TOWARD AN AESTHETICS OF ENVIRONMENTAL DESIGN

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It is important to complement the empirical studies that supply specific data for environmental design by articulating the aesthetic ideas that underlie empirical research and practical decision-making. These empirical studies share with philosophical aesthetics a foundation in sense experience. How this experience is to be understood and used is central for environmental design, and aesthetics can make a contribution here by identifying and appraising the different assumptions that guide design concepts. Three distinct postulates will emerge in the following discussion--the contemplative, the active, and the participatory, and each directs different conceptions of environmental design.

Sense Perception in Aesthetic Experience

The discipline of aesthetics retains a bond with its origins in the eighteenth century when it was named the "science of sensory knowledge." Much has come to supplement this sensory base, such as meaning, memory, metaphor, symbol, and history. But it is important to reaffirm the central place that sense perception holds in aesthetic experience, for the senses are essential and indeed central to the study of the arts, natural beauty, and aesthetic value in general. The nature of such experience has understandably been the subject of much discussion since the eighteenth century. In fact, so important has the notion of experience been in theories of art that
it may be taken as the seminal concept in modern aesthetics.

The convenient handful of senses which that metaphorical extra, common sense, distinguishes is often grouped into two separate categories, the distance receptors and the contact receptors. The visual sense allows us to discern light, color, shape, pattern, movement, and distance and its corresponding abstraction, space. Through hearing we grasp sounds as noise or pitch, the latter qualified by timbre, order, sequence, rhythm and other patterns. Philosophic custom since Plato's *Hippias Major* has identified sight and hearing as the aesthetic senses, since they allow the kind of unperturbed reflection so long associated with ideal beauty. The contact receptors, on the other hand, have been dismissed as unconducive to aesthetic pleasure.

Given this history, it is not surprising that the usual description of aesthetic perception is in visual terms: We are offered not an aesthetic of experience but an aesthetic of appearance. Throughout the twenty-five hundred years of the western tradition in philosophy, visual perception has been the dominant sense and sight has been associated with cognitive activity. This is seen clearly in the standard stock of visual metaphors used to denote acts of thought and cognition, from Descartes' "inspection by the mind," which confirms that ideas that the mind perceived in "the light of nature" as "clear and distinct" are true, to the multitude of metaphorical commonplaces denoting comprehension, such as "seeing the light" and "seeing something clearly." Given its philosophic importance, it is not surprising that visual perception became the
governing metaphor for the explanation of aesthetic experience. The aesthetic attitude emerged as the contemplative appreciation of an art object for its own sake. Only in the present century has the hegemony of this account been challenged by explanations such as those based on empathy, pragmatic functionalism, or aesthetic engagement.3

It is necessary to overcome established tradition to introduce the other senses into aesthetic perception, for relying on the close involvement of the body disrupts the lofty contemplation thought to be essential for aesthetic pleasure.4 This is an unfortunate division of the senses, especially for the perception of environment, from which we can never distance ourselves. For the contact receptors are part of the human sensorium and are actively involved in environmental experience. The olfactory sense is intimately present in our awareness of place and time. Even the sense of taste can contribute to that consciousness, as Proust's madeleine eloquently testifies. Tactile experience, moreover, is not simple, as we so often think. Touch belongs to the haptic sensory system, which encompasses both tactility and the subcutaneous perception of surface texture, contour, pressure, temperature, humidity, pain, and visceral activity. Perceptual experience also includes other sensory channels, usually overlooked or confounded with touch, that are different in important respects. The kinesthetic sense involves muscular awareness and skeletal or joint sensation, from which we perceive position and solidity through the degrees of resistance of surfaces: hard, soft, sharp, blunt, firm, yielding. And we grasp body movement indirectly through the vestibular system: the awareness of climbing and descending, turning and twisting, obstacles, and free passage.5 Equally important with
discriminating the sensory range of environmental perception is recognizing synaesthesia, one of whose meanings is the fusion of the sense modalities. For these different sensory channels are distinguishable only in reflection, analysis, and under experimental conditions, not in experience.

Environmental perception engages the entire, functionally interactive human sensorium more forcefully than any other situation. We become part of environment through an interpenetration of body and place. The perception of the physical environment has the force and directness of what is present to us in the overtness and movement of our engagement with things. The objects of the ordinary world often impose themselves forcibly on our thoughts and actions, and our involvement with them is likely to be active as well as responsive. Environmental perception, moreover, holds implications for action that bridge the traditional gulf between aesthetic pleasure and practical action. We become actors in the theater of landscape, to use a metaphor popular in the sixteenth and seventeenth centuries. We are the performers in the art of environment.

Environmental experiences, moreover, are not only sensory: In the human transformations of the natural landscape lies a history of cultural activity far more pervasive than we usually realize. With the emergence of human society as part of the evolutionary process, the cultural landscape began to replace the natural one. Furthermore, these alterations of the landscape assumed patterns that were guided by habit and local tradition, as well as by broader
social and technological trends.

This landscape of culture and history is embodied not only in the forms of buildings and roadways but in the bucolic countryside as well; not just in cultivated fields but in places remote and wild; and not in the physical configuration of our surroundings alone but in the haptic layer of sounds, smells, and substances that fill our ears and lungs and are absorbed deep into our bodies.

