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CANADIAN
PHARMACEUTICAL JOURNAL

VOL. X, No. 2. TORONTO, SEPTEMBER, 1876. WHOLE No. XCIX

Transactions of Pharmaceutical
Colleges and Societies.

MINUTES OF THE SEMI-ANNUAL MEETING OF THE COUNCIL OF THE
ONTARIO COLLEGE OF PHARMACY.

The regular semi-annual meeting of the Council was held at the rooms of the College, Church street, on Wednesday the 2nd August, 1876, at 10 o'clock in the forenoon, the following members being present. Mr. N. C. Love, Vice-President; Messrs. C. Brent, E. Gregory, F. Jordan, H. Miller, J. Roberts, S. Tapscott, W. Walsh, and L. W. Yeomans.

Telegram of apology for non-attendance was received from Mr. Greenwood, and letter from Mr. Parker.

In the absence of the President, Mr. Lyman, Mr. N. C. Love, Vice-President, was called to the Chair.

The minutes of the meeting held February 2nd were read, and on motion were adopted.

Business arising out of the minutes were then disposed of; the first item being the selection of a motto for the Arms of the College. After some discussion, it was moved by Mr. Gregory, seconded by Mr. Jordan, that the mottoes presented for insertion in the diploma, be handed to the Committee appointed for that purpose, and that they be requested to make a report of those they think most suitable at the next meeting of Council. Carried.

Mr. Yeomans' notice of motion to amend By-Law No. 3 advancing salary of Registrar to \$500 per year was disposed of by Mr. Yeomans moving, seconded by Mr. Walsh, that in consideration of the increased labors in connection with the Registrar's duties the

salary be increased from \$400 to \$500 per annum, and that this stand as an amendment to by-law 3. Carried.

Applications being frequently made for New Diplomas by parties who have lost the original ones, or have had them damaged, after some discussion on the subject, it was moved by Mr. Roberts, seconded by Mr. Walsh, that new certificates be granted to members upon their returning the old ones, and paying the sum of one dollar therefor.

The report of the Board of Examiners was read as follows :

REPORT OF THE BOARD OF EXAMINERS.

Your Examiners beg to report that the Eleventh Semi-Annual Examination has been held in conformity with the regulations of the Act. Forty candidates entered their names, but of these only thirty-nine were examined—one having retired.

The following nineteen gentlemen obtained the requisite number of marks to entitle them to diplomas :

1. Edward D. Martin	Milton, West...	89.5
2. E. F. Stephenson	Cobourg	87.5
3. William L. Gray	Pembroke	87.1
4. Arthur Doherty	Caledonia	85.4
5. James H. McKenzie.....	Mount Forest..	84.0
6. William Charles Blundell.....	Toronto	83.8
7. James W. Cheswright	Toronto	83.5
8. John L. Payne	London	82.0
9. W. E. Hamill	Aurora	76.2
10. J. C. Cooke.....	Kincardine.....	74.9
11. R. H. Fraill	Belleville	72.4
12. Robert S. Clarke	Violet.....	71.8
13. Jeremiah S. Dodds.....	Orangeville ...	71.8
14. Alexander Jamieson	Mount Forest..	71.4
15. J. A. Perry	Simcoe	70.0
16. Walter J. Smith.....	London	70.0
17. Seth B. Stevenson.....	Aurora	70.0
18. Robert Martin.....	Mount Forest..	70.0
19. N. H. Halpin	London	70.0

The First Prize has been awarded to Mr. E. D. Martin; the Second Prize to Mr. E. F. Stephenson.

We beg to remind the Council that this is the first examination held under the new regulations, by which greater importance has been given to the department of Practical Dispensing, and we would urge the necessity of increased facilities being provided for the accommodation of candidates.

E. B. SHUTTLEWORTH.

L. W. YEOMANS.

EDM. GREGORY.

The Report was received and adopted.

Mr. Gregory stated that the value of Practical Dispensing having been increased it was necessary to provide greater facilities for carrying out that department, and would ask the Council to grant permission to procure a portable counter, etc., for that purpose.

Moved by Mr. Jordan, seconded by Mr. Tapscott, that the requisite facilities for the Examiner in practical dispensing be procured under his own direction. Carried.

The Treasurers Report was then read, and on motion of Mr. Gregory, seconded by Mr. Yeomans, was received and adopted.

TREASURER'S REPORT.

Receipts.

Feb'y	2, 1876,	To Balance.....	\$969 29
	2	" Interest.....	60 00
	7	" Cash from Registrar	70 75
March	4	" " "	107 70
April	24	" " "	99 40
May	1	" " "	162 60
	5	" " "	304 00
	16	" " "	189 00
	23	" " "	78 00
	29	" " "	89 00
June	5	" " "	113 00
	12	" " "	272 00
	21	" " "	128 00
July	3	" Cash Interest on Bank Stock	60 00
	13	" Cash from Registrar	148 00
	31	" " "	205 75
		" Interest on Deposits	12 49
			<hr/>
			\$3068 98

Disbursements.

Feb'y	2, 1876,	Expenses connected with Semi-Annual Meeting	\$242 00
		E. B. Shuttleworth	175 00
		E. Gregory, expenses to Boston.....	50 00
		J. B. Nimmo	12 00
	4	Geo. Hodgetts	100 00
	7	I. Aiken	2 25
	15	Elliot & Co.	9 60
	18	<i>Mail Printing Co.</i>	10 00
	21	<i>Monetary Times</i>	66 95
	29	Belleville Grant	14 00
May	9	<i>Globe</i>	12 00
	21	<i>Monetary Times</i>	68 00
	26	Postage	25 00

Ontario College of Pharmacy.

April	4	W. Revel	3 90
	10	Rolph, Smith & Co.	164 00
	10	Balance of Prize Appropriation	3 45
	19	H. McAdams	2 25
	21	Brown Bros.	3 25
	29	<i>Monetary Times</i>	60 00
May	5	Geo. Hodgetts	100 00
June	8	<i>Monetary Times</i>	121 25
July	7	E. B. Shuttleworth	350 00
	5	Hunter, Rose & Co.	3 75
	13	Copp, Clark & Co.	29 75
	24	<i>Monetary Times</i>	66 50
		Cash on hand	1324 08
			<hr/>
			\$3068 98

We the undersigned, appointed by the Ontario College of Pharmacy, have examined the above, compared it with vouchers, and find it all correct.

Toronto, 1st August, 1866.

JOHN ROBERTS, }
WM. WALSH, } Auditors.

The Registrar's Report was next read.

REGISTRARS' REPORT.

OFFICE OF THE REGISTRAR, }
TORONTO, 2nd Aug. 1876. }

To the Council of the Ontario College of Pharmacy :

GENTLEMEN:—Your Registrar begs to report that since the meeting of Council in February, there have been eleven applications for registration as Chemists and Druggists under the Pharmacy Act of 1871, of these eight have received certificates and the papers in connection therewith are submitted for your inspection, of the remaining three, one had been twice refused registration by the Council, one had not served the time required by the Act, the papers in the other case are laid before the Council for their decision.

Objection has been raised to the registration of Mr. Boulee, and I would ask the Council to decide the case in accordance with section 16 of the Act.

The number of renewals issued during the past six months is as follows: 2 for 1872, 1 for 1873, 3 for 1874, 24 for 1875, and 374 for 1876. There are thirty-nine members in arrear for last year, and one hundred and eighty-seven for the current year.

In April last I mailed a post card to every member of the College, drawing his attention to his obligations, and notice has also been given in the columns of the PHARMACEUTICAL JOURNAL.

I beg to submit the following detailed statement of Cash received during the past six months.

2	Renewal Fees, 1872	.....	\$8 00
1	do do 1873	.....	4 00
3	do do 1874	.....	12 00
24	do do 1875	.....	96 00
374	do do 1876	.....	1,496 00
10	Registration Fees	.....	40 00
22	Examination do	.....	88 00
16	Associate do	.....	32 00
	Sale of Poison Books &c.	.....	10 20

\$1,768 20

The receipts on account of the PHARMACEUTICAL JOURNAL are as follows :

Dr.	Cash on hand	.....	\$3 25
	To Subscriptions for Journal	.....	9 75
	“ Advertising Situations wanted	.....	75
	“ Advertising	.....	105 00

\$118 75

Cr.	By Cash paid Treasurer	.....	70 00
	“ “ “ “	.....	44 50
	“ “ “ “	.....	3 50

\$118 75

The outstanding accounts amount to \$585, a considerable portion of which sum is for foreign advertisements. I have written to the parties but as yet have had no reply or remittance.

I have to report several cases of infringement and desire instructions respecting the same.

Respectfully submitted.

GEORGE HODGETTS,
Registrar.

Moved by Mr. Miller, seconded by Mr. Jordan, that the Registrar's report be received and adopted. Carried.

The outstanding accounts for advertisements in the Journal and the high rates for advertising were discussed at some length when it was moved by Mr. Gregory, seconded by Mr. Miller, that the Business Editor of the Journal be empowered to change the rates of advertising if on consultation with the President or Vice-President he finds that they can be made more remunerative. Carried.

The Auditors Report was then read :

AUDITORS' REPORT.

To the Council of the Ontario College of Pharmacy.

GENTLEMEN.—Your Auditors beg to report that they have

examined all the books of the Registrar and Treasurer for the past six months, ending 31st July, A.D., 1876, and found them all correct.

Toronto, Ont., 2nd August, 1876.

JOHN ROBERTS, }
WM. WALSH, } Auditors.

Moved by Mr. Gregory, seconded by Mr. Jordan, that the Auditors report be received and adopted. Carried.

The Report on Legislation was read, and on motion was received and adopted.

REPORT OF THE COMMITTEE ON LEGISLATION.

Your Committee beg to report that the draft of the Amended Act, as laid before this Council at a previous meeting, was put into the hands of Mr. Striker, M.P.P., but owing to press of business was not introduced during the session.

From conversations with prominent members of the House, we are of opinion that there will be little opposition to the Act, if introduced next session, as the hostility in the medical profession has, in great part, given place to a more favorable and reasonable feeling. Many members of that profession, holding high places in the Medical Council, have expressed themselves strongly in favor of the Act, and recognize its importance as well to themselves as the public in general.

We are not aware of any important changes or additions to the text of the Act, but would suggest that the time of Council meeting be changed from Wednesday until Thursday. The examinations are now held during the two days preceding the meeting, and candidates are necessitated to stay in the city over Sunday, thereby incurring a needless expenditure of time and money.

All of which is respectfully submitted

B. LYMAN.

The advisability of changing the day of meeting of Council from Wednesday to Thursday and the examinations on Tuesday and Wednesday was discussed, and the expressed opinion of the several gentlemen was in favour of the change.

Messrs. Yeomans and Walsh spoke as to the importance of pushing the Amended Bill through at the next meeting of the Legislature, and to that end the Committee on Legislation be re-appointed with power to add to their number.

The following letter from Mr. Smith, Government Detective, was read.

31ST JULY, 1876.

DEAR SIR.—As I shall be unable to be in Toronto to make a personal application for the appointment of Public Prosecutor under the Statute by the Chemists' and Druggists' Society, I beg to do so by this letter. It is well known that I have had considerable

practical experience of the duties required in this position, and as I have similar appointments from the Dental Association and the College of Physicians and Surgeons for Ontario, I with confidence place my application in your hands.

I am, dear sir, your obedient servant,

WM. SMITH,

122 John St. Toronto.

GEO. HODGETTS, ESQ.,
P.O. Box 1133, Toronto.

Moved by Mr. Tapscott, seconded by Mr. Walsh, that the application of Mr. Wm. Smith for the appointment of Public Prosecutor under the Statute is approved by this Council, and that he be appointed as the authorized officer of the College, provided that no expense be incurred by this College. Carried.

