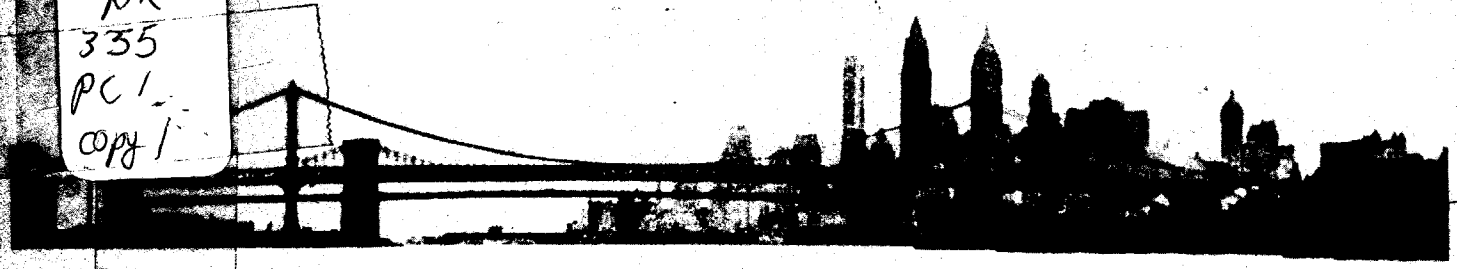

CHILDREN, NATURE, AND THE URBAN ENVIRONMENT:

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Tranquility and Challenge in the Natural Environment

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ABSTRACT. The issue of clarity is perhaps most urgent and powerful for the adolescent. One interesting route to clarity is through challenge and fascination. People have powerful reactions to certain environmental patterns, although they may not be aware of them if they have not had the opportunity to experience them. Having such an opportunity at a time when issues of identity and one's relation to the environment are pressing could have a lasting impact on the character and functioning of the individual. The natural environment, with its special capacity to hold an individual's attention, may be unusually effective in fostering the experience of cognitive clarity.

NATURE IS IMPORTANT to people. This observation is hardly novel, yet it is only recently that there has been empirical evidence to support it. In fact, the evidence presented at this conference is probably as extensive as the sum of the hard data in the literature up to now.

Thus, at last, there is beginning to be evidence for the importance of nature. Both to guide future research in this area and to apply effectively what we know, the next step is to develop a psychological theory to explain this phenomenon. What is perhaps the most obvious direction for theory, namely that people innately *like* nature, turns out to be quite unsatisfactory. The fact of the matter is that people are quite often fearful or even terrified of nature. Indeed, a suitable theory will have to explain how nature has value and attraction for people in spite of its potential to frighten them.

As a cognitive psychologist interested in how people make sense out of the world, I have approached this problem by examining the effect that nature has on the thought process, on a person's state of mind. Dr. Mead's illustration of the child's reaction to an ant is instructive. The child reacts with fascination: there is a clear focus of attention and behavior. For some, nature is a source of perspective, of tranquility. What seems common to the various effects of the nature experience is the sense of cognitive *clarity* or, conversely, the absence of confusion. Undoubtedly, such a state of mind can be, and in general will be, highly pleasurable. But this is not the same as the direct pleasure of a lollipop or a pat on the head. It is, if you will, informationally-based pleasure, that is, pleasure mediated by clarity.

The link between clarity and pleasure involves certain physiological considerations too technical to go into here. But it is possible to relate these concepts on functional and intuitive grounds without detailing possible mechanisms.

On functional grounds people had better find clarity pleasurable. For humans to survive in the dangerous and difficult world in which they evolved, they would have had to make up their minds quickly. And they would have had to *like* being in the state of having their minds made up *(S. Kaplan 1973b).* Put the other way, liking to be lost in thought would have been quickly fatal in the context of the African savanna where human evoluation is believed to have taken place.

From an intuitive point of view, the relation

of clarity and pleasure presents little difficulty. People who are confused about themselves or their world, or both, have been known to despair and even to attempt suicide. On the other side of the ledger, crusades—where it is utterly clear who the bad guy is—appear to be a source of considerable pleasure (to the participants). The attraction of rather eccentric belief systems also seems to be related to the clarity they promise. Mobs, too, offer a kind of clarity. When everyone is shouting the same slogans, all the stimulation one experiences is in agreement—a state of affairs all too rare in the everyday world. Indeed, as the world becomes more complicated and value systems and life styles proliferate, the achievement of clarity becomes increasingly problematic.

