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Editorial Notes.

ADVERTISERS are respectfully informed that their announcements in our next issue (July 15th) will reach, as nearly as possible, the whole body of British chemists and druggists throughout the world. We shall take the utmost care to make the circulation as complete as possible. The opportunity of inserting price lists, addresses to the trade, or other circulars, is offered on this occasion, and we have perfect confidence that firms honouring us with instructions will find handsome results. Early communications are respectfully requested.

THE election for fourteen members of the Pharmaceutical Council has resulted in the following manner. Those marked with an asterisk are new members:—

Hills	1218	*Shaw	769
Haselden	1200	Sandford	722
Mackay	1188		
Williams	1123		
Carr	1087	Owen	719
Atherton	1042	Dymond	678
Woolley	1041	Abraham	621
*Greenish	992	Cooper	343
Brown	972	Yarde	334
*Betty	869	Collins	273
*Smith	850	Wade	269
*Frazer	828	Stott	238

On reference to the above, it will be observed that the fourteen are exactly divided between London and the country; an arrangement which we last month suggested as desirable. The chief features of the election are, first, the rejection of both of the non-pharmaceutical representatives; although the retirement of Mr. Wade gave to his rival in that interest the top position among the unsuccessful candidates. The low place assigned to the late president is entirely due to his persistent advocacy of the "Poisons Regulations," and is in no sense a disgrace; but it would be difficult to account for the high position occupied by the comparatively unknown Mr. Carr. Mr. Shaw has displaced Mr. Abraham as the Liverpool representative; Glasgow has secured an efficient representative in the person of Mr. Frazer; and we can look upon at least two other of the new members—Messrs. Betty and Smith—as able exponents of the more advanced section of pharmaceutical politicians. The exclusion of Mr. Dymond is as unaccountable as the high position of Mr. Carr, to which we have already referred, as a singular freak of fortune. Mr. Dymond was the mover of the two most popular resolutions of the year, namely, first, that reporters should be admitted to the Council meetings; and, secondly, that the obnoxious regulations should be issued as recommendations. If a division should occur in the new Council on the first of these motions, it will in all probability be carried. Of the undisturbed councillors, there are three on each side, and an odd man doubtful. Of the fourteen now elected, there are but five who can be reckoned on to maintain the ancient notions of respectability; and, even of these, it is possible that the clear intelligence of one will induce him to "come out from among them." It is a pity that when such a debate shall come on, there will be no one present to report the arguments of those who prefer "darkness rather than light," for up to date they have never been published. The new president, Mr. Haselden, is a partner in the firm of Fisher, Son, and Haselden, of Conduit-street, and enjoys a pharmaceutical reputation of the highest character.

A COMMITTEE of twelve members is to be appointed to frame a Pharmacopœia for the whole of the German Confederation. Prussia is to send three members; Saxony, Mecklenburg, and Bavaria each two members; Wurtemberg, Baden, and Uesse each one member. The committee will be empowered to call to their assistance men whose special knowledge may prove useful. It is anticipated that the work will be ready by the 1st of January, 1872.

THE principle of registration in the Limited Liability Acts is sought to be extended to every species of trade by a measure now before the House of Commons. It provides that every trader, whether alone or in partnership, shall, within a fortnight after the close of this year, furnish a

statement to the Registrar of the County Court—1, of the name under which he carries on his occupation, or, if in partnership, the style of the firm; 2, the place of business and all the names, both Christian and surname, of the trader or the firm; and 3, his or their usual place of residence. A cessation of business, or the occurrence of bankruptcy, or a liquidation under a composition, is to be notified within seven days. Each Registrar of a County Court is to send copies of his books to the Registrar of County Courts' Judgments in London, where all the records are to be available for public inspection on payment of a fee to be fixed by the Treasury, and certified extracts from these records are to be received as evidence in law. For non-compliance with these provisions a penalty may be inflicted not exceeding £20. From the heavy pressure of business we do not anticipate that the bill will reach a further stage this session than the second reading, and perhaps not so far.

We beg to direct the attention of our readers to Dr. Squibb's very exhaustive account of chloral which we print in this number. The importance of chloral, and the wonderful popularity it has attained, is not due to a mere freak of fashion. Considering how recklessly it has been employed, and how little we have known of its nature and properties, it is marvellous that accidents with it have been so rare. Its effects are not yet fully understood, nor, we believe, are they yet sufficiently appreciated. The sufferer after taking a dose is wafted, as by an invisible power, into a region of ease and rest. This description is by no means a poetical form of expression. We know of no form of words which will so exactly convey the intervening luxury of the period between taking the chloral and the unconsciousness of the sleep which results. Of course it is not always alike successful, but it is worth while to ascertain always that this cannot be the fault of the chloral. Dr. Squibb objects to the addition of the word *hydrate* to the name by which this remedy is recognised. It is, as he truly says, opposed to our usual system of nomenclature. We never say sulphuric acid hydrate, which would be in every respect as appropriate. More than this, the use of the two words, especially if contractions creep in, is far more likely to involve an error than the use of the word *chloral* alone. It would be quite sufficient, as in other cases, to distinguish the more unusual preparations, as for instance, *chloral alcoholate*. The memoir of chloral to which we are alluding conveys just that information which it is essential for every chemist and druggist to become familiar with, and we therefore urge a careful perusal of Dr. Squibb's address.

The annual meeting of the British Pharmaceutical Conference will, this year, commence on Tuesday, the 1st of August, at 10 a.m., in the Craigie Hall, St. Andrew's-square, Edinburgh. There is still plenty of room for new members, and we may take this opportunity of informing those of our readers who are not connected with the Conference, that by sending a post-office order to Professor Atfield for 5s. 6d., the current volume of the "Year Book of Pharmacy" will be returned post-free, and the name duly entered as a member.*

The British Pharmaceutical Conference is, next to the CHEMIST AND DRUGGIST, the most catholic institution in connection with pharmacy. It has done more to encourage scientific investigation, and an intelligent interest in pharmaceutical matters than, perhaps, any other agency. And it has added much, as we have often remarked before, to the spread of a more generous and respectful social

acquaintance between the members of the trade. Correspondents write from time to time asking us to advocate the formation of a Chemists' Club. Here is one, or rather here is the basis of one, and we are not at all sure but that from it might grow a club with a local habitation. The difficulty is that such an establishment would almost certainly cultivate a spirit of exclusiveness, the one tendency which, above all others, the British Pharmaceutical Conference aims to avoid.

THE Chemical Society has recently organised an extended staff for the conduct of its journal, so that, in addition to the reports of papers read before the Society, it is intended to publish abstracts of all the chief chemical researches which are reported from other home and foreign sources. This addition to the literature of chemistry is welcomed by all students of the science with much satisfaction. It will vastly lighten the labour of English chemists to be thus kept posted in the laboratory work which is proceeding in all parts of the world. The abstracts are exceedingly well done, being sufficiently extensive to present clear views of the articles condensed.

In anticipation of the first birthday of the *American Chemist*, we may congratulate its managers on the sound success which seems assured for their thoroughly worthy enterprise. Some valuable original papers have been published in its pages, and its monthly abstract of chemical news from foreign sources can hardly be surpassed.

We have to record the death of the London Chemists' Association, formerly known as the Chemists Assistants' Association. It may possibly revive next winter, but as many of its most energetic officers have left London, there is not much prospect of a new campaign, unless some new and vigorous blood shall be infused.

THE *conversazione* of the Pharmaceutical Society, held on the evening of the 17th of May, at the South Kensington Museum, was a brilliant assembly of about 3,000 ladies and gentlemen, including many noble and distinguished visitors. The entertainment provided by the Council was of the most refined and enjoyable character.

THE Society of Arts has awarded its gold Albert medal this year to Mr. Henry Cole, C.B.

THE Adulteration of Food, Drink, and Drugs Bill, was withdrawn by its author, Mr. Muntz, on June 1st.

A warm commendation of chloralum as a disinfectant and antiseptic was published in the *Daily News* of May 18th, over the signature of Dr. Wm. Hardwicke, the Medical Officer of Health for Paddington. It is reproduced in our advertising pages. The subject of disinfection seems to arouse the enthusiasm of all who take the question into consideration. Allowing a margin, however, for Dr. Hardwicke's earnestness, there is no doubt that his testimony carries considerable weight, and must command respect.

Important intelligence respecting the new Pharmacy Bill in the House of Lords will be found in our Special Supplement, to which the immediate attention of the trade is requested.

MESSRS. F. NEWBURY AND SONS, wholesale patent medicine vendors and foreign agents, 44, and 45, St. Paul's Churchyard, finding that their present premises, through the increase of their business, are quite inadequate for the transaction of their home and foreign trade, have resolved to remove to larger and more commodious premises situate at 37, Newgate street, adjacent, where they request all letters, parcels, and communications to be addressed to them on and after June 24th.—[ADVT.]

* Post-office orders are to be made payable to John Atfield, at High Holborn, and to be addressed to 17, Bloomsbury-square.

DANGER YET.

THE *Pharmaceutical Journal*, the mouthpiece of the Society, informed us on April 8th, when it announced the capitulation of the Council, that the question of Poisons Regulations "was thus finally disposed of."

Confidence in this assurance kept scores, perhaps hundreds, of members away from Bloomsbury-square on the 17th of May last. They would have come from all parts of the kingdom for the sole purpose of voting against the enactment of the hated compulsory regulations. And yet, had one score more of these opponents stayed away, all the fruits of the victory which had been so decidedly won by the trade might have been thrown away. By a majority of 19 only among 189 voters, the annual meeting of the Pharmaceutical Society rejected compulsory poisons regulations.

Technically, Mr. Giles had a perfect right to move his amendment. He had a perfect right to move an adjournment to the bottom of the Thames had he so chosen. His amendment was every bit as much in order as was Mr. Vizer's, and as a specimen of war tactics (we are all Count von Moltkes now) it would have been a clever thing if he had managed to secure a stolen victory; but it was rather too much like sublime audacity to bring forward his motion under the standard of pure unsullied honour.

We cannot complain of Mr. Giles. As an individual member of the Society he had an unquestionable right to challenge the opinion of the meeting, and he did so most ably; but we do complain of the councillors, with two or three exceptions. They ought to have risen in a body, to maintain the bond which they had virtually given to the country. Among them all Mr. Sandford alone was justified in the support which he gave to Mr. Giles, and of the rest, let it be remembered that Messrs. Mackay and Dymond maintained honourably the pledge which the majority of the Council had, undoubtedly, given to the trade. To the earnest and indignant protest which Mr. Mackay made against a policy which, had it been successful, would have aroused a bitterness and a division such as the trade has not yet known, chemists are mainly indebted for the narrow majority which was recorded against compulsion.

But though this majority decided the question for the moment, it must not be forgotten that there is danger yet. What Mr. Giles did, and had a right to do this year, may be repeated next year, or in any future year. Once let such a resolution pass, even though it be by a trick or a fluke, and receive the approval of the Privy Council, it will be next to impossible, as Mr. Carteghe says, to *undo* the law thus framed. We believe still, as we have always believed, that chemists would follow a wise policy if they were to voluntarily agree to certain definite arrangements; but we do not believe in the divine right of any minority inside the trade, or of any official outside of it, to dictate terms to a body of educated men, unless they can convincingly show that public safety demands such interference; and we distinctly refuse to admit that if x. y. and z. have made a tacit understanding with a. b. or c., the rest of the alphabet is consequently bound in honour thereby. "Tacit understandings," says Mr. Barnard S. Proctor, "are as slippery as ghosts, and about as indefinite." If Mr. Simon intends to play the part of "Shylock," let him ask for his bond, and be contented with what that will yield. Shylock never pleaded a "tacit understanding."

This, then, is the situation. The trade is called upon to fulfil a so-called engagement, of the existence of which probably ninety per cent. were unaware, and to which at least ninety per cent. are bitterly opposed. At any

annual meeting it is quite possible that a few energetic advocates may legally bind down the whole trade to any set of regulations which may appear at the moment satisfactory to them. Can no more settled state of things than this be established? There is no honest chemist living who would not take the best precautions which are practicable in his case to ensure the safety of his customers. With this simple fact as a basis, and with a widely-spread organization for a field of action, cannot the officials of the Pharmaceutical Society fix upon some method which would be at once satisfactory to the Privy Council and not obnoxious to the chemists themselves? They might, say, for a year or more, consent to receive a report from any chemist who would voluntarily send one of the precautions adopted by himself, and if this be considered satisfactory they might give a certificate to that effect, but they must admit the right of individual superintendence and private judgment.

The result of the annual meeting was curious, and unfortunately leaves the matter open for further vexation. After a long and spirited debate, the meeting resolved to issue a certain set of arrangements as "recommendations." An hour after, with equal unanimity, it resolved, on the motion of Mr. Wade, to refer the consideration of the subject to the new Council. To add to the confusion, it may be remarked that this was virtually the same resolution as that which had been rejected a short time previously when moved by Mr. Vizer. Are we to understand that the President's resolution was rescinded by the resolution which Mr. Wade carried? If not, we shall be curious to see how the Council will give effect to its proposal. It is to be supposed that this time the whole trade will be honoured with a communication. Will cream-laid note and cheap straw paper be used as the medium of the communication for pharmaceutical chemists and chemists and druggists respectively?

There is danger yet. But if regulations are to come between now and next year they must reach us through Parliament. Parliament will listen to both sides of the question before binding a trade with a yoke which will gall it. But there is one point which we are in duty bound to urge. Our position is that every man should have a voice in the decision of a question which concerns him so closely. The late Council did not see fit to honour the ten thousand outsiders with any notice whatever. It was this arbitrary course of action to which we objected. But it remains the individual duty of every chemist and druggist, quite apart from the recommendations of the Pharmaceutical Society, and independently of the provisions of the Pharmacy Act altogether, to take every possible precaution against accidental poisoning. Let every man consider his responsibility in this matter, for it can be proven that there is a large amount of careless storage and dispensing of poisons, there will yet be abundant reason for the public to demand a measure of security.

PHARMACEUTICAL SOCIETY.

ANNIVERSARY MEETING, MAY 17, 1871.

BY A LONDON MEMBER.

RUMOUR has whispered that the architectural arrangements in what is called the lecture room are inconvenient. Never was the fact better demonstrated than on Wednesday, the 17th of May. The hall, or theatre, or place in which English pharmacists annually congregate may be described as a descending shaft, or a steep incline, terminated towards the right by a subterranean cavern. Probably it is the last spot where religious men would sing their accustomed hymn—

"And are we yet alive,
And see each other's face?"

That is exactly what our members never do see when the month of May comes round. Half a dozen speakers (this is no exaggeration) rose occasionally at the same time, each perfectly unconscious of his brethren in the rear; those in the cavern were neither heard nor seen, save only one occasionally, who, bolder than his comrades, adopting the stove as an extemporaneous pulpit, successfully addressed the audience. The meeting was well attended, and the following letter was distributed:—

“Medical Department of the Privy Council,
May 4th, 1871.

“Sir,—The Lords of her Majesty’s Council, observing that the annual meeting of the Pharmaceutical Society is to be held in the course of the present month, direct me to refer you to my letter of the 23rd December, 1870, and to say that they trust that such regulations will then be made (under the first section of the Pharmacy Act, 1868) in regard to the keeping, dispensing, and selling of poisons, as will be sufficient to secure the safety of the public.

“Their Lordships think it right to apprise the Council of the Society that, should no such regulations be submitted for their approval after the approaching meeting, they will feel it their duty to endeavour to protect the public by proposing to Parliament further legislation.

“I am, Sir,

“Your obedient servant,

“JOHN SIMON.

“The Secretary to the Pharmaceutical Society,
“Bloomsbury-square.”

Something had happened. The President of many years occupied a side seat, while a President of some weeks was in the chair. This is the explanation. Certain compulsory poison regulations were advocated by the Council and others. The majority of the Society did not agree with them, and the Council, waiving their private opinions, determined to introduce the poison clauses simply as recommendations. Mr. Sandford alone thought otherwise, and rather than block the situation he did two splendid things: first, he relinquished his post of honour; secondly, without instituting a grievance, he went about his work as usual.

The address commenced the business of the morning. It was good, well delivered, and very short. Mr. HASELDEN, who recently has been elected Fellow of the Linnean, said: “Gentlemen,—Two months ago I little expected that I should on this day have the honour and pleasure of addressing you from this chair. As there is no rose without a thorn, so the pleasure comes not unalloyed. You will readily understand the allusion, viz., the retirement of Mr. Sandford from the post I now fill. I feel assured that you will not only look for it from me, but strongly approve of my paying a passing tribute to the merits of that gentleman, one of the best Presidents the Society ever had. I know his value well. You cannot estimate too fully the loss of so upright, so able, and last, but not least, so patient a chairman.” He had watched the steady advancement of the Society; it had become great and influential, because based on culture and education. Amongst scientific novelties he would mention the hydrate of chloral, though details of such subjects were now scarcely needed, owing to the accurate reports of journalism. Trade particulars were noticed, especially early closing; and remarks were made in explanation and defence of the existing preliminary examinations. He ended thus: “A word or two now upon my own account. This, gentlemen, is my first appearance, at a short notice, in this character. It may be the last; a few hours or a few days may send me amongst the rank and file. Be that as it may, I shall still labour in the cause of pharmacy and the Pharmaceutical Society; shall still respect the names of those seniors who foreshadowed and established this our position; and as I have ever done, shall still take an interest, not only in this Society, but in all those who follow the arduous and exacting occupation of a pharmaceutical chemist, or chemist and druggist.”

The Report followed, and was taken as read, the chief comment being some earnest and admirable remarks by Messrs. Robbins, Kent, Humpage, and Vizer, as to the best method of extending the operations of the Benevolent Fund. We think that some word of praise might have been offered to the memory of the late Benjamin Orridge, who in his day toiled like Hercules in behalf of this undertaking. Mr.

Schacht spoke in behalf of provincial education. He regretted its inadequate support. Few, however, who have either heard or seen him would imagine that the deficiency had been serious in his case. Then came the poison question: regulations *versus* recommendations.

It would be superfluous for us to recapitulate the circumstances and the arguments which had led us up to the situation at which this poison question had now arrived. The severe fight which had been so confidently anticipated had fallen through, and the majority of the members present expected nothing more than the exchange of a little blank cartridge. We have absolute and sufficient authority for our assertion that the sharp contest which ensued arose spontaneously and was not, what it looked very like, a planned conspiracy on the part of the advocates of regulations.

The suggested recommendations were read over, following which, as a recognition of the solemnity of the occasion, a portion of the Pharmacy Act was read by Mr. Flux, the Society’s solicitor. After these preparatory processes came the Council’s resolution, drawn up with all possible legal foresight and care. It was worded thus:—

“That this meeting, having considered the recommendations as to the keeping, dispensing, and selling of poisons, prepared by the Council, desires the Council to propose them for voluntary adoption, but does not prescribe them as or to become regulations within the meaning of the Pharmacy Act, 1868.”