Mr. Carr of Hamilton being introduced to the Council, applied for registration under the Pharmacy Act. The receipt of the Pharmaceutical Society of Great Britain was put in to prove that he was in business on his own account prior to 1871. The decision having been given that the Act applies to the Province of Ontario only, registration was refused.

A number of letters complaining of infringements were read, and the Registrar was directed to write to the parties respecting the same.

On the invitation of Mr. Love, Vice-President, the Council adjourned to the rooms of Messrs. Jewell and Dennis, to dinner.

On resuming business, the application for registration of Mr. E. Fitzgerald, Fenelon Falls, was read, the Council considered that the proof of qualification was not sufficient, and refused registration.

On application for registration of Mr. King, of Peterboro, was read, and the registration ordered to be granted.

List of defaulters for 1875 was produced and the Registrar directed to write to the parties that if not paid, they would be proceeded against by the appointed prosecutor.

Mr. Walsh referred to the death of Mr. Kempt, of Peterboro, which had taken place since the last meeting.

Moved by Mr. Walsh, seconded by Mr. Gregory, that this Council having heard with deep regret of the decease of the late Mr. Kempt, of Peterboro, one of the original founders of the College, begs to tender its sincere sympathy to his widow and friends. Carried.

Moved by Mr. Gregory, seconded by Mr. Jordan, that Mr. Yeomans be appointed to represent this College at the meeting of the American Pharmaceutical Association in Philadelphia, this fall, and that he be instructed to repeat the invitation to that Association to meet in Toronto, next year, and that the sum of fifty dollars be appropriated to pay his expenses in attending said meeting. Carried.

Mr. Jordan considered the members of Council should do their

utmost to carry out the invitation, and he would do what he could in his locality towards making the meeting in Toronto a success.

Mr. Yeomans thought the meeting of the Association would be the means of stimulating the Chemists and Druggists of Ontario, and that a special effort should be made and the best means adopted for the accommodation of that body, not only by the Council, but by the Chemists and Druggists outside.

Moved by Mr. Jordan, seconded by Mr. Tapscott, and resolved, that the following gentlemen be appointed a committee, with Mr. Saunders as chairman, to consider the ways and means of entertaining the American Pharmaceutical Association in 1877 if they accept our invitation; and that they report at the next meeting of this Council. Benj. Lyman, Henry Lyman, Wm. Elliot, R. W. Elliot, Hugh Miller, J. T. Bickle, Geo. Rutherford, W. Saunders, H. J. Rose, Editors of the JOURNAL, Members of this Council, with power to add to their number. Carried.

Moved by Mr. Tapscott, seconded by Mr. Jordan, that the cordial thanks of this Council be tendered to Mr. Love, our Vice-President, for his kind hospitality and courtsey in entertaining and presiding over us. Carried.

Council adjourned at 4 p.m.

GEORGE HODGETTS,
Secretary and Registrar.

LOGWOOD INKS.*

BY E. U. VIEDT.

Logwood inks have been much employed for several years on account of their cheapness and the beauty of their tint; the greater part of the so-called copying inks are prepared at the present time from this coloring matter. Both the rasped logwood and the commercial extract are subject to falsifications; it is well, therefore, to make use of the whole logwood, and rasp or grind it as required; it is necessary, also, to consider the presence of an excess of moisture and of foreign substances, which may be used to adulterate it, as insoluble substances, cutch, etc.

The inks prepared from log-wood are of four classes:—

Inks with logwood and chrome.
“ “ “ “ alum.
“ “ “ “ copper.
“ “ “ “ iron.

* Laboratory from Le Moniteur Scientifique.

Runge, in 1848, discovered that a dilute solution of the colouring matter of logwood, to which had been added a small quantity of neutral chromate of potassium, produces a deep black liquid, which remains clear, does not deposit, and may be employed as an ink. Perfectly neutral litmus paper is not affected by it; it does not attack pens; it is very cheap, and so easily penetrates writing paper that it cannot be removed by washing even with a sponge—in a word, it has all the properties of an excellent ink. On exposure to the air in the inkstand, it sometimes decomposes very rapidly, its coloring matter being deposited in the form of large black flakes, which leave a colorless liquid above them. This gelatinization is a great defect in this ink, particularly as one does not know the precise conditions which determine it. Different means have been proposed to prevent this action; the best seems to be that of the addition of carbonate of sodium recommended by Boettger.

The author has used an ink prepared in this manner for upwards of two years, and has not observed any decomposition; although this may be to a considerable extent due to the fact that the inkstand employed was one which allowed but little exposure to the air.

To prepare this ink take of—

Extract of Logwood	15 parts.
Water	1000 “
Crystallized Carbonate of Sodium	4 “
Neutral Chromate of Potassium	1 “

Dissolve the extract of logwood in 900 parts of water, allow it to deposit, decant, heat to ebullition and add the carbonate of soda; lastly, add drop by drop, with constant stirring, a solution of the neutral chromate in 100 parts of water. The ink thus obtained has a fine bluish black colour; it flows well from the pen and dries readily. The chrome ink powder of Platzler and the acid ink of Poncelet are imitations of the original ink of Runge.

An ink obtained from a decoction of logwood and chrome-alum is not to be recommended; the characters written with it have little depth of colour, and are of a somewhat greyish shade.

Decoctions of logwood to which alum has been added give a reddish or violet colour, which darkens slowly, particularly with ink prepared from the wood and not the extract. Such inks prepared with alum alone are costly, because to obtain a sufficiently deep tint one is obliged to employ decoctions or solutions of the extract in a very concentrated condition. It is otherwise when a metallic salt is added along with the alum. Alum produces a reddish purple colour in decoctions of logwood, while metallic salts produce in the oxidized solution of the colouring matter a precipitate of a black or bluish black colour. These inks are analogous to the so-called alizarine inks; the ink is coloured by the tint produced by the alum. Under

the influence of air there is produced between the metallic salts and the colouring matter a reaction which determines the formation of a bluish black precipitate. To prevent as much as possible this action of the air upon the ink before it is applied to the paper, there is added, as in the case of alizarine inks, a trace of sulphuric acid designed to dissolve the precipitate which may be produced. This acidity of the ink has several disadvantages; it attacks the pens used for writing with it unless they are either of gold, platinum, or gutta-percha. Sulphate of copper or sulphate of iron may be the metallic salt used in such inks—the former is preferable. One of the best formulas for this kind of ink is the following, given in proportions for a manufacturing scale: 20 kilogrammes of extract of logwood are dissolved in 200 litres of water, and the solution clarified by subsidence and decantation. A yellowish brown liquid is thus obtained. In another vessel, 10 kilogrammes of ammonium alum are dissolved in 20 litres of boiling water; the two solutions are mixed, there being also added 200 grammes of sulphuric acid, and finally $1\frac{1}{2}$ kilogramme of sulphate of copper. The ink should be exposed to the air for a few days to give a good colour, after which it should be stored in well-corked bottles.

Boettger gives the following formula: 30 grammes of extract of logwood are dissolved in 250 grammes of water; 8 grammes of crystallized carbonate of soda and 30 grammes of glycerine of density 1.25 are added; and lastly, 1 gramme of yellow chromate of potassium and 8 grammes of gum arabic reduced to a powder and dissolved in several grammes of water. This ink does not attack pens, does not mould, and is very black.

ERGOT OF RYE.*

BY PROFESSOR DRAGENDORFF.

In association with Herr Stud. Padwissotzky I have been engaged in the chemical examination of ergot, and I believe we have succeeded in isolating the active principle. Our experiments have also yielded to us in a pure condition the coloring matter occurring in ergot. Whilst I beg leave to lay before the Pharmaceutical Society specimens of the products we have obtained, and postpone a detailed subscription of them for a German journal, I would wish to submit to the Pharmaceutical Society the following notes respecting their more important properties.

(1) Coming specially under consideration as an active constituent of ergot is (a) a slimy substance which goes into solution upon

*Pharm. Jour. & Trans.

extraction of the ergot with water, and which is again precipitated by 40 to 45 per cent. alcohol. It is colloidal; after being once dried it is with difficulty soluble in water, and it holds with the greatest energy ash constituents from which it might not have been freed. This substance has been named by us Scleromucin. It contains nitrogen, but gives no albuminoid reaction, nor any reaction of an alkaloidal or glucosidal body. Together with 8.26 per cent. of moisture and 26.8 per cent. of ash, it gave 29 per cent. of carbon, 6.44 per cent. of hydrogen, and 6.41 of nitrogen. We do not consider this substance is to be recommended for therapeutic use, as it is only partially soluble in water after becoming once dried.

In ergot there also occurs from 2 to 3 per cent. of a substance (b) similarly soluble in water, which is also soluble in cold 45 per cent. alcohol, and even in boiling 75 per cent. alcohol; this, on account of its weak acid properties, we have named Sclerotic Acid. It passes in association with other constituents of the ergot extract into the diffusate, when the extract is submitted to dialysis; but after its separation in a pure state it is, like scleromucin, colloidal. It is precipitated by 85 to 90 per cent. alcohol, together with lime, potash, soda, silica, and manganese; but after maceration with hydrochloric acid the greater part of the ash constituents can be separated by a fresh precipitation with absolute alcohol. The sample analysed by us had only 3 to 4 per cent. of ash, and contained 40 per cent. of carbon, 5.2 per cent. of hydrogen, 4.2 per cent. of nitrogen, and 50.6 per cent. of oxygen.

Sclerotic acid forms with lime a compound that is not decomposed by carbonic acid, and which, upon combustion, leaves 19 to 20 per cent. of calcium carbonate. Its reactions, both qualitative and quantitative, are similar to those of scleromucin. The subcutaneous injection of 0.02 to 0.4 gram brings frogs gradually into a state of perfect palsy, accompanied by a peculiar swelling, that may last six or seven days. In recommending our sclerotic acid most strongly for therapeutic use we believe we are justified in the presence of its easy solubility in water, and the fact that it occasions no kind of disturbance in the cellular tissue lying under the skin. Professor von Holst, the leader of the gynæcological clinic in this country, has used our sclerotic acid almost uninterruptedly for a year and a half (with the human subject subcutaneously 0.04 to 0.05 gram), and is thoroughly satisfied with its action.

The sclerotic acid also yields no reactions from which albuminoid, alkaloidal, or glucosidal properties could be inferred. It is tasteless and without smell, and can be prepared almost colorless and but slightly hygroscopic. For those who might wish to experiment upon the therapeutic action of sclerotic acid, it may be here stated that it is prepared according to our instructions at the chemical manufactory of Dr. Fr. Witte, Rostock, Mecklenburg, Germany.

(2) The red coloring matter which is utilized in the forensic

chemical determination of ergot is, for the most part, deposited as a (lime) compound insoluble in water and alcohol. It is carried into solution by alcohol after treatment of the powdered ergot with an aqueous solution of tartaric acid; but loses in the subsequent purification a very considerable proportion which changes into a brown resinous substance. This coloring matter, of which unfortunately we have not hitherto been able to get a large quantity in a pure state, we have named Sclererythrin. It is insoluble in water; in dilute and strong alcohol, ether, and chloroform, and also in dilute aqueous solutions of caustic potash, ammonia, etc., it is easily soluble. Its solutions in alkalis are of a beautiful murexid color. When these are decomposed by an acid and shaken with ether the sclererythrin is taken up by the ether. Alcoholic solution of sclererythrin gives with aluminum sulphate and with zinc chloride a splendid red mixture; with salts of calcium, barium, and many of the heavy metals it gives a blue precipitate. We suspect in sclererythrin a derivative from anthraquinone, standing in near relation to crysophanic acid and alizarine. The amount of this otherwise not quite inactive substance in the mature ergot is very small. It amounts in any case to only about one-tenth or one-twentieth of a part per thousand.

