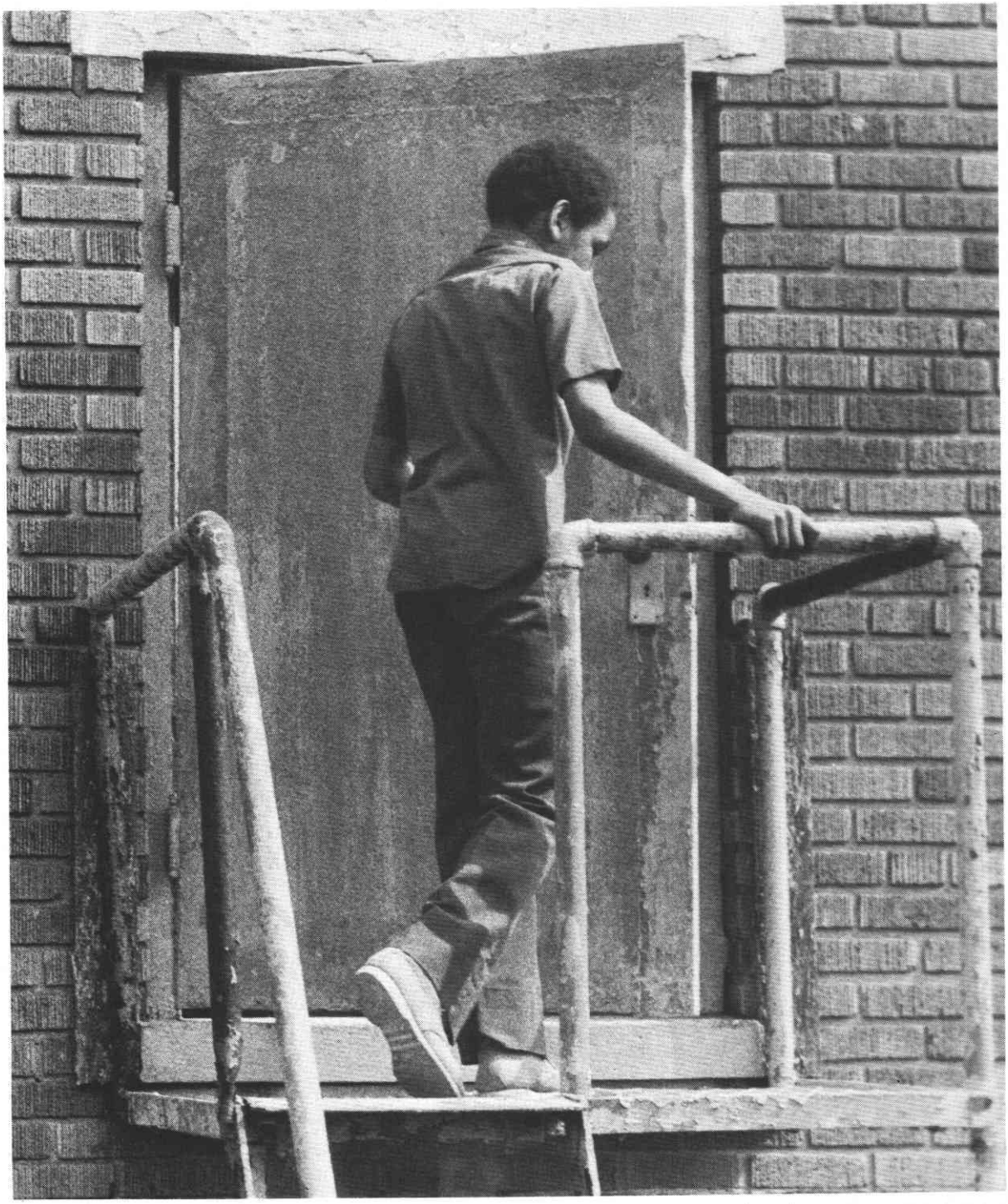

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"It is a general and probably valid intuition that the destruction of the natural world somehow impairs our humanity" -Paul Shepard

Place and Human Development

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ABSTRACT. An attempt to identify stages or episodes in the first 20 years of life. Stages are briefly explained and discussed, arranged in age class sequence, and, where possible, are associated with environments related to urban life.

