transparency has become involved with further levels of interpretation which, in his Language of Vision,
word, from the first, richly loaded with the possibilities of both meaning and misunderstanding.
functioning as a critical honorific, and in being dignified by far from disagreeable moral overtones, is a
pretence or dissimulation; and thus the adjective transparent, by defining a purely physical significance, by
which should be easily detected, perfectly evident; and an attribute of personality—the absence of guile,
being pervious to light and air, the result of an intellectual imperative—of our inherent demand for that
made to expose certain levels of meaning with which the term 'transparency' has become endowed.
evasive nature of these words is examined, we could be in danger of misinterpreting the forms of lucid
tions. Perhaps any such attempt can only result in sophistries. Yet it also becomes evident that, unless the
fixations. They transpose insignificant singularities into meaningful complexities . . . The transparent
qualities of the superimpositions often suggest transparency of context as well, revealing unnoticed
behind 1807. c. A photograph or picture on glass or other transparent substance
intended to be seen by transmitted light 1874. 3. A burlesque translation of the
German title of address Durchlaucht 1844.

Transparent 1. Having the property of transmitting light, so as to render bodies lying
beyond completely visible, that can be seen through. b. Penetrating, as light 1593. c.
Admitting the passage of light through interstices (rare) 1693. 2. fig. a. Open,
candid, ingenuous 1590. b. Easily seen through, recognized, or detected; manifest, obvious 1592.

‘Simultaneity ,” interpenetration ,’ ‘superimposition,’ ‘ambivalence,’ ‘space-time,’ ‘transparency': in
the literature of contemporary architecture these words, and others like them, are often used as syn-
onyms. We are all familiar with the manifestations to which they are applied—or assume ourselves to be
so. These are, we believe, the specific formal characteristics of contemporary architecture; and, as we
respond to these, we rarely seek to analyze the nature of our response.

It may indeed be futile to attempt to make efficient critical instruments of such approximate defini-
tions. Perhaps any such attempt can only result in sophistries. Yet it also becomes evident that, unless the
evasive nature of these words is examined, we could be in danger of misinterpreting the forms of lucid
complexity to which they may sometimes refer; and it is for this reason that here some attempt will be
made to expose certain levels of meaning with which the term ‘transparency’ has become endowed.

By the dictionary definition the quality or state of being transparent is a material condition—that of
being pervious to light and air, the result of an intellectual imperative—of our inherent demand for that
which should be easily detected, perfectly evident; and an attribute of personality—the absence of guile,
pretence or dissimulation; and thus the adjective transparent, by defining a purely physical significance, by
functioning as a critical honorific, and in being dignified by far from disagreeable moral overtones, is a
word, from the first, richly loaded with the possibilities of both meaning and misunderstanding.

But, in addition to these accepted connotations, as a condition to be discovered in a work of art,
transparency has become involved with further levels of interpretation which, in his Language of Vision,
are admirably defined by Gyorgy Kepes:

If one sees two or more figures overlapping one another, and each of them claims for itself the
common overlapped part, then one is confronted with a contradiction of spatial dimensions. To resolve
the contradiction one must assume the presence of a new optical quality. The figures are endowed with
transparency: that is, they are able to interpenetrate without an optical destruction of each other. Trans-
parency however implies more than an optical characteristic, it implies a broader spatial order. Transpar-
ency means a simultaneous perception of different spatial locations. Space not only recedes but fluctuates
in a continuous activity. The position of the transparent figures has equivocal meaning as one sees each
figure now as the closer, now as the further one.

Thus, there is now introduced a conception of transparency quite distinct from any physical quality of
substance and almost equally remote from the idea of the transparent as the perfectly clear. In fact, by
this definition, the transparent ceases to be that which is perfectly clear and becomes, instead, that which
is clearly ambiguous. Nor is this definition an entirely esoteric one; and when we read (as we so often do)
of ‘transparent overlapping planes’ we sense that more than a physical transparency is involved.

