

August Kekulé

A BREAKTHROUGH IN CHEMISTRY

History is crowded with scientific breakthroughs that have arisen first in dreams. Such discoveries remind us of the potential for creativity we all have in our nightly dreaming. Here August Kekulé tells of how, in 1858, his dream images showed the structure of carbon bonds in organic substances—a key breakthrough in organic chemistry. This and other dream experiences led him to say to a German Chemical Society audience, “Let us learn to dream, gentlemen, then perhaps we shall find the truth.”

DURING MY STAY IN LONDON I resided for a considerable time in Clapham Road. . . . I frequently, however, spent my evenings with my friend Hugo Muller at the opposite end of the metropolis. We talked of many things but most often of our beloved chemistry. One fine summer evening I was returning by the last bus, through the deserted streets of the city. I feel [*sic*] into a reverie (*Traumerei*) and lo, the atoms were gamboling before my eyes! . . . I saw how, frequently, two smaller atoms united to form a pair; how a larger one embraced the two smaller ones; how still larger ones kept hold of three or even four of the smaller; whilst the whole kept whirling in a giddy dance. I saw the larger ones formed a chain, dragging the smaller ones after them but only at the ends of the chain. I saw what our past master, Kopp, my highly honored teacher and friend, has depicted with such charm in his “*Molekularwelt*”: but I saw it long before him. The cry of the conductor, “Clapham Road,” awakened me from my dreaming; but I spent a part of the night in putting on paper at least sketches of these dream forms.

O. Theodore Benfey, “August Kekulé and the Birth of the Structural Theory of Organic Chemistry in 1858,” *Journal of Chemical Education*, vol. 35, no. 1, (1958), pp. 21-23.

