amount of criticism in America and Europe, and some prosecutions in England. Aloin is considered by Serre to frequently contain resin, and its melting point should not be much over 116° C. Dodge and Olcott have published a delicate test for gargon oil in balsam of copaiba. According to Dohme, no aconitine was to be found in the States so pure as to have a melting point of 197° C.

## CHEMISTRY.

As mentioned in the opening sentences, argon is the event of the year. Although its discovery will date from 1894, the publication of details rests with 1895. Berthelot stated that argon, when mixed with benzine and subjected to a silent discharge, undergoes condensation similar to the production of ozone from oxygen. Moissan found that lithium is not affected when heated in argon, and that fluorine will not combine with it. Olszewski has liquefied and solidified argon, and since then has liquefied hydrogen.

In a subsequent research for argon in the gases confined in rare minerals Ramsay discovered helium, hitherto an element only known to the solar photosphere, Bayley treated oxygen in two globes by means of the electric spark, and obtained gases differing in density that suggested the gas having been split up.

The application of electricity to the decomposition of salt for the production of chlorine and caustic soda has entered upon the practical stage. The invention of castner has been acquired by a company of which Sir Henry Roscoe is a director, and, having been duly floated, is now producing caustic by this process. There are several other Richmonds in the field, notably the Hargreaves' patent, where carbonate is first produced and soda ash afterwards obtained. Acetylene has been recommended to enrich ordinary coal gas, as it gives a flame of extraordinary luminosity and is easily obtainable from calcium carbide, now yielded in large quantities by the electrical furnace.

A good deal of the ground usually covered in this section has recently been traversed by Dohme, in his address on "The Progress of Chemistry" (CANADIAN DRUGGIST, November, page 252). Reference, however, should be made to the dispute between Freund and Dunstan on the subject of priority in discovering the chemical composition of aconitine. Two formulae are offered, and neither claimant appears able to prove the other wrong. Umney suggested a method of assaying pure aconitine by means of its hydrolysis and separation of the benzoic acid by ether. But it appears altogether premature as a means of standardizing aconite preparations until we know definitely the composition of the other alkaloids in aconite. Freund has determined the relationship of thebaine to morphine and Wolffenstein has recognized codeine. coniccine in conune, and states it to be seventeen times as poisonous as the latter alkaloid. Miller and Rhode have ad-

vanced a new formula for cinchonine suggestive of its pyridine nature. Oliveri has investigated a number of nicotine compounds and advised a new constitutional formula. Cross and Bevan have contributed a good deal to our knowledge of the chemistry of cellulose.

Wallach is still engaged on terpenes and ethereal oils, his attention at the moment being concentrated on the oils of sage and thuja. Croton oil owes its vesicating power, according to Dunstan and Boole, to a resin which they have not succeeded in crystallizing. Its molecular formula is  ${}_{2}C_{3}H_{8}O$ , and it is soluble only in alcohol, chloroform, and ether. Umney has supplied some valuable data respecting the physical and chemical constants of the pharmacopecial essential oils. He has also drawn attention to the unsatisfactory nature of oleum pini sylvestris, as found in commerce. The physical constants of cod liver oil have been given by Parry and Estcourt, but no comparison was made between Norwegian and Newfoundland oils. The same authors have confirmed the acetylation method of detecting adulterations in santal wood oil.

The use of formalin (formaldealhyde) as a preservative is extending, and various tests have been devised for its detection. Distillation and treatment of the distillate with nitrate of silver is one of the best. Deniges recommended a solution of resorcin in presence of strong sulphuric acid as a test of nitrites. Leeds determined the acetic acid in vinegar by litration with alkali, using turmeric paper as indicator.

## BOTANY AND MICROSCOPY.

Chlorophyll is still the subject of Schunck's investigations, and his experiments with copper salts of phyllocyanin have been described. Several investigators are concerned in the unclear division in the pollen mother cells, as of great biological importance. Loew claims that there is an active albumin in many plants which is much less stable than ordinary albumin of protoplasm. Bokorny has shown that dilute solutions of alkalies or of caffeine have no prejudicial effect on some forms of minute life, whilst distilled water was fatal. Green has contributed a most useful paper on the botany and microscopy of the British Pharmacopicia. He recommends that illustrations should be used where description is of little use, so as to enable pharmacists to recognize the drug. Microscopical characters should be added and micro-chemical tests made use of, such as the application of strong sulphuric acid to the tissues of true cubeb. producing a scarlet color. Blackman has described a method of accurately estimating the evolution and assimilation of carbon, dioxide by plants. He found that the stomata alone were engaged, although osmosis may take place if they become blocked. Etiolated plants yield proto-phyilin, which is identical with protochlorophyll, according to Timiriazeff. Green stated that diastase in foliage is destroyed largely by electric light or exposure to the <**UD**.

The subject of photography is daily growing more important, and many pharmacists take an active interest in it. The advances made in rapid dry plates and "printing out" papers almost suggest perfection having been obtained. New additions to the already long list of developers are constantly being made, and among the latest are glycin, para-amido-phenol, amidol, metol, etc. Some progress has been made in color photography, but so far the best results are those obtained by the three color process. The colors are formed on films, in which silver salts are replaced by other substances, each ray isolating the color common to it. Solutions are made of aniline purple, Victoria blue, and turineric in alcohol, separately, and then mixed. The paper is allowed to float on the mixture, dried, and exposed to sunlight under a colored positive glass.

## Montreal College of Pharmacy.

CHRISTMAS SESSIONAL ENAMINATIONS.

The following is the result of the half session examinations of the Montreal College of Pharmacy, which closed on Monday, Dec. 23, the successful candidates being as follows:

*Junior Chemistry*—W. A. Smallwood, R. H. D. Benn, Geo. H. Voss, F. J. Lemaistre, L. E. B. Browne, F. W. Horner.

Senior Chemistry-None of the candidates in this class received the required number of points to pass.

Junior Materia-Henri St. Georges, Wilfred Barolet, H. Génereaux, J. B. T. Biron, P. G. Mount, T. E. Gagner, A. J. Lapointe, L. E. P. Lemieux, E. Clement, Gaston St. Jacques, Romeo Casgrain, Louis Fortin.

Senior Materia Medica—W. A. Smallwood, D. R. O'Neill, W. F. Roach, James Franakum, R. J. Lunny, Louis Rogaleky.

Bolany—A. Lebeau, J. A. Gillespie, J. H. Charbonneau, C. M. DuGay, W. F. Roach, E. R. DesRosiers, W. A. Ayerst.

The closing sessional examinations of the college will take place at the end of March next, when the marks then obtained will be added to the above, and the totals then received will give the correct standing of the respective students at the close of the session.

## Salaktol for Diphtheria.

This remedy has been tried by Dr. Walle (Deutsche Med. Zeitschrift) in fifty-two cases without a single failure. It is made of hydrogen peroxide, sodic salicylate, and sodic lactate, applied with a pencil to the affected portions of the throat, or, when this is not practicable, given as an inhalation. Also used as a gargle, and tablespoonful doses given after each local application, the latter being made every three hours, or every two hours in urgent cases. It is said to act as a rapid disinfectant, loosening and dissolving the false membrane, antipyretics being rarely necessary.-Mo. Mag. Phar.