This resolution was proposed by the President, and seconded by the Vice-President, Mr. Bourdas. But the Council by this move had not “backed into Beulah.” Two amendments were forthcoming: one with which Mr. Vizer was charged objecting to the recommendations given, and referring them for reconsideration to the new Council. This was supposed to emanate from the Metropolitan and Manchester caucus. The other amendment was an independent one, of which Mr. Giles, of Clifton, was the author, which was intended to bind the trade to the suggested plan as regulations. After a short dispute as to precedence, the chairman ruled that Mr. Giles should first address the meeting. This was his amendment:—

“That, by virtue and in exercise of all powers and authorities granted under the provisions of the Pharmacy Act, 1868, in this behalf, the Pharmaceutical Society of Great Britain do hereby prescribe the following regulations for the keeping, dispensing, and selling of poisons, and resolve that the same be submitted to her Majesty’s Privy Council for their consent.”

In the course of a manly speech, he said that there were few occasions when a society should differ on points of administration with its governing body. This present one was an exception. He continued—

“I find it necessary to move an amendment, and I will just state to you what that amendment is. It is in effect a repetition of the same notion applied to the present regulations, which was brought before you a year ago by the Council. But I will tell you why I desire to do this. It is, that we may decide now upon the *principle* which underlies the question of the imposition of these regulations; that is to say, whether we have contracted an obligation to Parliament which we are bound to fulfill in prescribing certain regulations, I care not now much what they are, because in considering the details of such regulations, we are led away from the point, whether it is our duty to prescribe them or not. Sir, we are not the conservators of the public safety. Parliament is the conservator of the public safety, and Parliament has said in terms, about which there has been no vagueness or uncertainty or dispute, that regulations are necessary. It is, then, a question for us whether we will fulfil the obligation imposed upon us by Parliament, or whether we intend to measure our feeble power against its omnipotence. I wish to call your attention to what the obligations are which we have undertaken, and I venture to say that no person who has read carefully, as I have done, the Act itself, the debates which occurred in the two Houses of Parliament upon that Act, and the leaders in our own journal at the time, can come to any other conclusion than that it was the intention of Parliament to impose upon us the obligation of prescribing *some* regulations, that we understood it so at the time, and that we accepted the bill and the privileges which the bill conferred, laden with that

obligation. The first clause of the Act has been already read; all that is essential to us I will read again. That the persons privileged by this Act shall 'conform to such regulations as to the keeping, dispensing, and selling of such poisons as may from time to time be prescribed by the Pharmaceutical Society, with the consent of the Privy Council.' I cannot conceive that you can rationally interpret that Act of Parliament, unless you suppose it contemplated that these regulations should be prescribed."

Long details, with regard to Parliamentary interference, were then adverted to, and the advisability as well as the necessity of compulsory regulations were uncompromisingly advocated. In conclusion, Mr. Giles remarked:—

"What have we to expect if we wilfully let pass this opportunity of settling this question in a rational manner? I say these regulations are such as ought, apart from law or anything else, to be adopted by every conscientious man, by every wise man, who wishes to lay his head on his pillow with a feeling of satisfaction and security. I say what is likely to be the consequence if we lose the present opportunity? Why, we are told that we shall have application for further legislation. That application will be made to persons who will feel their sagacity and foresight complimented by our breakdown, and will be exceedingly glad to impose the strictest regulations upon those whom they regard as a recalcitrant and obstinate body of men, and they will come down with all the force of that hostility which we are so anxious to avoid."

Mr. BALDOCK, of Norwood, seconded the amendment which was supported throughout in the most dreary manner. Scarcely anything was stated but that which had been much better given already in our periodical literature. One bright, up to the mark, sensible speech would, or might have turned the fortune of the day. Unfortunately for the regulations our brilliant examiner reserved his eloquence until too late. Moreover, there was a complaint loudly expressed of a breach of faith. "The question before the meeting" said Mr. Brown, "is not whether the regulations should be compulsory or not, but whether this meeting will adopt certain recommendations which are submitted by the Council."

Mr. VIZER rose and said:—"In support of what Mr. Brown has just said, I maintain that if an amendment of this nature be laid before the meeting, it is one of the most unheard-of and unprincipled acts which can be conceived. I repeat it. It is an unheard-of and unjust act. This meeting has been called together in the ordinary way as an annual meeting; the recommendations have been issued to every member with the one distinct idea that they were to be brought forward by the Council as recommendations only. And I beg leave to say that if that view of the case is altered, it is most dishonourable on the part of the Council. This meeting has been called to decide the question whether we shall receive these as recommendations, and hundreds of members have absented themselves from this meeting on the distinct understanding that they were to be put forward simply as recommendations. I do assert most emphatically that if an amendment of this nature is allowed, it is a most discreditable act. The Council, as a body, ought to protest against it. But I sincerely trust that the meeting will not be detained over the argument on compulsory regulations, but that a division will be speedily come to, and I am convinced that 90 out of 100 will vote against it. It is an unheard-of thing to waste our time discussing such a question, and the sooner we come to a vote upon it the better."

Among the speakers who supported Mr. Giles, were two members of the Council, of whom one, Mr. Abraham, was the recorder of the resolution which pledged the Council to the action which it had just officially taken, and the other, Mr. Edwards, who although he did not vote for that same resolution, was present when it was passed, and did not vote against it. Both Mr. Hampson, as a consistent opponent, and Mr. Mackay, as an advocate of poisons regulations, opposed Mr. Giles's amendment. The latter gentleman spoke with much earnestness, and so ably maintained the cause of the multitude of members who would have been present if they had not been confident that the obnoxious regulations were to be shelved, that we give the greater part of his speech in his own words. He said:—

"I am not prepared to say that the amendment

is illegal, or to protest against its introduction, but this I do say, and I say it most emphatically, it would have been a much fairer course for the gentleman who has so ably and eloquently pleaded for this amendment, if due notice had been given of it. I make this remark, and, in doing so, speak strongly for the following reasons:—I know, and believe many gentlemen present know, that deputations had been organized in different parts of the country—I can speak positively as to Glasgow, and some other places; that these gentlemen had been prepared to come here and represent the chemists and druggists in various towns, had the compulsory question not been understood to be at end; and therefore most of those deputations which had been organized would have been in this room to-day to oppose this amendment. It is not for me to enunciate what my views are, but at a recent meeting of the Council I joined in the almost unanimous vote that a certain course of procedure should be adopted. That course resulted in the recommendations which are before us, and, having emanated from the Council, they have been circulated broadcast throughout Great Britain, and I say it is specially unfair—and I use the word with due consideration—to many country gentlemen who are as deeply interested in this question as we are, to push the question of this amendment to a vote. So strongly do I feel upon this point, that if the amendment is pressed, I may move the adjournment of the meeting."

Mr. WAUGH followed in the same strain. His condemnation of the apparent trick was couched in even stronger language, and, forcible always, he never made a speech more effective on a public meeting. Several speakers followed on both sides, the most evident feature of the discussion being the urgent anxiety of several debaters to obey two calls of duty from opposite quarters. A statement made by Mr. Squire about this time was of some importance. He failed to express himself very distinctly: but he was understood to say that the pet scheme of Mr. Simon was, or at least had been, that no poison should be allowed to be sold at one time in a larger quantity than might be fixed as a maximum medicinal dose. This occasioned a laugh, but it has a serious aspect. It is hardly conceivable that any sane man could suggest such a palpable absurdity; but surely, if Mr. Simon was the originator of the idea, it may be regarded as rather respectable proof that he of all men is the least competent to whom to entrust the regulation of British pharmacy.

Then came Mr. SANDFORD, who was received in the most cordial manner. His speech was a *résumé* of past Parliamentary legislation. "I hold in my hand," he said, "all the poison bills which have ever been introduced—there are no less than eight; and there is another very important one which was never introduced into Parliament. And what do I find are the provisions in these poison bills? I find that in the first, which was proposed by Lord Granville—I may say our friend Lord Granville, because it was through him we obtained our bill,—that no poison should be sold except to persons of full age, that they should not be sold without witnesses, that they should not be sold without the certificate of a medical man, or a clergyman, or a magistrate. I find that every poison is to be sent out in four-sided bottles, and that on each of those sides there should be the word 'poison' impressed. I find that there were inspectors to be appointed. Now the less we say about inspectors the better; but I find, as I go on, that in one of these Bills the inspectors were to be constables. Lord Granville's bill in May, 1857, was No. 1. It went on to Mr. Walpole, so both sides of the House were engaged in this matter. Mr. Walpole was in power in 1859, when he proposed his bill, and he put in a provision that the constables were to visit and see that we complied with the regulations. At that time Jacob Bell was living, and under his guidance we opposed all these bills, but we did so on one special principle, viz., that they did not provide for the qualification of the vendor. I take up these bills to show you that they were fairly considered in this Council, that they were considered as things which would go on, and they were amended by the Council."

A bill, drafted by Jacob Bell, was also produced and commented upon. It contained special provisions respecting the sale of poisons, and also this clause:—

"The President and Censors of the College of Physicians of London shall have full power from time to time, at reason-

able times in the day, to enter and search any shop or place where any drugs or medicine, simple or compounded, are sold by retail, to ascertain that the provisions of this Act concerning the keeping of poisons, and the labelling of the same are duly observed." In further arguing for the regulations Mr. Sandford said:—

"Mr. Giles has most correctly stated the feeling and the understanding there was at the time of passing of our Act. I have heard it objected that it was a tacit understanding. Sir, there must be a tacit understanding when you are on business like this. Mr. Giles tells you what happens always in getting bills through Parliament. I was, to a great extent, authorised to treat with the members of Parliament and with the Government in the proceedings with regard to this bill, and I am perfectly satisfied that I did not in any way neglect the interests of the Society. If any man battled with the medical officer of the Privy Council, I did, and in all but one thing I beat him, that one thing I always felt ashamed of; it was that he succeeded in bringing in poppies; that one thing I could not get over. It was the last thing, and I think Lord Granville went into the House rather in a hurry, or that might have been excluded also. I mention that to show you that I have not been the obsequious servant of Mr. Simon. He would never propose anything to me which would be derogatory to this Society. Mr. Giles alluded to the debates which took place, and I will not go further into this point. I will pass that over, and confine myself to the question of policy. I say it is policy for us to adopt these regulations in the form in which Mr. Giles proposes. Some people speak of breach of faith in proposing this amendment. I say it is no such thing. Last year it was proposed that these recommendations should be adopted for twelve months; they have been on their trial for twelve months and more. They were submitted to you last year, and you have all had an opportunity of trying them since, and there has not been a valid objection to one. But if there were, it is quite open for this meeting to amend them in detail. If you do not like tying over, use some other means, you can amend them in any manner you like in detail; but just admit the principle that we are a part of the Government, that we are pledged, and that it is not only that we are pledged, but that it is our interest to act in accord with the Government, and not in antagonism. I do therefore most sincerely trust that you will vote for the amendment."

Finally, the division, with its inexorable logic, settled the dispute.

For the amendment	..	..	85
Against .. .. .	..	..	104
Majority against	..	..	19

So ended a debate, about which gloomy forebodings had been entertained. We hold strong views respecting its introduction, yet, as matters stood, we are bound as a faithful witness to record that it was conducted in the best spirit, and was opened with unusual skill. It was won without bitterness, and yielded with a grace that was in itself a victory.

We say the debate was ended. Practically this was the case; for though it was continued for another hour, there was undoubtedly a tacit understanding that there should not occur another division. Mr. Vize's amendment, "That whilst desirous of taking every reasonable means for the protection of the public, this meeting considers the recommendations of the Council unsatisfactory, and therefore refers the question for reconsideration to the new Council," was promptly disposed of by a show of hands.

It was therefore again the turn of the "regulation" men. But we should mention that at this point the original resolution, viz., that of the Council, was carried. The new resolution was scarcely ready; so to while away the time, Mr. Burden made an inquiry respecting two rather obscure figures in the balance sheet, which were mentioned as items of the invested property of the Society. One was the Hill's Prize Fund (£200), and the other the Secretary's Casual Relief Fund (£100). The explanation elicited was honourable to two gentlemen, not for their generosity alone, but for the modest manner in which they had made their gifts.

The CHAIRMAN said that Mr. Hills, who was always very desirous to assist in promoting the education of young men, had established a prize of books to be distributed every

month to those who passed the best Minor Examination. It was not necessary to say how that fund was established, but Mr. Hills himself had found the largest portion of the money, the remainder being derived from the sale of the portrait of the late Mr. Jacob Bell. With respect to the Secretary's Casual Fund, it arose in this way. Upon one occasion an honorarium of £100 was given to the Secretary for his extraordinary services in connection with the passing of the Pharmacy Bill, which he invested at once, in order that he might have a sum of money to apply to in the case of persons who asked for casual relief, not being eligible for the Benevolent Fund.

Mr. LINFORD then came forward with his resolution, intended as he himself expressed it, "to acknowledge our liability at all events."—"That this meeting is of opinion that it is the duty of the Pharmaceutical Society to propose at an early opportunity regulations for the keeping, dispensing, and sale of poisons, in accordance with the provisions of the Pharmacy Act, 1868."

Mr. GILES seconded the motion, and afterwards seconded it again, taking the opportunity on the last occasion to make a speech much inferior to his former one, and of such a contemptuous tone towards his audience that the prospects of the renewed campaign were at once ruined. Mr. REYNOLDS, whose return to the pharmaceutical arena after an absence of several months through accident, was very pleasing to many friends, spoke in opposition, and Mr. RANDALL in favour of the regulations.

Mr. SCHACHT, in a short but very compact speech, met the question full in the face, and defended the honour of those who opposed the enactment of compulsory regulations. "I am of opinion," he said, "that there is no obligation on the Pharmaceutical Society to do anything of the kind. I am quite aware that there is an awkward legal phrase in the Pharmacy Act, which may be interpreted in two ways. There is a word there written 'may,' which some individuals choose to read 'shall.' In my opinion the latter reading is incorrect; and on that interpretation I held my objection to the original proposition of the Council last year, and, consequently, I approve of what they have done in the interval, in changing their regulations into recommendations. We are now told that if these recommendations do not satisfy the Privy Council, we shall have some dreadful system of inspection forced upon us in exchange, and we are taunted with the fact that it will serve us right. I disbelieve it altogether. My opinion is that any application to Parliament for compulsory powers, such as would be imperatively necessary in order to make any such regulations compulsory and effectual, would be met with such a storm of opposition from all sections of the medical and pharmaceutical bodies, that it would have to be withdrawn; that, in fact, it would receive precisely the same treatment with which the recent attempt in Parliament was received to place the regulations of railways under the inspection of the Board of Trade. 'However good the regulations may be,' said Mr. Chichester Portescue, 'it is no good pressing them upon the railway interest, unless you establish a system of inspection to see that they are carried out.' And precisely the same here. In inspection I rebel against vehemently and strongly. I would not allow the smallest end of the wedge to intrude itself between me and the conduct of my own business. I should not vote for any regulations at all, for it seems to me that they would become merely a dead letter. I believe we are not necessarily compelled as a body to frame these regulations at all. It is a matter referred to the future, evidently for consultation by the members of the Pharmaceutical Society, and if the Society, in its entire and corporate capacity, chooses to determine that compulsory regulations are unwise, there is no obligation in that bill to make it a point of honour in the smallest degree to introduce them."

Mr. CARTEIGNE followed, and energetically insisted on the prudence of passing regulations ourselves instead of leaving it to the active medical officer of the Privy Council. As a member of the Committee which, in concert with Mr. Simon drew up the clause on which Mr. Schacht had commented, he said that it was drawn up with the distinct understanding that regulations should be made. Worse consequences would be in store for us if we attempted in this way to balk the Privy Council.

But it was no use to throw firebrands into the meeting

now; the petroleum was all packed up; it was five o'clock, and members wanted to get away. So the meeting rejected Mr. Linford's resolution, and agreed to one which Mr. WADE moved, and which was seconded by Mr. VIZER: "That this meeting having already expressed its opinion on the question of poison regulations, desires to leave it in the hands of the Council to deal with as they shall see fit."

COMMERCIAL COMMUNISTS.

THE growth of the co-operative conspiracy against the trading community of this country has been more extensive than some people imagine. The proprietors of the Civil Service co-operative stores recently divided some £27,000 among the shareholders as the result of one year's business; and when we consider the mere shadow of profit obtained, we perceive what an enormous number of transactions must have occurred to realize that result after paying expenses. In fact, as we learn from the report, the total amount of sales during the year ending February 28th amounted to £492,418. Apart from any selfish interests, however, it is not difficult to see that as a national movement the co-operative principle of business can never admit of universal application. The highest class of thinkers of modern times have been satisfied that the communist theory—of which this is a part—is essentially false and fatal. We have but lately witnessed an attempt to adapt it in its fulness to modern society, and it has resulted in one of the saddest and most complete wrecks which the history of the world has ever presented. We are not so unphilosophical as to argue that the tremendous catastrophe in Paris was altogether the natural outgrowth of communism, as a theory, even in its very worst features. It was an outbreak of demoniac passions, perhaps surpassing every other such explosion, a display of hellish fury which it is scarcely possible to conceive or to characterize. But it is not difficult to see that communism, as a theory, had failed even before the insane deeds of some of its disciples had cut away every chance of its resurrection. The co-operative movement in England is but a very small segment of that same circle, but it is of its nature, and carries the seed of its own decay. "The labourer is worthy of his hire." Civilization rests to some degree on that axiom. The co-operative movement, to an extent, denies it. Let it be imagined that in some small town the co-operative movement could be so applied as to be the only medium of supply. Is it not palpable that the small town and the co-operative store would both burst up simultaneously? Its only chance is in its relative insignificance. In London, whence it may be fairly reckoned five millions of consumers obtain their supplies, the subtraction of a few thousands can have no such perceptible consequence. Extremes meet. Tradesmen were unnecessary in savage times; the advocates of centralization would remove them again, but they have not tested the resistance which their scheme can offer to the strain to which they would subject it.

Arguments, however, addressed to corporations are but as tinkling brass to individuals. The warnings of Cassandra would be as coldly received in London as they were in Troy. Therefore, the co-operative scheme will go on increasing until it has reached its limit, and will then either recede or burst. But there are arguments of a different nature which chemists and druggists have a right to enforce, both in defence of themselves and of the public.

With no particular desire to favour any section of the community, the Legislature has recognised the necessity of granting to certain specially-trained men a monopoly in the sale of poisons, and consequently, to a certain extent, a

monopoly in the practice of dispensing. The proprietors of the co-operative stores had found dispensing medicines a profitable branch of their business, and they had practised it to their own advantage but to the detriment of the chemists and druggists, and probably without conspicuous benefit to their customers. When the Pharmacy Act came into force, they, in advance of general intelligence, perceived how likely it was to cut away this platform from under them, and they therefore had recourse to a trick, the transparent simplicity of which must have occasioned some amusement among themselves when it was adopted. By simply engaging a person who was on the register of chemists and druggists—probably one who had passed the modified examination—and arranging for him to transact the prohibited business in his own name, they thought to evade the manifest transgression of the law which they, as proprietors, would perpetrate. Consequently, Mr. Brown, Jones, or Robinson, whatever his name might be, was the nominal dealer, but was at the same time actually, and known to every one to be, only the paid servant of the company. Our readers in the South Sea Islands, and in other remote parts of the earth's surface, will learn with surprise that up to this date, during an interval of thirty months, this absurd quibble has been allowed to pass unchallenged.