THE ARGUMENT

THE HUMAN REQUISITE of the natural environment has nothing to do with recreation in the sense of release from work, exercise, challenge as a conquest, esthetics, or scenery. It has little to do with "the outdoors" as a hobby or inspirational spectacle. It does have to do with ontogenesis, and is the respondent in events perhaps as essential to human health as good mothering. The exact nature of these feedback connections is still unclear, but some of the lineaments are visible. These are distinct in kind and timing and plug into the life cycle in specific ways. They are the outcome of phylogeny in the terminal phases of species evolution in the middle and upper Pleistocene.

What follows is an attempt to identify several of these episodes from the first 20 years of life. They are briefly explained and discussed, are arranged in age-class sequence, and, where possible, are associated with certain environments. In general they are examined in terms of urban life.

ONTOGENESIS AND NATURE

1. The importance of the natural environment is not an all-embracing surround, but varies in its meaning at different times in the life cycle. For example, the "natural environment" for crawling infants is experienced as the pathogen/antibiotic enterprise. The infant is programmed at this age to taste repeatedly the surroundings within reach, particularly the soil. Over sufficient time sufficient handfuls of dirt and objects are stuffed into the mouth to build an antibiotic repertoire appropriate to the precise pathogen taxonomy of that area. Place for the crawler is that special collection of indigenous germs that he needs while on mother's milk, as he begins to measure the environment for its demands on his antibody-producing system *(Neel 1970).*

The taste of the environment is a normal and ongoing experience for people who harvest their own food. The ionic circulation relates them to the earth in chains of connections which may be called the atomic foundations of all ecological relationships. The epiphanies of these relationships are minimal in our culture—but that may be a mark of deficiency which has detrimental psychological and philosophical consequences. What Mircea Eliade *(1959)* has called "the homogenization of space" is not only visual and mythological, but chemical in a society heavily committed to specialized regional agribusiness, massive transport, and eclectic consumption patterns.

2. A second ontogenetic enterprise in which the genome functions in an "average expected environment" is cognitive and taxonomic. A diversity of natural species is essential, as they become both an object and code of thought. The elementary operations of cognition are demonstrably related to the activities of taxonomic strategy: discrimination, comparison, sorting, grouping, categorization and hypercategorization in a linguistic nomenclature *(Lenneberg 1967).* Nor is there much doubt that

these are widespread and noneconomic. The language-acquisition schedule of young children is consistent with the theory that it is genetically programmed in such a way that the naive (not yet having metaphorical significance) taxonomies of species, anatomies, and kin are fully achieved by the halcyon acme of juvenile fulfillment—the idyllic and practical age of ten. That the strategy of mental operation coincides both with a linguistic and categorical enterprise in a world rich in fascinating different species is probably no coincidence *(Levi-Strauss 1966)*. (To deliberately disregard this functional role of species systems in the higher activities of the central nervous system requires an elaborate conscious and unconscious philosophy of Faustian man formulating a life of instant reality—the mythology of Fossilfuelman).

3. A third ontogenetic enterprise centers on a certain type of fantasy play which James Fernandez *(1974)* has called "animal predication." This is the mimicry of animals by children and juveniles—group histrionics placing extemporaneous drama in a game framework. These transient and successive imitations involve the subjective internalizing of commonly recognized traits, through turn-taking at performances and interactions by which certain qualities are assimilated into the inchoate self and others ejected. Running across as much as 5 years of such play, this resolution of self and Other, a direct and prosaic acknowledgement of qualities of which the self is a synthesis, paves the way for later abstraction and analytical operations by which we understand caricaturization and personality.

At first glance, animal predication seems to be largely independent of place, an impression that seems to be verified by the play of boys at being simultaneously man and horse or in games of "fox and goose" or "run, sheepie, run" on bare playgrounds. But the questions that an ecologist might raise about the context of this play do involve the environment. To what extent does the animal reference evoke appropriate habitat or the actual behaviors of the prototype? Granting the ethological destitution of domesticated forms, does it make any difference whether they are wild or barnyard forms? What range of choices does a modern urban child need from which to predicate an individual planetary human consciousness as opposed to children in folk societies? What happens to this internalizing process when machines are substituted for animals? Is this behavior itself a part of the broad dysfunctional syndrome that arose with the altered horizons of sedentary agriculture and is undertaken in cynegetic (hunting/gathering) societies in wholly different ways?