For instance, while Moholy-Nagy in his Vision in Motion constantly refers to “transparent cellophane
sheets,” “transparent plastic,” “transparency and moving light,” “Rubens’ radiant transparent shadows,”2
a careful reading of the book might suggest that for him such literal transparency is often furnished with
certain metaphorical qualities. Some superimpositions of form, Moholy tells us, “overcome space and time
fixations. They transpose insignificant singularities into meaningful complexities . . . The transparent
qualities of the superimpositions often suggest transparency of context as well, revealing unnoticed
structural qualities in the object.”3 And again, in commenting on what he calls “the manifold word aggluti-
nations” of James Joyce, on the Joycean ‘pun,’ Moholy finds that these are “the approach to the practical
task of building up a completeness by an ingenious transparency of relationships.” In other words, he
seems to have felt that, by a process of distortion, recomposition, and double entendre, a linguistic
transparency— the literary equivalent of Kepes” `interpenetration without optical destruction”— might be
effected and that whoever experiences one of these Joycean ‘agglutinations’ will enjoy the sensation of
looking through a first plane of significance to others lying behind.

Therefore, at the beginning of any inquiry into transparency, a basic distinction must perhaps be established. Transparency may be an inherent quality of substance—as in a wire mesh or glass curtain wall, or it may be an inherent quality of organization—as both Kepes and, to a lesser degree, Moholy suggest it to be; and one might, for this reason, distinguish between a real or literal and a phenomenal or seeming transparency.

Possibly our feeling for literal transparency derives from two sources, from what might be designated as machine aesthetic and from Cubist painting; probably our feeling for phenomenal transparency derives from Cubist painting alone; and, certainly any Cubist canvas of 1911-12 could serve to illustrate the presence of these two orders or levels of the transparent.

But, in considering phenomena so baffling and complex as those which distinguish Cubist painting, the would-be analyst is at a disadvantage; and, presumably, it is for this reason that, almost fifty years after the event, dispassionate analysis of the Cubist achievement is still almost entirely lacking. Explanations which obscure the pictorial problems of Cubism are to be found in abundance, and one might be sceptical of these, just as one might be sceptical of those two plausible interpretations which involve the fusion of temporal and spatial factors, which see Cubism as a premonition of relativity, and which in this way present it as little more than a ‘natural’ byproduct of a particular cultural atmosphere. As Alfred Barr tells us, Apollinaire “invoked the fourth dimension . . . in a metaphorical rather than a mathematical sense”; and, rather than attempt to relate Picasso to Minkowski, it would, for us, be preferable to refer to less disputable sources of inspiration.

A late Cezanne such as the Mont Sainte Victoire of 1904-6 (Plate 58) in the Philadelphia Museum of Art is characterized by certain extreme simplifications: most notably, by a highly developed insistence on a frontal viewpoint of the whole scene; by a suppression of the more obvious elements suggestive of depth; and by a resultant contracting of foreground, middleground, and background into a distinctly compressed pictorial matrix. Sources of light are definite but various; and a further contemplation of the picture reveals a tipping forward of the objects in space, which is assisted by the painter’s use of opaque and contrasted color and made more emphatic by the intersection of the canvas provided by the base of the mountain. The center of the composition is occupied by a rather dense gridding of oblique and rectilinear lines; and
this area is then buttressed and stabilized by a more insistent horizontal and vertical grid which introduces a certain peripheric interest.

Frontality, suppression of depth, contracting of space, definition of light sources, tipping forward of objects, restricted palette, oblique and rectilinear grids, propensities towards peripheric development, are all characteristics of Analytical Cubism, and, in the typical compositions of 1911-12, detached from more overtly representational purpose, they assume a more evident significance. These pictures, apart from the pulling to pieces and reassembly of objects, perhaps above all we are conscious of a further shrinkage of depth and an increased emphasis which is now awarded to the grid. We discover about this time a meshing two systems of coordinates. On the one hand an arrangement of oblique and curved lines suggests a certain diagonal spatial recession. On the other, a series of horizontal and vertical lines implies a contradictory statement of frontality. Generally speaking, the oblique and curved lines possess a certain naturalistic significance while the rectilinear ones show a geometricizing tendency serving as a reassertion of the picture plane. But both systems of coordinates provide for the orientation of the figures simultaneously in an extended space and on a painted surface, while their intersecting, overlapping, interlocking, their building up into larger and fluctuating configurations, permits the genesis of the typical Cubist motif.