The duty of prosecuting offenders against the Pharmacy Act is vested in the Registrar, and the Registrar is guided in his action by the Council of the Pharmaceutical Society. It is quite time that a vigorous campaign should be commenced against all unqualified dealers in poisons.

There is abundant evidence ready from every part of the country, and it will only be by striking firmly and repeatedly through the law courts, that the Pharmacy Act and the profession of pharmacy will secure that respect which the Government intended it should enjoy. The machinery of the Society is perhaps scarcely big enough for the task assigned to it. Some of the smaller fishes will be sure to escape, but at least one great effort might be made to haul up the very large one described in the foregoing remarks, and which systematically swims through the net almost within a stone's throw of Bloomsbury-square.

This is not our first allusion to the successful defiance of the Pharmacy Act made by the co-operative stores. But recent correspondence has brought forward an opinion which tells very strongly in favour of the chemists and druggists. Three months ago we published a legal opinion in reply to a query which we submitted to the Registrar. The opinion seemed to indicate that no person except a trustee, and he or she only so long as the trust was vested in him or her, could legally become the proprietor of a chemist's business without passing the prescribed examinations. The point was this: that the widow of a registered chemist and druggist must dispose of the business in her possession before or as soon as she had wound up the estate of her late husband. The engagement of a qualified assistant as manager is not sufficient. If this interpretation be correct, it is not likely that more leniency would be shown to co-operative stores than to the widows of chemists and druggists. At any rate, the wording of the opinion is undoubtedly as strongly opposed to the possibility of co-operative societies carrying on a dispensing business as it can possibly be supposed to be against the widow. This inference was first noticed and commented upon by Mr. Edward Smith, of Torquay, and that gentleman has since been elected to the Council. We hope he will now press forward the matter, and that at any cost the representatives of the Society will decide to fight it out.

There is an especial reason for getting this matter settled

as early as convenient. The establishment of a new co-operative society, on a much broader basis than the Civil Service, is announced. The Professional and General Co-operative Society (Limited) has taken premises in Oxford-street, which are to be opened on the 25th of this month. "The services of the eminent analyst, Dr. Hassall, have been secured by the Society"—in what capacity is not added. Ten shillings will buy a share, or half-a-crown a member's ticket, and there is no announcement of any exclusiveness whatever. Drugs are mentioned as one of the proposed departments, and dispensing will certainly be attached. To save this young Society from the expense of fitting up a department which must be afterwards relinquished, is one of our reasons for urging on the Registrar prompt action against its older and wealthier neighbour.

CHLORAL,

ITS MANUFACTURE, MEDICINAL VALUE, AND TESTS
OF ITS PURITY.

AT a meeting of the American Pharmaceutical Association, last year, Dr. E. R. Squibb communicated his experience in the manufacture of chloral. The following is the main part of his address:—

"I will begin by saying that I know very little of chloral. If I know more than the rest of you, it is because I have seen more of it, and been a little more conversant with it, and that is all. I think none of us know enough about it to say much about it. It is a very curious substance; its natural history is one of the most singular of any chemical I have met with, and requires and deserves more study than it has had. Chloral is the ultimate product of the action of chlorine on alcohol, as its name implies, the first syllables of the two words being formed into the name. When chlorine gas, in a dry state, is passed into absolute alcohol, a series of changes appears to take place, which may depend on the abstraction of hydrogen and the substitution of chlorine. The first portions of chlorine gas that pass into absolute alcohol are converted, or appear to be converted, at once into hydrochloric acid, and that hydrochloric acid is absorbed by the remainder of the alcohol, and reacts with it, producing hydrochloric ether. The second step in the reaction is to again decompose or supersaturate this hydrochloric ether with chlorine, and then hydrochloric acid escapes; and, finally, as heat is applied in the process, the hydrochloric ether escapes, and a substitution appears to take place, whereby chlorine is substituted for hydrogen in the already decomposed alcohol. This is but a rude outline of the process. Chloral was discovered by Liebig, in 1829 or 1830, although the paper in which it was described was not published until about 1832; therefore it is commonly stated that he discovered it in 1832, which is incorrect. Dumas was the next who investigated it, and these two observers investigated it as a toxic specimen product. Last year Dr. Otto Liebreich, in his physiological investigations regarding the group of anæsthetic chemicals, reasoned back to this substance the known effects of chloroform, and tried it first upon animals, then upon patients. At first he supposed it was an anæsthetic, but afterwards modified this view, and now, I believe, regards it as an hypnotic, and, in some cases, an anodyne. The apparatus for making chloral consists, first, in the means of generating chlorine; second, in the means of drying the chlorine; third, in the means of passing it into absolute alcohol without loss; and, fourth, having the absolute alcohol in such a position that it can be gradually warmed. The process requires about twenty-eight days for the current of chlorine to be passed into the absolute alcohol, and I believe the slower the current passes into the absolute alcohol the better; that is to say, the longer the time which is taken to produce the chloral the better; I think there is less waste and more chloral obtained for the same quantity of alcohol. It is a curious circumstance that hydrate of chloral is produced by passing the chlorine into absolute alcohol, and this shows that water is one of the

results of the decomposition of the alcohol; yet if hydrated alcohol be used, the product is different. I have tried different degrees of strength of alcohol, from absolute down to 92 per cent., and have obtained good results only from absolute alcohol. 16 gallons of such alcohol, in twenty-eight days, with the use of about a ton and a quarter of mixture of binoxide of manganese and common salt, and about the same quantity of sulphuric acid—the 16 gallons of absolute alcohol, weighing about 92 lbs.—I obtained about 160 lbs. of crude hydrate of chloral. This crude hydrate of chloral, as it is made by the passage of the chlorine into the alcohol, is contaminated with several other products, which pass over in the distillation, and cannot be separated by simple distillation. It is necessary, therefore, to apply sulphuric acid in the purification of the chloral. Concentrated sulphuric acid is shaken with the crude hydrate of chloral, and the dehydrated chloral is then distilled off from the sulphuric acid. In this way we get chloral that is free from water. After purifying this by one or two applications of sulphuric acid, then the stoichiometric proportion of water is added, and it is either sublimed or crystallized.

"The difficulties in the way of making chloral are very numerous. The apparatus I have now at work is about the tenth modification from the first one, and I started with all the knowledge on the subject then in the books. The liberation of chlorine from common salt and black oxide of manganese, by running sulphuric acid into it, is easy enough, but unless the current be steady the result is imperfect, and there can be no good or definite calculations made as to the time or the quantity. The black oxide of manganese and common salt need both to be assayed and added together in their equivalent proportion, and then the calculated amount of sulphuric acid in any given specimen is to be made upon its specific gravity, and the acid can only be added to the mixture by calculation, because, if added until chlorine ceases to be eliminated a great excess will be used. I mix 100 lbs. of the mixture of black oxide of manganese and common salt with about ten gallons of water in a still, and then run seven gallons of 60° slowly into it, using 'pan acid,' 1.562 specific gravity, using a mechanical stirrer, and heating the mixture. In this way a tolerably uniform current of chlorine is eliminated. This is then conducted to the drying apparatus, which consists of a three-neck Woulfe's bottle, with a long narrow glass percolator ground into the middle neck. This percolator is filled with pieces of broken glass, from which the fine particles have been sifted out, and into the top of this broken glass concentrated sulphuric acid is supplied from an elevated reservoir. This acid percolates through the broken glass, and accumulates in the Woulfe's bottle below until it reaches the level of an adjusted syphon, by which it is discharged through one of the necks of the bottle. Through the third neck the chlorine enters by a tube which dips under the acid in the bottle. Thus the gas is made first to bubble through the acid in the bottle, and then to pass over the extended surface of broken glass in the tall percolator, this surface being kept moistened with fresh portions of acid, and thus becomes thoroughly dried, and in the proper condition to enter the alcohol. The chlorine thus passed down into the alcohol at first increases the volume of the alcohol by one-fourth. At first the whole of the bubbles of gas are absorbed, and the alcohol increases in volume and becomes heated, the bottle requiring to be kept cold; but after about three days the reaction between the chlorine and alcohol becomes more sluggish, and then a little heat in the bath is necessary. From that time the bath is made gradually warmer until the end of the process, which is determined by the gas passing unchanged through the hot liquid in the bottles. The product is then the crude hydrate of chloral. Then if the contents of the bottles be allowed to cool a large proportion crystallizes. It will not run from one part of the bottle to another, but still is very moist. This is taken in portions of about 20 lbs. at a time, and shaken up with 6 lbs. or 8 lbs. of strong sulphuric acid, the whole mixture poured into a tubulated retort, and the chloral distilled off. This, when received in a clean, dry vessel, is weighed, and then partially hydrated with a weighed quantity of water. Carbonate of lime and slacked lime are then added, in the proportion of 4 ozs. to each 20 lbs., and the mixture is agitated.

distilled from a clean apparatus. The result of the distillation now is partially hydrated chloral; it distils better partially hydrated than when hydrated entirely. The remainder of the water required by stoichiometrical calculation is now added, and the hot liquid poured on plates to crystallize, the plates being covered by a bell glass. In a few hours the crystallization is complete, and, if well managed, the contents of the plates is in a solid cake, which is rubbed into a coarse damp powder, in a clean mortar, and filled into bottles.

"Some accidents, of an apparently trivial nature, seemed to indicate that chloral is very liable to decomposition from contact with organic matter, but experiments have shown that it is not equally liable to decomposition from all kinds of organic matter. Even the same kind of organic matter does not always produce the same effect with the same chloral. For example, where syrup of orange-peel is used as a vehicle, decomposition, with the production of hydrochloric acid, will sometimes commence in a day or two, and sometimes not for weeks, though the apparent conditions be the same. One observer will testify that with simple syrup it never spoils or decomposes, while another, equally trustworthy, will find the same chloral decompose with simple syrup very promptly. Under such circumstances, the only safe practice is to keep chloral as free as possible from all organic matter until we know more about it; and this particularly in view of the harm it does when given in even a partially decomposed solution. It appears to be by far the best practice to dispense it in simply watery solution, in glass-stopped vials, since in this condition it keeps indefinitely, and can be added to any desired vehicle at the time of taking. And ice-water appears to be about as good a vehicle for this, as for all saline substances, as any yet devised. When given to patients who have been long fasting it is often found to disagree with them, or at best to affect them less favourably than when given near a meal, or when the gastric secretions are not in the condition of long fasting. Hence the syrup of orange-peel, or the mucilage, etc., with which it is common to give it, may not be without useful effect, and those physicians who have now abandoned these mixtures for the simple solution, often, if not generally, advise their patients to eat a cracker, or take some other light food in small quantity, before or immediately after an hypnotic dose. When the medicine affects persons unfavourably it should always be examined for hydrochloric acid by smelling and tasting, and by litmus paper. Nitrate of silver is too sensitive a test, for if the solution have been some time made, and especially when water containing organic matter is used, a cloudiness may be produced with this test which it is quite safe to disregard.

"If the chloral be given under favourable circumstances, only about eight to twelve minutes elapse before the patient is asleep. If the first dose, namely, the ordinary dose of twenty to thirty grains, is not effective, a second one may be given in fifteen minutes. For if the effect be not obtained in fifteen minutes it is not likely to be experienced at all. If the second dose is inoperative, the physician may conclude that the medicine is inappropriate, since the heroic quantities that have been given have generally produced unpleasant effects. Unpleasant effects are, doubtless, often due to bad quality in the chloral. Of the various grades of it now in the market, it is, perhaps, not too much to say that a large proportion of it is unfit for use; none of it is as good as it should be, or as it will be when the makers get to know better how to make it, and when those who buy know better how to test it, and what to reject. Makers have generally followed the first usage, and placed it in the market in hard compact cakes, or, frequently, some made by sublimation, others by pressure, but this form or condition is by no means either a guarantee or indication of purity, but, on the contrary, is often a mark for impurities. There is no process of purification that, in my hands, has given such uniform good results as simple well-managed crystallization. In results, I much prefer it to the common method by sublimation, as the natural impurities seem to be more easily and more perfectly separated. Besides, it yields a softer cake, which should be broken up into a coarse powder before bottling. The present German practice of putting it up in hard compact cakes, necessitates its being thinned out and rubbed up before it can be weighed for dispensing, a

proceeding which is not only troublesome, but renders the chloral liable to be spoiled by contact with metallic spatulas, dust, etc. The process by crystallization yields a chloral not quite so dry as sublimation, but the chloral is not the worse for this, since one of the very purest samples of chloral which I ever saw was of German make, and quite moist in ordinary weather, and almost liquid in hot weather. The drier it is the nicer it is, but not always better. By a little skill and management it may be obtained in quite large crystals, but these are no better, and have the same disadvantage as the cakes or plates, in requiring to be rubbed up before they can be dispensed. The small granular crystals, moderately dry, is, perhaps, practically, the best form for use. In all its forms it is very sensitive to a moist atmosphere, and deliquesces rapidly; but in a dry atmosphere it evaporates without liquefying or deliquescing at all. Damp chloral will, therefore, dry by exposure in a dry cool atmosphere, and I have seen the same specimen alternately become solid and liquid several times in succession by the natural changes of the hygrometric condition of the weather. Indeed, the result of a very successful crystallization may, if the cakes be rubbed up and bottled on a damp day, yield an unusually damp powder. But while dampness or dryness alone should not be accepted as conclusive evidence of bad or good quality, yet parcels which are so moist that the liquid settles out from the crystals should always be rejected. Freshly made solutions of chloral, especially if made from large crystals, are often more or less opalescent or milky, and this milkiness may continue for a few moments only or for many hours, but if the chloral be of good quality the solution will sooner or later become perfectly clear, or will at once become clear on being warmed. Solution of nitrate of silver should give no reaction, or but the faintest cloudiness, with freshly made solutions of good chloral. But a little dust in the chloral, or a little organic matter in the water with which the solution may have been made, will soon give a decomposition sufficient to produce slight cloudiness with this test. If the solution has been kept in a cork-stopped bottle it will always give a cloudiness.

"The alcoholate of chloral, which is a very different salt, and much more easily made, has been largely sold for the hydrate, and is often not easily distinguished from it, is characterized by a higher melting and boiling point, and by yielding less chloroform upon volumetric decomposition. But as yet more simple and easy tests for the alcoholate are much needed—not so much to enable us to distinguish between them, when separate, for this is comparatively easy, but to detect the presence of the alcoholate either as an adulteration or an accidental impurity in the hydrate. Whilst so great a proportion of the chloral in the market is imperfect, or, impure and bad, there are several makers whose products are, perhaps, equally good. Therefore, so long as we know so little about it, and are so much in need of simple and easy tests of quality, the maker's name should always be required on the label, and no unknown make should be used, however contrary to common usage this may be nowadays, when price and profit have become the prominent consideration in all things.

"The recrystallization of chloral from very volatile liquids, in which it is very soluble, has not, in my experience, been either satisfactory or useful, although we have the high authority of Dr. Flückiger to the contrary.

"Chloral appears to be a hypnotic and not an anæsthetic; it produces sleep, but it will not often relieve pain when the pain arises from any organic disease. If it be inflammatory pain or pain from injury, it does not relieve it, although it sometimes forcibly superinduces sleep. A person may have suffered an injury and take a large dose and get six or seven hours' sleep, but on waking the sleep will be found to have been unrefreshing. The knowledge of how to use it is not complete, but experience is accumulating every day upon it. Our greatest interest in it, is to know how to select, keep, and dispense it; as it absorbs moisture and becomes moist in a damp day, and becomes the opposite in a dry north-west wind, and is so liable to decomposition under conditions not yet well known, it of course requires much care and attention. The dose is from ten to one hundred and twenty grains, according to the purpose with which it is given and the varying susceptibility of persons to its influence. I have only heard of a fatal effect from it in one case, and then

an entire ounce was taken. I don't remember to have heard of a single case where ten, twelve, or fifteen grain doses produced any disagreeable effect, but they are not so likely to produce the hypnotic effect in most cases as doses of twenty to thirty grains."

In the discussion which followed the reading of the paper a few further particulars, of an interesting character, were given. Mr. Maisch remarked that when recrystallized from bisulphide of carbon very large and handsome crystals were obtained. The entire amount of chloral was obtained, and the crystallization was very readily produced. Chloral is very soluble in warm, but only sparingly soluble in cold bisulphide.

Mr. Markoe described some anhydrous chloral which he had made. It has some very curious features, in its normal form being a thin, colourless liquid, making a greasy spot on paper, which soon disappears, a pungent odour, which affects the eyes and irritates the skin. Its specific gravity is 1.502; mixed with a little water it gives off much heat, and on cooling crystallizes. Anhydrous chloral passes spontaneously into an insoluble form, becoming solid, and very much like porcelain in appearance. In this form it is insoluble in water, alcohol, ether, chloroform, etc.

Dr. Squibb also, in reply to questions, explained that chloral which had become discoloured might be purified, by shaking with sulphuric acid, dehydrating it, and redistilling it again. With regard to the yield and the profit of the manufacture, he also gave the following particulars. "I obtained from 16 gallons of absolute alcohol 160 lbs. of crude chloral, which, when purified, yielded in the neighbourhood of 125 lbs. of purified hydrate of chloral. That is about the best yield I have had. I have now about 65 gallons in process all the time, by a series of baths, by which I expect to get 140 lbs. or thereabouts every week, or every ten days; that is, each bath being of a different age, and being finished in about thirty days, will give one bath or process every ten days. It will thus be seen that it is not a very profitable preparation to make, particularly when made in competition with the German article, and I believe I should never have undertaken to make it, except for my conviction that is the most important of all the additions to the *Materia Medica* for many years past, and very commonly sent to our market from abroad of bad quality, and without any traceable responsibility in regard to quality or make."

PRESCRIPTIONS FOR PROVINCIAL ASSOCIATIONS.—GLASGOW.

BY JOSEPH INCE.

THE Book of Prescriptions for Glasgow is finished, and it is hoped that it may give satisfaction. The former volumes, excepting the one for Norwich, contain an insufficient number of elementary recipes, an error which here has been avoided, and which will be repaired in due time with respect to those already issued. The London collection is abundantly supplied with such formulae.

Thanks to the kindness of many pharmacists, this last gift on the part of the Parent Society to Glasgow, includes specimens of the handwriting of several celebrated practitioners—amongst them will be found Sir B. Brodie, Drs. Elliotson, Gream, and Williams; Coulson, Henry James Johnson, and Stone; also a characteristic autograph of Dr. Paris, author of the *Pharmacologia*.

America (both in ink and pencil recipes) is represented, France, and Italy: while M. Fölker, of North Germany, has sent his contribution. A page of old labels is added as a relic of the past. Let me direct attention to the fact of the infinitely higher interest which attaches to the deciphering of the actual writing of great men and more printed formulae. Four illustrations are subjoined:—

I.

℞ Olei Jecoris aselli, ʒviij.

Sumat. cochl. medium bis die (augend. ad amplum) ē misturæ seq. cochl. anjlo.

℞ Potassii Iodidi, ʒj.
Potassæ Bicarb., ʒij.
Acid. Hydrocyan. diluti, mxxl.
Tinct. Hyoseyami.
— Aurantii āā, ʒij.
Syr. Aurantii, ʒvʒ.
Inf. Aurantii Co., ʒviss.
℞ Ol. Crotonis, ʒj.
Lin. Saponis, ʒij.