4. A fourth biological enterprise, contacting the ontogeny at several points, might be called the terrestrial anlage. Evidence for it is highly diverse. Children of hunters in the Aleutians learn anatomy at the same time they learn place names—and there is a lexicological connection *(Laughlin 1968)*. Psychologists separate children into "field dependent" and "field independent" groups, the latter "articulating" both internal anatomical and terrestrial detail more completely, which implies to me a reciprocal and interdependent resolution *(Witkin 1965)*. Edith Cobb *(1959)*, surveying the biographies of geniuses, finds repeated return in memory and actuality to places of childhood to renew order-giving intuition that was initially given by the textures and pattern of juvenile play space. Space is structured differently in juvenile life than at later ages; it is much more critically defined. It is intensely concerned with paths and boundaries, with hiding places and other special places for particular things. This whole home range (its radius measured by the range of the human voice) is, in effect, imprinted. Such a construct works imperceptibly on the memory and consciousness, and is especially important to creative adults, whose skills lead to introspection about the generation of their own ideas and who tend to be fascinated by the terrain of their own autobiography. In just that age when the sequences of movement follow a patterned environment, some ineffable claim on the future is made. The searching mind of the man of genius recontacts a world where there is both refuge and stalking in their brightest forms. The philosopher's quest is a metaphor on the hunt, but at the same time he understands the needs of the prey—retreat, solitude, and disengagment.

Nostalgic returns to places always contain the surprise of how small they are. The garden, the symbolic source and first home of all life, is translated by architecture in a language and style of its time, but is universally an unspoiled cosmos made small. In Newton's time it was mathematically precise and geometrically

pruned; in Wordsworth's it was grassy and pastoral. Gardens are but one example of the place as a kind of diminutive externalization of a mental set. The mental apparatus may be perceived, in turn, as a place and the landscape as a metaphor of it *(Shengold 1966)*.

Margaret Mead *(1970)* once proposed that all children spend some time on an island. Perhaps she meant only that the social forms convey a sense of finiteness, but I took her to mean that the physical and sensory experience as a whole did not simply convey or frame but constituted the limited nature of human habitat in a way that is imprinted on the juvenile as a prototype of reality. Within the confines of the island a universe operates; it is a natural miniature. The implications of this anlage are many; one of them is its contained livingness: the organic unfolding, growing, and dying. Even the desert oasis has this biotic insistence. What intellectual schemata does the no-longer-walled city with its paved and paneled surfaces offer? What are the consequences of its gestalt-making power? The nostalgic return of the adult to juvenile home ranges may have crucial bearing on transitional phases of later ontogeny. What do these demands require of the nature of such places? The peripatetic round of Pleistocene life involved for the juvenile a succession of hearth-centered ranges with constitutional similarity—receiving spatial order and taxonomic diversity and familiarity. The moves of nomadic peoples build across the years of latency a series of tightly constricted spaces, each related to the others in spatial and temporal order that eventually forms a mosaic of band or tribal range. In slightly different compositions of the same species, the juvenile rehearsed the creation of textured space again and again. All these places were in ecological climax (mature community development) or close to it. Thus there was habitat stability in spite of the movement and in spite of the passage of years, a stability that formed a perennial continuity of surround for individuals whose social relations were constantly changing. The returning adult in such societies does not come back to a single juvenile yard and fixed abode but to a world created by successive mastery of small spaces which he now sees as a whole.

Amos Rapoport *(1972)* has touchingly described the visits of middle-aged Australian aborigines from their church or government camps to tribal lands, where every yard is known from childhood and the terrain "is an archive of the ancestral past." For the middle-aged everywhere, past experience is a journey. How much is lost to the quality of life among those who have no such landscapes cannot easily be assessed, but one suspects that its possession is related to the maturity and strength that marks the endurance of those American Indian cultures that have retained a home land base *(Collier 1962)*.

5. Another ontogenetic moment with specific environmental dimensions is a kind of prepubertal exodus. In our society it appears as Boy and Girl Scouts following nonparental masters into "wild" terrain. It began in America as a woodcraft movement, which Ernest Thompson Seton designed after an English model; but Seton's real theme was the preinitiatory experience of preadolescent American Indians. The camping phenomenon for 11-year-olds sets the tone of the departure from childhood and the preamble to an adolescent ordeal in solitude. Skills and mastery are central to this experience just as they are to a young Eskimo learning to use a kayak. Group membership, symbolized by hypnotic orientation to a campfire and by group singing, is no arbitrary device of middle class life; it is an autogenic attempt to read out the genes by people in those societies affluent enough to escape the mire of agriculture or who have not yet felt its quaggy touch.