The Visual Tradition in Architecture

In its broadest outlines, then, the perceptual experience of environment involves features and configurations given shape by human agency and, in turn, shaping those who perceive them. To understand how this happens, we must enter the environment as participants and not regard it merely as observers. Yet this is as difficult to talk about as to do, in part because we have few concepts and techniques in our tradition to assist us. The stratagems used by architects and planners are the devices of spectators rather than inhabitants. The site or building plan, the elevation, the isometric projection, the model, the aerial view—all these exemplify the disinterested viewer's relation to an external environment. They describe the fixed structures and enclosed spaces of environment as seen from without. Even landscape architecture tends to concentrate on the masonry of structures and to treat plantings as static objects rather than as masses of varying densities changing over time. We have few conceptual tools by which to approach the design of movement and change--of people, light, seasons, of time itself. Nor do
we recognize the need to shape environment from within as participants. Yet the human environment is lived, and we must formulate theoretical terms to reflect this as continuous, vital, and inseparable from the people who inhabit it. Not only is it important to understand environment in this fashion; we must also develop a fuller somatic consciousness of these perceptual properties so that we become more responsive to its dynamic workings and at the same time more deliberate in determining its shapes.

Buildings are human constructions. The form they take and the relationships they develop among themselves and with their sites can reflect imaginative design, as well as their adaptation to the exigencies of time and place. Vernacular architecture mirrors the temper of a people and the quality of their lived world, just as much as the companion folk arts of music, dance, epic, costume, and other crafts do. That is why architecture has central importance for both anthropology and philosophy: It is rooted in the ground of human activities and the requirements for survival, and it both defines and embodies how people inhabit the earth.

Yet we live in a self-conscious age in which traditional building has become anachronistic and the local artisan builder has been replaced either by the engineer or by the architect schooled in techniques and styles that have often lost their bond with history and region. As economics determines size and materials, visual appearance guides the choice of style. When architecture has not embodied bureaucratic anonymity in dully conventional boxes or imitated the classical orders in an effort to acquire at least the appearance of probity, it has
become internationalized. Movements in our century like the Bauhaus and the International Style have left their origins behind to appear often as ungracious and derivative forms in the most unlikely places. Even postmodernism, that recent phase of architectural fashion, becomes in its less imaginative and playful appearances a mere commonplace book of unhinged visual design elements, floating free of their original meanings, functions, and settings.

But architecture can no longer be considered merely as the art in building; it must be understood more inclusively as the creation of the built environment. Most fundamentally, architecture consists in reshaping the earth’s surface. And because no aspect of the human habitat is unaffected by our presence, there is no exaggeration in saying that architecture and the human environment are, in the final analysis, synonymous and coextensive. Furthermore, it is no longer possible to regard environment as an external location; it must be grasped as a physico-historical medium of engagement, a dynamic field of forces continuous with human life. Architectural structures, then, do not stand alone but must be related to environmental experience. What is such experience? What is environment?

Meanings of Environment

We can look in vain for an explicit definition of environment in the writings of cultural geographers and cultural ecologists, where we would most expect to find one. The usual practice is to adapt our common sense understanding to the purpose, taking environment to mean our
physical surroundings. Philosophers tend to be more explicit, yet those few who face the
demands of definition tend to retain the same division between people and their surroundings.
All such proposals suggest the definition of environment sanctified in the Oxford English
Dictionary as "the object or the region surrounding anything." Cartesian dualism remains alive
and well.

Yet the actual patterns in which the human world takes shape display forms of grasping
environment that are far more varied than convention might indicate. In constructing their
habitats, people have created different kinds of environmental order that reflect the contrast in
attitude and experience between disinterested contemplation and aesthetic engagement. We can
identify at least three patterns of environmental experience: contemplative, active, and
participatory.

The contemplative paradigm has become the standard for environmental experience.
This attitude toward art, originating in classical philosophy and assimilated into the structure of
modern aesthetics, lies at the heart of the notion of environment as surroundings, importing a
visual model to explain our apprehension of space. The separation of the art object from what
surrounds it and the special attitude of disinterested contemplation for regarding its intrinsic
qualities have become silent partners in most discussions of architecture and environmental
design.
By adopting a contemplative attitude, environmental experience assumes the gaze of a spectator removed, even distant from the world being observed. Attention is directed to how objects are placed in spatial emptiness and especially to how they will be seen in relation to each other. This attitude appears in conceptions of building which isolate a structure either alone or on its site: a house on its grassy lot with hardly a shrub to soften its stark geometrical contours, a skyscraper in austere solitude on its plaza. Contemplation produces a spectator attitude toward architecture, in which the appearance of a building seen from a distance is the standard by which it is known and judged, and this attitude is expressed by architectural models and perspective drawings. Visual buildings may be facades primarily, with the third dimension a practical necessity, incidental to their beauty, and the exterior distinct from the interior; or they may dissolve into pure surface, as in the curtain-wall skyscraper. Such buildings often confront us with continuous planes of monotonous regularity, in which the only imperfection is an insignificant opening for access. The same visual influence takes a contrary form in the monumental public building of classical design, whose entrance is its most prominent feature, and yet whose site on an escarpment, emulating the Parthenon, places it in lofty dominance atop a pedestal and makes access difficult. Such structures usually stand in isolation, often opposing the viewer with their grandiose symmetry. On a more modest scale appears that monument to petit bourgeois aspiration, the development house, its brick facade limited to the front which is visible from the street, separated from its neighbors by a fence or hedge, and gazing outward through a picture window that mirrors its visual isolation.
Certain traditions in garden design display the same contemplative structuring of experience. The appeal of French gardens lies in the formal designs of manicured flower beds and geometrical pools, where sharply defined borders confine carefully articulated patterns of color and shape. These gardens are best seen from a distance, where the eye can identify the forms and encompass the full array. Renaissance Italian gardens share a similar formal attraction. Their artful blend of architecture and planting, with clipped hedges paralleling stone balustrades, formal pools, statuary, fountains, descending terraces, and lines of poplars, conveys a controlled humanistic balance of the natural and the man-made. Objectivity and harmony of place pervade the scene.