M. ft. linimentum quo omni nocte fricetur pectus et dorsum. C. J. B. W[illiams].

Excellent examples of this writer are given—in type they present no difficulty whatever, but it would be unfair to expect a student to read them with facility were he not previously familiar with the handwriting.

The same remark applies to Dr. Elliotson, once as celebrated for his accuracy of diagnosis as he was peculiar in his doses and mode of treatment:—

II.

℞ Potassii Iodidi, ʒij.
Syrupi Rhoeados, ʒj.
Aquæ distillatæ, ʒv.

Misce. Inscribe.

To be taken in a little water at 10, 4, and 10 o'clock. Fifteen drops the first dose, and one drop more and more every dose up to sixty, unless they disagree with the head or stomach—when they do—ten drops fewer than disagree must be taken ever afterwards.

June 19th, 1849.

J. E[lliotson].

The two last following possess no printed interest, yet doubtless, the perusal of the originals will give pleasure to many readers—the first will recall the memory of a "great physician," and the second the career of one whose name will never be forgotten:—

III.

℞ Extract. Conii., ʒss
Infus. Ros. Comp., ʒvss.
Syrup. Papaveris, ʒss.
Vin. Ipecae., ʒij.
Magnes. Sulphat., ʒss.

Ft. mist. de qua sumat. cochl., ij., ampla ter quotidie.
December 13th, 1837. J. A. P[aris].

IV.

In case of diarrhœa:—

℞ Hydrargyri Submuriatis, gr. v.
Pulv. Ipecacuanlæ Compos., gr. ij.
Syrupi, q.s.

Misce fiant pilulæ, ij., horâ somni sumendæ:—

℞ Tinct. Rhei, ʒij.
Pulv. Rhei, gr. xxv.
Aquæ Carni, ʒv.
Confectionis Aromaticæ, ʒss.

Fiat haustus eras mane sumendus.

July 29th, 1857.

B. C. Brodie.

During the past month prescriptions have been received from

- I. Robert W. Hazell, 8, Caledon-street, Cape Town.
- II. Messrs. J. M. Holworthy and Co. (ex ship *Ethel*), Hobart Town.
- III. Messrs. Bell and Co., Oxford-street, London.
- IV. M. Fölker—German recipes, namely, 55 collected in Berlin by Mr. Schacht, of that city; and 100 collected in Dresden by Mr. Berg.

Four volumes still remain unfinished, though in a very advanced state of preparation. I pray the members of the Society of their charity to lend a helping hand, and to enable the full design to be completed.

DRUMMERS.

MANY of the American commercial journals which have come into our hands lately have a certain portion of their space occupied with correspondence, statistics, and editorial comments relative to the benefits and disadvantages of the "drumming" system in connection with business enterprise. A "drummer," we may explain, is the American title for the gentleman whom we, less metaphorically, but more exactly, designate a commercial traveller. "Trumpeter" would certainly have been as good and perhaps a better name for the animal in question, though it may be that the latter word conveys a slight suspicion of doubtful veracity. Accepting the name *drummer*, however, as a short and expressive appellation, we pass on to remark that commercial men of all classes, wholesale and retail, those who employ and those who receive the drummers, might at least improve the system of buying and selling, if they would for a few moments consider whether the method now adopted, whereby goods are transferred from one hand to another, is really the most economical and satisfactory which could be devised. We write on this subject with this difficulty—that some of our unusually smart readers will discover a sinister motive in what we say against commercial travellers, namely, an occult effort to influence wholesale houses to advertise, such a result being likely to prove beneficial to ourselves, and thereby ruining the force of our argument in favour of our supposed foregone conclusion. But, although we do most uncompromisingly believe that advertising is a more legitimate, business-like, and economical proceeding, whereby to extend a connection, than drumming, we shall, with the greatest pleasure, lend our space to any advocate of the latter system who will take the trouble to give us fair argument for it.

Returning to the American experience, with which we commenced this paper, we may mention that it is an admitted fact that drummers are on the decrease in the United States. The Chicago merchants, especially, are lessening their expenses in this direction, not from supineness, but from a firm conviction that the system does not pay. It ought to pay in America if anywhere, for the immense distance which often separates the importer or manufacturers and the dealers would make it very serviceable to the latter, one would think, to be waited upon in this manner. In England, with its network of railways, and number of commercial centres, the drummer must be far less useful, and though we do not expect to see him go yet, we do not believe that his profession possesses the elements of perpetual stability.

The commercial traveller is usually a smart man, often a very clever man. Certainly we need only concern ourselves with those who are above dulness, for every one will agree with us that the rest might vanish at once, and cause no loss to anyone. A clever traveller has been described as one who can not only sell his goods, but can also sell his customers. It is said that any fool can sell a man that which he wishes to buy, but the test of a good salesman is that he can sell that which his customer does not want. This is over-stated. If it were true it would at once condemn drummers altogether, both from the retail and the wholesale point of view. Nevertheless, there is so much truth in the remark as to show us that there is a danger to both sides in the employment of these middle men. There is another danger of which every employer of commercial travellers is very well aware. Often, says one of our contemporaries, the drummer talks of his customers as if he were a kind of broker, as he is. If a merchant begs to differ with his drummer he discharges his customers with him. A commercial traveller who has been many year "on the road" naturally gets a certain connection, a part of which, as is well known, he can carry with him to a rival house. One of the chief counts against the American drummers is the unconscionable proportion of bad debts, which, in their eager rivalry for business, they make for their principals. In this respect we anticipate that, here, the balance goes rather the other way, a conscientious traveller acting to an extent as an Argus-eyed detective. But the main point is whether the buyers themselves prefer the system. An instant's reflection will convince them that it is they who have to pay the handsome salaries and hotel and travelling expenses of the fraternity. In many cases it is certain that the pro-

prietors of businesses would rather be without the luxury. We suppose that on an average, the year through, a traveller's cost must average five per cent. on the orders he gets. Is he intrinsically worth that money? Doubtless, for the present, it would be a dangerous experiment for any firm to withdraw suddenly from the old course which has been so universally adopted, but we expect that the run of the wholesale houses would tell us that drumming is not so profitable now as formerly, and, at any rate, the marvellous and almost certain success of firms which have carried out an extensive and judicious system of advertising leads one to reflect whether, under present circumstances, it can be altogether wise to trot round the same well-worn old circle wherein our grandfathers were wont to trot. *Tempora mutantur et nos mutamur in illis.*

JOHN SIMON, F.R.S.

THE gentleman whose name heads this paragraph, and who at this moment occupies so prominent a position in the landscape of the British chemist and druggist, is a man of no ordinary energy and ability. There is no Government office which is worked with more thoroughness than the Medical Department of the Privy Council, over which Mr. Simon presides. He had attained a respectable position as a surgeon, having occupied, we believe, a seat on the Council of the College, and in 1844 he was complimented with an honorary fellowship. A few years ago he was the president of the Pathological Society, and he has been an occasional contributor to the Royal Society's and other publications, chiefly on subjects connected with physiology and clinical surgery. He is a Fellow of the Royal Society, and a D.C.L. (honorary) of Oxford University. His annual reports and official papers are considered of high value, and it is an evident fact that since his appointment to the Privy Council the duties of the medical department have been considerably extended. He has held that office for about sixteen years, and now transacts a quantity of business which formerly fell to the share of the Home Secretary. Mr. Simon is about fifty-eight years of age. It may also be mentioned that he pronounces his name as if it were spelt *Seemoon*, the accent falling on the last syllable.

THE DRUG CLERK LAW (NEW YORK).

THE number of dispensing druggists and drug clerks in the city of New York, at the present time, probably exceeds one thousand. These are all regularly established in business; and although a good many complaints are made about the careless way in which prescriptions are put up, and the newspapers occasionally hint of the poisoning of whole families by some careless clerk, it is safe to admit that the average apothecary knows as well how to put up a prescription as the average doctor does how to write one; and that druggists are no worse than other people.

The legislature has just treated us to a new law, the ostensible object of which is to protect the people from the wholesale poisoning to which all of us are exposed. In order to understand the law, it may be well to quote some of its most important provisions:

"SECTION 1. The mayor of the city of New York is hereby authorised to appoint, within ninety days after the passage of this Act, a board, to consist of one skilled pharmacist, one practical druggist, and two regular physicians of the city of New York, to hold office during the pleasure of said mayor, to act as an examining board for the examination and licensing of all druggists and persons now employed, or hereafter to be employed, as clerks by any druggist, keeper, proprietor, or superintendent of any drug store in said city, who shall be engaged in preparing and putting up physician's prescriptions or dispensing medicine. On and after six months from the date of the organisation of such board, any person who shall not have passed an examination before, and

received a certificate from, said board, who shall make up, or attempt to make up, a prescription—any physician's prescription—shall be deemed guilty of a misdemeanor, and shall, upon conviction thereof, be fined not more than \$500, or imprisoned not longer than six months, or both, at the discretion of the court.

"SEC. 4. It shall be the duty of said board to examine, on application, all persons employed, or hereafter to be employed, in putting up prescriptions or dispensing medicine in the city of New York, and give a certificate of such examination to the persons so examined, if found competent to act in such capacity, and which certificate shall be deemed as a licence for such person to engage in such employment.

"SEC. 5. Said board shall, with the approval of the mayor, fix the sum to be paid for such certificates by the persons to whom they shall be issued, and all sums or fees for certificates raised by said board shall be appropriated to the payment of the expenses and salaries of the members of said board, or so much thereof as may be necessary, the balance, if any, to be paid into the city treasury. Said board shall cause a true and accurate account of its receipts and disbursements to be kept, and shall, once in three months, make a return of the amount received and expended, to the Comptroller of the city of New York."

Within six months after the organisation of the board, every person, old and young, employed in putting up prescriptions, must be examined by four men to be designated by the mayor. If we allow 154 working days in the half year, we can comprehend the amount of work assigned to these gentlemen, and may consider whether the execution of the law is within the bounds of possibility. We suppose that the examination must be conducted in the presence of the full board. It will hardly answer to examine by wholesale, but each individual case must be taken up separately, and a searching oral and written examination resorted to, before granting the certificate.

To put a thousand men through such an ordeal within the specified six months will occasion busy times at the rooms of the board, and probably sadly interfere with the dinner hour of some of the parties concerned. Every candidate ought to be cross questioned at least four hours; this will require a total of 4,000 hours to be got out of 154 days—a problem that we confess our inability to solve with satisfaction to ourselves, as twenty-four hours a day for 154 days will only yield 3,696 hours, and leave no time for eating and sleeping. It is evident that the four examiners will earn their salaries during the first six months; after that time, things will run more smoothly, and the gentlemen can rest from their exhausting labours. Practically, no doubt, the board will feel authorised to accept the diploma of well known apothecaries, dispense with the form of an examination, and grant the certificate at once. This will facilitate the work, and enable them to get through it by the appointed time. Why all of the physicians of New York should not be compelled to pass an examination before a similar board with as much propriety as the apothecaries, we cannot see; and if two druggists were appointed to examine the doctors, it would not be a whit more ridiculous than the proposition to have the doctors examine the apothecaries. Why a special law should be made for the city of New York, and not for other large towns, is difficult to determine, and it is a grave question whether such a law is not *ex post facto*, in so far as it relates to all persons who have complied with former laws, and have diplomas of full and regular standing in the pharmaceutical profession.

While we are about it, why not have an examining board for all the lawyers, clergymen, professors, and other professional men? This would create a few more offices, and occasion lively times about the City Hall.

The reform intended by the drug bill begins at the wrong end. Instead of waiting until the lion gets inside, and then calling upon all hands to help turn him out, the true plan is to prevent him from getting in at all. The only competent authority to licence apothecaries must be an incorporated college of pharmacy, and half the money this new commission will cost, if expended in support of such a college, would do more towards remedying the evil complained of than a dozen such examining boards. We have medical colleges to licence doctors, law schools to admit attorneys, and a pharmaceutical college to grant diplomas to apothecaries. The law ought to have recognised this college as a

proper authority in such matters, and if the legislature had made provision for the education of pharmacists, and then insisted that every one should first obtain a diploma, they would have begun at the right end. The effect of the law may be to send students into existing colleges, and thus help them, but under present circumstances, it appears to us to be of very doubtful expediency. As the wholesale dealers are not affected by it, they can sell what they please; but the retailers must take care what they dispense to the public. We shall be curious to see what comes of this new commission.—*Scientific American*.



FLY PAPERS IN BOOKS.

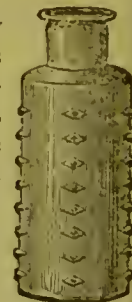
A NEAT little paper-covered book containing three fly papers, is a novelty sent out by Messrs. Dixon, Dean and Co. The extreme neatness of the little volume is certain to recommend it, and its wholesale price is so low as to entitle it to the common description of a "marvel of cheapness." Each paper is perforated to admit of easy removal from the book.

AËRATED CANDLES.

MR. J. K. FIELD, of the well-known candle-making firm, proposes to form lateral apertures near the lower ends of candles, communicating from the outside with internal longitudinal passages so as to admit air into them, whereby upward currents of air will be produced in the passages, which, in issuing in close proximity to the flame, will produce a more perfect combustion, and thus increase the luminosity of the candle. The lateral apertures may be formed either by the aid of drilling instruments, or by any other suitable means; and when the candles have enlarged, ribbed, or grooved lower ends, the apertures may conveniently be made in the grooves thereof. The longitudinal passages may extend either nearly up to the tip of the candle, or they may pass right through the candle, as would be the case in the description of candle known as the police-candle, if the central passage formed in the first instance by the introduction of the wire or core for the double wicks were left unfilled.

LYNCH'S POISON BOTTLE.

THE engraving in the margin will sufficiently explain the idea of Messrs. Lynch and Co.'s newly-introduced poison bottle. The protuberances all over the bottle render it a matter of impossibility that it should be grasped without exciting some attention, and it may be added that these protuberances are not sufficiently sharp to cause any annoyance. In front of the bottle a space of smooth glass is left to allow the attachment of the label.



NOTES "EN VACANCE."

NANTES, April 5.

THIS is one of those busy cities of France that always please the critical eye of an Englishman. Here everything seems alive and of the present day, an air of practical work pervades the whole place, and the many fine quays and streets are crowded from morning till night with an earnest crowd of working bees. And yet the picturesque is not wanting. The Loire, crossed by many bridges, is on

one side; on the other is one of the most interesting of the buildings in Western France, the old castle. Its bastions and outer walls come down almost to the water's edge, and its present condition is so perfect that it seems almost incongruous for it to be occupied by soldiers of the nineteenth century, and surrounded by a crowd other than a mediæval one. The cathedral, also, is one of the most ancient churches in Brittany.

Pharmacy here is in a very flourishing condition. There is a rich commercial population, an aristocratic neighbourhood, and, moreover, Nantes is the chief town of a very extensive district, fertile in soil and rich in its occupiers. There are no very elegantly decorated pharmacies here, but at the same time very few poor ones. On the quays, which are both numerous, and extending far away on the south arm of the Loire, are several pharmacies, that do a very good business with the large amount of shipping always in the port; but in the main streets and squares are to be found the most important shops. In the worst corner of one of the worst squares lies *perdu* the establishment of one of the largest wholesale druggists in France.

From various causes the wholesale houses in the large provincial towns in France do a very important amount of business. This arises from the want of rapidity of the *petite vitesse* service on the lines of railway, partly from the great convenience of such houses to the provincial pharmacies, partly also from the fact that these houses are generally of very old standing, and thereby have a local traditional name and reputation. I know wholesale houses in Lyons that employ six travellers. In Nantes and Bordeaux are houses that, with two or three exceptions, are as important as any in Paris. Such establishments make certainly a poor show, and perhaps do their business in a rougher way than in England, but their actual returns are enormous. And here one of the peculiarities of the French *bourgeoisie* shows itself. In the provinces, as in Paris, the typical Frenchman is considered, and with some show of justice, a frivolous man, little fond of his home, and universally fonder of spending money than of saving it. Now, all the examples I have seen of the French wholesale druggists, show me a serious, capable, careful man, so fond of his children as invariably to take them, with his wife, on a Sunday, into the country, and endeavouring with might and main to save for ten or twenty years enough on which to retire from business. An Englishman in such a position would live nearly up to his income; a Frenchman lives on the smallest pittance, and carefully saves all the rest of his profits against his retirement. The provincial wholesale man is of this nature: he saves all he can, leads a very inexpensive life, and in some few years he will retire altogether. This is also no unfrequent case with the well-to-do pharmacist—but as the profits are smaller, so the period devoted to work is longer.

At Nantes I came across three English gentlemen (two of them bearing names well known in the chemical world), over here to distribute the fund collected by the Society of Friends. And certainly, if there is a real charity upon earth, it is this relief brought to the very houses of those industrious poor who have lost everything by this infamous war. These are the innocent, who pay for the evil deeds of the guilty. In many cases, especially between Tours and Orleans, and in the neighbourhood of Blois, everything in the villages had been pillaged and taken away, even to the bedding and women's apparel. It will be long before this part of France recovers itself; but these worthy members of the Society of Friends, in leaving their comfortable homes in England to work among these wretched sufferers, are taking the most noble way to alleviate their misery and to make the name of England blessed among the inhabitants on the Loire. There are a few handsome pharmacies at Nantes, but none to approach that belonging to Mr. Dannecy at Bordeaux. This is a work of art, comprehending a *salon*, fitted with carved oak furniture, an abundance of verdure plants, antique bronzes, Palissy china, etc. A looped-up curtain goes across the pharmacy proper, in which dispensing is carried on behind a horse-shoe oak counter. In the rear of this room extends, to be seen from the *salon*, a large room, used partly as a store room and partly as a second dispensing counter; and this terminates with a square convenient laboratory. The customer is received in the *salon*, whence his order is taken, to be put up in the

pharmacie, or dispensed in the *officine*, with preparations which have been previously produced in the *laboratoire*. Such is a typical chemist's establishment.

HOTEL DE NANTES, BORDEAUX, April 18.