(3) With sclererythrin is obtained a small quantity of another coloring matter similar to it, which after being once isolated is not soluble in alcohol, ether, chloroform, or water; but it dissolves with a splendid violet color in potash solution, and from this solution is again precipitated by acetic acid. By potash solution it can be extracted from ergot residue that has been exhausted with water, alcohol, and ether, in which it amounts at the most to one part in one thousand. Concentrated sulphuric acid dissolves it with a handsome blue violet color, and on this account we have named it Scleriodin. Its analysis gave 64.88 per cent. of carbon, 5.5 per cent. of hydrogen, 3.87 per cent. of nitrogen, and 25.50 per cent. of oxygen. This substance also is slightly active and similar to sclererythrin. Probably it represents a decomposition product of sclererythrin, originated by acid and ammonia, but which in any case is formed in the ergot.

(4) From the ergot powder treated with aqueous solution of tartaric acid, after the sclererythrin and a small portion of the scleriodin have been extracted by alcohol, ether takes up a mass, which upon the evaporation of the ether is obtained partly as almost colorless needles and partly as citron-yellow tabular crystals and plates. The needle-shaped crystals, which we have named Sclerokrystallin, can be purified by recrystallization from chloroform. Sclerokrystallin is almost insoluble in water and alcohol and difficultly soluble in ether, but it is taken up by caustic ammonia and potash solutions. Its analysis gave 61.11 per cent. of carbon, 4.91 per cent. of hydrogen, and 56.98 per cent. of oxygen, from which probably the composition $C_{10}H_{10}O_4$ might be concluded.

The yellow crystalline substance we have named Scleroxanthin. It is a hydrated compound of sclerokrystallin, and probably its composition may be represented by the formula $2C_{10}H_{10}O_4 + 3H_2O$. Upon analysis it gave 13 to 14 per cent. of water, and the anhydrous portion gave 61.29 per cent. of carbon and 4.76 of hydrogen. By heating with chloroform it can be converted into sclerokrystallin, which can also be brought back again to scleroxanthin. Both substances appear to be without effect upon frogs.

(5) In the preparation of the coloring matter we met with yet another yellow substance, amorphous, and soluble in fats and chloroform, but which, as we were not certain as to its purity, was not further examined.

(6) The same remark holds good for a brown resinous substance, which dissolved in fat and in alcohol. Like the substance indicated under (5) it appears not to act poisonously upon frogs.

(7) Wenzel's alkaloids. We have isolated ergotine and ecbo-line, but found them almost inactive upon frogs. We consider it not improbable that they are identical with each other. Obtained by Wenzel's method, moreover, they are not quite pure.

(8) Tanret's ergotinin was also prepared by us, but we have not been able to come to the conclusion that it represents a chemically distinct substance. We found in it admixtures of our sclererythrin, and other substances. To the sclererythrin we must attribute the reaction with sulphuric acid, described by Tanret, which we also have observed; and to it also, according to our opinion, Tanret's ergotinin owes its not very energetic action upon frogs.

The specimens forwarded by us represent:—

1. Sclererythrin;
2. Resinous Decomposition Product of Sclererythrin;
3. Scleroiodin;
4. Scleroxanthin;
5. Sclerokrystallin;
6. Sclerotic Acid;
7. Calcium Sclerotate;
8. Scleromucin.

CRYSTALLIZED GLYCERIN.*

BY DR. PAUL F. VAN HAMEL ROOS.

Member of the Chemical Societies of Paris and Berlin.

Two months ago, I had the opportunity of observing in the chemical works of Messrs. Dunn and Company, at Stratford, a quantity of 56 pounds of crystallized glycerin.

* Paper read before the Chemical Society, and reprinted from the *Journal of the Chemical Society* for May.

The crystallization seems to have been induced by the movement of the railway and by the cold of the first days of January of this year. The specific gravity of this glycerin was found by me, at its melting point, 60° F., 1.261.

The crystals are monoclinic, perfectly colourless, and of a pure sweet taste. By putting some of the crystals into ordinary good glycerin, magnificent crystals begin to develop, most of the impurities remaining in the mother liquor.

When the crystals are melted at a very gentle heat, not exceeding 70°—80° F., and afterwards exposed to a cold of 30° F. a very small crystal of crystallized glycerin is sufficient to solidify all the liquid. When the liquid is kept for some time at 24° F., the solidification is spontaneous, but moving the liquor vigorously seems to be indispensable to the solidification in the absence of a nucleus crystal.

With regard to the fermentation of glycerin,, it was mentioned by Professor Redtenbacher, about twenty years ago, that there are two different sorts of fermentation depending on the temperature. At 60° F. the results of the fermentation were propionic acid, at 100° F. alcohol and butyric acid.

As it was mentioned that the fermentation soon stops and leaves a certain amount of unchanged glycerin, it was very probable that this fermentation was due only to certain impurities which were contained in the glycerin on which Professor Redtenbacher experimented.

To determine this, I took 36 grams of crystallized glycerin, 50 grams of distilled water, and 5 grams of washed German yeast, and mixed the whole well together. I also took the same quantities of *refined commercial glycerin* (sp. gr. 1.248), distilled water and German yeast, and exposed both to a temperature of about 56°—60° F.

To determine whether the yeast was active or not, I mixed a few grams with an aqueous solution of sugar, and exposed this mixture at the same temperature.

Since the 28th of February of this year, both samples of glycerin failed to show the least trace of fermentation, but a few hours after the contact with yeast, the sugar showed a violent fermentation as a proof that the yeast was quite active. These experiments are still going on, and as soon as I observe any alteration in either sample of glycerin, I hope to report it.

As it is suggested that hydrocyanic acid is a test for the purity of glycerin, I compared the action of this acid on the 28th of February on two different samples of refined commercial glycerin (sp. gr. 1.248), and on melted crystallized glycerin, but up to the present time no alteration in color or other visible change has taken place. I took for these experiments 2 oz. of glycerin and about $\frac{1}{4}$ oz. of hydrocyanic acid (5 per cent.)

The solidification of the glycerin seems to depend especially upon its being perfectly pure and anhydrous.

The least quantity of water or any other impurity hinders the crystallization.

The crystallization does not seem to be induced by putting into refined commercial glycerin crystals of other substances of the same system as crystallized glycerin, but my experiments in this direction are not yet finished. The crystallizability of the glycerin seems to be the best test for its highest purity, and at the same time a means of separating ordinary glycerin from almost all its impurities.

PHARMACEUTICAL NOTES.*

BY CARL S. N. HALLBERG, PH.G.

(Abstract from an Inaugural Essay.)

Medicated Waters.—The magnesia process has some advantage in making a clear preparation when finished, but, as the object is to have a pure medicated water, this process is not desirable, as the water is not free from magnesia.

The hot water method has not this objection. I have tried several modi operandi, of which the following is the most satisfactory:

Pour boiling water in a strong bottle, or, preferably, a demijohn, drop the requisite amount of oil on a folded filter, and put this filter in the hot water. Upon agitation the filter will be reduced to a pulp, and the oil readily dissolved. After standing a day or two, occasionally shaking it, filter, if necessary, through more pulp.

This water is, perhaps, not quite as clear a preparation as the product of the magnesia process, but is unquestionably superior.

In *Camphor Water*, the magnesia process may also be dispensed with to an advantage. I have obtained satisfactory results by powdering camphor with sufficient alcohol, then triturating with water gradually added, and filtering after several days.

For *Soap Liniment*, the use of castor oil soap has been advocated in some journals, which would, no doubt, answer the purpose admirably. The following modified formula of the "Pharmacopœia," with my experience has worked well:

Take of Castile soap,	4 troy ounces,
water,	14 fluidounces,
camphor,	2 troy ounces,
ol. rosemary	½ fluidounce,
strong alcohol,	1½ pint.

Grate the soap on a common grater, and, having mixed the

* From the American Journal of Pharmacy.

water with $\frac{1}{2}$ pint of alcohol, pour this on the soap; with occasional agitation it will dissolve in a short time. Dissolve the camphor and oil of rosemary in remainder of alcohol. Add this to the solution of soap, let stand some time and filter. The result is a preparation which will not precipitate. It is not as strongly alcoholic as the officinal, but it contains as much alcohol as is compatible (? Ed.) with it as a preparation.

Syrup of Tolu.—In filtering the mixture of tincture of tolu, magnesium carbonate and water, nothing but a flavored water is obtained, as the resin upon which the medicinal virtues depend is left in the filter. It is, therefore, a sacrifice of the medicinal virtues of tolu for the sake of getting an elegant preparation. I have tried to combine the medicinal as well as pharmaceutical properties, and believe to have succeeded, by the following formula: Take the required amount of tincture of tolu, magnesium carbonate and a small quantity of sugar, rub them together and, instead of adding water, add simple syrup (hot), sufficient to make the desired quantity of syrup. After standing a short time, strain slowly through flannel.

Syrup of Ginger may also be made advantageously by this process.

Syrupus Aurantii Corticis.—As this preparation is mostly used as a pleasant vehicle to disagreeable medicines, and especially those derived from iron, I submit a formula, which has the decided advantage in affording a preparation which will not be discolored by an iron preparation. One precaution is necessary, to use a fresh oil; the best plan is to make it up into spirit of orange at once, one part of oil to fifteen of strong alcohol.

Take spirit of orange, carbonate magnesium, sugar and water, and proceed in the same manner as for preparing the syrup of tolu of the "U. S. Pharmacopœia," using the same proportions.

Aromatic Syrup of Rhubarb, as prepared after the officinal process, is generally an unsightly preparation.

I have found the officinal process, with some slight modification, renders a satisfactory preparation. After exhausting the rhubarb, &c., with the alcoholic menstruum, rub it up in a mortar with a small quantity of carbonate of magnesium and some sand. Pack this loosely in a funnel and percolate it with the water that goes to make up the syrup, mixed with a small quantity of glycerin. Dissolve the sugar in this last percolate, and, while still hot, add the aromatic tincture of rhubarb. The result is a transparent syrup of a beautiful red color, and it will not precipitate.

Syrup of Ipecacuanha.—In simply mixing the fluid extract with syrup a very unsightly preparation is obtained, the resin being precipitated. The following formula affords a much nicer product: Mix the fluid extract with water, let stand and filter out the precipitated resin, dissolve the sugar in the filtrate, and strain.

Tincture Kino.—The writer recommends R. Rother's process ("Am. Jour. Pharm.," 1873, p. 398).

Syrup of Squill.—An important point has been overlooked in the formula for this preparation. As vinegar of squill contains a considerable amount of albuminous matter, it ought to be first brought to the boiling point, when the albumen coagulates and can readily be skimmed off; the sugar should then be dissolved at a low temperature.

COCA LEAVES.

Mr. P. L. Simmonds contributes to the *Chemist and Druggist* an interesting summary of a monograph on Coca, by M. Manuel A. Fuentes, of Lima, Peru. The writer takes the view that the leaves form one of the many productions of the vegetable kingdom from which the human race derive great advantages, more especially those pertaining to the healing art. Speaking of the manner of using the leaves he says:

“In taking his coca the Indian seats himself leisurely, and opening his bag, introduces leaf by leaf into his mouth. He chews it, and with his tongue forms it into a kind of ball, which he lodges in the side of his mouth, like a quid of tobacco. He then moistens with his saliva the end of a small stick, which he introduces into a little calabash containing lime or wood ashes, formed of the burnt stems of the *Chenopodium Quinoa*, and licks this stick two or three times. They generally take coca three times during the day; the first time before commencing their work, the second about the middle of their task, and the third some time after completing their labour.

For a long time the reputed virtues of the leaf were scouted as fabulous, but, later, the results of experience, the impartiality of the celebrated historians, and the authority of a great number of scientific men corroborated the facts set forth as to the benefit of this custom of the Indians.