But, as the observer distinguishes between all the planes to which these grids give rise, he becomes progressively conscious of an opposition between certain areas of luminous paint and others of a more dense coloration. He distinguishes between certain planes to which he is able to attribute a physical nature allied to that of celluloid, others whose essence is semiopaque, and further areas of a substance totally opposed to the transmission of light. And he may discover that all of these planes, translucent or otherwise, and regardless of their representational content are to be found implicated in the manifestation which Kepes has defined as transparency.

The double nature of this transparency may be illustrated by the comparison and analysis of a somewhat atypical Picasso, *The Clarinet Player* (Plate 59), and a representative Braque, *The Portuguese* (Plate 60), both of 1911. In each picture a pyramidal form implies an image; but then, while Picasso defines his pyramid by means of a strong contour, Braque uses a more complicated inference. Picasso’s contour is so assertive and independent of its background that the observer has some sense of a positively transparent figure standing in a relatively deep space, and only subsequently does he redefine this sensation to allow for the real shallowness of the space. But with Braque the reading of the picture follows a reverse order. A highly developed interlacing of horizontal and vertical gridding, created by gapped lines and intruding planes, establishes a primarily shallow space, and only gradually does the observer become able to invest this space with a depth which permits the figure to assume substance. Braque offers the
The possibility of an independent reading of figure and grid. Picasso scarcely does so. Picasso's grid is rather subsumed within his figure or appears as a form of peripheral incident intended to stabilize it.

The differences of method in these two pictures could easily be overemphasized. At different times they will appear to be dissimilar and alike. But it is necessary to point out that there are present in this parallel the intimations of different directions. In the Picasso we enjoy the sensation of looking through a figure standing in a deep space; whereas in Braque's shallow, flattened, laterally extended space we are provided with no physically perspicious object. In the one we receive a prevision of literal, in the other, of phenomenal transparency; and the evidence of these two distinct attitudes will become much clearer if a comparison is attempted between the works of two such slightly later painters as Robert Delaunay and Juan Gris.

Delaunay's *Simultaneous Windows* of 1911 and Gris' *Still Life* of 1912 (Plates 61 and 62) both include objects which are presumably transparent, the one windows, the other bottles; but, while Gris suppresses the literal transparency of glass in favor of a transparency of gridding, Delaunay accepts without restrained enthusiasm the elusively reflective qualities of his superimposed 'glazed openings.' Gris weaves a system of oblique and curved lines into some sort of shallow, corrugated space; and, in the architectonic tradition of Cezanne, in order to amplify both his objects and structure, he assumes varied but definite light sources. Delaunay's preoccupation with form presupposes an entirely different attitude. Forms to him—e.g., a low block of buildings and various naturalistic objects reminiscent of the Eiffel Tower—are nothing but reflections and refractions of light which he presents in terms analogous to Cubist gridding. But, despite this geometricizing of image, the generally ethereal nature of both Delaunay's forms and his space appears more characteristic of impressionism; and this resemblance is further reinforced by the manner in which he uses his medium. In contrast to the flat, planar areas of opaque and almost monochromatic color which Gris invests with such high tactile value, Delaunay emphasizes a quasi-impressionistic calligraphy; and, while Gris provides explicit definition of a rear plan, Delaunay dissolves the possibilities of so distinct a closure of his space. Gris's rear plane functions as a catalyst which localizes the ambiguities of his pictorial objects and engenders their fluctuating values. Delaunay's distaste for so specific a procedure leaves the latent ambiguities of his form unresolved, exposed, without reference. Both operations might be recognized as attempts to elucidate the congested intricacy of Analytical Cubism; but, where Gris seems to have intensified some of the characteristics of Cubist space and to have imbued its plastic principles with a new bravura, Delaunay has, perhaps, been led to explore the poetical overtones of Cubism by divorcing them from their metrical syntax.

When something of the attitude of a Delaunay becomes fused with a machine-aesthetic emphasis upon materials and stiffened by a certain enthusiasm for planar structures, then literal transparency becomes complete; and perhaps it is most appropriately to be illustrated by the work of Moholy-Nagy. In *his Abstract of an Artist*, Moholy tells us that around 1921 his "transparent paintings" became completely freed from all elements reminiscent of nature, and, to quote him directly, "I see today that this was the logical result of the Cubist paintings which I had admiringly studied."

