

**Explosion of Carbonic Acid.**—L. Pfaundler placed a sealed glass tube, which was about two-thirds full of liquid carbonic acid in a bath of carbonic acid and ether, which had been reduced to a temperature below  $-100^{\circ}$  ( $-148^{\circ}\text{F.}$ ), in order to obtain crystallized carbonic acid. Beautiful, transparent, strongly refracting crystals soon appeared, which completely filled the submerged portion of the tube, while a layer of fluid carbonic acid floated over them. After a few minutes the upper end of the tube, which was exposed to the air, suddenly exploded with a loud report. The same tube had previously been often exposed to a temperature of more than  $31^{\circ}$  ( $55.8^{\circ}\text{F.}$ ) It is possible that the glass, at this low temperature, became so brittle that it could not bear the steam pressure of the still fluid portion of the carbonic acid and the influence of the temperature of the air. But it seems more likely that the solid carbonic acid burst the tube in consequence of its thermal expansion.—*Ann. der Phys. und Chem.*, 1882, p. 175. C.

**The Figure of Comets.**—M. Faye thinks that the combined influences of solar attraction, which tends to decompose bodies of small mass and great volume, and of solar repulsion, which begins to act on the evaporable portion of the mass which is withdrawn from all pressure and submitted to an increasing heat, are sufficient to explain cometary phenomena, without resorting to the hypothesis of an electric or magnetic repulsion. In the irresolvable nebulae, and the manner in which they are distributed in space, he finds evidence of the repulsive action which the stars exercise over the extremely tenuous matter by which they are surrounded. The light of the nebulae appears to him to be of exactly the same nature as that of comets. He can find no reason for attributing a cosmic agency to the electric forces which we observe upon the earth. It is true that the least chemical action, the least friction, the least contact of two bodies, sets these forces in play; but by the very nature of polar forces they soon become mutually destructive. If the globe is an immense reservoir of electricity the electricity is neutral, and it is only occasionally that the existence of the forces is perceived. It requires the genius of engineers to separate them, to conduct them to a distance, and to force them to execute their admirable works by their recombination. Beyond the globe all this disappears. The simple incandescence of the sun is sufficient to explain the phenomena of repulsion which are indicated by the gigantic tails of comets.—*Comptes Rendus*, xc, 427. C.