

to think by the revival of the word impulse by the visual centres, the revivification of visual symbols being prompted by hand or lip movements.

Patients with the auditory form of sensory aphasia should be patiently taught to repeat words, the meaning of which is conveyed to them through other senses, the visual, tactual, and olfactory. It is apparent that most progress will be made with patients whose general intelligence is least disturbed. In subcortical word deafness the amelioration is always greater than in sensory aphasia due to destruction of the supertemporal gyrus.

The treatment of sensory aphasia conditioned by destruction of the visual centre is most unsatisfactory, and very little can be done to ameliorate the condition of such patients even though all modes of education be assiduously employed. An effort should be made to teach the patient the recognition of forgotten symbols in connection with the arousal of other memories of them, the auditory and the articulatory. In short, the pedagogical treatment of aphasia embraces the methods of the kindergarten and the methods of instruction for those defective in one or more of the special senses. Even with their aid but little can be done, except in the subcortical varieties. *Joseph Collins.*

**APHRODISIACS.**—Aphrodisiacs are agents whose employment is supposed to increase sexual desire or ability. A division might be made by classing together those causing increased desire or ability temporarily, as do small amounts of alcohol or other stimulant, and those doing so permanently; or a division might be made of those increasing desire as opposed to those increasing ability to perform the sexual act. In no condition must the maxim "remove the cause first" be more considered, and we are dependent upon general measures after the cause has been removed rather than upon the employment of drugs.

Loss of sexual power may have origin in various ways and is frequently divided into *organic, psychical, nervous or irritable, and paralytic*. Organic impotence is dependent upon structural change, either congenital or acquired, such as anomalies, malformations, new growths, etc., for which relief must be sought by surgical or other special treatment.

For *nervous or irritable* impotence, which is due generally to weakness of the genital organs and abnormal excitement of the reflex centres causing premature ejaculations, or due to irritations caused by some morbid condition of the urine or by the presence of strictures, recourse must be had to measures such as the passage of a cold sound and other local treatment, which will relieve the causative factor. In *paralytic* impotence, which is usually caused by structural changes in the nervous mechanism of the sexual organs or by disease of the central nervous system, syphilis, grave anaemia, systemic poisoning from lead, tobacco, etc., the prognosis is unfavorable, and we can hope to do little beyond arresting the course of the disease which is causing the trouble and, possibly, by building up the patient, we may restore to him some degree of sexual power. *Psychical* loss of sexual power offers probably the best opportunities for the use of aphrodisiacs. Most cases are due to nervousness, overwrought desire, indifference, grief, fright, and mental preoccupation.

If the case has its origin in nervousness caused by fear of the consequences of early abuse, the confidence of the patient must be obtained and moral suasion be used. He must be told to abstain from all sexual intercourse for ten days or two weeks and may be given a placebo which it is well to tell him will endow him with sexual strength, attention of course being paid to his general well-being. Those cases depending upon overwrought desire, frequently seen in newly married men after long engagements or sexual abstinence, are best treated by the *temporary* use of the bromides, together with suggestion. For these and for the remaining class of cases indications will be found for prescribing such general measures as hydrotherapy with massage, a diet consisting of highly

seasoned food, red meats, and a moderate amount of alcoholic stimulants, and freedom from exhausting mental or physical work. Tonics may also be employed and the reputed aphrodisiac drugs, such as strychnine, in doses approximately of gr.  $\frac{1}{30}$  three times daily, and phosphorus, gr.  $\frac{1}{15}$  three times daily. Ergot is said to be of value in those cases of impotence which depend upon lack of erectile power, and among other drugs damiana, caffeine, and cantharis have some repute. The use of the last cannot be too strongly condemned, for if it aids sexual desire at all, which is doubtful at best, it does so by causing irritation of the genito-urinary passages and not by irritating or stimulating the nervous system. Other agents used are alternate applications of hot and cold water locally, electricity applied to the urethra or to the rectum, and the passage of a sound either reinforced by electric stimulation or by cold. But to repeat, impotence rarely if ever requires the use of aphrodisiac drugs, and success must come from moral force, general hygienic measures, and the removal of the cause. *Charles Adams Holder.*

**APHTHÆ.** See *Mouth, Diseases of.*

**APLASIA.** See *Agenesis.*

**APNŒA.** See *Respiration.*

**APOCODEINE**— $C_{18}H_{19}NO_7$ , is a reddish, amorphous powder, almost insoluble in water, soluble in alcohol, ether, and chloroform. The hydrochlorate of apocodeine is a grayish amorphous powder, very soluble in water. It is obtained by heating hydrochlorate of codeine for fifteen minutes with a concentrated solution of chloride of zinc, at a temperature of 170° or 180° C. On cooling, a yellowish-brown mass separates from the liquid. This is drawn in thin, silk-like threads, and is almost pure hydrochlorate of apocodeine. The preparation is easy, and there is yielded a much greater product than the morphine salt; it is also much more stable. The base may be obtained by precipitating it from a solution by the addition of carbonate of sodium and extracting with ether.