The contemplative environment is spread before us, too, from the scenic outlooks constructed as amenities for the modern highway traveler. Usually bounded by a barrier wall, these are places designed for a brief pause to enjoy the view of a distant landscape. Like the urban panorama seen from the isolated vantage of an observation platform, these outlooks, at their best, offer an impressive picture of the surroundings from a commanding height. Yet the landscape they present is inaccessible, open to the eye alone, having no continuity with the viewer nor allowing any direct access.¹²

Urban design is replete with examples of the contemplative, visual approach to space. It appears when the conception of a building as an isolated unit is extended by combining that structure with similar ones in housing tracts and in the grid pattern of city streets. The urban
vista also expresses a visual design experience, where a broad, unbroken view can impress an image on our consciousness so vividly that it becomes one of the most powerful identifications we can have with particular cities. Prospects of Park Avenue in New York and the Champs-Elysées in Paris are striking cases of visually compelling urban space. Ceremonial malls and plazas frequently appeal to the sense of sight. The reflecting pool and the mall from the Lincoln Memorial to the Washington Monument offer a great expanse that the eye can cross, not the foot. The Place de la Concorde is imposing to see but unapproachable, having become a great traffic circle. The contemplative visual model can even subsume an entire city, as in Baron Hausmann's redesign of central Paris into avenues radiating outward from the Place de la Concorde, and in L'Enfant's similar plan for Washington, while Brasília is almost totally a visual city. Because visual perception is rectilinear, their grand avenues, boulevards, and malls are straight lines. We do not see in curves or around corners, hence the drama of sight requires ruler-edge rigidity. The eye becomes the effective organ of space as, since the seventeenth century, it has been the metaphorical organ of thought.

Custom and frequency give great weight to this classical view, even though it is but one way of experiencing environment and embodies no necessary or irrevocable truth about the world. Still, the contemplative approach is so secure that it has conquered the very concept of environment. The objectification of environment, however, is the product of an intellectualist tradition that grasps the world by knowing it and that controls the world by subduing it to the order of thought. Such a strategy may have secured the assent of philosophers and scientists but
it has not won over the ranks of artists. Wallace Stevens's response, appropriately offered in his "Six Significant Landscapes," is as eloquent as it is explicit: "Rationalists wearing square hats/Think, in square rooms.../They confine themselves/To right angled triangles. If they tried rhomboids,/Cones, waving lines, ellipses.../Rationalists would wear sombreros."

It might seem difficult to think of any alternative for urban aesthetics to the static, axially oriented visual space of Renaissance and Beaux Arts planning. This is a problem, however, only if we accept the spectator model of experience. Urban vistas are not spaces of the body, they are spaces for the eye, spaces to be seen but not inhabited. "Pelouse Interdite" read the signs in French gardens. Experience, however, does not always cooperate with the classical view of separation, and even the French on rare occasions set aside grassy areas for people to lie on. In recent years, moreover, a changing sense of environment suggests the need for a theoretical shift toward overcoming the passivity and separation of the standard theory. It is becoming increasingly clear that environment, far from being a contemplative object, collaborates in human perception and action. This enlarged understanding carries aesthetic as well as practical implications.

* "Keep Off the Grass"

"Vision is born from what is happening in the body," Dufrenne once remarked. The eye
is but one factor in our perception of space, an awareness that we grasp through multiple sensory channels. If environment is more than a visual object but is apprehended synesthetically and somatically, what has it become and where can we locate it? If we can no longer regard environment from without, what happens when we enter the landscape, not through the magical beam of the eye but through the overt movement of the body in actual space? Can we even enter a landscape? Is it a discrete space, a space with boundaries we can cross? And if we move, do we move within borders or does our motile position become the center from which environment assumes its forms, its dimensions, its limits? Clearly, we have to re-establish the very order of understanding here.

It is helpful to distinguish two progressive stages that replace the disengaged spectator of the traditional view with a multi-sensory, actively involved perceiver who is a contributing part of the aesthetic environment. Let us call the first the active model. Unlike the spectator paradigm, which reflects its origin in the contemplative ideal of knowledge, the active orientation centers on action and function. Although its recent sources may be found in the American pragmatic tradition and in continental existential-phenomenological philosophy, the origins of the active model go back much farther to the identification of practical modes of knowing and the development of craft technology in the West. This sense of environment considers people to be embedded in their world, implicated in a constant process of action and response. Here there is no way in which one can stand apart. A physical interaction of body and setting, a psychological interconnection of consciousness and culture, a dynamic harmony of sensory
awareness all make a person inseparable from his or her environmental situation. Traditional
dualisms, such as those separating idea and object, self and others, inner consciousness and
external world, dissolve in the integration of person and place.

