

assumes at first the appearance of an agate with milky clouds; and it seems as if organic membranes were forming under the eye of the observer. When the coagulum extends to the whole mass, the yellow spots again disappear. By agitation it becomes granulous like soft cheese.* The yellow colour reappears on adding a few more drops of nitric acid. The acid acts in this instance as the oxygen of the atmosphere at a temperature from 27° to 35° ; for the white coagulum grows yellow in two or three minutes, when exposed to the sun. After a few hours the yellow colour turns to brown, no doubt because the carbon is set more free progressively as the hydrogen, with which it was combined, is burnt. The coagulum formed by the acid becomes viscous, and acquires that smell of wax which I have observed in treating muscular flesh and mushrooms (morels) with nitric acid. According to the fine experiments of Mr. Hatchett, the albumen may be supposed to pass partly to the state of gelatine. The coagulum of the papaw-tree, when newly prepared, being thrown into water, softens, dissolves in part, and gives a yellowish tint to the fluid. The milk, placed in contact with water only, forms also membranes. In an instant a tremulous jelly is precipitated, resembling starch. This phenomenon is particularly striking if the water employed be heated to 40° or 60° . The jelly condenses in proportion as more water is poured upon it. It preserves a long time its whiteness, only growing yellow by the contact of a few drops of nitric acid. Guided by the experiments of Fourcroy and Vauquelin on the juice of the

* The substance which falls down in grumous and filamentous clots is not pure caoutchouc, but perhaps a mixture of this substance with caseum and albumen. Acids precipitate the caoutchouc from the milky juice of the euphorbiums, fig-trees, and hevea; they precipitate the caseum from the milk of animals. A white coagulum was formed in phials closely stopped, containing the milk of the hevea, and preserved among our collections, during our journey to the Orinoco. It is perhaps the development of a vegetable acid which then furnishes oxygen to the albumen. The formation of the coagulum of the hevea, or of real caoutchouc, is nevertheless much more rapid in contact with the air. The absorption of atmospheric oxygen is not in the least necessary to the production of butter which exists already formed in the milk of animals; but I believe it cannot be doubted that, in the milk of plants, this absorption produces the pellicles of caoutchouc, of coagulated albumen, and of caseum, which are successively formed in vessels exposed to the open air.