They also cited in favor of these opinions the herbs known under the names of *Hipise*, *Esparnia*, *Alimnia*, &c., to which Pliny and other old naturalists attributed similar virtues.

The incontestible facts which experience affords as to the virtues of coca may, according to Senor Fuentes, be divided into two classes, those relating to healthy persons, and those concerning ailing or sickly individuals. It has been admitted that the Indians of the mountains, who among the natives of Peru are most given to the use of coca, are those who endure the hardest labour, such as:—

1. Mining operations. The mines are almost all situated in the coldest part of the Cordilleras. There the Indians work night and day, the pickaxe or the shovel in their hand to detach the minerals, which they carry on their shoulders through long and deep

subterranean passages, or they stamp with their feet masses of mineral from which they have to extract the metal. All the rest they get during this incessant toil is to lie down, turn by turn, on a skin covered with a poncho to snatch a few moments of repose, and to chew their portion of coca leaf.

2. The postal service. Bearing a case of letters on their shoulders, they may be seen undertaking with celerity journeys of hundreds of miles, traversing, to shorten their routes, deserts and rugged Cordilleras. These unfortunate Indians suffer from all the injuries of the rarified air, which exercises a most severe effect on a half-naked man, obliged to traverse the rocks and deserts of the sierras or mountainous regions. His only shelter and chance of repose, when snow storms surprise him or fatigue overcomes him, is to take refuge in some cavern or under some projection of rock, where, reclining on the frozen ground, he snatches a few hours of sleep.

3. The occupation of shepherd. The Indian generally pastures his wool-bearing animals of the alpaca tribe on the bleak pampas, which produce scarcely anything but a coarse kind of grass, called locally "hichu." The rigour of the climate renders these mountain shepherds as black as Ethiopians.

4. Irrigation. When the Indians are obliged to water their fields during the night, in the middle of the rigours of winter, and on the most elevated plateaus, they are often many hours knee-deep in water, and exposed like their comrades to the cutting blast of a cold and penetrating wind.

For resisting all these fatigues and the inclemencies of the seasons, the Indians have no other food than a handful of maize, a few potatoes, and a pouch of coca leaves. They never eat flesh unless it is given them, which is rarely, as they respect the lives of their flocks as their own.

Dr. Ignacio Flores having seen an Indian of the tribe of the Canaris, who was employed in the postal service between chuquisaca and La Paz in Bolivia, that is a distance of over 100 leagues, with no other provision with him than a few grains of roasted maize, a few cakes of chuno, or frost-dried potatoes not weighing together two pounds, and his bag of coca leaves, declared that there was not a monk or a hermit in the world so austere or abstinent. This frugality, and this hardihood to fatigue, the very recital of which makes one shudder, have been attributed by many, not the use of coca, but to the training and education, as it were, of the Indians. This assertion, however, may be easily rejected by having regard to the following facts:—

1. The Indian has naturally a voracious appetite whenever he is brought into contact with anyone generous enough to feed him.

2. A great many Spaniards, who could not support the labour of the mines and the inclemency of the Cordillera, having taken to

the regular use of coca, have forthwith acquired the Herculean force of the Indians.

3. When the natives give up the use of coca, and change their ordinary food system, they lose that ancient vigour and power which enabled them to resist fatigue and the inclemency of the weather.

4. Notwithstanding the rigorous prevention of the use of coca in Tucuman, the habit of chewing the leaf is clandestinely practised, because it is alone found to give to the muleteers the power of resisting the rigours of the icy plateaux of Lipes, and of prolonged night watches to prevent the mules they are transporting to Peru from straying.

5. During the prolonged seige which the rebel Indians carried on in 1781 against the town of La Paz in Bolivia, the inhabitants had no other food left than leather, unclean animals, &c., and having to watch at night in the trenches during a rigorous winter to repulse the attacks of the Indians, a great many took to the use of coca, as the only means of averting this horrible famine.

Passing now to the beneficial effects of coca on the sick and invalid, facts which, Senor Fuentes asserts, experience has confirmed. It is said to strengthen the gums and preserve the teeth. Taken in the form of an infusion, like tea, it excites perspiration and soothes those who suffer from asthma. Taken either in infusion or chewed, it assists the functions of the stomach, removes obstructions, and cures gripes or colic. Applied externally in friction or plasters, it allays rheumatic pains caused by the cold.

Our author further asserts that it cures intermittent fevers in the dose of a teaspoonful of sulphate of cocaine, and is a protection against syphilis. This last allegation is probable, seeing that an Indian is rarely met with afflicted with venereal diseases, so common among whites and negroes.

The Jesuit Father, D. Antonio Julian, has written a work under the title of "The Pearl of America," in which he treats in an extended manner of coca. He asserts that this plant possesses all the useful properties already cited. He cites in support of these a great number of cases where jaundice and hypochondria have been cured by it, and instances a missionary well versed in botany who had cured this last malady by administering infusions of coca. These, then, are stated to be facts which experience has furnished as to the efficacy of coca when used either in health or disease. I have not finished with this remarkable treatise, but I will not weary your readers with further details. Suffice it to say, in view of the controversy being carried on in the medical journals, that the properties of the plant deserve prolonged and careful examination, and these investigations can scarcely be properly tested unless with fresh samples of the leaf, and impartial enquiry free from prejudice.

MYRRH AND BDELLIUM.

Myrrh, according to W. Dymock, comes to Bombay from Berbera, where it is purchased by agents residing at Aden or Makulla. The bags or bales, when opened in Bombay, are found to be made up of 1, a large proportion of roundish masses of fine myrrh ; 2, a considerable proportion of small semi-transparent pieces of myrrh, of irregular shape ; 3, numerous pieces of dark-colored myrrh, mixed with bark and other refuse ; 4, a small proportion of an opaque gum resin (*Bdellium opaque*, of Guibourt)? occasionally small pieces of resin (juniper?) are also met with. The contents are sorted, the best myrrh going to Europe, the darker pieces forming a second quality, and the refuse being exported to China, where it is probably used as incense. True myrrh is known in the local market as karam, the opaque bdellium as meena barma. The latter is used for the extraction of the Guinea worm ; it resembles ammoniacum ; is yellowish-white and bitter, with hardly any odor.

The Arakian myrrh of the "Pharmacographia" is received from Makulla and Aden, and is known as meetiga ; no true myrrh is ever received from Arabia.

Bdellium comes also from Berbera. Besides the ordinary bdellium, the bales contain a small quantity of a perfumed kind, occurring in irregularly shaped pieces, more or less flat, some of them having fragments of thick bark adhering. The color of the gum is dark reddish-brown, but opaque yellowish-white streaks are frequently met with in the semi-transparent mass. The odor, on fresh fracture, is powerful and pleasant, not unlike a lemon lollipop. The Arabic name is habak hadeé.

Indian bdellium comes chiefly from Deccan ; in form and appearance it resembles the African drug, the pieces often having pieces of a papery bark attached to them ; but the colour is greenish, and the odor, though similar, is more faint. Its value is one-third less than the African bdellium.—*Pharm. Jour. and Trans.*, 1876, Feb. 19, in *Am. Jour. Pharm.*

 GLYCERINE ASSOCIATED WITH CINCHONA AND SALTS OF IRON.

In a paper read before the Société de Médecine Pratique, M. A. Catillon, a pharmacien, has recently urged the advantages of prescribing glycerine for internal administration associated with preparations of cinchona and salts of iron. Irrespective of certain therapeutic advantages he thinks might attend such a mixture he noticed that glycerine prevents the reaction of the cinchona upon the iron and thus does away with the incompatibility of these two

useful medicinal agents. This property glycerine possesses to such a degree as to allow of the association of cinchona with iodide of iron. If syrup of iodide of iron be added to cinchona wine a turbidity is produced, and after some days a blackish powder is deposited containing the iron in the state of tannate. If the usual liquids be replaced by glycerine the reaction does not take place and the two incompatibles remain mixed without the limpidity or the proper color of the cinchona being altered.

Another advantage urged by M. Catillon, in favor of the use of glycerine in cinchona preparations is that its solvent action in respect to cinchona is equal to that of alcohol, permitting it to take up all the active principles. Thus it dissolves entirely the alcoholic extract which contains them all and also the complex substance known as cinchona resin which contains a notable proportion of them. According to Souberian this resin includes, in combination with the derivatives of cinchotannic acid, known altogether as insoluble cinchona red, a proportion of alkaloids sufficient to represent one-fourth of its weight of sulphate of quinine.—*Pharm. Jour. & Trans.*

IODINE AS AN IMPURITY IN NITRIC ACID.*

Mr. Friedlburg having stated in a paper read before the German Chemical Society that, on treating carbon disulphide with fuming nitric acid he had observed the former to assume a rose-red or violet colour, which he ascribed to some impurity in the CS. Mr. P. Marquart replies that commercial nitric acid nearly always contains iodine, which may easily be shown by subjecting it to distillation to dryness. During the end of the process violet vapours are frequently given off, and handsome crystals of iodine are found in the neck of the retort on cooling.

In order to convince himself whether the coloration of carbon disulphide, when treated in the above mentioned manner, was really owing to the presence of iodine, Mr. Marquart agitated a sample of fuming nitric acid chosen at random, with carbon disulphide, added water and found the CS colored rose-red. Treated with water and the aqueous solution gave the usual reactions for iodine with starch and palladium nitrate. A specially prepared acid, known to be free from iodine, when shaken with carbon disulphide imparting no colour to the latter whatever.

When searching for iodine in this manner it is immaterial whether the water be added to the previously separated carbon disulphide or to the mixture of the two substances. If iodine is present the colour appears invariably, and at once.

* *Ber. d. Deutsch. chem. Ges.*, 1876, p. 127; from *New Remedies*.

PERSIAN OPIUM.

The Persian opium, it is said, is not much liked in China, owing to its having a peculiar flavour caused by the mixture of a large quantity of oil during the process of preparation, and owing also to its being sometimes found adulterated. Indeed, although the quality is good, it is said that adulteration is now so extensively practised as to bid fair to check the trade with China, which has in recent times assumed considerable proportions, unless the Persian authorities take measures to prevent fraud.

Persian opium, however, finds a somewhat better market in London, inasmuch as it contains, on an average, a large quantity of morphia. From London the greater part is sent to the Continent and to America. Prior to the opening of steam communication on the Persian Gulf some opium used to be sent from Persia by land to Constantinople, whence it found its way to the Continent. But that route has since been altogether given up.

About 100 cases of opium (in cakes) are brought annually to Persia from Herat. This is taken to the Yezd market. From Yezd also a quantity of opium prepared in the shape of small sticks or cylinders is sent for consumption in Herat. A small quantity of stick opium is consumed in Persia itself. No opium whatever is known to be imported into Persia from other places.—*Pharm. Jour. and Trans.*

 PHOSPHORUS PILLS.*

BY T. HAFFENDEN.

These are very often in request now, and seeing Messrs. Allen and Hanbury's note in last week's Journal † I venture my own experience. I have been very successful with a formula of Dr. Corfe's and he tells me he is quite satisfied with them, and finds unmistakable evidence of free phosphorus in their therapeutical effect. They are composed of :

Mucilage,
Powd. Sugar,
Reduced Iron,
Quinine,
Phosphorus.

By means of a water bath an emulsion is made of the phosphorus and mucilage, the powders mixed in while still warm, and then

* From *Pharm. Jour. and Trans.*

† *Can. Pharm. Jour.*, July, 1876.

worked up in a mortar in the usual way; they require to be quickly coated, and then I find they keep for a long time—some in stock now have been made six months, and are quite soft now and the phosphorus fumes still rising, quite perceptible to the nose and the naked eye, though there is only 1/40th grain in each pill. I have also had to dispense phosphorus in mixtures, and have found the emulsion in the mucilage of gum arabic of the Pharmacopœia to answer quite satisfactorily.