What is common to the various expressions of the active model is the recognition that the
objective world of classical science is not the experiential world of the human perceiver. There
is a sharp difference between space as it is presumably considered to be actually and objectively,
and the perception of that space. The active conception of environment derives from the latter
rather than the former, from the manner in which we are involved in spatial experience rather
than from the way in which we objectify and conceptualize such experience. Environment is not
outside us to be experienced in consciousness or feeling, nor can it even be construed as
surroundings: As actors in the world, we are inseparable from it and fully implicated in its
dynamic processes.¹⁵

Philosophical attempts to articulate this conception of experience have become
increasingly influential. John Dewey's conception of the human organism in the environment is a
picture of people doing and undergoing things, engaged in acting and responding to conditions
that impinge upon them. There is no standing apart from the course of events in such a world.
Perception is not purely visual but rather somatic: It is the body that energizes space.¹⁶ For
Maurice Merleau-Ponty, too, perception starts with the body; the presence of the body as here is
the primary reference point from which all spatial coordinates must be derived. This leads to
grasping the perceived object, not as a discrete material thing, but in relation to the space of the perceiver. I am in space; I live it from within. Space is continuous with my body, grasped from me as the starting point,
the degree zero of spatiality. "After all, the world is all around me, not in front of me."\(^{17}\)

Extending Merleau-Ponty's concept, O. F. Bollnow uses the notion of lived-space, in which space becomes the medium of action. Here the human body is the originating point of an axis system of vertical and horizontal planes. Yet Bollnow reverts to a position closer to the traditional division between person and environment. For, he claims, the natural zero point of that system is not necessarily where the concrete living person happens to be: It is the "natural place" to which he belongs. His house is "the reference point from which he builds his spatial world," while space outside becomes a space of vulnerability, a place of danger and abandonment. Only in the inner space of the house can one be safely hidden.\(^{18}\) By taking the body as the vital center of our spatial experience, Calvin Schrag further explains how we view existential space from the body, determining its directional axes and measuring existential distance. "The proper and improper places of utensils, objects, and persons are defined within the context of these regions and territories." The body's field of action, moreover, must recognize and take account of the presence of the other. Yet the egocentricity of this conception remains, for the space around the body is territorial, an enclosed space that is limited by the space of others.\(^{19}\)

These pragmatic and phenomenological views treat space in its association with the body and its environment, then, not as an independent quantity but in the manner of an intentional object related to the perceiving body. Landscape is infused by that body with its meanings, force,
and feelings. This kind of awareness has led to the characterization of architecture as "a matter of extending the inner landscape of human beings into the world in ways that are comprehensible, experiential, and inhabitable."\textsuperscript{20}

The conception of environmental experience as active corresponds to architectural form that joins structures to their environmental settings. It occurs in efforts to penetrate and dissolve the barrier wall by encouraging the fluidity and continuity of interior and exterior space, long recognized in the sliding walls of Japanese vernacular architecture. Glass windows, walls, and doors; floor plans continuous with an outside patio; interior gardens and atriums—all these contribute to the interconnection of building with environment. So, too, do building materials and shapes that both use and reflect the characteristics of the site, especially when joined with landscape design that employs local plantings to embrace a structure and naturalize its surroundings. The active environment also encourages people's responsiveness to building and design through congenial forms, comfortable lines of movement, and sensory involvement which, while recognizing the predominance of kinesthetic perception, fully assimilate the visual, tactile, and other senses as part of a single, integrated sensorium. Both in the building and the neighborhood, efforts are made to replace the inorganic outline of the simple rectangle with biomorphic forms and surprising angles and juxtapositions. Environmental experience as an active process understands the inhabitant of the city as a moving part of the urban structure, a dynamic element exemplified in Lawrence Halprin's vivid description of experiencing the street:
The beautiful street is beautiful--not only because of the fixed objects which line it--but also because of the meaningful relationships it generates for the person-in-motion. His movement is the purpose for the space, and it should function to activate his kinesthetic experience in a series of interesting rhythms and variations in speed and force. The qualities of moving up and down on ramps and steps, of passing under arches and through buildings, of narrowing and widening of spaces, of long and closed views, of stopping and starting are qualities which make a vital urban experience for the walker and his mobile point of view.21

The active body can be exaggerated, however, when transmuted through modern engineering into the automobile driver who, strapped inside a powerful machine, hurls purposefully down the highway, penetrating the reaches of visual space and turning the landscape into a playground. Water skiing is another forceful intrusion of the dominating environmental perceiver. The growing popularity of hiking, camping, small watercraft propelled by wind or muscle power, and other low technology outdoor activities suggests the attraction of more gentle ways in which a person may move in the natural environment with care and respect, while at the same time kinesthetic, tactile, and other sensory dimensions balance the visual. In such cases, the environment has become a stage on which the beholder has metamorphosed into an actor.

For all its intimacy, however, the active model still retains at bottom the discreteness of
person and setting. It is an anthropocentric environment in which, no matter how close the exchange, a residual, ineradicable difference remains. While the active model freely acknowledges the interchange between conscious body and surroundings, it tends to give greater weight to the first. Yet the active penetration of space by the body is not enough. More is involved here than the body shaping the contours of space through its dynamic force. For environment does not depend entirely on the perceiving subject. The surrounding world also imposes itself in significant ways, engaging people in a relationship of mutual influence. At the same time as we move actively in space, our surroundings shape our gestures and actions. Recognizing that specific features of the ambient space affect the ways we behave requires extending the active model of experience to include such influences. We must balance the idea of the lived body and of lived space, of the self as initiating action and generating space, with the influences that are exerted on the body, the features and forces that guide our spatial sense and mobility and make an essential contribution to our lived space.