Plate 62 Juan Gris, *Still Life*, 1912.
Now whether a freedom from all elements reminiscent of nature may be considered a logical continuation of Cubism is not relevant to the present discussion, but whether Moholy did succeed in emptying his work of all naturalistic content is of some importance; and his seeming belief that Cubism had pointed the way towards a freeing of forms may justify us in the analysis of one of his subsequent works and its parallel with another post-Cubist painting. With Moholy’s La Sarraz of 1930 (Plate 63) might reasonably be compared a Fernand Leger of 1926, Three faces (Plate 64).

In La Sarraz five circles connected by an S-shaped band, two sets of trapezoidal planes of translucent color, a number of near horizontal and vertical bars, a liberal splattering of light and dark flecks, and a number of slightly convergent dashes are all imposed upon a black background. In Three Faces three major areas displaying organic forms, abstracted artifacts, and purely geometric shapes are tied together by horizontal banding and common contour. In contrast to Moholy, Leger aligns his pictorial objects at right angles to each other and to the edges of his picture plane; he provides these objects with a flat, opaque coloring, setting up a figure-ground reading through the compressed disposition of highly contrasted surfaces; and, while Moholy seems to have flung open a window on to some private version of outer space, Leger, working within an almost two-dimensional scheme, achieves a maximum clarity of both ‘negative’ and ‘positive’ forms. By means of restriction, Leger’s picture becomes charged with an equivocal depth reading, with a phenomenal transparency singularly reminiscent of that to which Moholy was so sensitive in the writings of Joyce, but which, in spite of the literal transparency of his paint, he himself has been unable or unwilling to achieve.

Plate 63 Laszio Moholy-Nagy, La Sarraz, 1930.

Plate 64 Fernand Leger, Three Faces, 1926.
For, in spite of its modernity of motif, Moholy's picture still shows the conventional pre-Cubist foreground, middleground and background; and, in spite of a rather casual interweaving of surface and depth elements introduced to destroy the logic of this deep space, Moholy's picture can be submitted to only one reading. But the case of Leger is very different. For Leger, through the refined virtuosity with which he assembles post-Cubist constituents, makes completely plain the multifunctioned behavior of clearly defined form. Through flat planes, through an absence of volume suggesting its presence, through the implication rather than the fact of a grid, through an interrupted checkerboard pattern stimulated by color, proximity, and discreet superimposition, he leads the eye to experience an inexhaustible series of larger and smaller organizations within the whole. Leger's concern is with the structure of form: Moholy's with materials and light. Moholy has accepted the Cubist figure but has lifted it from out of its spatial matrix: Leger has preserved and even intensified the typically Cubist tension between figure and space.

These three comparisons may clarify some of the basic differences between literal and phenomenal transparency in the painting of the last forty-five years. Literal transparency, we might notice, tends to be associated with the trompe l'oeil effect of a translucent object in a deep, naturalistic space; while phenomenal transparency seems to be found when a painter seeks the articulated presentation of frontally aligned objects in a shallow, abstracted space.

But, in considering architectural rather than pictorial transparencies, inevitable confusions arise. For, while painting can only imply the third dimension, architecture cannot suppress it. Provided with the reality rather than the counterfeit of three dimensions, in architecture, literal transparency can become a physical fact; but phenomenal transparency will be more difficult to achieve—and is, indeed, so difficult to discuss that generally critics have been entirely willing to associate transparency in architecture exclusively with a transparency of materials. Thus Gyorgy Kepes, having provided an almost classical explanation of the phenomena we have noticed in Braque, Gris, and Leger, appears to consider that the architectural analogue of these must be found in the physical qualities of glass and plastics, that the equivalent of carefully calculated Cubist and post-Cubist compositions will be discovered in the haphazard superimpositions provided by the accidental reflections of light playing upon a translucent or polished surface. And, similarly, Siegfried Giedion seems to assume that the presence of an all-glass wall at the Bauhaus (Plate 65), with "its extensive transparent areas," permits "the hovering relations of planes and the kind of 'overlapping' which appears in contemporary painting"; and he proceeds to reinforce this suggestion with a quotation from Alfred Barr on the characteristic "transparency of overlapping planes" in analytical Cubism.

