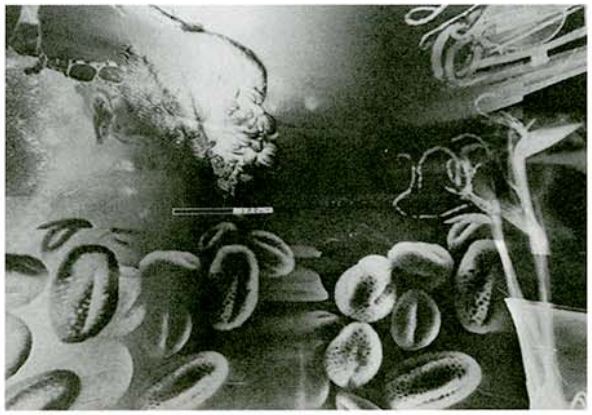
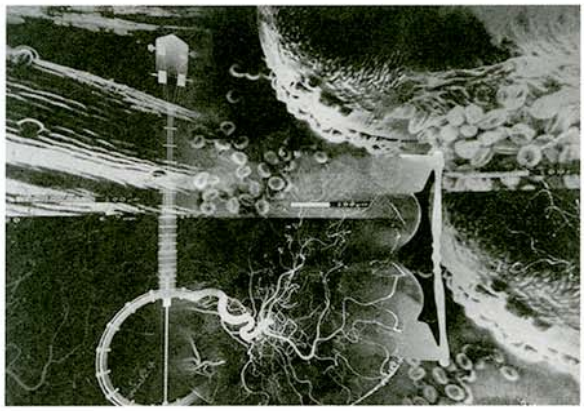
Dreams 1900–2000

Science, Art, and the Unconscious Mind

EDITED BY

LYNN GAMWELL





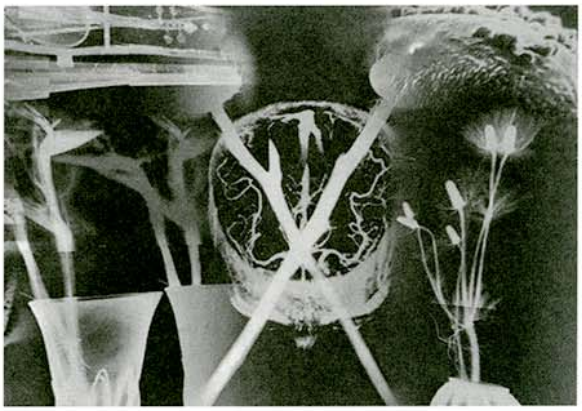


Fig. 1.44
Steve Miller (b. 1951), American. *Dreaming Brain*, 1998–99, interactive film (www.dreamingbrain.com). Courtesy of the artist, New York.

Making an analogy between the brain and a computer, Miller invites the viewer to move the mouse and enter his dreams, which he has programmed into this interactive film.

Gerald Edelman has developed one of the most widely acclaimed, furiously debated new models, a truly global biological theory of the mind and consciousness, which Edelman calls neural Darwinism, or the theory of neuronal group selection. He proposes an evolutionary process within the lifespan of each organism in which the nervous system of an animal develops from conception and continues to grow and alter throughout the life of the organism by a kind of competition among nerve cells (or groups of nerve cells). The infant is born with basic biases that are essential for adaption and survival, such as the desires for food and warmth. What others might call drives or instincts, Edelman calls "values," stressing that the animal feels them from the beginning of life; the development of a nervous system is guided by the animal's felt experience. Beyond basic innate wiring (reflexes in response to pain, detectors in the visual cortex for edges, etc.), it is up to the infant, given its values and its physiological makeup, to categorize its felt experiences and perceptions and thereby construct the world. From birth, individuals compose a world that is unique to them, determined by their own meaning and values.

According to Edelman, the complexity of the nervous system is achieved through a process of selection acting on primary neural units, which are bundled in groups of fifty to ten thousand neurons. The human brain is comprised of billions of neurons, organized into about a hundred million neural units. During development, neuronal patterns are established and strengthened by activation, and weakened through disuse, a process that continues into adulthood, producing an every changing, dynamic mind. Higher levels of experience are achieved by what Edelman terms "maps"—an

Pl. 119
STEVE MILLER (b. 1951), American
Dreaming Brain, 1998–99, interactive film
(www.dreamingbrain.com). Courtesy of
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