I am stopping at a remarkably pleasant hotel—the Hôtel de Nantes. As these places go in France, this is an exception. There are few good hotels and many bad ones. The good are those frequented by English in the great cities of Paris, Lyons, and Marseilles; but beyond these places the hotels offering even a fair amount of comfort may be reckoned on the fingers. I have been calling several times during the last few days on one of the *pharmaciens* here. I pitied him, and especially his wife. Their eldest son, employed in a wholesale drug house in Paris, was an officer in the Garde Nationale, and imbued with patriotic ideas of the most "rouge" description. He had led a company in the recent Montmartre disturbances, and was taking a most active part in inciting his men to join the ranks of those who obeyed the "Comité," and who were about to inaugurate municipal liberty under the type of the "Commune de Paris." These patriotic citizens were displaying their idea of *liberté* by requisitions and arrests without number; they had already exhibited *égalité* by the assassination of two generals; their treatment of Paris and the hostages they had thrown into prison will hereafter show their reading of the title *fraternité*. But in the meantime the wife of my friend the *pharmacien* received no news of her son. He had hitherto written regularly to her, even by balloon post; but now, after the first *rencontre* of the Communists and the troops, these letters suddenly ceased. The poor woman of course believed that only death could have been the cause. She admitted that he and his fellow *insurgés* were wrong; she acknowledged his error, and said he must have been led away by the ideas of others. Even the old *pharmacien* did not hesitate to say that the line of conduct taken by him must lead to the most heinous crimes; but he was their son, and their son was, they felt certain, no longer alive. The *patron* cut up his *pâte de jujube* mechanically, his wife, as *dame du comptoir*, received the money of customers, but without interest, and yet the cause was so simple—they were without news of their son. Wednesday they expected a letter, and Thursday they felt certain of receiving one, but Friday came, and on Saturday the *facteur* simply nodded to them, and on Sunday he passed down the opposite side of the street. Then these good people began to wonder at this silence. On the non-appearance of a letter on Monday they became more anxious, and with justice—*anxiety* which deepened to distress of mind on Tuesday, as the wife thought of dangers lightly scoffed at, of the ball that hits its object, and the sabre that lays its man; whilst all this time the old *pharmacien* was in his heart wailing bitterly, yet silently. On Wednesday their disappointment was more evident, and their anxiety more palpable; but yet the innate kindness of the true woman's heart had caused her to write letters (her husband showed them to me with pride) to two widows of the war, letters as gentle, as loving, and as kind-hearted as it would be possible to light upon in a long survey of good actions; for her nature was ever thinking of others, and of misery beyond her own. I wish I could with truth say that she was rewarded. Her son was shot dead at the barricade at the Rue Druot.

May 12.

There are several very important wholesale drug houses in Bordeaux, though their exterior offers but little promise, and their interior but little of the ordinary display. At the same time these warehouses are most curious to the pharmaceutical observer. They do not keep the old signs, as at Lyons, where one wholesale druggist hangs out the sign of the "Golden Mortar," another the "Unicorn," another (with 150 years of existence) the "Dragon;" but they have wonderful specimens of drugs in their windows, and still more remarkable objects inside. One house in particular has an interior that reminds one of the description given of the laboratories of the alchemists of the days of Paracelsus and Albertus Magnus, the learned Dominican. Around the principal store-room, into which customers first enter, are arranged glass jars, containing snakes, vipers, two-headed animals, chickens with four legs, and other monstrosities; from the ceiling hang, hallowed with the dust of ages, small crocodiles, chameleons, a huge codfish with distended jaws,

showing treble rows of teeth, reptiles of all sizes: certainly not the place to give the stranger an innocent idea of the scientific character of medicines in the 19th century, but more suggestive of the times when the most disgusting secretions of the human body were gravely recommended, and when the moss from a dead man's skull was procured with care and administered as a sovereign remedy against fainting fits. It is true that dried vipers enter into the composition of the French "Theriacque," and frogs into that of the Spanish "Emplastro de Ranar con Mercurio;" but these preparations are exceptional ones, and are generally prepared without these curious but useless animal ingredients. Some of the specimens of drugs, used for display, are very fine. I have seen pieces of yellow Calisaya bark over three feet in length, and twelve inches in width—red cinchona bark fully three inches in thickness—enormous jalap tubers, and great masses of rhubarb. And this, notwithstanding that the ordinary drugs sold by the wholesale houses in France, are much inferior to our own. The different names that the same articles assume in France and with us is well worthy of a few words. *Aloës succotrin* is not Socotrine, but Cape aloes; the real Socotrine is only known here as a curiosity under the denomination of *Aloes suc. des Anglais*—complimentary at all events to our higher standard. But it is surprising to what an extent this Cape aloes is taken here, especially by the poor and working classes. Amongst these latter (especially in the Northern provinces) the system of domestic medicine introduced by Raspail is very popular, and according to his directions, the best purge is a little piece of aloes, about the size of a pea. The pharmaciens, therefore, buy this drug hard, and as translucent as possible. Raspail and his works, addressed principally to the non-scientific public, have enjoyed a great reputation in France, as latterly he did himself in a political sense. He was elected, at the last elections in 1870, under the Empire, with Gambetta, Rochefort, and Favre, one of the deputies of Paris in the Republican interest; fortunately the old man has avoided any part in the disastrous tragedies of the past few months. Barbadoes aloes are but little used even in veterinary surgery; hepatic, like Socotrine, seem unknown in commerce. Mocha aloes are mentioned by writers on *Materia Medica* but never met with; a very common and drossy Barbadoes is occasionally sent out by wholesale houses under the name of *Aloes caballin*. Jalap and ipecacuanha are two drugs scarcely ever found in the provincial druggist's shop, except in a state of powder.

Pharmacy.

SAPONIFIED COD-LIVER OIL.

A NOVEL mode of administering cod-liver oil has been advocated by Dr. Van de Corput, a Brussels physician. The oil is given in combination with hydrate of lime, and consequently in a saponified state. We append the formula:—

Pure cod-liver oil, 30 drachms.

Make a soap with hydrate of lime, of the consistence of pills, and flavour with essential oil of almonds or oil of aniseed, 15 minims. Divide into boluses weighing 4 or 5 grs. each, and either give them a coating of aetherial tincture of tolu, or roll in a mixture of one part powdered orris and three parts powdered sugar. The dose is from six to eight daily, directly after meals. Such potent remedial agents as morphia, extract of belladonna, hyoseyamus, etc., are added to the above when especial symptoms point to their administration.

The promise held out, however, by the publication of this formula has not been realised. Mr. C. Lewis Diehl, of Louisville, writes to the *American Practitioner* that the process is not available for general use, because the author only indicates the composition of the pills instead of giving a working formula. The saponification of cod-liver oil by means of lime is effected by boiling the oil with milk of lime for an hour or two, according to circumstances. By using just sufficient an excess of lime, perfect saponification results, and a hard, brittle, and insoluble soap is formed. As Prof. Van den Corput speaks of saponifying the oil to a pilular consistence, it is evident he intends partial saponification; and accepting this view, I attempted the preparation of the pills. Pure

cod-liver oil was boiled with a sixteenth of its weight of lime, in form of dilute milk of lime, for nearly two hours. When cool, the partially saponified oil floated upon the surface of the watery liquid, and had acquired about the consistence of lard. Evidently this consistence was not that required, and more lime should have been employed to bring the oil to the proper consistence. The experiment was, however, not continued, as the extremely nauseous odour, arising during the saponification, and retained by the saponaceous mixture, gave plain indication of the formation of products of decomposition, among them propylamine, which in their character gave sufficient reason for discarding the process from a pharmaceutical point of view. Whether the therapeutic value of cod-liver oil is thereby affected must be determined by the physician.

UNGUENTUM ACIDI CARBOLICI.

Simple Ointment, benzoated, 4 pounds troy.

Carbolic Acid, crystallized, 3 ounces, 96 grains.

Liquefy the acid by immersing the vessel containing it in hot water, and when the ointment is about congealing, add the acid, stirring well with a strong wooden spatula. Each drachm contains three grains. This ointment has been of excellent service in treating large superficial wounds, and ulcerating surfaces caused by burns, and in cutaneous eruptions of a parasitic nature.—*Pharmacist*.

LIQUOR SEDATIVUS.

Tinct. Opii Camphor.

Spts. Eth. Nit. dulc.

„ Mindereri.

Syr. Simpl.

Aq. Camphoræ, 5ā part aeq.

M. et fl. solutio. Dose: A teaspoonful.

To increase the therapeutic effect of this mixture, 2 fl. ʒ of Tinct. Gelsemini, or 1 fl. ʒ of Tinct. Verat. vir. are often added to four ounces, to meet particular indications. This is a combination often prescribed in diseases complicated with febrile symptoms.—*Pharmacist*.

CARBOLIC ACID AS A POISON.

C. Roberts (*British Medical Journal*) treats of this. After considering various cases, he concludes that the poisonous effects are produced by absorption of the acid into the system and action on the brain as the centre of the nervous system. He suggests that symptoms, which are often attributed in surgical practice to anaesthetics, may be sometimes due to the carbolic acid employed as dressings. The indications for treatment are—to remove the poison from the stomach as speedily as possible, to neutralise its action, and to treat the general symptoms of collapse in the ordinary way. A mixture of olive oil and castor oil has been recommended, and employed in some cases, with the object, I suppose, of diluting and carrying off the poison by the bowels, on the theory that it acts only as a corrosive, and is not absorbed. As we know that it is absorbed, it would be doubtful practice to continue this treatment, and to make the acid run the gauntlet of the fat-absorbing surfaces of the small intestines. As carbolic acid is very slightly soluble in water, probably the speediest and most effectual way of removing it mechanically from the stomach would be to administer large quantities of warm water, or mustard and water. As it is very soluble in glycerine, that substance, with water and sulphate of zinc, might be employed, after the bulk of the poison had been removed by the former plan. From the serious action of the acid on the mucous membrane, the stomach-pump should be employed with great care, and probably would often be inadmissible. I know of no substance capable of neutralising the acid chemically; but its well known affinity for albuminous compounds would point to eggs, and finely mixed or powdered raw meat, as likely to be of service. If eggs were used, it would be necessary, for obvious reasons, that they should be very much diluted, by being whipped up with milk or cold water. Milk is not coagulated by carbolic acid, and therefore would not act as a neutraliser, but it would be a more suitable application than oil to the injured mucous membrane, and less likely to produce further discomfort to the patient. The general symptoms of collapse must be treated in the usual manner, by internal stimulants, and friction and warmth to the skin. The rectum would be the most suitable part to which

stimulants should be applied. If raw meat were given, it might be well seasoned. As brandy dissolves carbolic acid, and is itself speedily absorbed, its administration by the stomach would be contra-indicated.

TEST FOR SUGAR IN ANIMAL FLUIDS.

Dr. Ehrardt gives a simple method of testing urine and other animal fluids for sugar. Add to the liquid a few drops of the following mixture:—

Natr. Carb. cryst. . . . .	..	..	..	gr. v.
Pot. Hydrat. . . . .	..	..	..	gr. v.
Pot. Bitart. . . . .	..	..	..	gr. vi.
Sulph. Cupri cryst. . . . .	..	..	..	gr. iv.
Aqua pura . . . . .	..	..	..	gr. xxx.

It takes after heating it, if it contain traces of sugar, a greenish yellow colour; or, with large quantities of sugar, a yellowish red.—*Boston Journal of Chemistry.*

ADULTERATION OF OIL OF CLOVES.

Carbolic acid is said to be used for this purpose, and Fluekiger gives the following test for its detection:—Agitate with fifty or one hundred volumes of hot water, decant the latter and evaporate it, add a little ammonia and good bleaching powder, and agitate. If carbolic acid be present, a blue colour will in time appear.—*Ibid.*

Medical Gleanings.

THE Select Committee appointed to inquire into the operation of the Vaccination Act (1867), of which Mr. Foster was chairman, have issued their report, which is a sensible, logical, and liberal deduction from the facts brought under review. The chief suggestion, which it is most likely will be carried into effect, recommends itself to one's reason under the circumstances, although it involves a principle at once unique and, if freely adopted, fatal to justice. The Committee would not advise the repeal of the compulsory clauses of the Vaccination Act, but in deference to the sincere convictions of those who believe vaccination to be injurious, they advise that when one full penalty has been inflicted in regard to any one child, no further prosecution shall be allowed. It is of course clear that the proportional severity of the punishment must vary in every case, according to the wealth of the offender, and it also seems a bold suggestion that a fixed price should be attached to the transgression of the imperial law. But considering that the Committee had "to weigh the claims of the parent to control as he thinks fit the medical treatment of an infant child, as against the duty of the State to protect the health of the community, and to save the child itself from a dreadful disease," it does seem that they have cut the knot very neatly.

It was a pity to kill the Welsh fasting girl. It was unkind to her, and unkind to those sections of the public which were interested in her miraculous existence. But as she is undoubtedly gone, it has become absolutely necessary to seek for some other marvels. And we may remark *en passant* how we all profess to take merely a scientific interest in the displays of natural enormities which we pay a shilling to see. We are far above the morbid curiosity which draws out the rustic's dirty coppers at a country fair when a frightfully fat woman is on exhibition; and we go to Willis's Rooms to see the double-headed girl and the Kentucky giant, simply because we are interested in physiological and anatomical studies. But we have a more interesting case than either of these, in a little village called Bois d'Haine, in Belgium.

Louise Lateau, the subject of the phenomena, is a peasant girl, of ordinary intelligence and of good character, who suffered from severe illness at the age of eighteen. On April 16th, 1868, she was so exhausted that she thought she was dying, and received the sacrament. From that day she rapidly improved; and her restoration to health became complete. On the 24th of April, being Friday, she observed a discharge of blood from the left side of the chest; and on the following Friday this discharge again appeared, and also from the upper surface of each foot. On the third Friday blood began to ooze during the night from the left side and both feet, and by nine o'clock it also flowed from the palms and backs of both hands. Finally, on the 28th of September,

the forehead also became moist with blood; and these bleedings have continued every Friday up to last January, the date of the latest report. On the 17th of July the phenomena of ecstasy were added to those of the stigmata; and since that time the girl has spent many hours of every Friday in a state of complete abstraction from the external world. During these periods she is insensible to pain or outward impressions; and is engaged in seeing, as if in a dream, the whole drama of the Crucifixion.

The *Lancet*, after describing the case, swallows the camel as coolly if it were only a lump of sugar, remarking that "such cases are in no way extraordinary." If the case is not extraordinary, however, every one will admit that our contemporary's explanation of it is sufficiently so, and would be better characterized by the adjective *absurd* than *simple*, which is what the author chooses to attach to it. We are told that the girl being "of a reserved (*i.e.*, introspective and contemplative) temperament, she was familiar with the details of the Passion from the crucifixes and pictures which form so large a part of the apparatus of Roman Catholicism. The supposed approach of death had served to fix her thoughts upon sacred things, and her unexpected recovery only strengthened and deepened her religious impressions. With these in her little world there was nothing else to contend; and her meditations on the crucifixion, actively excited by the Friday, at last culminated in the flow of blood corresponding to that from the wounded side. Such an effect, once produced, and, as the narrative shows, brooded over for an entire week in silence, was naturally enough followed by the appearance of the other stigmata. The faculty of attention, growing and strengthening by use, soon attained the power of engrossing the whole force of the nervous centres, and the condition of ecstasy became developed."

A writer in the *Medical Times and Gazette* gives the following sketch of the late Dr. John Epps, who died a year or two ago:—"He was the eldest son of Mr. John Epps, who some fifty years ago was noted for having a ham and beef shop in almost every part of London. Dr. Epps was lecturer on *Materia Medica*, chemistry, and botany, at the Gerrard-street School, Soho. He turned to homœopathy after the dissolution of that establishment. He was conscientious and painstaking as a lecturer, but had an imperfect practical knowledge of either of the subjects on which he lectured; somehow or other he managed to instil a fair amount of information into his pupils. He knew more of *Materia Medica* than of chemistry or botany. He, however, 'pegged away' with his experiments in chemistry, and would make the students alternately prepare gases, apply the tests for poisons, etc. His laboratory was somewhat small, but compact. The amount of glass destroyed on some mornings was very great—a serious loss at that time, when glass was of an enormous value compared with the present day. He, however, never lost his temper, never said an unkind word; even when the blundering pupil had smashed a dozen or more of the best glasses, the good-natured little man would say, 'Try it again, my friend, you will get on better soon.' He confined his teaching of botany chiefly to the system of Linnæus. On one occasion two or three of the students played him an innocent trick, which afforded him an opportunity of showing his readiness in resources. A bet was made that Epps would not be able to tell the name of a plant which one of the students would present to him; this wager was accepted. Accordingly H—, a Yorkshire pupil, after lecture one morning, produced a plant. I think it was the *mercurius perennis*—and, handing it to the lecturer, said he would feel obliged by being informed of its name. Epps smiled, and said, 'My friend, I should be happy to tell you, but you would derive more benefit by finding it out yourself. Do so, and if I find you correct when I come to-morrow morning, I will give you my life of Dr. Walker.' In the meantime a name was invented; I cannot recollect exactly what it was. The next morning punctually at ten—for he was always punctual—in walks the little Doctor with a book under his arm. 'Well, my friend,' said he, addressing H—, 'have you discovered the name of the plant?' 'Yes,' said H—, 'it is so-and-so.' 'Very good; and here is my life of Dr. Walker.' Those in the secret could scarcely refrain from a laugh; but a proper decorum was observed. H— won his wager. Epps had very strong political views. He was one of the school of Burdett and Cobbett;

but he never mentioned politics in his lectures, or, if he did, it was in the most cursory manner. Out of school he had no such reserve, and would speak at public meetings, or write articles of the most advanced kind. When an election was going on in his borough (Finsbury) it was his custom to have in front of his house in Great Russell-street a huge placard with the names of his favourite candidates emblazoned on it. He was an excellent speaker; spoke always to the point, and had a dry, quiet humour, which made him a favourite with his audience. He was a man of extraordinary industry and perseverance, and never succumbed to difficulties or hard work; never got out of temper; made fun of his antagonists in a good-natured way, and was usually thoroughly up in the subject he was treating."

Professor Christison's assistant, a Mr. Craig, who brought an action against Miss Jex Blake for defamation of his character, has obtained damages—one farthing. With wounded honour soothed, and credit secure, it is to be hoped that the young gentleman will attend to his surgery work for the future. He is far too thin-skinned to attain eminence in political encounters.

THE EXHIBITION OF 1880.

THE arrangements for the annual London International Exhibitions have been drawn out for each year until 1880. They are subject to modifications, and it is to be understood that fine art is included each year. Also in the exhibition of any particular manufacture, the raw material and machinery employed is also to be admitted.

The following is the list as it stands at present:—1872.—Cotton; jewellery; musical instruments, with experiments; paper, stationery, and printing: A, paper, card, and mill-board; B, stationery; C, plate, letterpress, and other modes of printing. 1873.—Silk and velvet; steel, cutlery, and edge tools: A, steel manufactures; B, cutlery and edge tools; surgical instruments and appliances; carriages not connected with rail or tram roads; substances used as food: A, agricultural products; B, drysaltery, grocery, preparations of food; C, wines, spirits, beer, and other drinks, and tobacco; D, implements for drinking, and use of tobacco of all kinds; cooking and its science. 1874.—Lace, hand, and machine made; civil engineering, architectural, and building contrivances, and tests: A, civil engineering, and building construction; B, sanitary apparatus, and constructions; C, cement and plaster work, etc.; leather, including saddlery and harness: A, leather, and manufactures of leather; B, saddlery, harness; artificial illumination by all methods, gas, and its manufacture; bookbinding of all kinds. 1875.—Woven, spun, felted and laid fabrics (when shown as specimens of printing or dyeing); horological instruments; brass and copper manufactures; hydraulics and experiments of supply of water. 1876.—Works in precious metals and their imitations; photographic apparatus and photography; skins, fur, feathers, and hair; agricultural machinery and results; philosophical instruments and processes depending upon their use; uses of electricity. 1877.—Furniture and upholstery, including paper hangings and papier-mâché: A, furniture and upholstery; B, paper hangings and general decoration; health—manufactures, etc., promoting with experiments. 1878.—Tapestry, embroidery, and needlework; glass: A, stained glass used in buildings; B, glass for household purposes; military engineering, armour and accoutrements, ambulances, ordnance and small arms: A, clothing and accoutrements; B, tents, camp equipages, and military engineering; C, arms, ordnance, and ammunition; naval architecture—ship's tackle: A, ships for purposes of war and commerce; B, boats, barges, and vessels for commerce, amusement, etc.; C, ships' tackle and rigging; D, (additional) clothing for the navy; heating and combustion, with experiments. 1879.—Matting of all kinds, straw manufactures; flax and hemp; iron and general hardware: A, iron manufactures; B, tin, lead, zinc, pewter, and general brazing; dressing cases, travelling cases, etc.; horticultural machinery and products; uses of magnetism. 1880.—Chemical substances and products, and experiments, pharmaceutical processes: A, chemical products; B, medical and pharmaceutical products and processes; C, oils, fats, wax; articles of clothing: A, hats and caps; B, bonnets and general millinery; C, hosiery, gloves, and clothing in general;

D, boots and shoes; railway plant, including locomotive engines and carriages.