In Picasso's L'Arlesienne (Plate 66), the picture which provides the visual support for these inferences of Giedion's, such a transparency of overlapping planes is very obviously to be found. There Picasso...
offers planes apparently of celluloid through which the observer has the sensation of looking; and, in doing so, no doubt his sensations are somewhat similar to those of an observer of the workshop wing at the Bauhaus. In each case a transparency of materials is discovered. But then, in the laterally constructed space of his picture, Picasso, through the compilation of larger and smaller forms, also offers limitless possibilities of alternative interpretation. L’Arlesienne has the fluctuating, equivocal meaning which Kepes recognizes as characteristic of transparency; while the glass wall at the Bauhaus, an unambiguous surface giving upon an unambiguous space, seems to be singularly free of this quality; and thus, for the evidence of what we have designated phenomenal transparency, we shall here be obliged to look elsewhere.

Almost contemporary with the Bauhaus, Le Corbusier’s villa at Garches (Plates 5 and 6) might fairly be juxtaposed with it. Superficially, the garden facade of this house and the elevations of the workshop wing at the Bauhaus (Plate 67) are not dissimilar. Both employ cantilevered wall slabs and both display a recessed ground floor. Neither admits an interruption of the horizontal movement of the glazing and both make a point of carrying this glazing around the corner. But further similarities are looked for in vain. From here on, one might say that Le Corbusier is primarily occupied with the planar qualities of glass and Gropius with its translucent attributes. By the introduction of a wall surface almost equal in height to that of his glazing divisions, Le Corbusier stiffens his glass plane and provides it with an overall surface tension; while Gropius permits his translucent surface the appearance of hanging rather loosely from a fascia which protrudes somewhat in the fashion of a curtain box. At Garches one may enjoy the illusion that possibly the framing of the windows passes behind the wall surface; but, at the Bauhaus, since one is never for a moment unaware that the slab is pressing up behind the window, one is not enabled to indulge in such speculations.

At Garches the ground floor is conceived of as a vertical surface traversed by a range of horizontal windows; at the Bauhaus it is given the appearance of a solid wall extensively punctured by glazing. At Garches it offers an explicit indication of the frame which carries the cantilevers above; at the Bauhaus it shows somewhat stubby piers which do not automatically connect with the idea of a skeleton structure. In this workshop wing of the Bauhaus one might say that Gropius is absorbed with the idea of establishing a plinth upon which to dispose an arrangement of horizontal planes, and that his principal concern appears to be the wish that two of these planes should be visible through a veil of glass. But glass would hardly seem to hold such fascination for Le Corbusier; and, although one can obviously see through his windows, it is not here that the transparency of his building is to be found.

At Garches (Plate 10) the recessed surface of the ground floor is redefined upon the roof by the two free-standing walls which terminate the terrace; and the same statement of depth is taken up by the glazed doors in the side walls which act as conclusions to the fenestration (Plate 7). In these ways Le Corbusier proposes the idea that, immediately behind his glazing, there lies a narrow slot of space traveling parallel to it; and, of course, in consequence of this, he implies a further idea— that bounding this slot of space, and behind it, there lies a plane of which the ground floor, the free-standing walls, and the inner

reveals of the doors all form a part; and, although this plane may be dismissed as very obviously a conceptual convenience rather than a physical fact, its obtrusive presence is undeniable. Recognizing the physical plane of glass and concrete and this imaginary (though scarcely less real) plane that lies behind, we become aware that here a transparency is effected not through the agency of a window but rather through our being made conscious of primary concepts which “interpenetrate without optical destruction of each other.”

And obviously these two planes are not all, since a third and equally distinct parallel surface is both introduced and implied. It defines the rear wall of the terrace, and is further reiterated by other parallel dimensions: the parapets of the garden stairs, the terrace, and the second-floor balcony. In itself, each of
these planes is incomplete or perhaps even fragmentary; yet it is with these parallel planes as points of reference that the facade is organized, and the implication of all is that of a vertical layerlike stratification of the interior space of the building, of a succession of laterally extended spaces traveling one behind the other.

It is this system of spatial stratification which brings Le Corbusier's facade into the closest relationship with the Leger we have already examined. In *Three Faces* Leger conceives of his canvas as a field modeled in low relief. Of his three major panels (which overlap, dovetail, and alternately comprise and exclude each other), two are closely implicated in an almost equivalent depth relationship, while the third constitutes a *coulisse* which both advances and recedes. At Garches, Le Corbusier replaces Leger's picture plane with a most highly developed regard for the frontal viewpoint (the preferred views include only the slightest deviations from parallel perspective); Leger's canvas becomes Le Corbusier's second plane; other planes are either imposed upon or subtracted from this basic datum; and deep space is then contrived in similar *coulisse* fashion, with the facade cut open and depth inserted into the ensuing slot.