OLEUM MORRHUÆ FERRATUM.

O. Wachsmuth proposes to prepare cod-liver oil with iron in the following manner: One part of a hot 10 per cent. solution of pure ferrous sulphate is added, under constant stirring, to two parts of a hot 5 per cent. solution of dried Castile soap. Immediately there is produced a greenish-gray, resinous mass, iron-soap, which attaches itself to the stirrer and the walls of the vessel, while the almost clear liquid contains the alkaline sulphates produced by the decomposition, and the excess of the ferrous sulphate. The liquid is poured off, and the tough iron-soap well-kneaded, and washed with hot water. It is then drained, and, being still in the same vessel, dried upon the steam-bath. The yield is 85 per cent. of the Castile soap employed. By gradual addition of the requisite amount of cod-liver oil, and warming, the ferrous (or rather ferric) oleate is easily dissolved, producing a clear solution of deep brown color, which does not require filtration.

The ferrous oleate (iron-soap) produced in this decomposition is first of a greenish-gray color, but absorbs oxygen quite rapidly, and turns brown. Its taste resembles that of ordinary soap. It is soluble in ethereal and fatty oils, ether, and chloroform, but insoluble in water, alcohol, and glycerine; and when ignited leaves 12 per cent. ferric oxide.—*Arch. d. Pharm. in New Remedies.*

EXTRACTION OF VEGETABLE JUICES BY ETHER.

Mr. Legrip has proposed a new method for completely exhausting fresh vegetable substances of their soluble constituents. It is as follows: The fresh substance, properly comminuted if necessary, is introduced into a vessel or tube provided with spacious apertures at the side and bottom; this is closed with a cork, and provided with a hook. Another larger vessel is filled with ether to such a height that the substance in the other tube when introduced into this outer

vessel will be covered by it. The smaller vessel is now introduced into the larger one containing the ether, and suspended from the under surface of the cork closing the latter. After a certain time the ether will have acquired a green color, due to chlorophyll, and below the ethereal layer will be found a dense brown aqueous one, containing all the extractive matter of the substance; any fat or oil will of course remain in solution in the ether. The author maintains that all constituents, except cellulose or ligneous fibre, are in this manner pressed out by the ether, some being retained by the latter in solution, while the others are deposited in a separate layer below. He proposes for this method the term "dietheralysis," (*i.e.*, dialysis by means of ether).—*Rép. de Pharm.*, 1876, 225 in *New Remedies*.

PRESERVATION OF DECOCTIONS AND INFUSIONS UNDER COTTON WOOL.*

The mode of preserving infusions and decoctions suggested by Almén has been tried by J. F. Ryberg on several easily decomposable officinal infusions such, as *Inf. amarum* and *Inf. Gent. comp.*, and found satisfactory. Infusion amarum, which usually in a few days become turbid and mouldy, remained unchanged for six weeks, although in the seventh week mould began to form and soon spread through the liquid. The result was referred by Ryberg to the circumstance that the india-rubber stopper did not remain fast closed and air was permitted to enter. In the second case, where a quantity of more than 7,000 grammes of compound infusion of gentian was taken, the experiment succeeded still better, although several times, weekly, small quantities were withdrawn from the flask for examination. The process of Almén, which perhaps may not have remained in the memory of many readers, is essentially as follows: The infusion or decoction is heated for some time in a water bath at 100°, and the bottle then fitted with a tight cork, through which passes a glass tube, lightly filled with cotton wool. The cork has a second opening, through which passes a glass tube quite to the bottom of the bottle; this tube is bent at a sharp angle and has fitted upon it a piece of india-rubber tubing, by means of which the bottle may be filled and afterwards the contents drawn upon. Ryberg is of the opinion that for *Infusum Sennæ compositum*, for which this method is particularly recommended, the Pharmacopœia should authorize preservation under cotton wool.

*Pharm. Zeitung, January, 1876, p. 62, in Chemist & Druggist.

THERAPEUTICAL USES OF COCA.

This Peruvian plant is just now attracting in England one of those periodical spasms of attention with which it has attacked the medical world ever since Pizarro burned his ships. Weston was said to have used it in his great pedestrian feats. But he, himself, denies it. A gentleman writes to the *Lancet* :

"The leaves of this plant, either smoked in a pipe or used as an inhalation, have a decided effect on bronchial spasm. I have recently employed it in this way with marked benefit in cases of idiopathic asthma, the dyspnoea and distress being much relieved, and more especially in chronic irritating cough. One gentleman, who could not sleep, through paroxysms of coughing, now enjoys a full night's rest after smoking a pipe of coca mixed with a small quantity of tobacco. Moreover, it leaves no headache nor unpleasant after-effects."

Experiments conducted in this city, some years ago, discovered no important therapeutic or economic value in coca.

THE ASTRINGENT CONSTITUENT OF MAHOGANY.—Latour and Cazeneuve have found that the astringent constituent of mahogany is identical with that obtained from catechu ; that is, catechuic acid (or catechin) and its congeners, or derivatives. To obtain the catechin, the wood is exhausted with water, the extract precipitated by acetate of lead until the coloring matter is removed, and the whole filtered. The colorless filtrate is again precipitated by acetate of lead, which throws down catechuate of lead ; the latter is washed with hot water, and, after suspension in water, decomposed by sulphuretted hydrogen. The excess of this latter is evaporated off, the liquid filtered, and concentrated to a small bulk. On cooling, most of the catechin crystallizes out, is collected, washed with cold water, pressed, and dried in vacuo. The elementary analysis led to the formula $C_{20}H_{10}O_9$, or when dried at $100^{\circ} C.$, $C_{20}H_9O_8$. The catechin may also be obtained by extracting the wood with anhydrous ether, treating the residue from the ethereal solution with boiling water, and filtering through a previously-wetted filter, to retain fatty matters. On concentrating and cooling, the substance is obtained in crystals.—*Bull. d. l. Soc. chim.*, 1875, 118.

New Remedies.

A NEW POISONOUS PRINCIPLE IN SPOILED INDIAN CORN.—According to C. Lombroso, a tincture of damaged Indian corn, very different from that obtained with the grain when in good con-

dition, contains an oleo-resin soluble in alcohol, and insoluble in benzine. It has a bitter taste, and produces in lower animals and birds choreic movements of the head, in cocks, especially of the comb. Besides this substance, a red matter has also been extracted, which is highly poisonous, causing tetanic convulsions and death very rapidly in chickens and frogs. The effects denote the presence of a principle analogous to strychnine. This substance, dissolved in oil, has been successfully used by M. Lombroso as a specific (externally applied) for inveterate skin diseases, eczema and psoriasis.—*Rep. de Pharm.*, 1876, 9. *New Remedies.*

NEW SOURCE OF TANNIN.—A plant which grows luxuriously in the West—the *Polygonum Amphibium* L.—has been discovered to contain a very large amount of tannin. Samples of the plant analysed by Prof. Aughey, of the University of Nebraska, show that it contains of tannin in the roots 21.75 per cent., and in the stems 17.10 per cent. Sumac yields about 16 per cent., and oak-bark from 8 to 12 per cent. It is believed that the plant may be of great commercial importance to the West. It can easily be grown from the seeds, and yields from three to six tons per acre. It is said to be capable of producing all kinds of leather. If the reports in regard to the plant are reliable, it will prove one of the most important discoveries of the decade.—*New Remedies.*

TO PRESERVE MUCILAGE.—In *Pharm. Zeitung*, D. Preston recommends the use of salicylic acid for preventing the decomposition of mucilage, which, as generally prepared, undergoes, rapid change, becomes sour and ropy, and unfit for use. The very slight solubility of salicylic acid in water renders the use of it less objectionable than would otherwise be the case. Instead of using pure water, the gum is dissolved in an equal weight of a previously prepared aqueous solution of salicylic acid; such a mucilage, even after standing a month, shows no trace of decomposition.—*Chemist & Druggist.*

A NEW ALLOTROPIC FORM OF PHOSPHORUS.—If phosphorus be boiled for five minutes with strong caustic potassa solution, and afterwards washed with water, it retains its liquid form for months at temperatures far below the freezing point of ordinary phosphorus. By sudden cooling, the liquid phosphorus solidifies at 3.3° . It does not oxidize in the air, nor does it emit light in the dark. When this variety of phosphorus solidifies, the ordinary phosphorus as well as a crystalline variety are produced.—*Chem. Centralb.*, 1875, p. 114.

Editorial.

LAW RESPECTING WEIGHTS AND MEASURES.

A correspondent sends us a circular issued by an Inspector of Weights and Measures, for the County of Ontario, and asks whether druggists are subject to the same law as other traders. As many of our readers will, no doubt, receive a similar notification, it may be as well to give a general answer to the inquiry.

The portions of the circular which may be held as applying to traders, are those referring to weights and measures. With regard to the former, it is stated that "all iron or cast-metal weights *must* be bored and plugged with lead for the purpose of taking the Government stamp. Weights from one pound down must be made of solid brass or bronze; cased metal weights not allowed." Of measures it is said, "The old wine gallon is now entirely abolished (except where special contracts are in existence), and parties requiring measures of this kind must *at once* furnish themselves with the new standard gallon, which is one-fifth larger than the old measure; measuring by the old gallon being prohibited."

There can be no doubt but that the Weights and Measures Act of 1873—under which the Inspectors are appointed—is intended to include druggists as well as all others engaged in the sale of any commodity. The above statement as to the old gallon being prohibited is not strictly correct, as the prohibition is indirect. The law, Sec. 28, declares it illegal for any "trader, manufacturer, carrier, public weigher, gauger, surveyor, or other person" * * * to "offer for sale or use, for any purpose of buying, selling, or charging for the carriage of any goods, wares, merchandise, or thing, or of measuring any work, land, goods, material, or other thing, for the purpose of charging for, or ascertaining the price to be paid, or the charge to be made therefor, any weight, or measure, or weighing machine which has not been duly inspected and stamped according to this Act, or which may be found light, etc." The prohibition is, therefore, indirect, but virtually amounts to the same thing.

A perusal of the Act reveals nothing regarding the material of which weights must be made, but we find that by an order in Coun-

cil, dated July, 1875, all weights of less than one pound must be of solid brass or bronze, and over that denomination, of iron. Until the year 1880, measures of half a gallon and upward may be made of any material, but must be of the gauge of DXX tin.

The Act was passed in 1873, and places all matters relating to weights and measures under the control of the Inland Revenue Department. It came into force, by proclamation, in July, 1875, but, until lately, very little was done, as the Department did not possess the requisite standards for verification. These have now arrived, and every effort is being made to complete the system of inspection.

All weights, measures, etc., except those not moveable, must be taken to the Inspector of the District to be stamped. For this service fees will be charged, and we may mention, incidentally, that the sum to be charged for the verification of a set of Apothecaries weights, ranging from half a Troy ounce to one-thousandth of an ounce, is one dollar. It is not likely that Inspectors will ever, of themselves, make such an examination, but it will be a convenience for druggists to have their dispensing weights verified.

Inspectors are required to make their rounds from time to time, and may, without previous notice, enter any store for that purpose. They are also required to make a yearly inspection.

There will, of course, be considerable difficulty in organising this system, but, from conversation with several of the chief officials in the Inland Revenue Department, we believe it to be the intention to carry out the Act in every detail.

MIDSUMMER EXAMINATION.

The eleventh examination was held as usual on July 31st and the day following. The attendance was quite up to any former occasion, but the proficiency shown was considerably under the average, as, of forty candidates, only nineteen succeeded in passing. There can be no doubt but this falling off may in great part be accounted for by the exceeding hot weather which has prevailed during the summer, and which has certainly been unfavourable to close study. With the thermometer between ninety and a hundred one cannot expect any strong evidences of mental vigor. We hope

the unfortunate ones may be toned up by next February, and able to render a good account of themselves.