It will be noticed that not till 1880, will chemistry and pharmacy be honoured by her Majesty's Commissioners. The battle of Dorking may occur before then, and in these troublous times it seems rash to anticipate such a distant epoch. But we may remark that the year will fall coincidentally with the quadrennial International Pharmaceutical Congress. We mentioned last month that this Congress was to be held in St. Petersburg in 1872, and that an idea had been started to invite the members to the United States in 1876. It will doubtless be welcome to many foreign pharmacists, and would add considerably to the success of the Exhibition, if the chemists of Great Britain resolve to invite the Congress to London in 1880. We cast this piece of bread upon the waters in the confidence that some one will bring it to land as a new discovery after many days.

The Italian Industrial Association has erected a building at Milan, for the purpose of holding periodical exhibitions. The first will be opened on the 1st of September of this year and will include (Class 7):—Apparatus and processes used for various arts. Washing and process of bleaching, apparatus and various substances used, soaps and perfumery, various processes for disinfection, various uses of wax, stearine oils, and fatty matters, substances and apparatus used for the preparation of food, substances and apparatus used in the pharmaceutical arts.

INDIAN QUININE.

THE Government Quinologist at Ootacamund has written replies to certain inquiries officially submitted to him, which contain information of value in reference to the cultivation of cinchona in the East Indies. The first inquiry we print with the answer entire, the rest we summarize.

What systematic course would you recommend with reference to procuring and utilizing annually the very large quantity of febrifuge alkaloids stored in the bark of the trees?

"I am of opinion that our present experience has hardly been sufficiently matured to permit the laying down of a definite and unalterable system of cropping the plantations. There are two modes on the results of whose trial the method ultimately adopted of harvesting will depend. These are, first, the method of mossaing the trees, of taking the bark from the living tree, and allowing it to renew under moss, advocated by Mr. McIvor; second, the method of coppicing. The first of these methods has hitherto been carried out on so small a scale that the cost and financial advantages have not been ascertained. At my recommendation the Government issued orders that a certain considerable number of trees should be treated by moss. This was done in May, 1869, and following months, and the results obtained, together with the cost of the same, will furnish trustworthy data for determining whether the method of mossaing be finally adopted. The method of coppicing appears a very suitable mode of cropping plantations. In 1867 some hundred trees of *C. Succirubra* were cut down, in order that their bark might be sent to the English market. In the early part of this year the vigorous shoots that had sprung from the stumps had reached the height of fifteen feet, and furnished bark of good quality. I am led to hold the opinion that a great part of the Neilgherry and the whole of the smaller plantations of Southern India will be advantageously treated as coppice. This plan offers the further advantage of supplying abundance of excellent fuel without encroaching on the sholas. In a report to Government now under preparation, I propose to recommend that a considerable number of trees be cut down, in order to make a full trial of the coppice system. It seems, therefore, to follow that it will be advisable to await a fuller experience before the exact and permanent method of taking the bark of the plantations can be decided. It will, however, be necessary, as I had the honour of showing in a late report, to avoid the months from May to November for taking the bark."

The Government Quinologist considers that for economic reasons it is very desirable that all the febrifuge alkaloids

required for India should be manufactured *there* from the bark, and not sent home to have the quinine re-imported. At the same time, he suggests that the Government has an excellent opportunity of encouraging native enterpriso, by acting as pioneers in the introduction of Indian grown barks into the European markets.

Mr. Broughton has evidently a slight contempt for the "traditional prejudice" which exists in Europe against the alkaloids other than quinine which abound in the red barks. He believes that Government, without competing in the various markets, as bark-growers, ought to retain command of sufficient plantations to ensure a sufficient supply of quinine for the hospitals and dispensaries of India at the lowest possible rate.

The following calculation is of considerable interest. We extract it from Mr. Broughton's report:—

"In carrying out the instructions I had the honour of receiving from the home Government, I have paid much attention to the production of a febrifuge for use in Indian hospitals and dispensaries cheaper than the quinine sulphate. In the small manufactory at Ootacamund have been prepared since January last seventy lbs. of such a preparation, consisting of the mixed alkaloids precipitated in an amorphous but tolerably pure state. This has been largely used in dispensaries and hospitals, and with such success that I believe I am justified by the evidence in stating that it may nearly entirely re-place the quinine sulphate hitherto employed therein. I now subjoin an estimate for the conversion of the now disused jail at Nedddivuttum into an alkaloid manufactory, and also estimate for the yearly cost of preparing 800 lbs of amorphous alkaloids."

	Rs.
Six large copper boilers	1,500
Eight large percolators	1,600
Setting of boilers and percolators	2,500
Sundry alterations in buildings	1,000
Sundry fittings	1,500
Water supply	350
Vessels	400
Presses	900
Stock of alcohol	900
Contingencies	500
Still for recovering and rectifying alcohol	700
Native mills for grinding, etc.	40
	11,890

Yearly expenses to produce 800 lbs. of alkaloids.

I am informed by Mr. McIvor that the cost *on the spot* of red bark will range from 4d. to 6d. a pound. I adopt the higher price in the estimate, and reckon its mean yield at the low one of 4 per cent.

	Rs.
Bark	5,000
Cost of acid	600
" lime	100
" soda from native sources	150
Labour, 24 coolies, 12 at Rs. 8, 12 at Rs. 7 per month	2,160
Superintendent's pay, at Rs. 100	1,200
Waste of alcohol	300
Fuel	720
Filters, bags, etc.	500
Contingencies	800
	11,530

Dividing these yearly total expenses by 800, we get the cost per pound. Hence, the cost of a pound of alkaloid is Rs. 14-6-7, or reckoning interest at 5 per cent on "plant," about one rupee (two shillings) per ounce. A larger quantity could be manufactured at a still lower rate.

TU QUOQUE; OR, LANCET LAMBS.

WE pharmacists seem to be a very noisy, ill-humoured class. At least the medical journals say we are, and everybody believes what they say. Just lately we have been so dreadfully unruly that the gentlemen editors of a certain Gazette have been compelled to lay down their editorial pens, wielded only on behalf of *gentlemen*, and administer a sound castigation to "the trade," as, with superlative scorn, they term the pharmaceutical body.

Now, considering that the majority of us enjoy the privilege of almost daily intercourse with members of the medical profession, whose conduct on every occasion is considered indicative of the highest type of refinement, we ought surely to be able to derive some profit from the connection, and learn how to cultivate some of the graces which are peculiarly their own. *Sera nunquam est ad bonos mores via*, so let us take heart and set to work; and soon, probably, we shall be in a fair way of emulating the professional zeal and brotherly love of our good friends the doctors.

An instance has recently come under our notice which will illustrate, far better than any description of ours, the kindly feeling and gentle spirit which pervades the medical profession, and we commend it to our readers in the belief that the benefit they will derive from its perusal will be fully commensurate with the importance of the case.

Dr. John H. Aldridge is a physician and surgeon practising in Southampton, and one of the public vaccinators. A controversy has recently sprung up between this gentleman and Dr. Edwin Hearne, another doctor of the town, respecting the merits of re-vaccination, Dr. Hearne being decidedly sceptical on the point. Several letters having appeared from each in the *Hants Independent*, on the 13th of May, as Dr. Aldridge was discharging his duties at the vaccination station, Drs. Griffin and Bencraft, two other local medical gentlemen, being present, he was startled at the entrance of Dr. Hearne, who is *ex officio* a guardian. Dr. Aldridge informed the intruder he had no business there; to which the other courteously replied, "I have, I shall remain in spite of you; it's a public vaccination station, look at the blind." "Public only for the vaccinators and the vaccinated, was the ready retort." Not to be outdone, Dr. Hearne at once asked, "How do you know I don't want to be vaccinated? you haven't asked me." Quick as thought, the operator ordered him to pull off his coat, and he would vaccinate him. Alas! that such ingratitude should exist; this generous offer was met with the crushing response, "Not by such a low fellow as you." This was too bad! so, to avoid a scene, the doctor hurried with his patients into the next room. "But no sooner had I got there," said he, in his evidence, "than I heard some one rushing (!) after me, and looking round I saw Dr. Hearne." A scrimmage at once ensued over the threshold for the "right of way," which ended in the repulse of the invader, although it is said he employed both his stick and his feet by way of adding force to reason. Hereupon Dr. Griffin remonstrated with the aggressor, mildly denouncing his conduct as "unprofessional" and "ungentlemanly." An offer to fight was Dr. Hearne's reply—a challenge which the other accepted; and it is probable that the cabbage garden in the rear of the station would have been stained with professional blood, had not the crowd collected outside, and brought the combatants to their professional senses. The sequel tells its own tale. Dr. Hearne brought a charge of assault against Dr. Aldridge, which was met by a counter-charge by the other. The case came before the borough magistrates, who, after two adjournments, rose to a fitting conception both of their own dignity and the importance of the case, by clearing the court, reporters and all. The result of their solemn deliberation was a dismissal of the case against Dr. Hearne, and the infliction of a shilling penalty upon Dr. Aldridge. We suppose such a verdict was considered *infra dig.* of the profession, for Dr. Aldridge's solicitor has given notice of his intention to appeal to the Court of Queen's Bench, and we anxiously await the result.

After such a specimen of the way in which the doctors manage things, we may, perhaps, hear rather less about our own vulgarity; or, perhaps, some of us may have the courage to fling back to our would-be instructors in deportment the all-sufficient answer, "Physician, heal thyself!"

IGNOTUS.

LAW AND POLICE.

ROBBERY OF SAFFRON.

AT the Central Criminal Court, on the 6th inst., William Hale, warehouseman; John Adams, labourer; and George Robinson, chemist, were charged with feloniously breaking and entering the warehouse of Charles Brumley, and stealing

200 lbs. weight of saffron, value £250, his property. The prosecutor is a drug merchant. On the night of the 17th April, a warehouse in Billiter-street, belonging to him, was broken into, and a large quantity of saffron stolen. When the prisoners were taken into custody, it was found that they had been dealing with the stolen property immediately after the robbery, and offering it for sale at prices far below its real value. The jury returned a verdict of feloniously receiving against Hale, and acquitted the other two prisoners, believing that they had acted innocently under the direction of Hale. The Recorder sentenced Hale to eighteen months' imprisonment with hard labour.—Alfred Hughes, who carried on the business of a chemist in the Hackney-road, was also charged with being implicated in the transaction, but while in custody at the police station he attempted to commit suicide by cutting his throat, and has since died.

COURT OF QUEEN'S BENCH.

An application was made on June 5th to the Court of Queen's Bench, on the part of a Mr. Whiskin, a chemist and druggist at Welchpool, whose name had been removed by the Pharmaceutical Society from the Register, to compel them to restore his name. His name was on the Register last year, but, on the ground of some alleged mis-statement on his part, his name was omitted this year, and the result was that he was being sued in the Welchpool County Court, for penalties for selling drugs without being registered. He now contended that, under the Act, he had, upon certain conditions, a vested right to be registered, so that the Society had no right to remove him from the Register. He appealed to the Council of the Society, but in vain. An affidavit made by the applicant stated that the agent of the Society at Welchpool, himself a chemist and druggist, had really objected to the applicant because he had removed to a shop opposite to his own, and this was suggested as the real cause and reason of the removal of the applicant's name. The Court granted a rule *nisi* for a *mandamus* to the Society to compel them to restore the applicant's name to the Register.

On June 12th, Mr. Quain, Q.C., and another learned gentleman showed cause against the rule. By the Pharmacy Act it was provided that all persons carrying on before the passing of the Act the business of a chemist and druggist in the keeping of open shop for the compounding of prescriptions of duly qualified medical practitioners should, on the production of certain certificates, be registered as a matter of course. The applicant forwarded the necessary certificates, and he was duly registered. It then came to the knowledge of the Society that he was only a cattle doctor or farrier, when they applied to the person who signed the certificate, and on the matter being explained to him he withdrew it, when the applicant's name was removed from the Register, and proceedings were taken against him in the county court for the recovery of £5 penalty under the Act. The learned counsel further contended that it was not a case for a *mandamus*. The matter was entirely in the discretion of the Council, as provided by the Act. The statements were confirmed by a number of affidavits that had been filed by the Society. Mr. Bullen appeared for the plaintiff; and after hearing him, the Lord Chief Justice said that as the applicant had failed to show there was anything arbitrary or unjust in what the Council had done, the Court could not take it upon itself to review the jurisdiction which was clearly vested in them by the Act of Parliament. If the facts had been fully brought before the Court when the rule was moved for, it would not have been granted. Rule discharged with costs.

OBITUARY.

MR. HENRY S. SIMPSON died on May 22nd, after a long illness, at the age of 32. Mr. Simpson's name is honourably associated with trade journalism, he having conducted the *Grocer* for some years, and secured for it, by his able management, a wide support and respect. He was also, until recently, the proprietor and editor of the *Hornet*, a satirical journal, which circulated chiefly in the City. Among the many who will regret the death of Mr. Simpson, there will be a large number who, from business acquaintance only, had formed a high esteem for his character and talents.

CONTRACTS.

WARWICK LUNATIC ASYLUM.—Turpentine, white lead, oils, etc., for six months. June 17.

LANCASHIRE AND YORKSHIRE RAILWAY.—Rape, linseed, Gallipoli, and sperm oils, paints, varnish, sulphate of copper, for six months.

BANKRUPTS.

IN RE GEORGE FORMAN, DRUGGIST, ETC., YOXALL.

A meeting of creditors in this matter was held at Burton-on-Trent on the 2nd inst., Mr. C. J. Storer, of Derby, in the chair. The statement showed liabilities £605 2s. 9d., assets £285 17s. 6d. It was decided to wind up the estate under the liquidation clauses of the Act. The following are some of the creditors:—Messrs. Borwick and Son, London; Messrs. Drew, Bush-lane, London; Messrs. Hallam, Burton-on-Trent; Mr. Hudson, West Bromwich; Messrs. Storry, Smithson, and Co., Hull; Mrs. Pipe, Lichfield.

Trade Memoranda.

AMONG new sauces which have come before us, we are bound to express a very high opinion of Cottrill's Poonah Sauce, which is certain to command the approval of fastidious palates.

Ruston's Vermin-killer, is a new article, in neatly-labelled packets, on which however the word "Poison" does not appear. The proprietor will do well to rectify this.

The Liebig's Extract of Meat Company slaughtered 88,869 head of cattle last year.

The following are among the most recent agencies established by the Litre Bottle Wine Company:—E. and J. Amitage, Shamble-street, Barnsley; R. S. Stubbs, 10, South-street, Worthing; R. J. Howes, 146, Friar-street, Reading; W. Kirton, Wicker, Sheffield; O. Phillips, Bournemouth.

Messrs. Goodall, Backhouse, and Co., of Leeds, inform us that they sold the enormous number of 113,860 bottles of their Yorkshire Relish during the month of May, and that these were entirely for home consumption. Worcester papers please copy.



Nature tells us that boxwood, according to the old herbalists, was used from a remote period to render the hair auburn; and we are told by Phillips that a young woman in Lower Silesia, whose hair had fallen off after a severe attack of dysentery, was advised to wash her head with a decoction of boxwood, in order to induce it to grow again. This she did; and "hair of a chesnut colour grew on her head, as she was told it would do; but, having used no precaution to secure her face and neck from the lotion, they became covered with red hair to such a degree that she seemed but little different from an ape or a monkey!"

J.T.P.—We do not clearly understand the problem which you propose. If you wish to make pure ferric chloride (Fe_2Cl_6) you can proceed by passing chlorine first through sulphuric acid and thence into a vessel kept hot, in which some iron tacks have been placed. The chlorine is generated by pouring hydrochloric acid on to black oxide of manganese.

Far North asks us to insert an inquiry for a form for a good crystallized salt, suitable for smelling bottles. We shall be glad to be favoured with the result of experience from any correspondence.

Fair Play.—White Hellebore is not a "poison by Act of Parliament," and it may therefore be sold by any one. Duly qualified veterinary surgeons are expressly exempted from the provisions of the Pharmacy Act.

An improved colouring matter for butter—carotene—has been successfully employed by Dr. Quesneville as a substitute for annatto, to which it is in every respect superior, although somewhat more expensive. This carotene is the representative in carrot of alizarine in madder, and is obtained by slicing, drying, and grinding the roots to powder, exhausting the powder with sulphide of carbon, and, having removed the solvent, rapidly crystallizing out the carotene from the extract.

Mr. Aubrey Wicks, L.R.C.P.S.E., of Bicester, writes to the *Lancet* to describe an easy and agreeable method of administration of cod-liver oil. Direct the patient to place a few grains of chloride of sodium on the tongue before taking the prescribed dose of oil (a piece of bread may be eaten after it preferred). With this simple adjunct patients who before rejected it will take the oil with apparent relish, describing the taste as that of herring or sardine.

A correspondent in America thus describes a "Western ague." "It comes creeping up a fellow's back like a ton of wild cats, goes crawling through his joints like iron spikes, and is followed by a fever which prohibits the patient from thinking of anything but the Independent Order of Good Templars. It isn't the 'every-other-day' kind, but gets up with a man at daylight, and sleeps in the small of his back all night. His teeth feel about six inches too long, his joints wobble like a loose waggon wheel, and the shakes are so steady that one can't hold any sort of conversation except by putting in dashes."

The three following recipes are given by the *American Druggists' Circular* :—

BAY RUM.—The following formula for Bay Rum will yield a superior article :—

R Oil of bay	...	...	...	10 fl. drachms.
Oil of pimento	...	...	...	1 "
Acetic ether	...	...	...	2 fl. ounces.
Alcohol	...	...	...	3 gallons.
Water	...	...	...	2½ "

Mix and after a fortnight filter.

Florida Water may be made by taking

Oil of bergamot	...	...	...	3 ounces.
Oil of cinnamon	...	...	...	4 drachms.
Tinct. of benzoin	...	...	...	2 ounces.
Alcohol, 30 per cent. Baume	...	...	...	1 gallon.

Mix and filter.