The reactions produced by reagents upon apomorphine and apocodeine are almost identical, with the exception that the blood-red coloration produced by nitric acid is much more permanent with the latter.

This drug has been introduced as an expectorant and emetic. The dose is from gr.  $\frac{1}{30}$  to gr. i. It is recommended in the treatment of chronic bronchitis, croup, whooping-cough, etc. A one- or two-per-cent. solution may be prepared, and from five to ten minims administered. It acts rapidly, and the effect is prolonged. It may also be used hypodermically. *Beaumont Small.*

**APOCYNACEÆ.**—(The Oleander or Strophanthus family.) A great family of one hundred and thirty genera and more than one thousand species, very abundant in the tropics of both hemispheres, a few extending into the temperate zones. The plants are almost all trees or erect or climbing shrubs, with milky juice, and are highly ornamental and frequently cultivated for decorative purposes. The juices of Landolphia, Hancornia, and some others are utilized in the production of rubber. Valuable timbers are yielded by several species. The most noteworthy characteristic of the family is its poisonous nature, few other families being able to compare with it in this respect. Many of the species have been utilized as arrow poisons, and a number of these have been introduced into the materia medica. The active constituents are mostly glucosidal, commonly alkaloidal.

The action is chiefly upon the heart, stimulant in small doses, ultimately paralyzant, and thus frequently powerfully diuretic. Often, also, they are irritant emetico-cathartics. Their action is so powerful that even minute differences between them are of importance, and new remedies introduced from this family are always worthy

of careful attention. The important medicinal genera are strophanthus, aspidosperma, apocynum, and alstonia.

The poisonous principles are widely distributed through the plant bodies. *H. H. Rusby.*

**APOCYNUM.**—Canadian Hemp. "The root of *Apocynum cannabinum* L. (Fam. *Apocynaceæ*)." U. S. P. Up to a comparatively recent period the genus *Apocynum* was supposed to contain, in the Eastern United States, but two species, *A. cannabinum* L. and *A. androsaemifolium* L. As the latter was known to have but a weak physiological action, it was supposed to be necessary to exclude only this well-known species from the drug in order to insure its full properties. It is now known that the several supposed varieties of *A. cannabinum* are perfectly distinct species. *A. cannabinum*, therefore, as it has been understood and collected, is in reality several (probably four, at least) distinct species, the true *A. cannabinum* being apparently rather scarce. That some one or more of these species is a powerful and important medicine is indubitable, in view of the evidence presented; but in view of the numerous recorded failures, it is equally certain that not all of them are so. We are at present quite ignorant as to which is the active species, all statements of manufacturers, as well as the Pharmacopœia, to the contrary notwithstanding. The entire comparative study of these species is still before us. Under these circumstances any specific pharmacological account of the drug is out of the question.

The plants are erect, perennial herbs, growing by preference along railroads and roadsides. They propagate by long, horizontal underground structures, which appear to combine the characters of both root and stem. The latter is the part used. The aerial portion may be smooth or pubescent, and is usually purple or purplish, mucronate. The stem is branched above and bears very small white or greenish-white flowers in close cymes. The fruit is a pair of long slender follicles, filled with small plumose seeds. The entire plant exudes an abundant milky juice.

The drug occurs in long, rather straight pieces, of about the thickness of a lead pencil and sparingly branched. It is of a brown color, having an orange shade if not old and stale. The bark exhibits few coarse wrinkles, finer nerves and coarse circular fissures. It is very thick, and pinkish-white internally. The wood is yellowish, very soft and brittle, its pores are large enough to be visible to the naked eye. It contains resin, tannin, starch, an amaroid, and the peculiar crystalline body apocynin, soluble in alcohol and poisonous, and the glucoside apocynin, soluble in water and of feeble action. The apocynin is a nauseating expectorant, and emetico-cathartic in over-doses, like the drug, but none of the constituents yet examined has an action exactly parallel with that of the drug. It is quite likely that they differ in the different species. Apocynum is a cardiac stimulant and a diuretic, as well as a nauseating expectorant. The most important use of the drug is in causing the removal of dropsical effusions. A fluid extract is official, the dose of which is 0.3 to 2.0 c.c. (℥ v. to xxx.). *H. H. Rusby.*