This is reciprocity, an intimate engagement with the conditions of life which join person with place in a bond that is not only mutually complementary but genuinely unified. How can we represent such a pervasive field of experience and action from which the human participant cannot be separated? The contemplative tactic of removal and distance is unavailable, since the environment that we live becomes our very world, and to presume to stand outside it vitiates both the fact and the authenticity of its participatory properties. And to attempt to stand in it implies that we are a heterogeneous element in a foreign setting. One strategy would be to construct a
conceptual frame that would identify the experiential features of various environmental orders. Environment, however, does not lend itself well to preconstructed models, largely because such structures tend to be based on distinctions and divisions and not on continuities.

Aesthetic Engagement

The most complete development of environmental experience, by contrast, transcends all division. It is a condition in which every vestige of subjectivity disappears and the irreducible continuity of person and place becomes the fundamental term in grasping the meaning of environment. This is the participatory environment, a sense of the world both most ancient and most recent. To discover where it is recognized we must look to other times than the Renaissance through the eighteenth century and to other cultures than those of the West. For we are seeking a different conception of the experience of environment, one that Western industrial cultures have difficulty in grasping. It is a sense of environment as a field of forces continuous with the organism, a condition where organism acts on surroundings and surroundings on organism and where, in fact, no real demarcation divides them. This is a participatory model of environmental experience. No longer a spectator, no longer even an agent, we join in the movement of things very much as a performer does in theater or dance, activating the conditions with which we live, integrating them with our conscious bodies and, with sensitivity to their requirements, leading them to our own ends. We recognize the human environment here as a continuity of person and place, as a unity of action and reception that is mutual and reciprocal. Environment becomes a
dynamic field of mutually determining forces.

Psychologists more than philosophers have developed theoretical accounts of the human interplay with forces emanating from environmental features, although they are prone to regard these as external influences and as matters of individual psychology that depend on a personal response. Kurt Lewin's field theory provides a representation of the dynamic framework in which events occur in a life space. Situations possess dynamic properties, he argued, and Lewin identified those psychological forces in a perceptual region that directly produce a reaction in a person. More recently, the perceptual psychologist James J. Gibson worked out a theory of perception as an activity of the moving body in which the perceiver is an active participant with a sensory involvement in the world. Gibson identified what he called "affordances for behavior," features and arrangements of the environment that offer or provide for us, and in relation to which we behave in certain ways. "Affordance cuts across the dichotomy of subjective-objective. . . . It is equally a fact of the environment and a fact of behavior." Moreover, when we perceive affordances, we grasp their meanings and values directly. In recognizing the subtle influences of the forces and properties of environmental configurations on human perception and action, researchers like Lewin and Gibson have worked beneath the conventional divisions between person and object to identify the reciprocities and continuities that join them.²³

It may be easier to understand the forces emanating from the body as it thrusts itself into the surrounding world than it is to grasp the magnetism of ambient configurations that exert a
subtle influence on the body. We are able to sense our own vitality more directly than we can apprehend the pressure of spaces and masses. It is even more difficult for us to grasp the perceptual unity of conscious body and environment. Although both the active and the participatory models of environment recognize the mutual interplay of body and surroundings, two factors distinguish the participatory pattern of environmental engagement: its recognition of the way in which ambient features reach out to affect and respond to the perceiver and, more important still, the unitary experiential field that results from this reciprocal exchange. For a homogeneity of experience binds perceiver and environment in the same continuous medium.

Attempts to overcome a persistent ontology of separation display a difficult history. Aristotle had his multiple celestial spheres, and although they coalesced into two in the celestial space of Copernicus and the earthly space of Galileo, it took Newton to unify them by demonstrating that both observe the same laws of motion. In our own day, Einstein, Planck, and their successors extended the Newtonian order to include the knowing observer as an essential factor. The same unity of body and field comes here to perceptual space, and it is in the aesthetic perception of environment that perceiver and proximal objects join most dramatically in the continuity of experience. The revolution in understanding nature may finally permeate the human world.

This continuity of person and environment, this perceptual integration of conscious body and world, is the keynote of the participatory environment. Although not usually formulated
theoretically, such a sense of environmental participation often appears in research areas such as the ecological sciences and cognitive science, in applied fields like urban planning and agriculture, and in activities such as hiking, camping, small boat cruising, and wilderness travel. We find it as well in some Eastern religions and in animistic religions, and it becomes a condition of those early rituals celebrating celestial events and seasonal change in which there is renewed interest. Indeed, our primary experience of environment is participatory before we adopt special modes for special purposes: cognitive, scientific, organizational, political and, in conventional modes, aesthetic. The fundamental participatory character of such experience is being rediscovered now by people following many routes—among them phenomenological, hermeneutic, psychological, religious, environmental, artistic. Environmental engagement, moreover, can not only form the basis for an aesthetics of environment but can stand as a model for aesthetic theory itself.