LIGHT COLOURED BITTER WINE OF IRON.—

R Ferri citr. ammon.	...	...	...	256 grains.
Tinct. gent. comp.	...	...	...
Tinct. aurant. cort., āā	...	...	...	4 fl. ounces.
Vini albi	...	...	...	8 "

The tincture and wine are first mixed and deprived of tannin by usual process; then add citr. iron. This preparation is free from iuky taste, and will keep a long time without precipitation.

J. J. Dorvault gives the following formula for Pepsine Wine :—

Pepsine, 10 parts.
Vin de Frontignac or Muscatelle, 990 parts.

If the wine should not contain sufficient acidity to dissolve the pepsine, a drop or two of muriatic acid must be added.

IV. A.—The law regarding the sale of vermin-killers is that "every such compound containing any poison within the meaning of the 'Pharmacy Act, 1868,' shall be regarded as a poison and treated accordingly. Therefore the usual vermin-killers, in powder, which contain strychnine, must be registered and labelled when sold. Phosphor paste does not contain a legal poison, and is, therefore, not subject to the same law.

PARCHMENT PAPER—(VEGETABLE PARCHMENT).—This is made by Messrs. De la Rue and Co. (London), by plunging unsized paper for a few seconds into sulphuric acid diluted with half its bulk of water (the solution having the same temperature as the air), and washing it afterwards with weak ammonia. This paper or parchment is much employed for a great variety of purposes, among others as the membrane used in dialysis. It is but little inferior to animal parchment in strength.

Recipes for cements are as plentiful as blackberries; but it is possible that the following may be found useful in some instances. It is said to be used very considerably in the north of China, where it is known as *schio-liao*. It is prepared as follows: 3 parts of fresh, well beaten blood, deprived of as much fibrin as possible, is mixed with 4 parts of lime slaked to a powder, and a little alum. A thin, pasty mass is formed, which can be applied as soon as made. It is said to render wooden articles perfectly waterproof, and even straw baskets can be rendered so tight by this cement as to be adapted to the transportation of oil.

CANNIBALISM v. TOBACCO.—The following anecdote confirms the truth of the physiologist's assertion that persistent indulgence in inordinate smoking results in the absorption of the actual essence of tobacco into the very tissues. Captain Wilkes, in an exploring expedition, interrogated a native of the Fiji Islands as to the fate of the crew of a vessel whose shattered hull still lay upon the beach. "All kill," replied the savage. "What did you do with them?" asked Captain Wilkes. "Eat 'em. Good," returned the cannibal. "Did you eat them all?" inquired the half-sick captain. "All but one," holding up a finger. "And why did you spare one?" "Cause him taste too like tobacco; couldn't eat him no now."—*The Food Journal*.

ANISEED CORDIAL.

Oil of aniseed	...	...	...	...	¼ oz.
Spirit of wine (60 O.P.)	...	...	...	...	5 pts.
Simple syrup	...	...	...	...	11 "

First dissolve the oil in the spirit by shaking both well together in the jar, and then add the syrup, again agitating briskly. Should the mixture be at all cloudy, fine with alum and salts of tartar.—*Owen's Licensed Victuallers' Manual*.

"PICK-ME-UP" BITTERS.

Angustura bark	...	...	...	...	1 oz.
Orange peel	...	...	...	...	1 "
Lemon peel	...	...	...	...	1 "
Chiretta	...	...	...	...	½ "
Camomile flowers	...	...	...	...	½ "
Cardamom seeds	...	...	...	...	¼ "
Cinnamon bark	...	...	...	...	¼ "
Carraway seeds	...	...	...	...	¼ "
Raisins	...	...	...	...	4 lbs.
Spirits (11 U.P.)	...	...	...	...	1½ galls.

Macerate for a month, then press and filter.—*Owen's Licensed Victuallers' Manual*.

— Here is a noteworthy specimen of medical prescriptions sometimes written by ignorant pretenders in our different cities. It is genuine :

R Fir Kramps.

- Tinct. Kamfire, won ounce.
- Tinct. Lodenum, a lit lc.
- Tinct. Hot drops, a few drops.
- Tinct. Kyan pepar, 5 cents worth.
- Kloreform, a little, but not much, as it is a dangerous medicine.
- Dose, half teaspuncfull when the Kramps cum on.

—*Med. and Surg. Reporter*, Philadelphia.
TEA LEAF POULTICES FOR BURNS.—Dr. W. H. Searles, in the *Chicago Medical Examiner*, recommends poultices of tea-leaves, moistened with hot water, as preferable to all other remedies in the first stage of burns and scalds.

GALL-SOAP.—Gall-soap, for washing fine silk and ribbons, is prepared in the following manner :—In a vessel of copper one pound of cocoa-nut oil is heated to 60° Fahr., and half a pound of caustic soda is added with constant stirring. In another vessel, half a pound of white Venetian turpentine is heated, and when quite hot, stirred into the copper kettle. This kettle is then covered and left for four hours, being gently heated, after which the fire is increased until the contents are perfectly clear, when one pound of ox-gall is added. After this, good, perfectly dry Castile soap is stirred into the mixture until the whole will yield but little under the pressure of the fingers; for which purpose, from one to two pounds of soap are required for the above quantity. After cooling, the soap is cut into pieces. It is excellent, and will not injure the finest colours.—*Boston Journal of Chemistry*.

CHEMICAL SOCIETY.

April 6th.

PROF. FRANKLAND, F.R.S., President, in the chair. The President occupying the chair the first time since his election, returned his thanks to the Society for the honour conferred upon him, and expressed his readiness to discharge the duties of his office to the best of his abilities. The following gentlemen were elected Fellows:—F. Coles, C. E. Groves, E. W. T. Jones, L. T. McEwan, J. L. Shuter. The following papers were read:—

“On Burnt Iron and Burnt Steel,” by Mr. Mattie Williams. Iron which has been damaged by reheating, or excessively beated and exposed after balling in the puddling furnace, is designated “burnt iron” by the workmen. It is remarkable that no amount of heat applied to the iron in the blast furnace or in the early stages of the puddling process produces burnt iron. Burnt iron is brittle, its fracture is short and what is called crystalline, it has lost the fibrous character of good iron. If steel be raised to a bright red heat and suddenly cooled, it is rendered hard and brittle, but these conditions may be modified by the process of tempering; if, however, the steel be raised to a yellow or white heat, and then be suddenly cooled, it is no longer capable of being tempered by mere reheating. It is worthless for ordinary uses of steel, unless it is again raised to a welding heat and rolled or hammered while hot, then allowed to cool gradually. The fracture of burnt steel presents a coarse grain and a crystalline appearance. Careful investigation, however, shows something more, viz., that the facets of the aggregated granules have a more or less conchoidal form. The name of “toads’ eyes” has been given by practical men to these concavities. Mr. Williams found that a piece of burnt iron contained oxide of iron dispersed through its mass. A sample of burnt steel, however, investigated in the same manner as the iron, showed no indications of the presence of oxide. This, of course, was to be expected, as the carbon of the steel must, more or less completely, protect the metal from oxidation. That iron, when unprotected by combined carbon, should oxidize not merely on its surface but through its whole substance when exposed at a sufficiently high temperature for a sufficient length of time to the action of the atmospheric oxygen, is not difficult to conceive, since the researches of Deville, Froost, and Graham have shown red-hot iron to be permeable by certain gases. In the case of steel, as Mr. Williams states, the burning is limited to the oxidation and consequent removal of the carbon, which takes place even at a low red heat. The permeability of red-hot steel by oxygen and carbonic oxide, enables us to understand the process of the internal oxidation of the carbon. The “toads’ eyes,” or conchoidal facets of the so-called crystals, Mr. Williams explains by supposing a piece of steel at the temperature most favourable to the rapidest endosmosis of oxygen and the exosmosis of carbonic oxide to be suddenly cooled and the possible occlusion of the carbonic oxide to be arrested. The result would be a certain molecular disintegration and porosity of the steel presenting those conchoidal spots. This view is further supported by the fact that burnt steel may be cured by reheating and hammering or rolling at a welding heat.

“On the Formation of Sulpho-acids,” by Dr. Armstrong. Occupied with an investigation into the constitution of sulphuric acid, the author turned his attention to chlorhydric sulphate, a body discovered some years ago by Professor Williamson. When that substance, SO_2HOCl is made to react on benzole, the chief product of the reaction is sulphobenzid, sulphobenzolic chloride, and sulphobenzolic acid being also formed, but in relatively very small quantity. This led Dr. Armstrong to commence a series of experiments to determine, if possible, the conditions under which the one or the other of the above reactions took place, and to arrive at a general expression for the action of chlorhydric sulphate on organic bodies. The bodies he had until now acted upon with SO_2HOCl are bromobenzol, nitrobenzol, nitrophenol (both modifications the volatile and the non-volatile), and naphthalin. The results of his experiments lead the author to conclude that the normal action, so to speak, of SO_2HOCl is to form a sulpho-acid, the Cl of the chloride removing H from the body acted upon, and replacing it by the group

SO_3H ; it is only under certain conditions that both Cl and HO are removed from the chloride, and a sulphobenzid-analogous compound formed. What these conditions are Dr. Armstrong hopes to establish by further experiments.

“On a Water from the Coal-measures at Westville, N.S.,” by Prof. How. The contents of this paper bear upon the relation of the constitution of a water, and the nature of the geological stratum from which it takes its origin. The water above-mentioned comes from what Dr. Dawson terms the middle coal formation of Nova Scotia, which includes the productive beds of coal, and which, according to the same authority, are destitute of properly marine limestone. The analysis of the water seems to bear out the latter assertion, since the water is very poor in chlorides.

May 18.

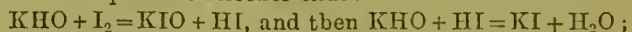
Professor Frankland, F.R.S., President, in the chair. Messrs. T. Greenish and J. E. Mayall were elected Fellows.

The following papers were read:—“On a New Double Salt of Thallium,” by R. J. Friswell. The author, wishing to prepare thallic platinocyanide, mixed hot solutions of thallic carbonate and potassic platinocyanide, and obtained, on leaving the mixture to cool, masses of splendid crystals, which appeared by transmitted light of a magnificent crimson red, whilst their reflected colour was a bronzy green of a strong metallic lustre. Analysis showed that they are a compound of thallic carbonate with thallic platinocyanide, $\text{Tl}_2\text{PtCy}_4\text{COTIO}_2$. On treating this salt with acids, carbonic acid is set free, and a pale pink residue left which, on examination, was found to be thallic platinocyanide. The next paper read was “On the action of Nitric Acid on Dichlorophenolsulphuric Acid,” by Dr. Armstrong.

June 1st.

Prof. Frankland, F.R.S., President, in the chair. The following gentlemen were elected Fellows:—H. Adrian, H. Durham, G. Martineau, E. Neison. Dr. Debus, F.R.S., delivered a lecture “On Ozone.”

The first who had observed that the passage of electric sparks through oxygen brings about a change in the properties of this gas was Van Marum. The next to take up the subject was Schonbein, in 1840. He ascribed the peculiar odour and the more energetic oxidising properties of the altered oxygen to a substance which he termed Ozone. He also found that ozone may be prepared by many other methods. His experiments, however, led to no positive results as regards the nature of ozone. It was through the researches of Marignac and De la Rive that Ozone was shown to be nothing but an allotropic modification of oxygen. Dr. Debus then discussed the question whether there existed another modification of oxygen called antozone, and answered the proposition negatively; the substance called antozone was only peroxide of hydrogen. The lecturer concluded by calling special attention to one of the characteristic reactions of ozone, viz., the decomposition of potassic iodide, which reaction is differently explained by the various observers. Schonbein has shown that potassic iodide protects free iodide against the action of potassic hydrate. It may be assumed that potassic hydrate and an iodine solution react upon one another thus:



if now an excess of potassic iodide be added, the potassic hypo-iodite and potassic iodide produce again potassic oxide (which becomes in its turn a hydrate) and iodine, and the excess of iodide prevents the action of KHO on the iodine, but not that of the latter on starch.

CAMELS’ HAIR is imported from Persia, and is mostly used in the manufacture of pencils for drawing and painting. Camels’ hair is longer than sheep’s wool, and often as fine as silk. There are three kinds of colours—black, red, and grey—the darkest of which is considered the most valuable. It is said that the hair on a camel weighs about ten pounds. In Bokhara the camel is watched while the fine hair on the belly is growing. This is cut off so carefully that not a fibre is lost, and, when sufficient has been collected, it is spun into a yarn unequalled for softness, and then dyed all manner of bright colours, and used chiefly for shawls. The Arabs and Persians make of camels’ hair, of a less valuable kind, stuffs for carpets, tents, and wearing apparel, and cloth is made of it in Persia.—*Scientific American*.

Provincial and Foreign Reports.

[We shall be glad to receive from all parts of the world items of interest to our readers. Correspondents who favour us with reports of local meetings, etc., will please to condense them as much as possible; and when local newspapers are sent, we shall be glad to have the passage intended for our notice specially marked.]

DUNDEE CHEMISTS' ASSISTANTS' MUTUAL IMPROVEMENT CLASS.

A MEETING of chemists' assistants was held in the Chemists' Association Room, 71, High-street, on Monday evening. There was a good attendance. Mr. Frank Young was called to the chair, and explained the object of the meeting, expressing the hope that it would be entered into heartily, for he held it was only with energy and perseverance in their studies that they could ever hold positions in their profession. The chairman then read a few rules for the guidance of the class, and moved the formation of the class and the adoption of the rules. This was seconded by Mr. John Stewart, and the following gentlemen were elected office bearers:—

Mr. Wm. Laird, Honorary President; Mr. Frank Young, President; Mr. John Hodge, Secretary and Treasurer. The remainder of the evening was harmoniously spent in a preliminary examination of the cabinet of the *Materia Medica*, and other specimens within the room, kindly placed at their disposal by the Chemists' Association. After the usual vote of thanks the meeting separated.

LIVERPOOL CHEMISTS' ASSOCIATION.

THE thirteenth and concluding general meeting of this Association (twenty-second session) was held at the Royal Institution on Thursday evening, the 11th of May; the President, Mr. JOHN ABRAHAM, in the chair.

Mr. S. G. HILDITCH made the following communications:

Liq. Myrrhæ Co.—A convenient method for the easy preparation of *mistura ferri composita*, according to the following formula—

℞ Ferri Sulphas, gr. xxv. }
 Aq. Destil, ℥viij. } = ℥x. Mist. Ferri Co. B. Ph.
 Liq. Myrrhæ Co., ℥ij. }

Tinctura Ferri Acetatis.—The instructions given in Squire's "Companion to the British Pharmacopœia" would not produce the preparation in accordance with the Pharmacopœia. Mr. Squire recommended the acetate of potash to be dissolved in twenty ounces of water; the Pharmacopœia ordered rectified spirit.

The PRESIDENT said that this was one of the most unsatisfactory preparations in the Pharmacopœia; he had made several experiments, but could not succeed in making a tincture which would keep an indefinite time.

Mr. EDWARD DAVIES, F.C.S., considered an alcoholic solution of acetate of iron an impossibility.

Tinctura Hyoscyami.—Large quantities of hyoscyamus leaves of first year's growth were used in making this preparation.

It was necessary that it should be prepared from leaves of second year's growth. A tincture prepared from the former, when put into water, would remain perfectly bright, whilst the officinal tincture would become milky. This was a simple test; the matter was of great importance, as it had been proved that the therapeutic effects of the two tinctures differed very materially.

Carbo Animalis Purificatus.—The result of his experiments was the production of 8 per cent. of animal charcoal from ordinary bone black.

Mr. DAVIES thought a good sample of bone black should yield at least 10 per cent.

An interesting discussion followed these communications, in which several members took part.

The PRESIDENT thanked Mr. Hilditch for his valuable information, and then delivered the following valedictory address:—

PRESIDENT'S VALEDICTORY ADDRESS.

"This being the last meeting of the session, I am expected to address to you a few parting words. First, let me express my sense of our obligations to those gentlemen who have contributed to our instruction by interesting communications. One of the first of these was a valuable paper on 'Ozone,' by our Vice-President, Mr. Davies. Another was by Mr. Keith, on 'Some of the Newest Processes connected with Photography.' There were also two able papers, well illustrated, on 'The Chemistry of Calico Printing,' by Mr. Blair. We have been much indebted to our hon. secretary for his diligent attention to the duties of his office, and also for bringing before us the subject of chloral. This new sedative has hardly maintained the place which was first assigned to it. Experience has shown that its use is not unattended with danger, and that for its beneficial application, care and experience are required. A thoughtful paper on 'The Nomenclature of the Natural Sciences,' was contributed by Dr. Symes; but until we get a new science of geometry, I fear that we cannot abandon the use of arbitrary terms in the descriptions of most natural objects. Our most interesting evening was unquestionably that on which our talented townsman, Professor Roscoe, favoured us with his lecture on 'Solar Chemistry'; on which occasion, experiments connected with spectrum analysis were shown in a manner more brilliant and effective than had been before seen in Liverpool. During the same evening many of our friends contributed to our entertainment and instruction, amongst whom I should particularly mention members of the Microscopical Society with their instruments. Mr. Albert H. Samuel exhibited very successfully, an interesting experiment to illustrate Tyndall's theory of the cause of the blue colour of the sky; and we were indebted to Mr. Davies for experimental illustrations of the properties of explosive compounds. The additions to the library are deserving of special mention. First, a book of autograph prescriptions, compiled by Mr. Ince; secondly, fourteen volumes presented by the Pharmaceutical Conference from the fund supplied by Mr. Thomas Hyde Hills. For the selection we were indebted to Professor Atfield; for I am glad to say that our library is so well supplied with useful and valuable books that we had some difficulty in determining what we could advantageously add to it. Our kindred societies in Edinburgh and Bath have published price lists, which I would recommend you to procure, particularly the more recent one published at Bath. It is very desirable that we should know what others think on this matter, and that we should do what is just and fair to ourselves and the public."

The remainder of the address was of local interest. A vote of thanks was moved to the President for his address and conduct in the chair during the session by Mr. S. Davies, F.C.S., seconded by Mr. John Shaw, and supported by the Secretary.

The vote having been carried unanimously, the Chairman acknowledged the compliment, and the proceedings terminated.

MIDLAND COUNTIES CHEMISTS' ASSOCIATION.

THE second annual meeting of the above Association was held at the Temperance-hall, Birmingham, on May 26th. In the unavoidable absence of the President, the chair was taken by Mr. H. Wittles. We regret to say there was but a small attendance of members. The hon. sec. read the Report of the Council, and the chairman the statement of accounts.

REPORT.

Following the precedent set at their first annual meeting, the Council beg to submit a simple statement of their proceedings during the past year.

It will be in the recollection of some here present, that at our last annual meeting a letter addressed to the Home Secretary respecting the Petroleum Act of 1868 was ordered to be forwarded. It was to the effect that great injustice was done to the retailers of petroleum in this town from the excessive charge made by the Town Council for licence for selling the same, it being two guineas in Birmingham and only from 2s. 6d. to 5s. in most large towns.

His attention was also drawn to the promised introduction of a supplementary bill for the purpose of amending that Act and exempting benzine collas, benzine, &c., from its operation.

A reply was received that it was under the consideration of Government, but nothing more has been heard of it. It was, however, stated in one of our daily papers a few days ago that a bill was to be introduced into the House of Lords to exempt these articles.