**APOMORPHINE.**—Apomorphine is an alkaloid derived from morphine by abstracting from the latter a molecule of water. This is done by heating it in sealed tubes with zinc chloride or hydrochloric acid. It may also be derived from codeine. It is commonly used in the form of the hydrochlorate, which is official. The Pharmacopœia thus describes it: "Minute, grayish-white shining, acicular crystals, without odor, having a faintly bitter taste, and acquiring a greenish tint upon exposure to light and air. Soluble at 15° C. (59° F.) in about 45 parts of water and about 45 parts of alcohol; very little soluble in ether or chloroform. When heated to near 100° C. (212° F.), the salt is decomposed, rapidly if in solution, slowly when dry."

The properties of apomorphine are totally distinct from those of morphine. It is primarily an emetic, acting altogether centrally, and with great promptness and power. It is secondarily an expectorant, increasing and greatly thinning the bronchial mucus. In poisoning, there is intoxication or delirium and paralysis of the motor nerves, with failure of respiration and especially of the heart.

In use, apomorphine is probably our most prompt and energetic emetic, its special value being the promptness and certainty with which vomiting can be induced by hypodermic injection when, for any reason, the stomach cannot be acted upon to produce it. As an expectorant, it is perhaps our most useful agent for relieving a "dry" cough. If given early, it will do much to avert bronchitis, and it is also especially useful in the hacking cough of tuberculosis. The emetic dose for an adult is gm. 0.006 to 0.01 (gr.  $\frac{1}{15}$  to  $\frac{1}{4}$ ); as an expectorant, gm. 0.0015 to 0.0025 (gr.  $\frac{1}{30}$  to  $\frac{1}{20}$ ). *H. H. Rusby.*

**APOPLEXY.** See *Brain Diseases: Hemorrhage.*

**APPENDICITIS.**—The term appendicitis is one that has come into general use of late years only, and, while occasional articles in the past have called attention to and well described that disease which now goes under the name of appendicitis, the general recognition and proper treatment of the same may be said to date from the well-known article by Fitz. It is true that inflammation of the cæcum, perityphlitis, and paratyphlitis are terms which express accurately the pathological condition in rare cases, yet inflammation in the right iliac fossa is known to be dependent upon some diseased condition of the appendix save in very exceptional instances. Hence the term "appendicitis" has displaced all others, to indicate inflammatory troubles, either acute or chronic, situated in the right iliac fossa.

The anatomy of the appendix is extremely varied. The organ is the remains of a portion of bowel which, during fetal life, had much the same diameter as the rest of the cæcum, but at birth it presents an appearance which is accurately described by its name, worm-like appendage. It is attached by one extremity to the lower end of the cæcum into which its lumen opens, and a fold of mucous membrane, the valve of Gerlach, more or less covers the opening between the two portions of bowel. The attachment of the appendix to the cæcum will be found at the lower end of the cæcum, where the muscular bands so characteristic of the large intestine come together. Hence by following a muscular band of the colon and tracing it downward, one can reach the root of the appendix. The diameter of the appendix varies greatly. I have seen it an eighth of an inch in diameter; I have seen it dilated until its diameter was not less than one inch and a quarter. Perhaps a quarter of an inch would be not far from the usual size. The length varies as much as does the diameter. An appendix is mentioned in Dennis' "System of Surgery" as being nine and a half inches in length. I have seen it exist simply as a bunch of fibrous tissue not a quarter of an inch long, and between these two extremes the ordinary length will be found. The position of the appendix in relation to the cæcum will vary not less than do its length and diameter; and this is to be expected, since it is attached to the bowel by one extremity only, the other being more or less free. It may lie to the outer side of the cæcum and be turned upward, or behind the cæcum and be turned upward; it may also be so long as to hang over the brim of the pelvis and become an intrapelvic organ. It is surrounded partially by peritoneum. In rare cases it will be found lying entirely in the meso-cæcum, covered little or not at all by peritoneum. It has, under other conditions, a meso-appendix containing blood-vessels and lymphatics, as have the colon and other portions of the intestinal canal. The meso-appendix is rarely as long as is the appendix, to the tip of which it extends; hence this portion of the bowel is bent, sometimes acutely flexed, and thus it may become a cause of trouble owing to obstruction of the