

BOTANY AND ZOOLOGY.

BY

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BOTANY.

Part I.—STRUCTURAL BOTANY.

*Organs of Nutrition :**Root or descending axis*—character, forms, &c.*Stem, or ascending axis*—Exogenous, Endogenous and Acrogenous, internal structure, how to distinguish from roots, buds, &c.*Leaves*—Internal structure, Insertion and Phyllotaxis, vernation, venation, forms of leaves, simple and compound, &c.*Organs of Reproduction :**Flower*—its different parts and their modifications, &c.*Inflorescence*—the various kinds, definite and indefinite.*Fruit*—General characters, structure, dehiscence, &c.*Ovule Bud and Embryo*—their structure and development.

Part II.—PHYSIOLOGICAL BOTANY.

Cell formation, multiplication and growth, absorption and transmission of fluids, Osmose, Cyclosis, &c.

*Physiology of the Organs of Nutrition.**Root*—Absorption, excretion, functions of the stem.*Leaves*—Transpiration, respiration, assimilation, development.*Physiology of the Organs of Reproduction.**Reproduction of Phænogamous plants.*

Fertilization and development of the ovule, germination, &c.

Food of Plants and its sources, circulation of the sap, &c.

Special Phenomena in the life of the plant.

Part III.—SYSTEMATIC AND DESCRIPTIVE BOTANY.

The general principles of classification will be dwelt upon, and the natural and artificial systems compared with each other. Attention will be especially directed to those orders containing medicinal plants, indigenous and otherwise. The method of collecting, drying, mounting and determining plants will also be explained. The course throughout will be illustrated by plates, drawings, models, microscopical preparations and dried specimens.

ZOOLOGY AND COMPARATIVE PHYSIOLOGY.

1.—*General Zoology*—Under this heading will be considered the Histology, Comparative Anatomy, and Physiology of Animals.

2.—*Descriptive Zoology*.—Including principles of classification.

Every Monday, Wednesday, and Friday, at 3 P.M.

Books recommended.—Dr. Gray's Structural and Systematic Botany, Bentley's Manual of Botany, Balfour, Sacks, Dawson's Manual of Zoology, Nicholson's Zoology.