These remarks, which might infer that Le Corbusier had indeed succeeded in alienating architecture from its necessary three-dimensional existence, require qualification; and, in order to provide it, it is now necessary to proceed to some discussion of the building's internal space. And here, at the very beginning, it maybe noticed that this space appears to be a flat contradiction of the facade, particularly on the principal floor (Plate 7) where the volume revealed is almost directly opposite to that which might have been anticipated. Thus, the glazing of the garden facade might have suggested the presence of a single large room behind it; and it might have further inspired the belief that the direction of this room was parallel with that of the facade. But the internal divisions of the space deny any such statement, disclosing, instead, a major volume whose primary direction is at right angles to the facade; while, in both the major volume and in the subsidiary spaces which surround it, the predominance of this direction is further conspicuously emphasized by the flanking walls. But the spatial structure of this floor is obviously more complex than at first appears, and ultimately it compels a revision of these initial assumptions. Gradually the lateral nature of the cantilevered slots becomes evident; and, while the apse of the dining room, the position of the principal stairs, the void, the library, all reaffirm the same dimension, by means of these elements the planes of the facade can now be seen to effect a profound modification of the deep extension of the internal space, which now comes to approach the stratified succession of flattened spaces suggested by the external appearance.

So much might be said for a reading of the internal volumes in terms of the vertical planes; and a further reading in terms of the horizontal planes, the floors, will reveal similar characteristics. Thus, after recognizing that a floor is not a wall and that plans are not paintings, we might still examine these horizontal planes in very much the same manner as we have the facade, again selecting *Three Faces* as a point of departure. A complement of Leger's picture plane may now be offered by the roofs of the penthouse and
the elliptical pavilion, by the summits of the free-standing walls and by the top of the rather curious gazebo—all of which lie on the same surface (Plate 10). The second plane now becomes the major roof terrace and the coulis space becomes the cut in the slab which leads the eye down to the terrace below; and similar parallels are very obvious in considering the organization of the principal floor. For here the vertical equivalent of deep space is introduced by the double height of the outer terrace and by the void connecting living room with entrance hall; and here, just as Leger enlarges spatial dimensions through the displacement of the inner edges of his outer panels, so Le Corbusier encroaches upon the space of his central area.

Thus, throughout this house, there is that contradiction of spatial dimensions which Kepes recognizes as characteristic of transparency. There is a continuous dialectic between fact and implication. The reality of deep space is constantly opposed to the inference of shallow; and, by means of the resultant tension, reading after reading is enforced. The five layers of space which, vertically, divide the building’s volume and the four layers which cut it horizontally will all, from time to time, claim attention; and this gridding of space will then result in continuous fluctuations of interpretation.

These possibly cerebral refinements are scarcely so conspicuous at the Bauhaus; indeed they are attributes of which an aesthetic of materials is apt to be impatient. In the workshop wing of the Bauhaus it is the literal transparency which Giedion has chiefly applauded, at Garches it is the phenomenal transparency which has engaged our attention; and, if with some reason we have been able to relate the achievement of Le Corbusier to that of Leger, with equal justification we might notice a community of interest in the expression of Gropius and Moholy.

Moholy was always preoccupied with the expression of glass, metal, reflecting substances, light; and Gropius, at least in the 1920s, would seem to have been equally concerned with the idea of using materials for their intrinsic qualities. Both, it may be said without injustice, received a certain stimulus from the experiments of De Stijl and the Russian Constructivists; but both apparently were unwilling to accept certain more Parisian conclusions.