The camp exodus may seem to belong to a penumbral phase in the lee of latency and the windward of adolescence. But we need to have much more care than in the past in writing off age classes as "transitional." The 11 to 12-year group may be special in certain ontogenetic respects, rather than merely in-between. These are heroic years in which the hero has not yet been exalted beyond mortality, cliques are bound by unexamined spontaneity rather than ideology, the joys of escape from parental surveillance are unsullied by doubt, and the reality of nature is exquisitely explicit and tangible. In terms of place, it is indeed developmental, with its excursions out of juvenile home range, if only for a while. But the admiration of older adolescent or young adult leaders and attunement to limited exploration are not necessarily mere foreshadowings, but instead a unique whole with its own essential purposes.

Finally, we come to the karma of adolescence

and its ecological requirements. "Adolescence" is misleading, for the period of life is not unitary; the 13th is very different from the 18th year; a diverse series of events is involved. Three of those having a special relationship to the nonhuman are:

6. The adolescent is widely recognized as regressive; infantile behaviors are symptomatic of deep renewal, the excavation of what Joseph Campbell *(1959)* calls "infantile imprints of experience" which form the homological basis of mythical structures. The regression carries strong implications for the figure of the mother. The grand shower of poetic perception is biological adaptation which allows the maternal affiliation to be reexperienced in cosmic terms. This metaphor is the insight by which all later reproduction and generation will carry some of the love of one's own mother in infancy. "Back to nature" and "the love of nature" are the hackneyed expressions of this movement of adolescent feeling toward the "mother of the hunt," the "mother of herds" or the "mother of us all." For the initiated the earth is a body. An organic metaphor as the basis of geohuman relationships is the functional one. The nonliving is thereby silently understood never to be without life. Presumably this grows from a homologized movement of the infant with respect to its mother's body. For the most part our culture fails in the rituals and myths this powerful insight compels. The autogenous substitutes are a virtual catalogue of adolescent delinquency and neurosis. Another aspect of this renewal of the mother motif as a catalyst toward the nonhuman is that the individual has the opportunity to surmount (in part, at least) bad mothering as an infant, to straighten a crooked path by taking it again. It need hardly be said that the implications of this rebirth and its potential for shaping the attitudes of modern society toward nature are scarcely explored.

7. The second event or episode is extended from the taxonomic knowledge mastered by the juvenile and may be the ultimate purpose or function of that achievement. The species system and its ecological interconnections (especially food-chains)are perceived under the guidance of mythical drama, related and acted, as a model of human social relations. In its degenerate form, domestic animals are involved in social hierarchies with man. In urban thought there is some recovery insofar as the animal is perceived in poetic metaphor. In all cases the taxonomic system is exploited for intermediate or transformational forms which manifest or symbolize taboo relations *(Levi-Strauss 1963)*.

8. A third is connected more directly to the schedules of initiation. Among the series the ordeal by solitude is particularly environment-fixed. The testing of the prepared spirit, surrounded by the majestic and terrifying world of the nonhuman, though diverse in its precise settings, is very widespread. There are no equivalents in the city or sensory deprivation tank, despite their isolating effect. Indeed, sensory deprivation is more likely to be alienating than connecting to the concrete world. The autogenous and mythdepleted contemporary expression involves thousands of young people hiking in the wilderness and such programs as Outward Bound making bold but secular and therefore emasculated simulations. What many individuals feel about the wilderness is that they have personally *approached* a religious experience. Without a liturgy it is largely wasted, though there may be psychological benefits.

We all know that one effect of national and multinational corporations and bureaucracies is to distribute identical structures and forms and to modify the terrain into duplicable units. It is widely observed that the effect is disorienting and therefore injurious to processes of self-identity. Because of its repeatability, the abstract world of duplicated spaces is a non-place, a landscape without historical depth or definable named places. It is my contention that the initiatory process empowers the adolescent to make place by cosmocizing (or homologizing) the world known to him *(Douglas 1966)*. To make in the modern world means in fact to transform. The physical making follows the ideational. Fully mature humans—the product of adolescent religious initiation—will not make a world of repeatable segments. The antique test of the end of childhood is the ability to confront and to wear the Other; to enter it like a garment. The perceptual otherness of the visible cosmos, its explicit nonhuman concreteness, lies in true wilderness. If the individual's religious cosmology is adequate to his test of isolation it can be adequate to the whole arc of his life. Having faced the Other in its diversity, he may then face it in himself, one expression of which is the otherness of the city. Like the infant who must see love in action before he can discover it in

himself, the adolescent cannot discover his maturity in the city. We are surrounded by his ludicrous and pathetic efforts to create a universe in which to measure his own achievement.