TWO KINDS OF ATTENTION

My analysis, then, will be based on the concept of clarity—what it is, how it works, and how it is related to nature.

As it turns out, the concept of clarity has been little studied in psychology. Fortunately, *attention,* a closely related concept, has been studied extensively. Admittedly at first blush the two concepts may seem to have little in common. Clarity is a state of mind. Attention involves the selection of what stimulation to respond to out of the enormous variety of stimulation that might have been responded to. But when attention is successful, all the stimulation dealt with has a common focus. In other words, the outcome of the successful operation of attention is a clear state of mind.

The concept of attention received some of its most thoughtful analysis quite a few years ago. In 1892 William James put forward several distinctions that form the basis of this paper. *Voluntary attention,* in James' terminology, is that attention that requires effort. When one is tempted by distractions, but pays attention, as it were, by an effort of the will, that attention is voluntary. By contrast, some attention occurs in spite of ourselves. It not only requires no effort, it would take an effort not to attend. Something very beautiful might call forth attention of this kind, but so might something strikingly ugly, or potentially dangerous. James calls this latter kind of attention *involuntary.*

Voluntary attention is all too familiar. We fall back on it constantly as we make our way through the dull but necessary requirements of everyday existence. So much of what we do has little intrinsic fascination and demands an effort to keep our minds on the task. Indeed it might be argued that in the modern world the interesting is no longer important, no longer interesting.

The effect of this effort to stay with the task is the suppression or holding down of all potential distractions. There must be some mechanism, presumably inhibitory, that does this. The more stimuli there are that must be attended to even though they are not particularly gripping in themselves, the more this mechanism must be brought into play. Likewise, the more distractions there are, the more stimuli that must be ignored, the greater the need for this mechanism. As Milgram *(1970)* has pointed out, the city is an environment of overwhelming stimulation, a source of stress to which people respond by growing more insensitive. One can readily see how the stresses of modern life could lead to fatigue of the mechanism that gives us the capacity to suppress distraction. Recovery presumably requires resting this overworked capacity. This could be achieved by avoiding circumstances that require effort to pay attention. Thus recovery of voluntary attention could ultimately hinge on the availability of environments that are involuntarily interesting. If nature could be shown to have this property, then the popularity of natural settings for recovery from overload and stress would make considerable sense.

James distinguishes two kinds of involuntary attention, which he calls the immediate and the derived. The derived is based on experience, as (in James's example) the reaction to a faint tap on the window pane when it is a prearranged signal between lovers.

The immediate form of involuntary attention has a strikingly primitive flavor, as is clear from his list of examples: "strange things, moving things, wild animals, bright things, pretty things, metallic things, words, blows, blood, etc. etc. etc." (p. 88). This colorful list is rich in implications. First, it suggests that "immediate involuntary attention" involves the property of fascination so vividly illustrated in Dr. Mead's example yesterday. At the same time, James' list shows the close linkage to evolution; sur-

vival may well have dependend upon paying immediate attention to stimuli of this kind. A third characteristic of this list is its lack of system. Its disorder and incompleteness, even to James' exuberant use of "etc." fairly cry out for a more orderly, more coherent framework.

SOURCES OF FASCINATION

Such a framework follows readily from the evolutionary significance of this process. An individual's likelihood of survival would be enhanced if certain kinds of patterns or events were innately fascinating, if they required no effort to attend. These might include circumstances where it was likely that useful new information could be acquired (as in watching a highly skilled individual carry out some task). It would also be adaptive for potentially dangerous situations to be fascinating. If such situations were simply perceived as bad or painful, the reaction might be headlong flight without calculation or strategy. But fascination with potential danger would lead to the close scrutiny of the situation needed by a creature whose survival was far more dependent upon wits than speed *(S. Kaplan 1976)*. Such fascination would also make possible the group cooperation and group defense that is characteristic of many primate groups. Headlong flight is rarely conducive to cooperative efforts.

Thus there are a variety of circumstances—the potentially educational, the potentially dangerous, the potentially important in one way or another—that would appropriately be fascinating to humans. To identify these circumstances would require a research program of major proportions. One might, for example, present visual patterns on a screen and observe people's behavior. Any stimuli that failed to hold people's rapt attention would be discarded and replaced by others until one had a vast collection of material, all of which had proven fascination value.

Fortunately for our purposes this research has already been carried out, and on a large scale. It is called "television," and it provides an excellent overview of what people do in fact find fascinating. For those who decry modern trends of this kind, and long for a simpler time gone by, the circus is a similar experiment—and leads to similar conclusions.