For, seemingly, it was in Paris that the Cubist ‘discovery’ of shallow space was most completely exploited; and it was there that the idea of the picture plane as uniformly activated field was most entirely understood. With Picasso, Braque, Gris, Leger, Ozenfant, we are never conscious of the picture plane functioning in any passive role. Both it, as negative space, and the objects placed upon it, as positive figure, are endowed with an equal capacity to stimulate. But outside the school of Paris this condition is not typical, although Mondrian, a Parisian by adoption, constitutes one major exception and Klee another. But a glance at any representative works of Kandinsky, Malevitch, El Lissitzky, or Van Doesburg will reveal that these painters, like Moholy, scarcely felt the necessity of providing any distinct spatial matrix for their principal objects. They are apt to accept a simplification of the Cubist image as a composition of geometrical planes, but they are apt to reject the comparable Cubist abstraction of space; and, if for these reasons their pictures offer us figures which float in an infinite, atmospheric, naturalistic void, without any of the rich Parisian stratification of volume, the Bauhaus may be accepted as their architectural equivalent.

Thus, in the Bauhaus complex, although we are presented with a composition of slablike buildings whose forms suggest the possibility of a reading of space by layers, we are scarcely conscious of the presence of spatial stratification. Through the movements of the dormitory building, the administrative offices, and the workshop wing, the principal floor may suggest a channeling of space in one direction (Figure 18). Through the countermovements of roadway, classrooms, and auditorium wing, the ground floor may suggest a movement of space in the other (Figure 19). A preference for neither direction is stated; and the ensuing dilemma is resolved, as indeed it only can be resolved in this case, by giving priority to diagonal points of view.

Much as Van Doesburg and Moholy eschew Cubist frontality, so does Gropius; and it is significant that, while the published photographs of Garches tend to minimize factors of diagonal recession, almost invariably the published photographs of the Bauhaus tend to play up just these factors. And the importance of these diagonal views of the Bauhaus is constantly reasserted—by the translucent corner of the workshop wing and by such features as the balconies of the dormitory and the protruding slab over the entrance to the workshops, features which require for their Understanding a renunciation of the principle of frontality.

In plan, the Bauhaus reveals a succession of spaces but scarcely ‘a contradiction of spatial dimensions.’ Relying on the diagonal viewpoint, Gropius has exteriorized the opposed movements of his space, has allowed them to flow away into infinity; and, by being unwilling to attribute to either one any significant difference of quality, he has prohibited the possibilities of a potential ambiguity. Thus, only the contours of his buildings assume a layerlike character; but these layers of building scarcely act to suggest a layerlike structure of either internal or external space. Denied, by these means, the possibility of penetrating a stratified space defined either by real planes or their imaginary projections, the observer is also denied the possibility of experiencing those conflicts between one space which is explicit and another
which is implied. He may enjoy the sensation of looking through a glass wall and thus be able to see the interior and the exterior of the building simultaneously; but, in doing so, he will be conscious of few of those equivocal emotions which derive from phenomenal transparency.

But to some degree, since the one is a single block and the other a complex of wings, an extended comparison between Garches and the Bauhaus is unjust to both. For, within the limitations of a simple volume, it is possible that certain relationships can be inferred which, in a more elaborate composition, will always lie beyond the bounds of possibility; and, for these reasons, it may be more apt to distinguish literal from phenomenal transparency by a further parallel between Gropius and Le Corbusier.

Le Corbusier’s League of Nations project of 1927 (Plates 68 and 69), like the Bauhaus, possesses heterogeneous elements and functions which lead to an extended organization and to the appearance of a further feature which both buildings have in common: the narrow block. But it is here again that similarities cease: for, while the Bauhaus blocks pinwheel in a manner highly suggestive of Constructivist compositions (Figure 20), in the League of Nations these same long blocks define a system of striations almost more rigid than is evident at Garches.

In the League of Nations project lateral extension characterizes the two principal wings of the Secretariat, qualifies the library and book stack area, is reemphasized by the entrance quay and foyers of the General Assembly Building, and dominates even the auditorium itself. There, the introduction of glazing along the side walls, disturbing the normal focus of the hall upon the presidential box, introduces the same transverse direction. And, by such means, the counterstatement of deep space becomes a highly assertive proposition, chiefly suggested by a lozenge shape whose major axis passes through the General Assembly Building and whose outline is comprised by a mirror image projection of the auditorium volume into the approach roads of the cour d’honneur. But again, as at Garches, the intimations of depth inherent in this form are consistently retracted. A cut, a displacement, and a sliding sideways occur along the line of its minor axis; and, as a figure, it is repeatedly scored through and broken down into a series of lateral references—by trees, by circulations, by the momentum of the buildings themselves—so that finally, by a series of positive and negative implications, the whole area becomes a sort of monumental debate, an argument between a real and deep, space and an ideal and shallow one.

