Meredith--Hygiene, Chaps. 32 and 34.
Sansum--The Normal Diet.
Cannon--Bodily Changes in Hunger, Fear
Sherman--Chemistry of Food and Nutrition
McCollum Simonds--The Newer Knowledge of Nutrition
Eddy--Nutrition
Emmerson--Diagnosis of Health

V. EXCRETION, the third determining force in Constructive Hygiene

The objective of the processes of excretion is to neutralize, dilute, and remove promptly and effectively the products of digestion and cell activities.

Excretion may be described as the chemical results of cell activities. These products are produced by:

(a) Wear and tear on living structures of cells.
(b) Residue from manufacture of cell products.
(c) Wastes due to oxidation within cells.
(d) Death of cells.
(e) Waste products from foods.

Elimination is the series of processes by which the excretions are prepared and transported out of the body.

A. TYPES OF EXCRETIONS

1. Internal: Those excretions which are discharged directly by the cell into lymph or blood stream.
2. External: Those excretions discharged by cells upon surfaces that communicate with the outside of the body.

B. ORGANS OF EXCRETION

1. Kidneys: The most important organs of the body which are developed particularly for purposes of excretion.

a. Description: The kidneys are two organs situated on either side of the front of the spinal column in the region of the floating ribs behind the stomach, pancreas, and liver. They are oval or bean-shaped, about 4 or 5 inches long, and 1-½ inches thick. Color: They are dark in color on account of the large blood supply.

b. Structure macroscopically: The kidneys are observed to be covered with resistant capsule. On the side toward the spinal column is a depression (hilum) through which vessels, ducts, and nerves enter and leave. Inside of this depression is an open space called the pelvis of the kidney.

c. Microscopically: The kidneys have two layers, cortex and medulla. The cortex or outer layer is a special arrangement of tissue cells and tubules in a way to make possible the free passage of larger quantities of blood in intimate contact with the special cells and tubules.