

nature of wood, stone, and metals. It was long, however, before it was recognised that the presence or absence of air made a difference in the result of heating substances. When attention was drawn to this difference a new suggestion was adopted. It was, that things, besides consisting of or sharing the properties of earth, water, air, and fire, also consist of, or at least are like, salt, sulphur, and mercury. Salt dissolves when put into water; so do many other things. These things must either contain a kind of salt to account for this property; or they must at least share the property of salt, in so far as they dissolve. Similarly, other things, especially metals, must either contain or share the property of mercury, seeing that they shine with the same kind of lustre; and many things resemble sulphur in so far as they burn and produce a smell in burning. And it was often imagined that when things burn, the sulphur which they contain flies away and disappears, just as ordinary sulphur, when set on fire, burns away completely, leaving nothing behind. About the middle of the seventeenth century, **Johann Joachim Becher**, a German alchemist, altered somewhat the conception that substances contain, or are like, salt, sulphur, and mercury; he imagined all things existing on the surface of the globe to contain three earths, namely the mercurial, the glassy, and the fatty, the last implying the property of being able to burn. And in the early years of the eighteenth century, Becher's pupil, **George Ernest Stahl**, who was Professor of Medicine in Jena, and later in Halle, two small German towns, made an important addition to the ancient theories, namely, that it was possible to restore the "sulphur," or the "fatty earth," as Becher called it, to things which had been deprived of it by burning, by heating them with other substances rich in that constituent.

Phlogiston.—Stahl devised a new name for this combustible constituent of substances, in order better to direct attention to his new idea; he called it "phlogiston," a word which may be translated "burnableness," for it is derived