Environmental participation alone, however, is not sufficient to identify an experience as aesthetic. Nor is it enough to add that participation is necessary for such experience to take place. What makes this field experience aesthetic is the central place of its perceptual qualities. These refer not so much to the sensory surface of things as to the acuteness of attention, the refined discrimination of qualities, and the multifaceted resonances of perceptual memory and imagination which join in the rich awareness of activity and passage. Actually, there are no surfaces but only perceptual situations. Surfaces require something beyond, the metaphysics of a Ding an sich, and they imply, therefore, the very division of reality that engagement abjures. Nor is there pure perception in the sense of sensation untouched by our past experiences, our education and training,
and our ideas and other kinds of knowledge. The profound influence of culture on perception has been heavily documented by social psychologists, cultural geographers, and anthropologists. Yet at the same time, aesthetic perception is foundational, continually reappraising cultural experience by digging beneath the layers of accrued meanings and cognitive habits for its authenticity in the directness and immediacy of sensation. The aesthetic character of experience lies ultimately in direct rather than pure perception, in perception apprehended immediately and unreflectively. It is in this sense that we engage aesthetically with environment and other modes of art. Perceptual engagement is the catalyzing and unifying force of the aesthetic field.

Aesthetic engagement with environment is not new; architecture and design have always provided occasions for such experience. Nor, as we have just seen, is the participatory environment peculiar to architecture or, more generally, to the aesthetic dimension of the human world. We are also led to it through our attempts at environmental understanding in general. What has been missing, however, is a theoretical articulation of such environmental activity and its elaboration within the conceptual frame of aesthetics. What are the contours of such an environmental aesthetic?

A Theory of Environmental Engagement

We must begin with the emergence of a new conception of the person as an organic, conscious, social organism, an experiential node that is both the product and the generator of
environmental forces. These forces are not only physical objects and conditions, in the usual sense of environment; they include somatic, cultural, psychological, and historical conditions, as well. Environment is the matrix of all such forces. As part of an environmental field, we both shape and are formed by the experiential qualities of the universe we inhabit. These qualities constitute the perceptual domain in which we engage in aesthetic experience.

As participants embedded in an experiential field, we act always within the fluidity of a spatial medium populated by dynamic configurations of mass. And in the continuing formation of space and time in movement and in our reciprocal involvement with the objects and circumstances to which we are joined, we generate our human world. This continuity of conscious body and environment attains its most complex and profound fulfillment in aesthetic experience. Consider the experience of space in a participatory environment. Unlike the panoramic landscape and the contemplative environment, products more of intellectual history than of perceptual experience, the participatory environment develops a spatial continuity with the viewer. Landscape becomes environment and environment becomes humanized. One can no longer stand apart as a disinterested spectator and the appeal of landscape is not exclusively visual. In fact, the sense of sight loses its privileged role as a sensory channel, since aesthetic engagement exerts an appeal that far exceeds the visual. Spatial awareness draws most heavily on kinesthetic responses--the body's apprehension of mass, density, texture, and the various sense qualities that constitute the richly complex perceptual experience of environment. Furthermore, movement and time are essential components of such experience, and the homogeneity of experience renders them
inseparable from space. There is a continuum here of the conscious human body and its perceptual world.

The continuity of the organism with its habitat is a central tenet of the new science of ecology. Yet this continuity is more than a biological fact; it is also true of the perceptual environment of the conscious human organism. Merleau-Ponty claimed that these two must ultimately be joined, for even physical concepts have their origins in perceptual experience: "Either what I call depth is nothing or else it is my participation in a Being without restriction, a participation primarily in the being of space beyond every [particular] point of view." \(^{27}\) The perceptual awareness of environment has become central here. Space floods our awareness kinesthetically through muscle tension and movement, as in walking or driving for, in part, our "spatial concepts are internalized action." \(^{28}\) We grasp space tactually, as well, from its subtle presence to the skin over the entire body. At times we detect spatial regions through sounds heard and uttered. There is even olfactory space, when smells such as cigar smoke, the aroma of a bakery, or the fragrance of a woman's perfume announce their areas. Sensory modalities may combine in the awareness of space. Like the Aivilik Eskimos we may live in acoustic-olfactory space, or we may inhabit tactile-kinesthetic space during snow or dust storms, under water or in dense fog. \(^{29}\) But these various sensory channels to spatial awareness are never singular or even plural; they can be isolated and identified only later on reflection. "Both pure tactile and pure visual experience, with its space of juxtaposition and its represented spaces, are products of analysis. There is a concrete manipulation of space in which all senses collaborate in an
undifferentiated unity.” Our spatial world emerges, then, from an environmental sensibility that blends sensory modalities, just as it fuses person and environment.

This is a phenomenological aesthetic of space, and it defines a world vastly different from the traditional scientific ideal of physics. Space has no precise boundaries. It is not quantitative and mathematically measurable. It is not universal and homogeneous. Most of all, it is not objective, distinct, and separate from the person inhabiting it. Perceptual space is instead qualitative, not uniformly measurable but with fluid, hazy boundaries, rather like the en space of Japanese architecture, the intermediate space between inside and outside, as in the engawa, the space surrounding a Japanese house that is created by the continuation of the floor beyond the exterior walls. Perhaps the Japanese concept of ma, usually translated as "space-time," incorporates this aesthetic most completely. Here object, space, movement, and change are joined in subtle continuity: Space is perceived as identical with the events occurring there, and time is recognized only in relation to movements and spaces. Space, then, is human space, personal space, space relative to the perceiver, and as heterogeneous as the infinitely varied times and conditions of human life. It is the space which we live, the space which we inhabit.