It is proposed to obviate, by an amendment to the Pharmacy Act, an inconvenience which relates to the time of the examinations. The law requires the examination to take place previous to the Council meeting, which is appointed for the first Wednesdays in February and August. As two days are required for the examination, many of the candidates are necessitated to stay in the city during Sunday, thus incurring expense and loss of time. By adjourning the Council meeting from Wednesday until Thursday this difficulty can, for the time, be met, and the next examination will therefore be held on Tuesday and Wednesday, February 6th and 7th. Intending candidates will please make a note of the change.

We append the questions in the various branches :

PHARMACY.

QUESTIONS :

Examiner—MR. SHUTTLEWORTH.

1. Write out a formula for one pint of *Tinct. Opii*, using ordinary moist opium and commercial alcohol, 65 o. p.
2. Name the ingredients in
 - Decoctum Sarzæ Compositum.*
 - Linimentum Camphoræ Compositum.*
 - Mistura Crète.*
 - Tinctura Camphoræ Composita.*
 - Pulvis Jalapæ Compositus.*
3. Describe three methods for preparing *Aqua Medicata*, and state the advantages and disadvantages of each.
4. Give the proportion of ergot in each of its official preparations, and state the best mode of preventing the deterioration of the crude drug.
5. Enumerate the vesicating preparations of *Cantharis*, and name some of the best solvents of cantharidin.
6. Give the quantities of chlorate of potassium, iodide of potassium, perchloride of mercury, and hydrate of lime, soluble in one wine pint of cold water at say 60° F., and name the conditions favourable to solution.
7. Describe the method for preparing *Syrupus Ferri Phosphatis*; explain the use of the acetate of sodium in the formula; and state the proportion of phosphate of iron present in one fluid drachm of the preparation.
8. Describe the mode of preparing
 - Pulv. Ipecac. Co.*
 - Ung. Simplex.*
 - Spiritus Tenuior.*
 - Tinct. Gentianæ Co.*
 - Emp. Plumbi.*

- 9 } Recognition of specimens and verbal examination.
10 }

MATERIA MEDICA.

Examiner—MR. YEOMANS.

1. Antimony? Name how it occurs naturally; its officinal preparations and the preparations into which these enter.
2. Ammonia? Name the source and preparations into which it enters.
3. Give names of plants from which the following are obtained: Natural order, habitat, and parts used—Chamomile, Camphor, Aconite, Jalap, Colocynth, Salicin.
4. Name products of animal origin in the British Pharmacopœia.
5. Give the Resins of the British Pharmacopœia; the name, natural order and habitat of plant from which obtained, and part of plant used.
6. Name ten roots officinal in the B.P., with preparations into which they enter.
7. Name ten barks officinal in B.P., and state what percentage of Quinine a fair sample of Yellow Cinchona Bark should yield.
8. Give the adulterations most common in the essential oils, and manner of detecting them.
9. Name the adulteration or impurities the following are likely to contain, with simplest manner of detecting same. Iodine, Aloes Socotrine, Cantharides, Opium, Ipecac.
10. Recognize samples and answer verbal questions regarding same.

CHEMISTRY.

Examiner—MR. SHUTTLEWORTH.

1. State the chief fundamental principles of chemical philosophy.
2. Give the symbols, names, and combining weights of the oxides of nitrogen, and explain why atmospheric air should not be included.
3. Explain, by a diagram, or equation, the action of sulphuric acid on chloride of sodium. State the official character of the product.
4. State the composition, mode of preparation, physical properties, common impurities, and tests of *Aqua destillata*.
5. How is *Acidum Hydrocyanicum Dilutum* prepared? State the difference in strength of the officinal acid and that of Scheele's strength.
6. How would you detect perchloride of mercury in calomel; and the red iodide in mercurous iodide? How could salts so contaminated be purified.
7. Describe the mode of preparing *Liquor Ferri Perchloridi Fortior*, explain the chemical action, and state the specific gravity of the resulting preparation.
8. An unlabelled bottle contains one of the official dilute acids—how would you determine the nature of its contents.
9. } Recognition of specimens and verbal examination.
10. }

BOTANY.

Examiner—MR. YEOMANS.

1. Describe the structure of a seed. Name its parts.
2. What purpose is answered by the accumulation of albumen around the embryo. Does it occur in all seeds. Give instances.

3. Explain the difference between an annual, biennial and perennial herb. Between an herb and a shrub. Between a shrub and tree. And give instance of each from indigenous plants.
4. Name the parts of a leaf. Describe the structure, and give three special forms of leaves.
5. Name three principal kinds of roots; and three of subterranean stems or branches; giving instances of each from indigenous plants.
6. What is the object of the flower. Name its parts as in order arranged. Do all flowers possess the essential organs.
7. Name the principal kinds of determinate inflorescence. What is multiple fruit. Give instance.
8. Describe structure of endogenous stems.
9. Give the living parts of an exogenous tree. What is the Cambium layer. How does heart-wood differ from sap-wood.
10. Recognize sample plants and answer verbal questions.

PRACTICAL DISPENSING.

Examiner—MR. GREGORY.

The following prescriptions are to be compounded:—

1. R. Pil. Hydrarg., grs. ii.
Ext. Coloc. Co., gr. i.
Ext. Hyosciam, gr. ss.
Pulv. Ipecac., gr. ss.

Ft. Pil. j. Send twelve such. One at bed time, Seidlitz in morning.

2. R. Ol. Ricini, ℥i.
Ol. Anisi, gttv.
Pulv. vel. Mucil. Acaciæ, q.s.
Aquæ ad, ℥iv.

Make an emulsion of which half may be taken when necessary.

3. R. Ext. Hyosciam, grs. x.
Sacch. Alb., grs. xxx.
Magnes. Carb., grs. xx.
Pulv. Rhei., grs. x.

Ft. pulv. decem. One every three hours.

PRESCRIPTIONS.

Examiner—MR. GREGORY.

1. Correct the grammatical errors in the following prescription:—

Recipie. Sodæ Bicarbonas, drachmam duam,
Ferrum Sulphas, granas trias,
Magnesiam Carbonas drachmam
Aqua Pura, octarius dimidius.
Acidum Sulphuricum Dilutum, fluidrachmas decem,

Piat misturam cujus sumat cochlearam minimam sextis horis.

2. Translate the following prescription into English and correct any errors in dose :—

Recipe. Olei Ricini fluidunciam cum semisse
 Tincturæ Opii,
 Chloroformi, ana fluidunciam,
 Pulvis Acaciæ,
 Sacchari, ana drachmas duas
 Aquæ Menthæ Viridis, ad uncias octo
 Acaciam et saccharum cum paululo aquæ menthæ tere;
 dein oleum adjice et iterum tere; deinceps aquam reli-
 quam paulatim infunde, et omnia misce. Signa coch-
 leare magnum capiat quaque secunda hora.

3. Translate into English and give full Latin for the following contractions:—Sesunc., Q. l., part. æqual., hor. decub., colet., ad lib., cyath., coch. med.
4. Give maximum and minimum doses for an adult of the following remedies:—Acid Hydrocyan. Dil., Æther Sulph., Ergot., Ext. Belladonnæ, Ext. Calabar Bean. Liq. Arsenicalis, Magnes Sulph., Ol. Ricini, Syr. Ferri Iodidi, Tinct. Camph. Co.
5. The dose for an adult being forty grains, what quantity should be given at the respective ages of three, seven, ten, and fifteen years?
6. State as near as possible how many drops are equal to fifty minims of the following:—Hydrocyanic Acid, Laudanum, Tincture of Iron, Fowler's Solution, Water, Alcohol, and Proof Spirit.
7. A sample of Spiritus Ætheris Nitrosi has a specific gravity of .940, and effervesces very strongly when Bicarbonate of Soda is dropped into it. Is it fit for dispensing, and if not, what is wrong?
8. Give a list of the Poisons which are forbidden to be sold without registration by the Pharmacy Act of 1871.
- 9 and 10. Read and translate autograph prescriptions, and answer questions concerning same.

ONTARIO DRUGGISTS' ASSISTANTS' ASSOCIATION.

From a communication in another part of the JOURNAL it will be seen that an effort is being made to form an association of druggists' assistants, and to unite in closer bonds the Alumni of the College. Two meetings have already been held, and the first details of organization accomplished. About forty names have already been handed in, and there can be no doubt but the association will number in its membership not only the chief part of those who have passed examination, but most of the apprentices in the province. By the establishment of branch associations in the chief towns we see a way to making the society a large and powerful

organization capable of doing much good. The assistants have our best wishes, and may depend on our assistance in furtherance of the laudable objects which they have in view.

Editorial Summary.

SOLUBILITY OF SALICYLIC ACID.—Mr. C. Becker (*Druggists' Circular*) finds that though by the use of borate, phosphate, or sulphite of soda, or phosphate of ammonia, the solubility of salicylic acid may be much increased, yet the solutions so produced soon deposit precipitates. They are rendered much more permanent by the addition of glycerin. One part of salicylic acid and one of borax in five of glycerin and twenty-five of water is said to be perfectly permanent. The acid is soluble in ten times its weight of dilute alcohol, U. S. P., at a temperature of 80° F.; in one and a-half times its weight of alcohol sp. gr. .835; in twice its weight of sulphuric ether; in twenty times its weight of hot turpentine; in cold turpentine, insoluble. When one part of the acid and two of olive oil are heated together they form a homogeneous mixture, which promises to be useful. After a time separation takes place, but the mixture may be easily reformed by agitation.

In the journal noted above there is also another paper on the same subject, but the statements of the writer, Mr. T. B. Kilner, do not always corespond with those just reproduced. Thus, according to the latter, the quantity of the dilute alcohol required for solution is twenty instead of ten parts. It is probable that these discrepancies have arisen from the use of different samples of acid, one or the other impure. Another mode of increasing the solubility of the acid is by the employment of some acetates, as lime, soda, potash or ammonia, as recommended by a correspondent of *New Remedies*. A good form, and one which has superseded all others in Bellevue and other hospitals, is the following: Salicylic acid, one drachm; potassium acetate, one drachm; glycerin, one fluid drachm; water to one fluid ounce. This solution contains one grain of acid in eight minims, but may be made stronger if necessary. Another method, emanating from a French source, and reproduced in the *Medical Times & Gazette*, may be noted. It depends on the use of citrate of ammonia: Salicylic acid, 1 part; citrate of ammonium, 2 parts; syrup, 30 parts; distilled water, 120 parts. The citrate has a similar effect if added to alcoholic solutions, and rum, or other spirit, may be substituted for the syrup in the above formula, but, in this case, 164 parts of water are required.

FLUID EXTRACT OF IPECAC.—In an inaugural essay (*Am. Jour. Pharm.* August) Mr. H. C. Watt gives the results of experiments made with a view of determining the best formula for making fluid extract of ipecac., more especially with reference to a preparation which would bear dilution with water or syrups without precipitation. Four methods were tried, one in which alcohol and water, 1 to 3, with addition of acetic acid, were used; a second with the U. S. P. menstruum, evaporating the preparation to a nearly solid consistence, adding water, then glycerin, allowing the mixture to deposit, and, finally, filtering; a third method in which alcohol was the menstruum; and a fourth in which the spirit was diluted to the degree required by the U. S. P., and the percolate mixed with four times its bulk of water, and filtered, allowed to deposit, again filtered, and then mixed with glycerin and evaporated to the proper bulk. Sixteen ounces of the drug were in each case represented, and the quantity of resin which separated from the various percolates were respectively 840, 160, 265, and 1,065 grains. In order to test the merits of each menstruum, the dregs of each operation were exhausted with alcohol, and the following amounts of extract recovered: No. 1, 120 grs.: entirely soluble in alcohol, insoluble in water; No. 2, 112 grs., soluble in alcohol, insoluble in water, gummy and resinous; No. 3, 138 grs., containing glycerin, semi-fluid; No. 4, 95 grs., soluble in alcohol, and insoluble in water. The first and second fluid extracts deposited copious precipitates, the third gelatinized, the fourth remains perfectly bright, though it has been kept three months. Of the syrups made from these No. 1 precipitated slightly and fermented; No. 2 precipitated; No. 3, not tried; No. 4, perfectly transparent and free from sediment. The preference is, of course, given to the last named process.