We will presume the Palace of the League of Nations as having been built and an observer following the axial approach to its auditorium. Necessarily he is subjected to the polar attraction of its principal entrance which he sees framed within a screen of trees. But these trees, intersecting his vision, also introduce a lateral deflection of interest, so that he becomes successively aware, first, of a relation between the flanking office building and the foreground parterre, and second, of a relation between the crosswalk and the courtyard of the Secretariat. And once within the trees, beneath the low umbrella which
they provide, yet a further tension is established: the space, which is inflected towards the General Assembly Building, is defined by, and reads as, a projection of the book stack and library. And finally, with the trees as a volume behind him, the observer at last finds himself standing on a low terrace, confronting the entrance quay but separated from it by a rift of space so complete that it is only by the propulsive power of the walk behind him that he can be enabled to cross it. With his arc of vision no longer restricted, he is now offered the General Assembly Building in its full extent; but since a newly revealed lack of focus compels his eye to slide along this facade, it is again irresistibly drawn sideways—to the view of gardens and lake beyond. And should the observer turn around from this rift between him and his obvious goal, and


Figure 20 Bauhaus, Dessau. Plan.
should he look back at the trees which he has just abandoned, he will find that the lateral sliding of the space becomes only more determined, emphasized by the trees themselves and the cross alley leading into the slotted indenture alongside the bookstack. While further, if our observer is a man of moderate sophistication, and if the piercing of a volume or screen of trees by a road might have come to suggest to him that the intrinsic function of this road is to penetrate similar volumes and screens, then, by inference, the terrace upon which he is standing becomes, not a prelude to the auditorium, as its axial relationship suggests, but a projection of the volumes and planes of the office building with which it is aligned.

These stratifications, devices by means of which space becomes constructed, substantial, and articulate, are the essence of that phenomenal transparency which has been noticed as characteristic of the central post-Cubist tradition. They have never been noticed as characteristic of the Bauhaus. For obviously there completely different space conceptions are manifest. In the League of Nations project Le Corbusier provides the observer with a series of quite specific locations: at the Bauhaus the observer is without such points of reference. Although the League of Nations project is extensively glazed, except in the auditorium, such glazing is scarcely of capital importance. At the Palace of the League of Nations corners and angles, as the indices of spatial dimension, are assertive and definite. At the Bauhaus, Giedion tells us, they are “dematerialized.” At the Palace of the League of Nations space is crystalline; but at the Bauhaus it is glazing which gives the building a “crystalline translucence.” At the Palace of the League of Nations glass provides a surface as definite and as taut as the top of a drum; but at the Bauhaus glass walls “flow into one another,” “blend into each other,” “wrap around the building,” and in other ways (by acting as the absence of plane) “contribute to that process of loosening up which now dominates the architectural scene.”

But we look in vain for ‘loosening up’ in the Palace of the League of Nations. There is no evidence there of any desire to obliterate sharp distinction. Le Corbusier’s planes are like knives for the apportionate slicing of space. If we could attribute to space the qualities of water, then his building is like a dam by means of which space is contained, embanked, tunneled, sluiced, and finally spilled into the informal gardens alongside the lake. While by contrast, the Bauhaus, insulated in a sea of amorphic outline, is like a reef gently lapped by a placid tide (Figure 21).

The foregoing, no doubt an overextended discussion of two schemes, the one mutilated, the other unbuilt, has been a necessary means towards clarifying the spatial milieu in which phenomenal transparency becomes possible. It is not intended to suggest that phenomenal transparency (for all its Cubist descent) is a necessary constituent of modern architecture, nor that its presence might be used as a piece of litmus paper for the test of architectural orthodoxy. It is simply intended to serve as a characterization of species and, also, as a warning against the confusion of species.

Figure 21 Bauhaus and Palace of the League of Nations. Axonometrics.
Notes


5 Among these exceptions are to be found studies such as those of Alfred Barr and publications such as Christopher Grey, *Cubist Aesthetic Theory*, Baltimore, 1953, and Winthrop Judkins, “Toward a Reinterpretation of Cubism,” *Art Bulletin*, Vol. XXX, No. 4, 1948.


8 Kepes, pp. 79, 117 and elsewhere.
