The disease is known to doctors as "irrational rationality" because it forces its victims to defy reason while seeming to embrace it. Characters as disparate as Howard Hughes, Lady Macbeth and Freud's sexually conflicted "Rat Man" are among its victims. Today, in every elementary school of 200 pupils or so, three or four youngsters are likely to suffer from it. Howard Hughes' symptoms included an insistence on having a germ-free environment and all his windows permanently sealed. The schoolchildren are more inclined to count cracks in the blacktop (for them, "Step on a crack, break your mother's back" is frighteningly literal) or meticulously arrange their crayons in neat rows, again and again, to avert some imagined catastrophe.

All of them are suffering or have suffered from a mental disease known as obsessive-compulsive disorder (OCD), which torments its victims with clouds of horrific anxieties and forces them, like primitive priests propitiating unknown gods, to indulge in senseless and repetitive rituals. Not long ago, this disease -- along with most other so-called mental illnesses -- was considered to be a chronic, untreatable condition, a psychological crippler whose roots lay hidden deep within the brain's mysterious recesses.

But the brain is finally giving up its secrets, and the biggest secret of all is that this 3-lb. maze of nerves and tissue is also a veritable laboratory of chemicals whose workings and interactions largely determine the state of our mental health, down to the latest mood swing. Many mental illnesses once thought to be purely psychological conditions -- among them schizophrenia, panic disorder, post-traumatic stress disorder and OCD -- turn out to be caused by specific chemical imbalances. Those who suffer from them are racked not by toilet-training traumas or the "unceasing terror and tension of the fetal night" (as an early psychoanalyst put it) but by something as simple -- and complex -- as an imperfectly mixed chemical cocktail. The Oedipus complex has been reduced to a matter of molecules.