Motivation

Before one can understand how the physical environment is perceived by an individual, it is essential to understand the capacity of humans to store information and their motivation to do so. It is evident that men and animals have an innate desire to live, and to live well (thrive). This desire requires active participation in an environment that is both physical as well as social. To thrive we must enjoy interaction with our environments and positively seek out those that are most fulfilling. For this to occur we must be able to correctly perceive our environment (physical & social), associate it with other situations, and store information. All these are positive motivations of the individual. They are also all based on interpretations of information gleaned through the senses. The psychologist Gibson states "that the visual world is an unlearned experience, that it is meaningless when seen for the first time, and that what one learns is to see the meaning of things" (and situations). Gibson categorizes some of the meanings we associate with objects, such as their use or the satisfaction of a physical or emotional need. Objects also may have abstract or social meaning. Obviously, architectural forms are comprehended
through a balance of many of these types of meaning. "Church" has symbolic meaning as a word as well as a form. The form definition of a church may vary with locality and historical era, but it has fairly narrow limits within those contexts. Our understanding of the environment depends on a stored knowledge or wealth of meanings associated with particular objects, their relationship to other objects and our motivations.

Though man has greater storage capacity for meaning than other animals, there are limits. Much study is underway to determine exactly how the brain stores information, and as yet there is no definitive answer.

It is known, however, that information is coded into patterns. In the specific case of vision, much of this coding is done by the eye itself with only patterns being transferred to the brain. Because of the limitless range of possible experiences and the limited storage capacity of the brain, redundancy is the first part of the environment to be filtered out. For example, when one first looks at a red wall, the cone sensors in the eye start firing impulses to a second layer of sensors in the eye that code the pattern for the brain. This layer

reduces the information coming from a number of cones to one message to the brain. At the same time, it sends a message back to the cones asking for less information as long as there are no changes in the perceived environment. And so the cones quickly reduce the amount of information they are returning to the second level. The individual does not sense change in what he is "seeing" because the brain has experienced that pattern of messages and has identified a single experience: red.

The meaning of this and of other perceived characteristics of an object are interpreted in relation to prior experiences of similar objects or situations. The associated meanings may require the individual's brain to ask for more information from the eye, or the brain may decide not to bother and again ask for less information. Since our interpretations are based on the object's relationship to its environment and on our past experience, we are adept at identifying proportional differences between situations. However, we are fairly poor at quantifying them. We can say that something is about "twice as bright" but we cannot put a number on it. Where we fall short, we have invented machines such as the light meter to make exact judgments.
Upon understanding what motivates perception, we can see logically how we deal with the physical environment encountered in daily life. An environment which is new to us is sensed more fully than one to which we have become accustomed. The more familiar the environment, the more we synthesized our mental pattern for it and the less necessary it is to deal with it consciously. Moving through familiar spaces, we do not have to look for the entrances and exits: we know their relative locations. The more open the environment, the less need there is to perceive it and the more difficult it becomes to do so. Conversely, the closer the environment, the more readily it is perceived. Considering the fact that the architecture we tend to get closest to is usually a barrier of some type (doors or walls) much of our experience is based on negotiating these barriers when they interfere with goals on the other side of them.

Motion, because it is a set of experiences (eye stimulations), generally requires more perception than passivity. However, patterns of motion can also become repetitive, such as our movement in relation to familiar buildings and pathways. These movements in the visual field become assimilated as we learn the environment and our movement within it becomes "second
nature. Motion through environments with erratic forms and motion requires conscious perception. This is evident when walking in a crowd or walking through an electric eye door. Similarly, pedestrians regard cars with great care they they approach because they are associated with danger and unpredictable movement.

Motivational drive, or our frame of mind, also strongly affects our perception of a physical environment. When preoccupied with thought, we may be totally unconscious of our environment. This is typically true when we are reading, for example. We also can be thinking as we walk, in which case we only marginally monitor our environment. If our thought is directed toward a physical goal such as finding a place to eat, our brain quickly filters out extraneous information until the goal is fulfilled or some other mediating drive takes over.

The final qualifiers of human perception are the natural limitations of our senses. These are not of great importance to the architect, however, because they are outside the comfort ranges we use in designing buildings. It must be acknowledged that experiencing architecture probably takes up little of the average person's time. We con-
tinually pursue meaningful physical and social experiences throughout our lives. For the built environment to support this, it must contain meaningful, enjoyable, and comprehensible architecture or it will be avoided or ignored. Architecture can reinforce or deny social experiences.

Its ability to do this is based on how we perceive forms and the meanings we associate with them. The remainder of this work will deal with hierarchies of formal organization and how they can be used to design effective environments.