painting. It releases its meaning only when reflected in the eyes and brain of a spectator. The circumstances that condition this soul, this unsubstantial image through which physical picture and human eye make contact, differ as much in easel painting and fresco as do the physical qualities of canvas and wall.

Easel pictures are conceived as though surrounded by total vacuum. If you cease focusing on the illusive space within the frame and become conscious of the wall or the drape on which the picture hangs, the illusion vanishes. The old-fashioned way of exhibiting pictures on an easel served excellently this need for an unfocused background. Cowed by tradition, the onlooker standing at the proper distance centers his line of vision on the center of the picture, at right angles to its plane. One sees in museums how visitors, obeying a posthumous call, approach close to a Van Eyck or walk further from a Rembrandt, until they stand on the one spot from which the artist guarantees the illusion. The more scientific a perspective, the more the one point of view is important for its effect. Dutch "perspective boxes" from the time of Vermeer display a scientifically correct peephole that ensures depth illusion; lateral view paintings (such as those exhibited by the Museum of Modern Art in its surrealist show) have also a side attachment through which one may "read" a subject matter that remains undecipherable in frontal approach.

Mural painting cannot afford the optical protection of a frame; it has to vie in the allotted space with windows, doors, ventilators and pipes; nor is normal vision and single point of view its lot. It caters to a public busy with practical pursuits rather than esthetic ones and catches its eye more often sideways. It cannot count on the pinning of the hypnotized amateur to the horizontal and vertical cross bars of the median lines that is taken for granted in viewing small paintings. The average distance from which a wall will be apprehended depends on the width and length of the room, the place and number of the entrances, the graded levels of floor, staircases and balconiesa complex planned by the architect and over which the painter holds no sway. Mural paintings have to look well both in centered and lateral vision, from a worm's eye view as well as in a plunging perspective. Such a postulate, distinct from the "peephole" assumption of easel painting, makes it impossible to attain any realistic intensity. A certain amount of artificiality, a style, imposes itself on the mural painter as a corollary to the optical postulate. The Egyptian and Chinese mural styles, by ignoring the difficulties of perspective that plagued the Italians, offer a clean-cut solution to the problem of mural optics. But our occidental traditions, intent on defining solids in space, cannot avoid questions of depth. Our mural painter must perforce find a compromise between a standardized perspective based on a single point of view and a mural arrangement that implies multiple points of view.

The armature of so-called "Italian" perspective is such that the horizon line determines the vanishing points and their related fan formations of perspective lines. This key line coincides roughly in easel painting with the horizon line that each spectator generates at his own eye-height; painted and real perspective merge into one, the illusion of depth is enhanced. Most murals start higher than this eye line. If a realistic relationship is to be kept between the painted and the human perspective, the horizon line will sink even lower than the lower edge of the picture, outside the painted area. Mantegna follows this rule in

his "Triumphs" with results scientifically engrossing, but esthetically freakish. In his "Marriage at Cana" Veronese establishes three horizon lines that may well correspond to the true viewpoint from floor, staircase and balcony levels. But as a rule the mural painter, unable to match the painted horizon line with the stature of a spectator, brings both into an arbitrary relationship that results in a weakening of depth illusion—a happening beneficial to the mural because it preserves the physical identity of the wall surface as a guarantee of its architectural function.

The concept of multiple points of view includes centered vision, that is, the conventional way of looking at a picture, and lateral vision. In a movie house the "style" of the screen picture is very realistic and the subject matter is not chosen for any formal plastic value; so that a man sitting on the side sees the picture on the screen deformed into incredibility. In the theater, however, where the actors have actual bulk, both front and side views are equally convincing. The quandary of the muralist is how to approximate the optical results of the theater with physical means resembling those of the screen. To attempt a solution, let us take three sketches of a model, made simultaneously from center and lateral views, and superimpose them into a composite. The more complex and realistic the subject, the more involved and meaningless the composite. Geometric solids with a square or triangular plan would, however, coincide better than realistic subjects, but not perfectly, and would resemble cubistic variations on dice-shapes; and spheres, cylinders, and cones, offering identical perspectives from the three chosen points of view, yield composites as clear as the objects themselves. To insure the readability of his painting from both center and sides (a necessity not of his own choice), the muralist must reform such shapes as nature offers into compromise volumes closer than are his models to the geometric bodies with circular base that alone solve his problem to perfection.

