Noradrenaline has also been found to be essential in retrieving certain types of memories. Researchers are now studying its effects in stress-related disorders like depression and PTSD, both of which are characterized by difficulties and disturbances in memory retrieval. Von Euler shared a 1970 Nobel Prize for "discoveries concerning the humoral transmitters in the nerve terminals and the mechanism for their storage, release and inactivation."

Dopamine, a neurotransmitter that is closely related chemically to noradrenaline, was discovered in 1957. It was referred to as the brain's "feel good" or "reward" chemical after it was discovered that dopamine release was stimulated by nicotine, cocaine, opium, heroin, and alcohol. It was later found that a dopamine deficiency in certain parts of the brain caused Parkinson's disease. As will be explained, dopamine may also be involved in the development of schizophrenia and obesity.

Serotonin was identified in 1948 but its complex effects on mood and behavior were not recognized until the following decade. Serotonin deficiency has been shown to be associated with depression, suicide, obsessive-compulsive disorder and problems with anger control. Too little can also cause carbohydrate craving and sleeping difficulties, both of which are common complaints in depression and other emotional disorders.

Scientists had long suspected that morphine relieved pain, and heroin brought pleasure, by acting on receptors for some natural neurotransmitter. In 1975, brain chemicals with similar effects were isolated and named endorphins, for "morphine from within." In addition to reducing pain, they induced the feeling of elation seen in "runner's high" and promoted endurance by providing a "second wind." The demonstration that exercise, laughter, sex, touch, and massage can increase endorphin production helps to explain many anecdotal observations and why such activities tend to make people feel good. Twenty different endorphins have now been identified that have varied effects. Beta-endorphins activate natural killer cells that boost immune system resistance to infections and cancer.