

The secretion, however, of fluids by plants is not an unusual phenomenon. In many Aroids a small gland at the apex of the leaves secretes fluid, often in considerable quantities, and the pitcher of *Nepenthes* is, as I have shown elsewhere, only a gland of this kind, enormously developed. May not, therefore, the wonderful pitchers and carnivorous habit of *Nepenthes* have both originated by natural selection out of one such honey-secreting gland as we still find developed near that part of the pitcher which represents the tip of the leaf? We may suppose insects to have been entangled in the viscid secretion of such a gland, and to have perished there, being acted upon by those acid secretions that abound in these and most other plants. The subsequent differentiation of the secreting organs of the pitcher into aqueous, saccharine, and acid, would follow *pari passu* with the evolution of the pitcher itself, according to those mysterious laws which result in the correlation of organs and functions throughout the kingdom of Nature; and which, in my apprehension, transcend in wonder and interest those of evolution and the origin of species.

Delpino has recorded the fact that the spathe of *Alocasia* secretes an acid fluid which destroys the slugs that visit it, and which he believes subserves its fertilisation. Here any process of nutrition can only be purely secondary. But the fluids of plants are in the great majority of cases acid, and, when exuded, would be almost certain to bring about some solution in substances with which they came in contact. Thus the acid secretions of roots were found by Sachs to corrode polished marble surfaces with which they came in contact, and thus to favour the absorption of mineral matter.

The solution of albuminoid substances requires, however, besides a suitable acid, the presence of some other albuminoid substance analogous to pepsine. Such substances, however, are frequent in plants. Besides the well-known diastase, which converts the starch of malt into sugar, there are other instances in the synaptase which determines the formation of hydrocyanic acid from emulsine, and the myrosin which similarly induces the formation of oil of mustard. We need not wonder, then, if the fluid secreted by a plant should prove to possess the ingredients necessary for the digestion of insoluble animal matters.

These remarks will, I hope, lead you to see, that though the processes of plant nutrition are in general extremely different