As the diagonal angle of the view of a wall increases it brings to the drawing itself perspective deformations; side

vision shortens the horizontals and by contrast emphasizes the verticals; to correct this state of affairs the muralist broadens the horizontals. Giotto is so conscious of this that the bodies he paints are padded, Eskimo fashion, with improbable layers of clothes, their bulk further augmented by thick over-all cloaks, their posture stooped until some personages occupy an area as wide as their height. Such stout shapes retain their apparent mass at much wider angles of vision than would realistic forms. This rule applies in practice to frieze-like murals situated in long and narrow halls, such as the arched walks that line inner patios. The opposite condition obtains when narrow and high panels are protected from side vision by recesses, but are to be seen in close-up from a worm's eye view. The slant tends to shorten the verticals, which results in an apparent broadening of the shape. To correct this illusion the painter must elongate his verticals and narrow his horizontals. The much admired flame-like elongation of El Greco may be rooted not in a mystical urge but in the optical problems peculiar to the narrow and high chapels of Toledo.

While easel painting is pretty much standardized to a rectangular and a vertical area, the grounds for mural painting show an infinite variety of shapes and slopes. The shape matches any portion of inner architecture, may even drop all reference to level and to plum line as it follows the spiral of a staircase. The slope spans all degrees from the vertical walls to the horizontal ceilings. True murals are not confined to the two dimensions of a wall, but spread on architectural units in three dimensions. Their shape may be cubical, on four walls and a ceiling, or partly spherical, on arches or cupolas. The spectator, instead of standing outside of the painting looking in, is surrounded by it like a goldfish by its bowl; each turn of the head, each shift of point of view, brings ever changing modifications to the optical picture, dynamic in the sense that its relative proportions are in a state of liquid mutation. The word coined by Archipenko, "sculpto-painting," fits murals; but instead of covering the convex surface of solid sculpture, murals are laid

on the concave surfaces of a solid that is but the mold into which a space-sculpture is cast. In the space from wall to wall, from dome to arches, an exchange of optical relationships takes place. The Prophets of the Sistine, facing each other over the width of the nave, engage in a plastic conversation, start a plastic argument that the facing partner concludes, pair complementary rhythms. In the now dismembered room that Ucello criss-crossed with the martial clash of lances, red on black, such a spatial plastic intercourse filled the air with as complicated a va-et-vient of optical lines as the bounces of a jai alai ball in a closed court. The dismembered fragments exhibited in museums, the photographs and book illustrations that flatten the mural bulk, miss perforce this vital point, and no more reproduce the actual work than a bear-skin portrays the live animal.

Given the size of walls and the distance from which they are to be viewed, much mural subject matter must be on a heroic scale. The aim of the chosen scale is roughly to suggest normal size from average points of view; to attain this aim the painter must take into consideration the height at which the painted area begins, the set of distances from which it will be seen, and the requirements for visibility under the light conditions that the building affords. Thus, though apparent scale can be accepted as constant, actual scale varies greatly, from the few inches in height of figures in Mayan frescos planned to be seen nose to nose by a squatting onlooker, to the giants that Michelangelo found could barely "carry" from the heights of the Sistine ceiling.

The actual scale is the one that the painter experiences in the course of painting, and its size reacts on the mural style. Physically speaking, the painter who works on a miniature scale will use mainly his fingers; as the scale increases the means shift to the wrist, then to the elbow and in ceiling work even to the shoulder. The tracing patterns natural to each muscular set differ. Broadly speaking, the painter who paints from the shoulder tends to a large and monotonous sweep, less versatile

than the trick motions at his finger tips. When Renoir lost the use of his fingers that could so daintily knot a ribbon with the brush, a heroic spirit came onto him owing in part to the resulting shift in working muscles from fingers to shoulder, a shift that ordinarily takes place when one changes from easel to murals. Renoir perforce increased in greatness as he came nearer to mural conditions.