CULTIVATION OF THE SUNFLOWER.—From exhaustive trials and experiments, Wittstein (*Archiv der Pharm., in Am. Jour. Pharm.*) concludes that the cultivation of the sunflower, *Helianthus annuus*, can be carried on very profitably. It is already largely grown in Hungary and Russia. On each Bavarian acre 16,000 plants can be raised, and these furnish about 4,000 kilos of seed, 40,000 kilos of leaves, and the same weight of stems. The seed contains from 16.25 to 28.00 per cent. of fixed oil, which has a high commercial value, while the press cakes constitute a valuable fodder for cattle. The stems and leaves, if burnt, yield an ash rich in potash. It is calculated that the product of an acre would be 1,250 kilos of potash, 720 kilos of oil, and 3,280 kilos of press cakes.

LIQUOR AMMON. ACETATIS.—Mr. R. H. Bernhardt (*Druggists' Circular*) ascribes the decomposition and deterioration of this solution to the presence of carbonic acid arising from the use of carbonate of ammonia. It is suggested that liquor ammoniæ be substituted for the salt. For a solution of the strength of that of the U. S. P., two fluid ounces of acetic acid mixed with 12 fluid ounces of distilled water may be neutralized, or left slightly acid, by the addition of liquor ammoniæ. The solution should be made up to the bulk of sixteen fluid ounces by the addition of water, and preserved in a closely stoppered bottle. The writer lays little stress on the supposition that the carbonic acid ordinarily present renders the medicine more acceptable to the stomach, and perhaps aids in direct therapeutical effect.

GLYCEROLE OF SUBACETATE OF LEAD.—In our last number, p. 16, was published an article on this subject, in which a certain mode of preparation was recommended. An easier method has been devised by Mr. C. D. Parry (*Pharm. Jour. & Trans*). Equal parts of liquor plumbi subacet. and glycerin are mixed in an open dish, and by means of a gentle heat the water is driven off. When the glycerin regains its original bulk, it may be allowed to cool and at once bottled. The strength of this solution may be increased if thought desirable.

EXAMINATION OF PERSIAN INSECT POWDER.—The flowers of various species of *pyrethrum* constituting the so-called Persian insect powder have been examined by Mr. R. Rother, (*Druggists' Circular*) but without success, as far as the isolation or identification of the active principle are concerned. Other investigators have failed in detecting the presence of an alkaloid, and Mr. Rother's experiments were cut short by an accident. He, however, found three acid bodies, but none of them appeared to possess the properties which characterize the powder.

DISCOVERY OF TELLURIUM IN CALIFORNIA.—The occurrence of this metal on the property of an iron mining company on Rock Creek is announced, and it is said that the ore yields upwards of six pounds of metal to the ton.

PERSIAN OPIUM.—A low-priced sample offered for sale in England, and analyzed by Mr. B. Proctor, (*Pharm. Jour. & Trans.*) showed only 0.25 per cent. of morphia.

Correspondence.

ONTARIO DRUGGISTS' ASSISTANTS' ASSOCIATION.

Editor Pharmaceutical Journal.

DEAR SIR,—I would beg to draw the attention of graduates of the Ontario College of Pharmacy to an effort now being made to form a Druggists' Assistants' Association for Ontario. Two meetings have been held, and a constitution and by-laws adopted. A meeting for the election of officers will be held in the Mechanics' Institute, on Wednesday evening, September 6th., when a large attendance is expected. All druggists' assistants throughout the Province will be eligible for membership on payment of the fee of one dollar per annum. A great want will, I believe, be filled in the education of graduates to higher standards, and in assisting apprentices in acquiring the knowledge necessary to become successful chemists and druggists. I fear too many imagine when they have secured the diploma of the Ontario College of Pharmacy no further need of effort on their part is necessary. The object aimed at in forming the present association is than of merging it into an "Ontario Association of Alumni." The result will satisfy all in the advancement of our profession and the perpetuation of the pleasant associations formed during our collegiate course.

I remain, yours, etc.,

W. C. COUSENS.

Varieties.

A PECULIAR REACTION BETWEEN GLYCERINE AND CHLORIDE OF LIME.

—G. Schiedmeyr sends the following communication to *Zeitsch. d. Oest. Apoth.-Ver.*: A few weeks ago I received the following prescription:

℞ Calcii hypochloros 10.00 [gm]
Glycerine 30.00 [gm]

M Fiat unguentum.

I placed the chloride of lime into a mortar, and added to it a portion (about 10 grms.) of glycerine. As soon as I began to triturate, the mixture swelled up, became warm, and gave out a gas of yellowish-brown color, and rather pleasant non-irritating odor. In the mortar remained a hard brown crust, which a few days afterwards became again soft by abstracting moisture from the air. On adding the whole of the glycerine (30 gm.) at once to the chloride of lime, the same reaction takes place, but instead of the hard crust there remains in the mortar a yellowish-brown mass of soft consistence, and possessing the odor of the above-mentioned gas, not at all resembling chlorine. If the physician naturally desires the reaction does not take place. As the physician naturally desires the effects of the chloride of lime, it will be better to add a little water to it before mixing it with glycerine, in order to prevent mutual decomposition.

—*New Remedies.*

INSECTICIDE PRINCIPLE OF PYRETHRUM.—M. Jousset laid before the Biological Society a specimen of a new poison extracted from the insecticide the *Pyrethrum carneum*. The insect-killing power of this plant has been wrongfully attributed to its obstructing the spiracles, just like any other insect-powder. M. Jousset exhibited to the Society insects which had been placed for ten hours in various inert vegetable powders, and pointed out that they exhibited no morbid phenomena. Others which had been placed only for an hour in the *pyrethrum* were already almost dead, and exhibited decided convulsive phenomena. If the powder has been previously treated with alcohol it loses its insecticide power, and the alcohol becomes poisonous. The poison is not due to the essential oil of the plant, as this does not exert any baneful influence on insects; but the poisonous property is contained in a concentrated state in the crystallized substance which he presented to the Society, and which he believes to be of the nature of an alkaloid.—*Union Medicale.*

WHITEWASH.—The following recipe for whitewash is recommended by the Treasury Department to all lighthouse keepers. It answers for wood, brick, or stone. Slake about half a bushel unslaked lime with boiling water, keeping it covered during the process. Strain it, and add a peck of salt, dissolved in warm water, three pounds of ground rice put in boiling water and boiled to a thin paste, half a pound powdered Spanish whiting, and one pound clear glue, dissolved in warm water; mix these well together, and let the mixture stand for several days. Keep the wash thus prepared in a kettle or portable furnace, and when used put it on as hot as possible, with either painters' or whitewash brushes.—*Druggists' Circular.*

PRESERVATION OF HOPS.—The quality of hops is of great importance to brewers; the fresher the hops the better will be the quality of the beer produced. One of the most usual methods of preserving hops has been the treatment with sulphur-vapor; but lately a new method has been introduced by a German, which consists in pressing fresh hops into strong metallic boxes, and hermetically sealing. Extensive trials have shown that hops preserved in this manner perfectly preserve color, odor, and weight, and are in no way inferior to fresh hops.—*Der Bierbr.*, 1875, 22. *New Remedies.*

SYRUPUS FERRI ET CALCII LACTOPHOSPHATIS.—The same author prepares a solution of ferrous phosphate from 9.25 grams of ferrous sulphate and 27.75 grams of phosphate of sodium, in 11 grams of concentrated lactic acid; also, a solution of 13.3 grams of phosphate of calcium in 24 grams of the lactic acid and 100 of water. The two solutions are mixed, sufficient water added to make 388 grams, and the syrup finished by the addition of 625 grams of sugar and 15 grs. of spirit of lemon. Twenty grams of the syrup contain 0.2 phosphate of calcium and 0.1 of ferrous phosphate.—*Schweiz. Woch. f. Pharm.*, 1876, No. 7, in *Am. Jour. Pharm.*

SYRUPUS FERRI LACTOPHOSPHATIS.—C. Jehl dissolves 50 grams of ferrous sulphate and 150 grams sodium phosphate, each separately, in 750 grams of water, mixes the solutions, washes the precipitate rapidly, and dissolves it in 60 grams of concentrated lactic acid; sufficient water is now added to make the weight of the solution 1,882 grams, and the syrup made with the addition of 3,586 grams of sugar. The syrup may be flavored with 50 grams of spirit of lemon. Twenty grams of the syrup contain 0.1 gram of ferrous phosphate.

TOOTHACHE REMEDY.—Mr. C. A. Guild writes to *The Clinic*: "In last week's issue you quote Dr. Lardier on collodion for tooth-ache. I have found collodion mixed with enough carbolic acid to form a jelly-like mass to be an excellent remedy for toothache. About equal parts will form a "stiff" jelly, which may be taken on the end of a pine stick and placed in the cavity of the aching-tooth. The pain will be relieved almost instantly if it depends on an exposed nerve. I have found this the most reliable and convenient remedy I ever tried.

A NEW MUCILAGE.—The *Journal de Pharmacie* states that if to a strong solution of gum arabic, measuring $8\frac{1}{2}$ fluid ounces, a solution of 30 grains of sulphate of aluminum dissolved in two-thirds of an ounce of water be added, a very strong mucilage is formed, capable of fastening wood together, or of mending porcelain or glass.

WHOLESALE PRICES CURRENT,—SEPTEMBER, 1876.

