

in the capillaries of the lungs, is due to the action of the oxygen contained in the respired air. But future researches must accurately determine the details of this process. The redness of the blood is chiefly, if not exclusively, dependent on its corpuscles. We may therefore conclude that the more visible of its respiratory changes occur in these structures. But the facts rather indicate, that the gases concerned in respiration, make use of the liquor sanguinis as the immediate channel of their entry and egress. For it is probable that a part of the carbonic acid, nitrogen and oxygen is dissolved in the plasma of the blood." The writer should not have risked his reputation by such meaningless sentences as these; however easily they are penned, they tend to lower the high opinion that might otherwise be formed of his powers of analysis and diction, and the present instance he has almost deprived himself of sympathy from the total disregard which he has manifested for the researches and reflections of Mulder, Henle, Scherer, Nasse and Schultz, with which a student is expected to be familiar, but for which he may search in vain in a book written for the edification of "advanced pupils," and the "educated public."

As a distinct chapter on Evaporation is a novelty in Physiologic works, we present our readers with a synopsis of it. It takes in cutaneous and pulmonary evaporation, the union of which forms the total evaporation or transpiration. The amount has been determined in animals by a eudiometric analysis of the gaseous mixture breathed in a given time. Two methods of experimenting are described at length and plates of the apparatus introduced. Objections are put to the methods founded upon the probable risk of death from keeping an animal sufficiently long, within, for the necessary observation—the admixture of the air by flatus and the effluvia of fæces and urine passed during the experiment, and upon the difference of respiration in animals confined and in those at liberty. No plan is offered for remedy, further than making man, particularly the practised inquirer, the subject of experiment. Trials by the author himself gave an average of 2 lbs. 7½ to 2 lbs 8¾ oz. of water, given off by the pulmonary and cutaneous evaporation of his body, which weighed from 119 lbs. 2¼ oz. to 114 lbs. 1 oz. : this estimate includes the carbon of the cutaneous exhalation with the intestinal gases, the sebaceous secretion of the skin and the catarrhal fluids of the mouth. Most comes from the skin, not wholly from the glands, but chiefly, the moister strata of the cuticle, the highly moistened corium and its blood. The simplest view of late researches on the interchange of the gases in different animals, is obtained by bringing together the quantities per hour in proportion to a pound of corporeal weight, and by contrasting the weight of oxygen absorbed with that of carbonic acid given off, as regards the human subject, Scharling's