As Erik Erikson and Harold Searles have demonstrated, these adolescent critical periods are in the service of identity resolutions through the establishment of a vast network of relations with the nonhuman as well as the human environment. Their language is overwhelmingly metaphoric. Their environment is the wilderness. If the landscape is fixated by juvenile perception as an extension of mental operations (as suggested earlier), then the wilderness may be the epigraph of the unconscious *(Drew 1973).* It is continuous with the stellar universe. If the earth's wildernesses are finally domesticated as part of the mythology of Fossilfuelman's "control of nature" the immediate loss to wild species and ecosystems may be calculable. But the earth wilderness is like some cosmic embassy, where the adolescent pilgrimage ends in the birth of maturity—the final test and shaping of sanity in confrontation with the Other. In this its loss to us may be incalculable, though I think we already see the signs of this deprivation.

Above I have suggested eight ontogenetic, critical-period episodes in which human development in the first 20 years of life may be related to the natural world in the context of place. I have suggested that this ontogeny and its environmental complement are the outcome of human phylogeny in the Pleistocene in Paleolithic cynegetic life *(Shepard 1973).* Our present distance from that setting seems enormous, and the cynegetic past is easily seen as a ludicrous model for ourselves. That distance, however, may only by projected by the myth of historical mankind, augmented by recent commitments to progress and humanism. On the contrary, one of the surprising consequences of cynegetic studies is the convergence of urban and hunting/gathering life. Throughout this paper I have alluded to the opportunity of urban peoples to recover elements of human ecology warped by millennia of immersion in domesticated landscapes. Paramount among these is the opportunity to be free of the domestic animal both as social partner and model of the nonhuman. The enormous human desire for animal figures is seen by their ubiquity in popular culture. "Pet therapy" notwithstanding, the psychology of this is poorly known. There is evidence for us in the impoverishment of peasant thought: a perception of nature as an extension or enemy of the animals (degraded monsters) of the barnyard *(Potter 1967.)*

That city life suffers from the lack of green in daily experience may be exaggeration—an irrelevant, sentimental fragment from an esthetic that aligns its vision on an urban-rural axis. Far more important are components of nature that have deep psychological import but not necessarily any scenic dimension. Chief among these is the system of food chains. Wherever our attention falls on the schemata of alimentation it becomes the very model of relatedness. The nearly universal reciprocity of food and marriage regulations signifies the two preoccupations of kinship—one connecting social ties, the other ecological. Reflection on the minimal family and absence of witness and participation in predation among urban children reveals an interrelated pathology. It is widely lamented that the child thinks that groceries come from the store and milk from a carton, but the problem is usually seen in terms of mere information and disregards the motor and participatory bases of learning in children and the way that kind of learning becomes scaffolding for seemingly unrelated data later in life. Picture-book explanations are no help, and help produce grownups who repudiate the very thesis of trophic centrality, whose denial of the life-giving nature of death is a prison for their own children. That we do not and cannot find it in ourselves to affirm as good and beautiful a world where creature eats creature, where butchering is a ritual act, and where decay is an affirmation of wholeness, is a measure of the improverishment of the urban mind. To treat this emptiness with better classroom materials or more open spaces is not only insufficient but misses the issue. Parks and pets are not the crucial points of contact with 'nature' but only therapeutic exercises and the treatment of symptoms.

The ontogenetic, critical-period approach to this subject is extremely hopeful and positive. It asks that prescriptive counsel from the social and psychological sciences for making childhood environments measure its plans against Pleistocene models, against cynegetic life, against the demands of ontogeny and its

critical-period phenomena. It implies that cities are as livable as the people in them are sane and mature—and that the journey into ecological maturity does not require continuous immersion in a garden. It is centered on focal experiences and episodes which do need special spaces, resources, and—most urgently—mentors who mediate fantasy in childhood as apprehension of the biotic world instead of a trick for avoiding it. It is a general and probably valid intuition that the destruction of the natural world somehow impairs our humanity. The amount of nature necessary may be surprisingly modest if we can recover the sense of timing and purpose in which it makes us human.

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