We come to understand space, then, not as something outside of and opposed to an observer but as reaching out to encompass the person as a participant. As the space we live in becomes localized and personal, smoothed by long activity and infused with memories and meanings, it assumes the identity and affection of place. This is our earliest acquaintance with
space and with the sense of personal space for which we strive. Through architectural and environmental design we can recognize, extend, and develop the possibilities of such experience.

As with space, so with mass. The fusion of mass with the human body is not found in Le Corbusier’s "modulor," where the human form is taken as the germinal unit, the design module from which the proportions of a building are derived. This is physical mass, not perceptual: It translates the experiential body into a material object instead of transforming mass into a perceptual mode of body experience. Mass does appear at first to be the antithesis of space. It seems to epitomize the environmental forces that oppose the body: obstruction—obstinate and undeniable. Yet here too we tend to construct a difference in kind where there are only changes in degree. Approaching mass perceptually through the body, we discover that its firmness and regularity begin to disappear. The perception of mass, for example, is affected more by the degree of opacity than by physical density. Clear glass confronts us less than dense fog or smoke, while reflective surfaces cause physical objects to disappear, a salvation for much contemporary architecture when dull boxes disappear behind mirror-glass sheathing. Mass also correlates with light: Shadows are heavier and thicker than bright light, darkness than daylight, and all carry intervening degrees. Our perceptions thus occur often remarkably independent of physical attributes.

Moreover, the contrast between space and mass fades as mass dissolves into space and space condenses into mass. We can regard space, for example, as rarified or liquid mass, a
medium through which we move much as fish swim through water. Taken in this sense, objects are not solids opposed to empty space; they are part of that space, concentrations of it, so to speak. Thus in Japan, a rock, in representing the mononoke that permeates a locality, acquires the quality of the space it inhabits, condensing that space rather than opposing it. A continuum of space and mass emerges from these reflections in which space is diffused mass and mass concentrated space.

**Engagement in Environmental Design**

We find ourselves, then, inhabiting an aesthetic environment, a contributing part of its dynamic continuity. Architecture has become environmental design, and environment has turned into a performative activity of persons and places. Once we recognize this, the many subtle ways in which environmental engagement occurs begin to emerge. Engagement relies on sensory involvement, certainly, but perception always bears a mnemonic component, for past perception and expectation join in the conscious present. Perceptual recall is a key factor, for example, in experiencing the stone garden of the fifteenth-century Zen monastery of Ryoanji, near Kyoto. Here fifteen rocks are set in an ocean of raked gravel, yet from wherever we sit one of the rocks is obscured. Only memory and anticipation bring it into conscious play with the others. Similarly, an expanded perceptual consciousness occurs when architectural design encourages the connection between the outside and inside of a structure, so that our awareness of the one persists as we perceive the other, somewhat like visual afterimages. In cases like these, sensory imagination
continually supplements our direct perception. Some people hang photographs of their house on an inside wall and of their boat on an interior bulkhead. As with our home or our boat, we retain the exterior image of our car when we are inside it and the sense of its interior when we stand without. Similarly with a building. Rather than being dismayed at the fact that one cannot see at the same time both the inside and outside or all sides of a building, we realize that architectural experience is not primarily visual. It is rather an experience of the body moving in space, creating through a developed capacity for awareness a functional unity of sensation and action as we enter into a temporal relation with the structure. Eventually a total physical and conscious sense of coherence of person, structure, and setting may develop.\(^{34}\)

This notion of participatory engagement with environment, however, may still seem evocative but insubstantial. The dynamic continuity of space and mass, of person and place, of nature and perception, of the aesthetic and the practical, of sensation and imagination, of presence and recollection--all these may appear to be but fanciful constructions with little bearing on the specific demands of the environmental arts. Nothing could be more mistaken. These ideas about environmental engagement can be translated in specific and concrete ways into environmental design, extending to the full range of human environments, from the museum to the highway, from domestic architecture to city planning, from park design to wilderness management.\(^{35}\)

Entire participatory environments, however, are unfortunately no longer common in the industrialized world, with its rationale of fragmentation, regimentation, uniformity, and
mechanical efficiency. One thinks with nostalgia of the New England farmstead, whose house and outbuildings seem to emerge organically out of the landscape whose surrounding hills enclose them protectively, and whose drives and paths follow the contours of the land as the physical evidence of long and regular activity. Here is the reciprocity of the human and the natural made tangible. Yet it is possible to attain today, in a conscious, deliberate way, what was achieved by intuitively through ages of custom and use. To accomplish this, however, requires recognizing the processes of environmental participation and applying them with artistic sensitivity to particular situations. The environmental arts of architecture, design, landscape architecture, and city and regional planning offer unmatched opportunities for enlarging and extending our experience. They do more than give shape to space: They create the human realm, the possibilities of vision, audition, and movement, the scope of actual perception. In establishing the perceptual conditions of life, the environmental arts help determine the character and quality of human culture.