From these and other activities (e.g., zoos, auto racing, theater) that elicit rapt attention in humans, the various domains of fascination begin to be visible. A central distinction here appears to be between process and content.

Process

The process that people find fascinating is, in the largest sense, the process of coping with uncertainty *(S. Kaplan 1973a)*. This can, of course, be broken down into innumerable sub-processes, since there are many facets of this vital human activity. For our purposes, three rather general subprocesses should suffice:

(1) Making sense out of the world: Recognizing (e.g., bird-watching) and predicting (e.g., gambling) are frequently fascinating and are the basics of the sense-making process.

(2) Acting on the environment: This includes evaluating (as in identifying the good guys and the bad guys), and coming to decisions, as well as acting per se.

(3) Exploration. The fascination of this process is so well known that it hardly needs discussion. It might be useful to point out some of the adaptive values of this process. On the one hand, it involves the acquisition of information in an organism that depends upon information for survival. In addition, it involves the *practice* of making sense and acting in an organism that must be able to carry out these procedures quickly and efficiently when the chips are down.

Content

The contents that people find fascinating presumably are related to coping with the environment just as the basic processes are. Thus it is hardly surprising that people have strong reactions to wild animals. In fact, wild animals are sufficiently fascinating that compounds where such creatures can be viewed by the public are available in most of our major cities. Snakes are legendary in this respect; wolves and bears elicit particular interest, as do any animals that are particularly large. There are also strong reactions to the young of many species.

Green things, too, have their special claim on human attention. Gardens *(R. Kaplan 1973, Lewis* in this volume), parks, wilderness, even house plants *(Iltis et al. 1970)* reflect this area of fascination. Although television seems not to

specialize in this domain, efforts to evoke a feeling of tranquility (e.g., cigarette commercials) tend to rely heavily on patterns of natural vegetation.

The preference for green things blends into the related issue of landscape preference. Here water must be added as a powerful (and evolutionarily appropriate) factor. A host of other factors are involved at this scale; while there is not the space to discuss them all here, they are quite consistent with the overall emphasis on attention and survival *(S. Kaplan 1975)*.

This variety of fascinating living things readily merges into various survival-related physical phenomena. Here we might include fires, caves, the weather (especially bad weather) and miscellaneous natural hazards. We might also include certain portions of the environment that humans have altered, adapted, or constructed for their own use. Shelters, tools, and food would be good examples.

While this collection may sound too much like the preoccupations of a myopic caveman, urban children still are fascinated by fires. An occasion that promises free food (or drink) is still very attractive, even to people who could well afford to buy their own, and even today people with little else in common talk about the weather.

NATURE AND PERSONAL GROWTH

In this perspective a challenging exposure to the out-of-doors (such as the Outdoor Challenge Program) provides a unique opportunity. It would be difficult to imagine another experience that draws so heavily both on contents and processes that command involuntary attention. The natural environment can provide an experience of clarity hard to match in any other way.

This special character undoubtedly has numerous implications for the process of personal growth. Let me comment briefly on three such possibilities that I find particularly intriguing.

(1) One of the ways the challenge-oriented outdoor programs differ from other sources of involuntary attention (like television and circuses, for example) is that they are active. It is necessarily the individual who is the source, the locus of control in what happends. By emphasizing the capacity to act (one of the subprocesses that inherently hold attention) they enhance an important aspect of confidence and competence.

(2) Skill learning in general might be expected to enhance self-esteem. But to the extent that people tend to dismiss the skills they have as being of little importance, this benefit might be minimized. Skills relevant to the natural environment, by contrast, are more difficult to dismiss, because the natural environment communicates its importance so effectively through the attention it demands and the clarity it evokes.

(3) It may be that the issue of clarity is particularly urgent and powerful for the adolescent. He is beset with unclarity concerning himself and his relation to others. He also is attempting to find effective ways of dealing with the lack of clarity in his environment. It may well be that he is at a critical point when such issues will be resolved one way or the other.

Among the many ways of achieving clarity, perhaps the most popular are reliance on the social support of the peer group and adoption of a simplifying world view (often of the "us vs. them" variety). An interesting alternative route of clarity is through the challenge and fascination of the natural environment. In this way a youth might discover an unexpected capacity for clarity. The power of the human reaction to certain environmental patterns is real only for the person who has experienced it. Having an opportunity to do so at a time when issues of identity and one's relation to the environment are pressing could have a lasting impact on the character and functioning of the individual.

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