The mural problems reviewed so far are not primarily esthetic problems, but concern the physical conditions that govern the making and the seeing of murals. Yet the solution of these physical problems impinges upon esthetics: architectural habitat and multiple points of view call upon the painter to geometrize, impose on his work a style. We come now to problems in drawing, in modeling and color, that are primarily esthetic but likewise so hemmed in by physical actualities, both optical and technical, that their discussion still depends more on objective understanding than subjective considerations. The size of painted walls is such that their subject matter, even enlarged to mural scale, will be more elaborate than in easel painting and the dramatis personae more numerous. There are points of view from which the wall can be seen as a whole, optically reduced by distance to what could be called easel size. In spite of the complex subject matter the muralist must preserve in this total view a certain simplicity, for complexity can be absorbed by the human eye to saturation, but past that point becomes confusion. Simplicity is somewhat automatically preserved by the fact that the smaller elements become invisible at the distance from which the wall may be comprehended as a unit. The handling of the brush that plays a vital role in easel painting lacks carrying range in murals. The witty stroke of Manet, the bold brush of Hals, would be dead matter in mural craft. To the muralist the house painter is the better teacher for he can cover large areas with wise technical impersonality. Having no access to the emotional expression latent in the finger tips of the autographic automatic brush writer, the muralist must find the outlet for his personality mostly in intellectual planning. The viva-

ciousness that the brush of great easel painters communicates even to bodies in full repose must submit to inorganic architecture. The bloom of a cheek, the warmth of lips, the highlight on an eyeball, lack mural substantiality; at mural range the ovoid of a skull, the cylinder of a neck, express the character of a head long after the features can no longer be seen. With Francesca's women beauty follows mural form and function; they match in their paleness the mixture of marble dust and lime on which they are evoked.

I referred before to a mural composition as a charade where organic bodies and inorganic objects vie in performing architectural roles. This tendency to geometrize becomes much strengthened in practice by the stages that govern the technical handling of true fresco. The painter who dons overalls, climbs a ladder, sits on a plank and paints, elbowed by masons busy with hod and trowel, seems to acquire some of their commonsense manual approach to the craft. To compose, the muralist must read a spirit level, use a plumb line, swing a compass, string a ruled line, slacken a catenary line; to draw, he must stylize a first sketch to mural status, enlarge it on brown paper, retrace it on tracing paper, punch it with pin or roulette, pass it and brush it on the scratch coat, pounce it on the final coat of sand and lime, preparatory to painting. By the time the drawing is transferred to the wall it has exchanged the qualities of spontaneity and impromptu for a dose of impersonal monumentality.

Mural drawing is best paired with a mural palette. Its tradition lives in the books of Cennini and the recipes of contemporary Slav fresco painters. Its sober range owes much to the happy habit that lime has of disintegrating the more blatant pigments, of bringing out the subtleties of earth colors. The resulting nobility suits well the monumental style, unifies in mood and hue the multiple threads of large size composition. Ingres, queried on Dutch genre painting, answered that in spite of its low subject matter its palette was best suited to the noble tone of historical painting. We can add also that this palette is

eminently mural. The Dutch painters do squeeze out of earth colors all the nuances that are latent in them. The contrast of a brown against a red ochre in Brouwer's "Smokers" is as decisive as the red-green chord that is Delacroix's culminating cymbal-clash; against the warm ochres a pinch of green earth evokes vistas of trees; on the brown glaze of a jug a grey high light suffices to pool the sky. Ingres himself has used the Dutch palette when at his noblest but, a stranger to fresco painting, he could not gather the fullness of his own remark, for this palette of earth colors is par excellence a fresco palette.

As is the case with drawing, the technical handling of color has become standardized to maximum efficiency by mural tradition, from the grinding of pigment to a listing of complementaries that contradicts Chevreul's color wheel. The use of verdaccio to underpaint flesh, the summing up of modelings into flat stenciled areas, the exalting of the local color by a contrasting net of colored lines, the open cross-hatchings that result automatically in concave or convex illusions, all those recipes are as human, as wise and as healthily limiting as is, to the hordes of potential sounds, the restricted and filtered range of a piano. If such logical handling acquires today an archaistic overtone that is only because ancient tradition is itself a summary of long-pondered function.