**Conclusion**

Environment, then, is no foreign territory surrounding the self. Understanding environment involves recognizing that we live as an integral part of a physical and cultural medium, under conditions in which people and places join together to achieve shape and identity. Within this environmental medium occur the activating forces of mind, eye, hand, climate, and the other processes of nature, along with the perceptual features and structural conditions that engage these forces and evoke their reactions. To grasp environment, every vestige of dualism must be
discarded. There is no inside and outside, human being and external world, even, in the final reckoning, no discrete self and separate other. Marcel urges us to say, not that I have a body but that \textquotedblright I am my body.\textquotedblright\textsuperscript{36} So we can say, similarly, not that I live in an environment but that \textquotedblright I am my environment.\textquotedblright  The conscious body moving as part of a spatiotemporal environmental medium becomes the domain of human experience, the human world, the ground of human reality within and from which discriminations and distinctions are made. The traditional notion of the environment as an external setting is a false abstraction from the unity of the human world. We live rather as a contributing and responding part of a dynamic nexus of interpenetrating forces.

An environmental aesthetic becomes at the same time, moreover, a cultural aesthetic, the analogue of the cultural landscape of which anthropologists and geographers speak. It comprises not only a study of the perceptual features of the environmental medium that participate reciprocally with people but includes as well a correlative study of the influences of social institutions, belief systems, and patterns of association and action that shape the life of the human animal and give it meaning and significance. A cultural aesthetic is the characteristic sensory, conceptual, and ideational matrix that constitutes the perceptual environment of a culture. This includes the typical qualities and configurations of color, sound, texture, light, movement, smell, taste, perceptual pattern, space, temporal sensibility, and size in juxtaposition with the human body, and the influence of traditional patterns of belief and practice on the creation and apprehension of these qualities. Environmental design must recognize and work within a cultural aesthetic and not assume a false universality of perception and sensibility.
For human environments are always historico-cultural, and formulating a cultural aesthetic requires us to identify the configuration of perceptual features that is characteristic of a particular human culture at a given time. Certain places exemplify such an aesthetic: In a medieval Gothic cathedral appreciative perception through distancing cannot occur. Here light filtered through stained glass windows, linear masses and volumes, the reverberations of chanting voices and organ, the smell of incense, and the taste of wine and wafer combine to absorb the believer into a multisensory, multimedia environment. The Chinese scholar's garden of the eleventh to nineteenth centuries creates a harmony of spirit and place, man and nature. These illustrate a cultural aesthetic at work in a collective art. The environment as external surroundings has been transformed, then, into a dynamic perceptual-cultural system that assimilates person and place. We might, in fact, replace the notion of space with place, for it is through dwelling, belonging in a place, that the human relation appears.

By exploring the meanings and principles that influence the design of environment, we can begin to grasp how structure is transmuted into environment and environment into a medium of engagement. Environment has become a realm of dynamic powers, a field of forces that engage both perceiver and perceived in a unity of experience, turning the world we inhabit into a human habitation. In designing our environment we create our world.


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(Winter 1964), 185-192. Reprinted in Philosophical Essays on

5. See James J. Gibson, The Senses Considered as Perceptual
The Ecological Approach to Visual Perception (Boston: Houghton
Mifflin, 1979). See also Harvey Richard Schiffman, Sensation and
pp.119-121.

6. J.B. Jackson, "Landscape as Theater," Landscape, 23, No. 1
(1979), 3-7.


8. Techniques are being developed to simulate environmental
perception to guide design decisions. The environmental
simulation laboratory at the University of California at Berkeley
has pioneered in this.

9. The phrase derives from Hölderlin through Heidegger. See

10. See, for example, Kevin Lynch, The Image of the City (Cambridge, Mass.: MIT Press, 1960), pp.43-44.


15. Christopher Tunnard puts the point eloquently: "Is man a part of all he sees or a spectator only, studying landscapes as Burckhardt advised his readers to study history, as one would contemplate a storm at sea, safe on the shore? Should we not be terrified that the storm may touch us? Are we not involved, emotionally and physically, in nature, and is not our role one far more deeply committed than that of mere guardianship or good behavior toward the wild?" *A World with a View* (New Haven and London: Yale University Press, 1978), p.29.


26. Yi-Fu Tuan deals with some of these issues in "Surface Phenomena and Aesthetic Experience," *Annals of the Association of
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31. Arata Isozaki, in *Ma, Space-Time in Japan* (New York: Cooper-Hewitt Museum, 1979, p.13. Chapter Eight also discusses the concept of 'ma.'


33. In a sense, the perceptual environment is pre-eminently, indeed unavoidably, aesthetic, both etymologically speaking and
theoretically. The environment is always sensed and the richness and inclusiveness of perception, its roundness, one might say, makes that fact undeniable. This has extraordinary implications for environmental theory and for the applications of theory to environmental design and policy.

34. In Japan, for example, an arrangement of several buildings can be appreciated only by moving through the space, allowing each building gradually to come into view. It cannot be grasped from a single stationary viewpoint. See Isozaki, MA, p.36.


37. Hall notes this force clearly: "The relation between man and the cultural dimension is one in which both man and his environment participate in molding each other. Man is now in the position of actually creating the total world in which he lives, what the ethologists refer to as his biotope. In creating this world, he is actually determining what kind of an organism he will be." E.T. Hall, *The Hidden Dimension*, p.4. Tuan recognizes the possibility of changing cultural beliefs by changing environment. See *Topophilia*, Ch. 7. See also my "Aesthetic Paradigms for an Urban Ecology," *Diogenes*, 103 (Fall 1978), 1-28.