

The Exchange of Gases in Fever.—Lilienfeld has recently conducted some experiments on the exchange of gases in animals in a state of fever. (*Pflüger's Archives*, Bd. XXXII., pp. 293-356.) The experiments were made in such a way that he was able to determine during a long period the interchange of oxygen and carbon dioxide—(1) when the animal's temperature was normal, and (2) when it was thrown into a state of fever by the injection of a putrid infusion of hay. He found that, without exception, both the absorption of oxygen and excretion of carbon dioxide were increased in fever, and also that the influence of the fever was greater in an animal which had been starved than in one which was fed up to the time of beginning the experiment. This difference he refers to the fact that in the last case the sudden cessation from feeding would alone diminish the amount of oxygen required. He also found that the ratio of the carbon dioxide expired to the oxygen inspired was not altered by the fever. This constancy of the respiratory ratio $\text{CO}_2:\text{O}$ proves that Senator's assumption, that in fever the processes of oxidation are incomplete, cannot be accurate; but that the amount of tissue change is increased in fever, whilst the processes of oxidation are carried on in the same manner as in health, but to a greater degree. This increase of the processes of oxidation cannot be a consequence, but must be the cause, of the rise of temperature, since it took place in animals injected with the hay infusion, although their temperature was prevented from rising by keeping them in a bath at a suitable temperature. In one experiment even, in which the temperature of the animal's body was kept below normal by means of the bath, the interchange of gases was increased, this being probably due to the artificial cooling causing a compensatory increase in the production of heat. The author here again agrees with Finkler that the body has the power of regulating its production of heat in a state of pyrexia, as well as in health. Lilienfeld agrees with Zuntz that the rise of temperature, so far from being a salutary reaction of the animal's body in order to destroy the cause of the fever, is rather prejudicial to it, and at the same time favorable to the development of the pyrogenic organisms.—*Centralblatt für Klinische Medicin*, January 19th, 1884.—*Medical Times & Gazette*.