EMPIRICISM AND NATIVISM

Materialistic Philosophy of seventeenth-century England led quite directly to a school of thought about the mind known as British Empiricism, carried on by such British philosophers as John Locke (1632-1704), David Hartley (1705-1759), James Mill (1773-1836), and John Stuart Mill (1806-1873). Empiricism, in this context, refers to the idea that human knowledge and thought derive ultimately from sensory experience (vision, hearing, touch, and so forth). If we are machines, we are machines that learn. Our senses provide the input that allows us to acquire knowledge of the world around us, and this knowledge allows us to think about that world and behave adaptively within it. The most basic operating principle of the mind's machinery, according to the empiricist, is the *law of association by contiguity*, and idea originally proposed by Aristotle in the fourth century BC. Contiguity refers to closeness in space or time, and the law of association by contiguity can be stated as follows: *If a person experiences two environmental events (stimuli, or sensation) at the same time or one right after the other (contiguity), those two events will become associated (bound together) in the person's mind, such that the thought of one event will, in future, tend to elicit the thought of the other.*

As a simple illustration, consider a child's experience when seeing and biting an apple. The child receives, from the apple, a set of sensations, which produce in her mind supplementary ideas as red colour, spherical shape, and sweet and tart taste. The child may also, at the same time, hear the sound 'apple' emanating from the vocal cords of a nearby adult. Because all these sensations are experienced together, they become associated in the child's mind. Together, they form the complex idea apple.

The empiricists contended that even their own most complex philosophical ponderings could, in theory, be understood as amalgams of elementary ideas that become linked together in their minds as a result of contiguities in their experiences. John Stuart Mill (1843/1875) referred to this sort of analysis of the mind as mental chemistry. Complex ideas and thoughts are formed from combinations of elementary ideas, much as chemical compounds are formed from combinations of chemical elements.

For every philosophy that contains part of the truth, there is an opposite philosophy that contains another part of it. The opposite of empiricism is *nativism*, the view that some knowledge and rules of operation are native to the human mind – that is, are inborn and do not have to be acquired from experience.

Take a white sheet of paper and present it with all the learning experiences that a normal human child might encounter; the paper will learn nothing. Talk to it, sing to it, give it apples and oranges, take it for trips in the country, hug it and kiss it, it will learn nothing. To learn anything, any entity must contain some initial machinery, already built into it. At a minimum, the machinery must include an ability to sense some aspects of the environment; some means of interpreting and recording those sensations, some rules for storing and combining those sensory records, and some rules for recalling them when needed.

While empiricist philosophy flourished in England, nativist philosophy took root in Germany, led by such thinkers as Gottfried Wilhelm von Leibniz (1646-1716) and Immanuel Kant (1724-1804). In his *Critique of Pure Reason* (1781/1908), Kant distinguished between a priori knowledge, which is built into the human brain and does not have to be learned, and a posteriori knowledge, which one gains from experience in the environment. Without the first, a person could not acquire the second.