

the cultivation of sumbul root in England, the young plants having been sent from Russia. The histology of belladonna leaf has been exhaustively studied by Dohme, and the different characteristics of datura, duboisia, and other leaves, pointed out. Hill has given a useful comparison between Jamaican and Surinam quassia. An extensive histological survey of commercial jaborandi leaves has been made by Geigor. Powdered drugs are so liable to adulteration that during the past few years many attempts have been made by means of the microscope to show the presence of foreign matter. Kraemer gave some useful formulæ and hints in a paper at the Minnetonka meeting of the A.P.A. The resemblance of the starches from white pine bark and maize is so close that Johnstone has drawn attention to it. The gross adulteration of insect powder is well known, and Durrant has given a useful method of testing same. Schlotterbeck has published hints on the histological study of drugs that cannot fail to be useful to the observant pharmacist. The pharmacology of Kola has been summarized by Corles. According to La Wall, 50 per cent. of the Japan wax of commerce is adulterated with starchy material. Civet has been shown by Braithwaite to be largely adulterated. A German sample of resin of scammony, examined by Thomson, consisted of gum and starch. A spurious balsam of tolu was found by Braithwaite, but its identity was not established. Sander maintains that the proportion of strychnine to brucine in nux vomica and St. Ignatius beans is constant; in the former the proportion is 1 molecule of strychnine to one molecule of brucine; in the latter, 2 molecules of strychnine to 1 of brucine. The characters, and especially the microscopic features, of the various forms of frunel seed have been described by Umney. Aspidin is the name given by Boehm to the crystals isolated from the ethereal extract of male fern. Hatters has described the best method of cutting sections of fruits, such as capsicum, after imbedding in celloidin. Amongst some little known drugs, Kinkelibah was examined by Schlagdenhauffen, as it was stated to stop vomiting; Japanese chillies have been noticed by Umney to be less pungent, although brighter in color, than zanzibar; mescal, or muscale buttons, belonging to the genus anhalonium, and stated to act like cannabis indica; ayapana, consisting of the leaves of a species of eupatorium,

used as a stomachic tonic and domestic remedy in Brazil; the root of balsamorhiza, used as a cure for tobacco craving.

NEW REMEDIES.

Several drugs have already been referred to that might fairly claim to be considered new remedies. But during the past decade the flood of synthetic remedies has monopolized the description. In the diary of an English trade journal nearly 100 new synthetic remedies are mentioned as having seen the light in 1897. Many of these are purely fancy names for chemical or pharmaceutical compounds. Formaldehyde is responsible for *amyloform*, a combination of starch and formaldehyde; *dextroform*, the condensation product of dextrin and formaldehyde; *eka-iodoform*, a mixture of iodoform and formaldehyde; *formaldehyde-casein*, etc. *Benzacetin* is recommended for neuralgia and sleeplessness. *Chinaptal* is a combination of quinine, and B-naphthol sulphonate recommended as an antipyretic and intestinal antiseptic. *Eucaïne B*, closely related to eucaïne, and with the same local anæsthetic properties. *Euchinine* or *euginine*, claimed to be tasteless derivative of quinine. *Guaiacetin*, related to guaiacol, and used in 8 grain doses in phthisis. *Holocaine* and *Orthoform*, new substitutes for cocaine and eucaïne. *Kryofin*, obtained by heating para-phenetidin with methyl glycolic acid, and claimed to be superior to phenacetin in allaying neuralgia. *Malarin*, used for the same purpose, and closely allied to kryofin as well as phenacetin. *Phospho-guaiacol* is a crystalline powder, non-caustic, and tolerated in doses of one to two drachms. *Tannosal*, a tannic acid derivative of creosote which is non-caustic and soluble. Amongst drugs not mentioned before Monsonia is a new remedy from the Orange Free State for dysentery. Yohimbe bark, recommended as an aphrodisiac. A new synthetic mydriatic, dilating the pupil as completely as homatropin. It is called *Euphthalmine*.

BOTANY.

One of the most interesting observations recorded during the year has been that relating to the vitality of seeds after immersion in liquid air at the extraordinarily low temperature of 190° C., made by Horace Brown, and already referred to. Holmes has given an exceedingly interesting account of botany as a business investment, which we reproduced in

our October issue. It well repays careful perusal, and the important suggestions respecting the commercial value of a knowledge of microscopy, bacteriology, etc., deserve consideration. An ingenious theory respecting the presence of toxic bodies in plants has been put forward by Cummins. He suggested that these poisons are lethal to the organisms of the soil and produced by the irritation or fermentation caused by these organisms. In this way he built up a system of vegetable antitoxins similar to what is at present accepted regarding animals. The assimilation of nitrogen has always been an interesting phenomenon to botanists, and Laurent showed that for the proper performance of this function the action of ultra-violet rays is essential. Newbigin divided the pigments of plants into soluble lipochromes and insoluble anthocyanins. The poisonous nature of the seeds of *lathyrus sativus* is known to veterinary surgeons, and McDougall showed that the continued use of pulse may lead to paralysis. Morison has described the histological character of the three principal vegetable tissue systems. Green found that light acted injuriously on diastase, especially the violet and green part of the visible spectrum. Rywosch considered that oil in leaves is not a reserve food-material as it is when it occurs in the stems of woody plants. Its function appeared from his observations to be that of taking up the xanthophyll. The alteration of pink hydrangea to blue has been usually attributed to iron in the soil, but Molisch found that only ferric sulphate would act in this way, whilst alum, as aluminium sulphate, is equally as efficient. Mattej investigated the red spots that frequently appear on leaves, petals, etc., and found them to consist of a gum-resin colored by an essential oil. Researches on chlorophyll by Stocklasa showed that a great similarity exists between lecithin and chlorophyll, phosphoric acid is always present, but iron is not present. During the year botany has lost one of its foremost teachers, his textbook, lectures and history of botany having been regarded as classics during the past twenty years. He was professor of botany at the University of Wurzburg, and a member of the leading learned societies all over the world.

PHOTOGRAPHY.

The progress in this branch of science is now rapidly clearing away many of the difficulties that beset its infancy. The