Mural drawing and mural color imply mural modeling, and modeling is ruled by light conditions. The steps through which the drawing passes before reaching the wall result in an emphasis on unbroken outline, the traditional application of pigment in unbroken local color. Such elements could not be featured in a sharp diagonal light à la Caravaggio or à la Rembrandt that replaces the outline with this inner line where dark meets light, that breaks the local color in two portions, contrasted as black to white; nor in the impressionist glare that dissolves outlines behind gauzes of atmospheric haze, splits local color into strips of contrasting hues in its desire to model with color. The mural specification for a clear outline and sustained local color seems to be a frontal, flat, diffused light—a light which

best holds the object within the bounds of its own outline, plays low the modeling, increases the hegemony of local color, tends to feature things as we know them rather than things as seen. A cloak painted mural style will be truer to the dye in which its model was soaked than to the law of complementaries as observed in nature by Delacroix and Chevreul. For the mural painter dealing with a remote point of view, such a light guarantees maximum breadth, maximum carrying power. Ingres sums it all up in his aphorism, "Reflected lights in the shadows are beneath the dignity of historical painting."

Both easel painter and muralist work perforce at no more than arm's length; but while the easel painter puts to work both brush and eye, the mural painter can be said to paint blind. If he worked easel fashion on the wall, painting daily contrasts in color, value and direction to please his eye, these many small effects would neutralize each other when seen at the long mural range. Especially in fresco where each day's area is thoroughly finished before the neighboring area is begun, the muralist at work is bereft of the physical check-up that a glance at the whole would furnish, must rely on a mental image of planned results. The daily job will look monotonous until, the jigsaw puzzle completed, the parts gather meaning from the whole. Thus a mural fragment similar in subject and area to a given easel picture will show less contrast both in value and color, less variety in line and direction. This fragmentary state is often misinterpreted by critics familiar with easel painting as a weakness of the artist. People who, confronted by the detail of a Rivera fresco, point to a monotony in drawing, a dullness in color and flatness in values, do not point to defects, as they think, but to mural qualities; it is this effacement in each individual score that insures a correct orchestration.

Governed as he is by architecture, the mural painter cannot capture nature as casually or as convincingly as can the easel painter; yet he cannot forego nature as justifiably as the abstractionist. A public building is not a studio where the work of art may be submitted only to the scrutiny of experts; its public

is made of laymen who expect its painting to tell a story. Thus the mural artist is immobilized between two contradictory magnetic poles: the mysterious architectonic of the mathematical basis of architecture, and the interesting and clear story-telling that his public has a right to expect. The ancient dignity inherent in the calling of the painter of "historyes" is visited anew on the fresco painter. The hierarchical pre-eminence of historical painting that the 17th century took for granted is accepted again. Walls do not encourage the factual listing of casual objects proper to still life, nor the petty anecdotes of genre painters; their sheer size and their public function fit them better to the doings of heroic characters, to the weaving of themes weighted with human significance.

Propaganda and fresco mix well. In a former day the mother of Villon relished in the murals of her parish church the display of the Blessed in heaven that stirred her to virtue, the vision of lost souls boiled in vast caldrons that kept her away from sin. The "Battles" that Le Brun painted for Louis XIV, the mural canvases that David covered for Napoleon, hallowed as they are, were in their time raw political propaganda. A friend relates an overheard conversation showing that this affinity is still understood, though perhaps stated in muddled form.

"X is to paint a fresco for the government."

"He wouldn't dare!"

"But why not?"

"Because a fresco is a Communist painting."

Public speaking in paint, painting from the pulpit or the soapbox, requires technical achievements distinct from those of "chamber" painting. For even if we admit that mural painting must have a religious or a social content, whatever the axe that the painter grinds it is his job to grind it fine. Thus we come back to plastic problems concerning line, mass, value and color, problems that public and patrons alike impatiently dismiss as studio shop talk. But in final analysis it is on these that the clear enunciation of the theme, and hence its propagandistic power, hinges.

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