such as crime and education. Traditionally, this controversy pits those who believe that human nature and intelligence are biologically determined (eugenicists) against those who contend that, given a positive and enriching environment, most individuals have the potential for high levels of human development (euthenists). It is agreed that such human characteristics as sex, height, skin and hair color, and, to a certain extent, temperament, are genetically determined at conception. However, there is disagreement over the extent to which other aspects of human development—including behavior, personality, and intelligence—are influenced by such environmental factors as nutrition, emotional climate of the home, and quality of stimulation and parental feedback. In addition to the immediate family, many experts consider the social class and culture in which a child is raised as important environmental factors in determining his or her development.

Intelligence testing and race has resurfaced as a volatile topic in the nature/nurture debate, since African-Americans as a group score 10 to 15 points lower on standard IQ tests than whites. Some experts claim that this disparity demonstrates the differences in inherited ability among the two races, while others attribute the gap to environmental influences. In 1994, Richard Herrnstein and Charles Murray published The Bell Curve, in which they asserted that low-income blacks have innately lower cognitive abilities than whites (based on the gap in IQ scores), a situation that cannot be significantly remedied through government social and educational programs. Many social scientists, however, consider environmental and genetic factors to be so closely intertwined as to make it impossible to clearly separate them. Thus, the contrasting positions of eugenicists and euthenists are actually at opposite ends of a continuum, with most observers of human behavior taking a middle position that emphasizes the interaction between biological predispositions and life experiences.

Social learning theorists refer to another layer of complexity in the relationship between environment and human behavior: the self-generated environment. This concept refers to the fact that a certain behavior or behaviors may produce environmental conditions that can affect future behavior. People who behave in an abrasive manner, for example, help create a hostile social environment, which in turn leads to further hostility on their part. Similarly, the behavior of friendly persons will tend to generate a supportive environment that reinforces and perpetuates their original behavior. Thus, a group of persons who find themselves in the same “potential environment” may experience different “actual environments” as a result of their contrasting behaviors.

Since the 1960s, environmental psychologists have studied the relationship between human behavior and the physical environment, including noise, pollution, and architectural design. Like ethologists, who study animal behavior in their natural habitat, environmental psychologists maintain a holistic view of human behavior that leads them to study it in its natural setting rather than in a laboratory, or at least to supplement laboratory experiments with field research. Environmental psychologists study such topics as the ways in which the architectural design of a psychiatric hospital affects its patients; the effects of aircraft noise on children at a school near an airport; and overcrowding in a college dormitory.

Environment psychology is basically an applied field geared toward solving specific problems rather than a theoretical area of study. Like social learning theory, it is heavily concerned with the reciprocal relationship between behavior and environment, including the ways in which people cope with their physical surroundings by altering them. One exception to this orientation is a position known as determinism, which has influenced much research into the effects of architecture on behavior. The determinist approach emphasizes the adaptation of people to their surroundings, and considers behavior largely as a function of those surroundings, with little reciprocity involved.

See also Eugenics; Jensen, Arthur

Further Reading
Epilepsy

A condition affecting people regardless of age, sex, or race, where a pattern of recurring malfunctioning of the brain is present.

Epilepsy, from the Greek word for seizure, is a recurrent demonstration of a brain malfunction. The outward signs of epilepsy may range from only a slight smacking of the lips or staring into space to a generalized convulsion. It is a condition that can affect anyone of any age, sex, or race.

The number of people with epilepsy is not known. Some authorities say that up to 0.5% of the population are epileptic, but others believe this estimate is too low. Many cases of epilepsy, particularly those with very subtle symptoms, are not reported. The most serious form of epilepsy is not considered an inherited condition, though parents with epilepsy are more prone to have children with the disease. On the other hand, an epileptic child may have parents who show no sign of the condition, though they will have some abnormal brain waves.

Though the cause of epilepsy remains unknown, the manner in which the condition is demonstrated indicates the area of the brain that is affected. Jacksonian seizures, for example, which are localized twitching of muscles, originate in the frontal lobe of the brain in the motor cortex. A localized numbness or tingling indicates an origin in the parietal lobe on the side of the brain in the sensory cortex.

The recurrent symptoms, then, are the result of localized, excessive activity of brain cells or neurons. These can be seen on the standard brain test called the electroencephalogram (EEG). For this test electrodes are applied to specific areas of the head to pick up the electrical waves generated by the brain. If the patient experiences an epileptic episode while wired to the EEG, the abnormal brain waves can easily be seen and the determination made as to their origin in the brain. Usually the patient does not experience a seizure and no abnormalities are found.

Grand mal seizures are those that are most characteristic of epilepsy. Immediately prior to the seizure, the patient may have some indication that a seizure is imminent. This feeling is called an aura. Very soon after experiencing the aura the patient will lapse into unconsciousness and experience clonic seizures, which are generalized muscle contractions that may distort the body position. Thrashing movements of the limbs shortly ensue and are caused by opposing sets of muscles alternating in contractions (hence, the other name for grand mal seizures: tonic-clonic seizures). The patient may also lose bladder control. When the seizures cease, usually after three to five minutes, the patient may remain unconscious for up to half an hour. Upon waking, he or she may not remember having had a seizure and may be confused for a time.

In contrast to the drama of the grand mal seizure, the petit mal may seem inconsequential. The patient interrupts whatever he or she is doing and for up to about 30 seconds may show subtle outward signs such as blinking eyes, staring into space, or pausing in conversation. After the seizure previous activities are resumed. Petit mal seizures are associated with heredity, and they never occur in people over the age of 20 years. Oddly, though the seizures may occur several times a day, they do so usually when the patient is quiet and not during periods of activity. After puberty these seizures may disappear or they may be replaced by the grand mal type of seizure.

A serious form of seizure, status epilepticus, indicates a state in which grand mal seizures occur in rapid succession with no period of recovery between them. This can be a life-threatening event because the patient has difficulty breathing and may experience a dangerous rise in blood pressure. This form of seizure is very rare, but it can be brought on if someone abruptly stops taking medication prescribed for the epilepsy. It may also occur during alcohol withdrawal.

A number of drugs are available for the treatment of epilepsy. The oldest is phenobarbital, which has the un-