	\$ c.	\$ c.
Drugs, Medicines, &c.		
Acid, Acetic, fort.	0 13	@ 0 14
Benzoic, pure.	0 22	0 27
Citric	1 00	1 05
Muriatic	0 03½	0 05
Nitric	0 10	0 13
Oxalic	0 16	0 20
Sulphuric	0 03	0 05
Tartaric, pulv.	0 47	0 50
Ammon, carb. casks	0 18	0 20
" jars	0 18	0 20
Liquor, 88o.	0 20	0 22
Muriate	0 14	0 15
Nitrate	0 45	0 60
Acetic	0 45	0 50
Nitrous	0 40	0 42
Sulphuric	0 50	0 50
Antim. Crude, pulv.	0 15	0 17
Tart	0 50	0 55
Alcohol, 95 per ct.	Cash	2 19
Arrowroot, Jamaica	0 18	0 22
Bermuda	0 50	0 65
Alum	0 02½	0 03½
Balsam, Canada	0 33	0 38
Copaiba	0 80	0 60
Peru	2 90	3 20
Tolu	3 20	3 40
Bark, Bayberry, pulv.	0 18	0 20
Canella	0 17	0 20
Peruvian, yel. pulv.	0 35	0 50
" red "	1 60	1 70
Slippery Elm, g. b.	0 18	0 20
" flour, packets.	0 28	0 32
Sassafras	0 15	0 18
Cubeb, ground.	0 20	0 25
Berries, Juniper	0 06	0 10
Beans, Tonquin	1 00	1 20
Vanilla	18 00	24 00
Bismuth, Alb	2 25	2 50
Carb.	2 40	2 65
Camphor, Crude	0 23	0 35
Refined	0 35	0 40
Cantharides	1 80	1 90
Powdered	1 90	2 00
Charcoal, Animal	0 04	0 06
Wood, powdered.	0 10	0 15
Chiretta	0 23	0 30
Chloroform	0 90	1 55
Cochineal, S. G.	0 55	0 70
Black.	0 60	0 65
Colocynth, pulv.	0 60	0 65
Collodion	0 70	0 80
Elaterium	0 30	4 00
Ergot	1 50	1 75
Extract	1 80	1 90
Belladonna	1 25	1 75
Colocynth, Co.	0 50	0 60
Gentian	0 00	0 95
Hemlock, Ang	3 00	3 20
Henbane,	5 00	5 50
Jalap	1 75	2 00
Mandrake	0 40	0 50
Nux Vom.	1 40	
Opium	5 00	5 50
Rhubarb	1 00	1 20
Sarsap. Hon. Co.	3 50	4 00
" Jam. Co.	0 70	0 80
Taraxacum, Ang	0 17	0 25
Flowers, Arnica	0 8	0 32
Chamomile	0 70	0 80
Gum, Aloes, Barb. extra.	0 40	0 50
" good.	0 16	0 20
" Cape	0 20	0 30
" powdered	0 50	1 35
" Socot.	1 00	0 00
" pulv	0 38	0 60
Arabic, White.	0 60	0 75
" powdered	0 19	0 24
" com. Gedda	0 42	0 50
" com.	0 13	0 16
Assafœtida	0 25	0 30
British or Dextrine	0 13	0 15
Benzoin	0 35	0 75
Catechu	0 12	0 15
" powdered	0 25	0 30
Euphorb, pulv	0 40	0 45
Gamboge	1 00	1 20
Guaiacum	0 35	1 00
Myrrh	0 50	0 80

	\$ c.	\$ c.
DRUGS, MEDICINES, &c.—Contd.		
Sang Dracon	0 60	
Scammony, powdered	5 50	6 00
" Virg.	14 50	—
Shellac, Orange	0 55	0 60
Gum, Shellac, liver	0 40	0 45
Storax	0 40	0 45
Tragacanth, flake	1 10	1 75
" common	0 53	0 65
Galls	0 22	0 30
Gelatine, Cox's 6d.	1 15	1 20
Glycerine, common	0 18	0 23
Vienna	0 25	0 28
Prices	0 60	0 75
Honey, Canada, best	0 16	0 17
Lower Canada	0 14	0 16
Iron, Carb. Precip	0 16	0 20
" Sacchar	0 40	0 55
Citrate Ammon	1 10	1 20
" & Quinine, oz	0 40	0 85
" & Strychine	0 17	0 20
Sulphate, pure	0 08	0 10
Iodine, good	3 20	3 50
Resublimed	3 90	4 20
Jalapin	1 25	1 50
Kreosote	2 40	2 50
Leaves, Buchu	0 22	0 32
Foxglove	0 25	0 30
Henbane	0 35	0 40
Senna, Alex	0 27	0 60
" E. I.	0 14	0 20
" Tinneville	0 20	0 30
Uva Ursi	0 15	0 17
Lime, Carbolate	5 50	—
Chloride	0 05	0 06
Sulphate	0 08	0 12½
Lead, Acetate	0 13	0 14
Leptandrin	0 60	—
Liq. Bismuth	0 50	0 60
Lye, Concentrated	1 30	1 50
Liquorice, Solazzi	0 50	0 55
Cassano	0 23	0 40
Other brands	0 14	0 25
Liquorice, Refined	0 35	0 45
Magnesia, Carb.	0 20	0 25
" 1 oz.	0 19	0 20
" 4 oz.	0 65	0 75
Calced	0 60	0 75
Citrate	1 05	1 15
Mercury	1 25	1 40
Bichlor	1 40	1 50
Chloride	0 55	0 60
C. Chalk	1 60	1 75
Nit. Oxyd	3 15	3 25
Morphia Acet	3 15	3 25
Mur.	3 30	3 50
Sulph.	25 20	—
Musk, pure grain	10 60	1 20
Canton	0 55	0 60
Oil, Almonds, sweet	14 00	15 00
" bitter	3 25	3 50
Aniseed	5 50	5 00
Bergamot, super	3 20	3 50
Caraway	2 00	2 25
Cassia	0 10½	0 12
Castor, E. I.	0 22	0 25
Crystal	0 26	0 28
Italian	1 05	1 15
Citronella	3 75	3 80
Cloves, Ang	1 50	1 60
Cod Liver	1 40	1 50
Croton	0 80	1 00
Juniper Wood	2 75	3 00
Berries	0 00	1 00
Lavand, Ang	1 25	1 50
Exotic	3 90	4 00
Lemon, super	0 00	0 00
ord.	3 00	3 25
Orange	0 65	0 75
Origanum	15 00	16 00
Peppermint Ang	4 00	5 00
Amer.	8 50	8 75
Rose, Virgin	6 60	6 75
" good	0 75	0 90
Sassafras	4 40	4 60
Wintergreen	4 00	6 00
Wormwood, pure	0 95	1 00
Ointment, blue	7 50	7 75
Opium, Turkey	9 50	9 75
pulv		

WHOLESALE PRICES CURRENT, - SEPTEMBER,

	\$ c.	\$ c.			
DRUGS, MEDICINES, &c.—Cont'd			DYESTUFFS—Continued.		
Orange Peel, opt.	0 35	0 36	Japonica	0 07	0 08
" good	0 15	0 20	Lacdye, powdered	0 33	0 38
Pill, Blue, Mass.	0 95	1 00	Logwood	0 02½	0 03
Potash, Bi-chrom	0 16	0 18	Logwood, Camp	0 02½	0 03
Bi-tart	0 32	0 35	Extract	0 12	0 13
Carbonate	0 14	0 20	" 1 lb. bxs.	0 15	—
Chlorate	0 30	0 35	" ½ lb. "	0 16	—
Nitrate	8 00	9 00	Madder, best Dutch	0 09	0 10
Potassium, Bromide	75	0 80	2nd quality	0 08	0 09
Cyanide	0 55	0 60	Quercitron	0 03	0 05
Iodide	2 90	3 00	Sumac	0 06	0 08
Sulphuret	0 25	0 35	Tin, Muriate	0 10½	0 12½
Pepsin, Boudault's	1 40	—	Redwood	0 05	0 06
Houghton's	8 00	9 00	SPICES.		
Morson's	0 85	1 10	Allspice	0 11½@	0 12
Phosphorus	1 10	1 20	Cassia	0 26	0 28
Podophyllin	0 50	0 60	Cloves	0 50	0 55
Quinine, Pelletier's	—	2 45	Cayenne	0 17	0 20
Howard's	2 35	—	Ginger, E. I.	0 14	0 15
100 oz. case.	2 32	—	Jam	0 25	0 30
" 25 oz. tin.	2 30	—	Mace	1 10	1 10
Root, Colombo	0 13	0 20	Mustard, com	0 20	0 25
Curcuma, grd	0 12½	0 17	Nutmegs	1 00	1 05
Dandelion	0 17	0 20	Pepper, Black	0 18	0 20
Elecampane	0 16	0 17	White	0 26	0 28
Gentian	0 08	0 10	PAINTS, DRY.		
" pulv	0 15	0 20	Black, Lamp, com	0 09@	0 10
Hellebore, pulv	0 00	0 00	" refined	0 25	0 30
Ipecac	1 50	1 60	Blue, Celestial	0 08	0 12
Jalap, Vera Cruz	90	1 15	Prussian	0 65	0 75
" Tampico	0 70	1 00	Brown, Vandyke	0 10	0 12½
Liquorice, select	0 12	0 13	Chalk, White	0 01	0 01½
" powdered	0 15	0 20	Green, Brunswick	0 07	0 10
Mandrake	0 20	0 25	Chrome	0 16	0 25
Orris	0 20	0 25	Paris	0 26	0 28
Rhubarb, Turkey	2 10	2 25	Magnesia	0 20	0 25
" E. I.	1 00	1 10	Litharge	0 07	0 09
" pulv	1 10	1 20	Pink, Rose	0 12½	0 15
" 2nd	0 60	0 70	Red Lead	0 07½	0 08
" French	0 75	—	Venetian	0 02½	0 03½
Sarsap., Hond	0 60	0 65	Sienna, B. & G.	0 07	0 08
" Jam	0 95	1 00	Umber	0 07	0 10
Squills	0 10	0 15½	Vermillion, English	1 00	1 10
Senega	0 80	0 90	" American	0 25	0 35
Spigelia	30	0 32	Whiting	0 1	0 1½
Salt, Epsom	2 00	2 50	White Lead, dry, gen.	0 08½	0 09
Rochelle	0 30	0 32	" No. 1	0 07	0 08
Soda	0 01½	0 02½	" No. 2	0 05	0 07
Seed, Anise	0 13	0 16	Yellow Chrome	0 09	0 15
Canary	0 10	0 12	" Ochre	0 02½	0 03½
Cardamon	2 00	2 10	Zinc White, Star	0 09	0 11
Fenugreek, g'd.	0 08	0 09	COLORS, IN OIL.		
Hemp	0 06½	—	Blue Paint	0 12@	0 15
Mustard, white	0 16	0 17	Fire Proof Paint	0 06	0 08
Saffron, American	0 65	0 75	Green, Paris	0 30	0 37½
Spanish	10 00	11 00	Red, Venetian	0 07	0 10
Santonine	13 00	15 50	Patent Dryers, 1 lb tins.	0 10	0 12
Sago	0 08	0 09	Putty	0 03½	0 04½
Silver, Nitrate	14 50	16 00	Yellow Ochre	0 08	0 12
Soap, Castile, mottled	0 11	0 14	White Lead, gen. 25 lb. tins.	2 35	—
Soda, Ash	0 03½	0 05	" No. 1	2 10	—
Bicarb. Newcastle	4 00	4 25	" No. 2	1 85	—
" Howard's	0 14	0 16	" No. 3	1 60	—
Caustic	0 03½	0 04	" com	1 30	—
Spirits Ammon., arom.	0 35	0 35	White Zinc, Snow	2 75	3 25
Strychnine, Crystals	2 00	2 20	NAVAL STORES.		
Sulphur. Precip	0 12	0 13	Black Pitch	3 00@	3 25
Sublimed	0 03½	0 05	Rosin, Strained	3 30	4 25
Roll	0 03	0 04½	Clear, pale	5 75	7 25
Vinegar, Wine, pure	0 55	0 60	Spirits Turpentine	0 42	0 45
Verdigris	0 35	0 40	Tar Wood	5 50	6 00
Wax, White, pure	0 70	0 80	OILS.		
Zinc Chloride	0 10	0 15	Cod	0 65@	0 70
Sulphate, pure	0 10	0 15	Lard, extra	1 10	1 20
" common	0 06	0 10	No. 1	1 05	1 10
DYESTUFFS.			No. 2	0 85	0 90
Annatto	0 35@	0 60	Linseed, Raw	0 55	0 58
Aniline, Magenta, cryst	2 00	2 20	Boiled	0 59	0 52
" liquid	2 00	—	Olive, Common	1 00	1 05
Argols, ground	0 15	0 25	Salad	1 80	2 30
Blue Vitrol, pure	0 08	0 09	" Pints, cases	4 20	4 40
Camwood	0 07	0 08	" Quarts	3 25	3 50
Copperas, Green	0 01½	0 02	Seal Oil, Pale	0 67½	0 70
Cudbear	0 16	0 25	Straw	0 62½	0 65
Fustic, Cuban	0 03	0 04	Sesame Salad	1 30	1 35
Indigo, Bengal	2 40	2 50	Sperm, genuine	2 45	—
Madras	0 75	0 80	Whale refined	—	—
Extract	0 26	0 30			