The Council were also directed to arrange for a course of lectures on Pharmacy to the assistants and apprentices of members during the summer months. In accordance with these directions, a circular was issued to the members of the Association, inquiring as to the number that would take advantage of the same. The replies being tolerably satisfactory, arrangements were made with Dr. Hill for a course of lectures, and thirty attended the first course; a second was arranged for, but from some cause or other this was not so well attended, only eleven entering their names, resulting in a considerable loss to the Association.

The failure of these attempts to afford practical instructions on Pharmacy to our rising members is such as will, we think, prevent, at any rate for the present, a fresh movement for a like purpose.

In December a communication was received from the Warden of Queen's College on the practicability of establishing a course of lectures on Botany, Pharmacy, etc., and wishing to know if any support might be expected from the Pharmaceutical Society. Some letters passed between the Council and the Pharmaceutical Society, but it being found that the Pharmaceutical Society did not intend at present to propose to subdivide any local arrangements by money grants, the proposal dropped through mainly on the ground of the high fees named by the Queen's College.

In January arrangements were made for the annual supper, but the responses to the invitations sent out were so few, that it was thought advisable to postpone it. A very pleasant evening having been spent on a former occasion, it was thought that it might be a means of uniting the members of the Association more closely together, and by being oftener brought into contact with each other, of doing away with the petty jealousies that so frequently are the greatest bane in any profession or trade.

Some further correspondence has taken place on the Petroleum Bill with the Pharmaceutical Society. Mr. Bremridge states that no charge is made in London for licences, and he questions if the authorities have any legal right to make any charge whatever.

The general expenditure of the Association seems to have been well guarded, and, but for the large item of £23 2s. paid to Dr. Hill, would have been very small. As it is there remains a balance in its favour of £19 15s. 2d.

In conclusion, the Council submit to this meeting their second revised edition of the Price List, which they believe is now pretty generally adopted in the midland counties, and at the same time they must express their regret that the efforts they have made for the establishment of classes on Pharmacy, etc., for the assistants and apprentices, have not been more highly appreciated.

The election of officers for the ensuing year having taken place, a vote of thanks to the chair brought the proceedings to a close.



THE GARDEN OF THE WORLD.*

WE are not quite sure whether the title we have given to this paper would bear the strictest criticism, but certainly a perusal of Dr. Porcher's handsome volume leads us to justify the distinction by remarking, that if the

* "Resources of the Southern Fields and Forests—Medical, Economical, and Agricultural." Being also a Medical Botany of the Southern States. BY FRANCIS PEVER PORCHER, M.D. Charleston: Walker, Evans, and Cogswell. London: Triibner.

Southern United States are not the garden of the world, it is rather the fault of those who are responsible for their cultivation and development than from any natural inferiority to any other land on the face of the earth. It occurs to every mind that this is the home of the chief products which civilization demands. Cotton, sugar, and tobacco are products of such immensity as to dwarf these which other lands bring forth, and yet these are not all. Vast quantities of wheat and rice are exported, and a luxuriant but uncultivated vegetation besides testifies to the immense resources which are forthcoming. These Southern States comprehend an area of territory equalling that of Great Britain, France, and Germany. Watered by the grandest rivers, and rich in every variety of soil, with millions of acres of dismal swamp yet unreclaimed, there is a future for this district which will make it a territory to which all the world will turn for its vegetable supplies.

Dr. Porcher's attention, in this volume, has been mainly confined to the medical botany of the Southern States, reaching from Maryland to Florida, and from Tennessee to Texas. Of the extreme abundance of plants possessing medicinal virtues there to be found, he gives a single illustration. He says that a circumscribed locality in the lower section of the State of South Carolina, only ten miles in diameter, furnishes 30 per cent. more plants of medicinal or economic value than are to be found in the whole of the State of New York, and the latter includes an area equal to the whole of Great Britain.

With this introduction to Dr. Porcher's book we have finished all that it is necessary for us to do. Its pages contain quantities of information respecting the value of the various plants described, both concerning their medicinal and economic properties, which are only to be collected by an enthusiastic and laborious investigation. Although, in his remarks, he is not always tender to the practitioners of the eclectic school of medicine, the author evidently sympathises with their searching after new remedies, and he gives them full credit for the new remedies—podophyllin, hydrastin, and others—which they have introduced.

To select from the facts given in this book a few of especial interest is a pleasant task. For instance, under *Cactaceæ*, we learn that the leaves of the prickly pear fried with tallow impart a peculiar hardness to it, rendering the candles made therefrom "equal to the best adamantine." Under *Crucifera*, a plant called the Gold of Pleasure or False Flax is described. It grows abundantly, after any corn crop, is untouched by insects, and unaffected by frost, rain, or drought. The seeds yield a fine oil which is useful for purposes of illumination or manufacture, and is also said to be of great service as a remedy in asthmatic cases. The oil-cake too is exceedingly nutritious for cattle. The botanical name of this plant is *Camelina sativa*. The author evidently believes that the poppy might be advantageously cultivated in these States for opium if attention were given to it. There has not yet, however, been much reason to hope for great things in this respect. We find strong commendation of blackberries in this volume. In cases of diarrhoea, especially in children, or as a vehicle for the administration of other medicines, the compound syrup of blackberries is recommended. It may be made by adding to two quarts of blackberry-juice half an ounce each of cinnamon, allspice, and nutmeg, and a quarter of an ounce of cloves. These are to be boiled for twenty minutes, and when strained sugar is to be dissolved so as to make a thick syrup, afterwards adding a pint of brandy to every two quarts of syrup.

Among the articles in this book containing special information of a valuable character, we estimate that on the various Sumachs very highly. It is quite evident that in some of the States this can be produced to sell at a very low rate and to yield a handsome profit. The cultivation of cotton and tobacco are described at considerable length, and are naturally very interesting chapters. The whole, written on the spot, and by a writer who has had ample means and evident pleasure in carrying out his investigations, forms a volume of original and collected information of particular value, not only to the planters of Georgia and Virginia, but also to the intelligent commercial and medical inquirers of other lands.

HOMŒOPATHY.*

A FOURTH edition of Dr. Ruddock's "Homœopathic Vade Mecum" has just appeared, which gives us the opportunity of writing a word of well merited praise in favour of this excellent manual. It of course presupposes a faith in the homœopathic system, and as a manual for family practice under that régime, this work is, we believe, unrivalled. Nearly 200 diseases are carefully described, and suggestions given for their treatment. This part of the work is supplemented by a description of the homœopathic Materia Medica. The author is well-known as the editor of the *Homœopathic World*.

ANALYTICAL TABLES.†

In these days, when a book of twenty-four pages is presented to us for half-a-crown, we look for some very special features. In Dr. Campbell Brown's book, the chemical student will at once recognise a high intrinsic value. It contains a series of tables which, although some of them are on the model of those with which readers of analytical manuals are familiar, are all finished with such beautiful care and completeness as to recommend them to us above any that we have had the opportunity of studying. The series presents the chief processes and reactions in the analysis of gases, salts, mixtures, metallic compounds, mineral acids, and organic compounds. Several improvements and additions are manifest in the author's treatment of the familiar tables whereby the processes for the detection of the various metallic compounds are traced; but the chief credit we think is due to him for his masterly collection of the tests which indicate the individuality of the various organic compounds. The clearness of the tables is greatly aided by an excellent judgment in the selection of type. The book, we may add, will be of no service to anyone "cramping" for examination, as it demands a tolerable acquaintance with chemical facts.



[The following list has been compiled expressly for the CHEMIST AND DRUGGIST, by L. de Fontainemoreau, Patent Agent, 4, South-street, Finsbury, London; 10, Rue de la Fidélité, Paris; and 33, Rue des Minimes, Brussels.]

Provisional Protection for six months has been granted for the following:—

691. H. Deacon, of Widnes, Lancaster. Improvements in the manufacture of bleaching powder, and of sulphate of soda and of sulphate of potash, and in apparatus to be employed therein. Dated 15th March, 1871.
753. H. Deacon, of Widnes, Lancaster. Improvements in the manufacture of sulphuric acid, and in apparatus to be employed therein. Dated 20th March, 1871.
753. W. H. Balmain, of St. Helens, Lancaster. Improvements in machinery or apparatus for grinding, pulverising, or levigating certain solid substances, and for mixing or agitating liquids or liquids and solids together. Dated 22nd March, 1871.
995. J. Townsend, of Glasgow. Improvements in treating phosphates containing alumina, and in obtaining products therefrom. Dated 14th April, 1871.
957. C. Morfit, of London. Improvements in the manufacture of superphosphate of lime. Dated 15th April, 1871.
1036. D. Spence, of Manchester. Improvements in the treatment of spent oxide of iron arising from the purification of gas, or the said oxide when partly spent. Dated 19th April, 1871.
1044. B. G. E. Mills, of London. Improvements in methods and apparatus for removing oil from vegetable and other matter, and separating and recovering chemicals employed therefor, and in the manufacture of flour, beer, and other products of the material treated. Dated 20th April, 1871.
1064. G. R. Sweetser, of Islington. Improvements in apparatus employed in preparing aerated liquids, and for combining other matters therewith; also in corking bottles or vessels containing such liquids, and in stoppers for retaining such liquids in bottles or vessels, and for facilitating the delivery therefrom. Dated 22nd April, 1871.

1067. T. Rowan, of Glasgow. Improvements in treating and applying manganese compounds, and in applying apparatus therefor. Dated 22nd April, 1871.
1084. R. Irvine, of Leith, Mid Lothian, and C. N. Johnson, of Newcastle-upon-Tyne. Improvements in the treatment and preparation of phosphatic materials. Dated 24th April, 1871.
1177. F. Wicks, of Brixton. Improvements in beds, cots, and couches for children and invalids. Dated 2nd May, 1871.
1181. A. M. Clark, of London. An improved process of oxidising certain matters. Dated 3rd May, 1871.

Letters Patent have been issued for the following:—

2975. A. F. de Hemptinne, of Brussels. Improvements in the construction of apparatus for concentrating sulphuric acid. Dated 12th November, 1870.
2999. G. H. Spencer, of Hammersmith. An improved apparatus for a deodorizer for waterclosets. Dated 16th November, 1870.
3020. J. Galletly and W. Melvor, both of Addiewell, Mid Lothian. Improvements in treating hydrocarbons and other oils, and in the machinery or apparatus employed therefor. Dated 16th November, 1870.
3027. R. P. Wilson, of Cumberland-terrace, Regent's-park. Improvements in means for testing or measuring the quality or colour of oils and other liquids. Dated 18th November, 1870.
3042. A. C. Tipper, of Westminster. Improvements in the manufacture of lint for surgical, medical, and other purposes. Dated 21st November, 1870.
3045. J. Hargreaves, of Appleton-within-Widnes, and T. Robinson, of Widnes, Lancaster. Improvements in the manufacture of sulphates of soda and potassa. Dated 21st November, 1870.
3047. J. Hargreaves, of Appleton-within-Widnes, and T. Robinson, of Widnes, Lancaster. Improvements in apparatus employed or used in the manufacture of sulphates of soda and potassa. Dated 21st November, 1870.
3098. S. Desborough, of Clerkenwell. Improvements in the manufacture of soap, and in chemical compounds applicable to the cure of skin diseases. Dated 25th November, 1870.
3105. W. G. Carl, of Breaston, Derby. An improved mixture for preserving meat, fish, poultry, game, cheese, and other animal substances. Dated 26th November, 1870.
3167. F. Hille, of Brentford. Improvements in the manufacture of deodorizing and disinfecting compounds, and in the treatment of sewage and impure waters, and in closets and apparatus for the treatment of sewage. Dated 2nd December, 1870.
3321. L. Mariotti, of Sursée, Switzerland. Improvements in the method or process of preserving meat and fish. Dated 20th December, 1870.
3324. R. Tooth, of Hatching, Kent. Improvements in the mode of condensing saccharine juices, and in apparatus to be employed therein, which apparatus is applicable to evaporating other liquids. Dated 26th December, 1870.
176. E. Mudge, of Swansea, Glamorgan. An improved mode of, and apparatus for, creating and maintaining a circulation of liquids in chemical manufactures. Dated 23rd January, 1871.
720. C. Wigg, of Liverpool. Improvements in the manufacture of alkali, and in apparatus employed therein. Dated 17th March, 1871.

Specifications published during the month. Postage 1d. each extra:—
1870.

2458. T. Harvey. Distilling apparatus. 8d.
2469. H. Deacon. Apparatus for manufacturing chlorine. 10d.
2536. S. S. Brown. Making lint and lint bandages. 1s. 2d.
2555. D. Watson. Distillation of bituminous substances. 4d.
2568. H. Highton. Preserving meat, fish, etc. 4d.
2577. J. I. Bengough. Preserving animal and vegetable substances. 4d.
2594. H. C. Carver. Separating mixed substances of different specific gravities. 8d.
2596. G. H. Funck. Valve for petroloum vessel. 4d.
2632. T. W. Overman. Administering medicine to horses. 4d.
2635. J. Winter. Filling and stoppering bottles. 4d.
2641. H. Deacon. Manufacture of sulphuric acid. 4d.
2642. A. V. Newton. Working galvanic batteries. 1s.
2649. W. T. Henley and D. Spill. Compounds of collodion. 4d.
2676. J. Lawson. Food for horses, etc. 4d.
2715. R. H. Davis. Packages or receptacles for sulphuric acid. 4d.

REPORT OF THE SELECT COMMITTEE ON THE VACCINATION ACT (1867).

THE Select Committee appointed to inquire into the operation of the Vaccination Act (1867), and to report whether such Act should be amended, have considered the matter referred to them, and have agreed on the following Report:—

"Eight sittings of your Committee have been occupied in hearing the evidence of persons who assert that vaccination is useless and injurious, and who therefore object to its enforcement and encouragement by the law.

"After careful consideration of this evidence, and of medical and other evidence given in reply, your Committee agree with the general opinion—

"That the cow-pox affords, if not an absolute, yet a very great protection against an attack of small-pox, and an almost absolute protection against death from that disease.

"That if the operation be performed with due regard

* "The Homœopathic Vade Mecum of Medicine and Surgery." By L. HARRIS RUDDOCK, M.D. London: Homœopathic Publishing Company.

† "Analytical Tables for Students of Practical Chemistry." By J. CAMPBELL BROWN, D.Sc., etc. Liverpool: Adam Holden.

to the health of the person vaccinated, and with proper precautions in obtaining and using the vaccine lymph, their need be no apprehension that vaccination will injure health or communicate any disease.

"That small-pox, unchecked by vaccination, is one of the most terrible and destructive of diseases, as regards the danger of infection, the proportion of deaths among those attacked, and the permanent injury to the survivors; and therefore

"That it is the duty of the State to endeavour to secure the careful vaccination of the whole population.

"Your Committee have no doubt that the almost universal opinion of medical science and authority is in accordance with Dr. Gull when he states that 'vaccination is as protective against small-pox as small-pox itself;' with Dr. West, when he gives as the result of his experience, as Physician to the Children's Hospital in Great Ormond-street, and as having had charge of between 50,000 and 60,000 children since 1835, that 'he does not think that vaccination does produce disease;' and with Sir William Jenner, when he says, 'I should think myself wicked, and really guilty of a crime, if I did not recommend every parent to have his child vaccinated early in life.'

"Against this evidence in favour of vaccination, the prevalence of the present small-pox epidemic, especially in the metropolis, has been alleged.

"Your Committee, however, believe that, on the one hand, if vaccination had not been general, this epidemic might have become a pestilence as destructive as small-pox has often been, where the population has been unprotected; and that, on the other hand, if this preventive had been universal, the epidemic could not have approached its present extent.

"Vaccination is generally believed to require repetition about the age of puberty; but as it is almost impossible to enforce re-vaccination, it is most important that all children should be vaccinated both for their own sakes and that of the community, to prevent their catching and spreading disease.

"There are three classes of children who, being, by the conduct of their parents, left unvaccinated, are themselves in great danger, and may become centres of infection to others.

"1. There are the children who are utterly neglected by their parents.

"2. There is the much larger number of children of parents who, while not denying their duty or desiring to disregard it, postpone its fulfilment, and who from carelessness or forgetfulness delay to protect their children until driven to the vaccine station by the panic fear of an epidemic.

"3. There are the children of those parents, very few in proportion to the whole population, who assert that vaccination will do harm.

"With regard to the first and second of these classes, there can hardly be any objection to the principle of a compulsory law, though there may be practical difficulties in its application; but, in dealing with the third class, it becomes necessary to weigh the claims of the parent to control, as he thinks fit, the medical treatment of an infant child, as against the duty of the State to protect the health of the community, and to save the child itself from a dreadful disease.

"While weighing these conflicting claims, your Committee have had to consider the effect of the change in the law introduced by the Act of 1867, which, contrary to the provisions of the previous English or present Irish Acts, makes the parent liable to repeated convictions and penalties for not allowing his child to be vaccinated.

"There appear to have been several cases of infliction of more than one fine or imprisonment in regard to the same child; and your Committee, though by no means admitting the right of the parent to expose his child or his neighbours to the risk of small-pox, must express great doubt whether the object of the law is gained by thus continuing a long contest with the convictions of the parent.

"The public opinion of the neighbourhood may sympathise with a person thus prosecuted, and may in consequence be excited against the law; and after all, though the parent be fined or imprisoned, the child may remain unvaccinated. In such a case the law can only triumph by the forcible vaccination of the child.

"In enactments of this nature, when the State, in attempting to fulfil the duty, finds it necessary to disregard the wish of the parent, it is most important to secure the

support of public opinion; and as your Committee cannot recommend that a policeman should be empowered to take a baby from its mother to the vaccine station, a measure which could only be justified by an extreme necessity, they would recommend that whenever in any case two penalties, or one full penalty, have been imposed upon a parent, the magistrate should not impose any further penalty in respect of the same child.

"It has been suggested that the parent's declaration of belief that vaccination is injurious might be pleaded against any penalty; but your Committee believe that if the law were thus changed it would become a dead letter. Prosecutions would soon cease, and the children of the many apathetic and neglectful parents would be left unvaccinated, as well as the children of the few opponents of vaccination.

"Your Committee are glad to find that wherever the guardians endeavour to carry out the law, it is very generally and indeed almost universally enforced; but there are some amendments by which they think the Act referred to them might be made more efficient.

"By Sec. 28, the guardians of any parish may appoint an officer to promote vaccination, and to prosecute persons offending against the Act; and it appears that in the majority of the unions such officers have been appointed, and that the law in consequence is more efficiently administered. Your Committee recommend that this appointment be made obligatory on the guardians.

"They are also strongly of opinion that the registration of vaccination should be simplified; that the vaccination officer should keep the vaccination register, and therefore that the certificates under the Act should be sent to him; and also that the Registrar of the district should forward to him a monthly return of births and of the infants that have died.

"The suggestion has been made that a considerable proportion of the expenses of working the Act should be contributed from moneys to be voted by Parliament. Your Committee believe that efficient working would be promoted by such contribution. Without doubt local agency must be relied on for administration; but central inspection and control are also needed, and would be much more powerful if a payment towards the expenses could be withdrawn in cases of maladministration.

"Your Committee cannot conclude without expressing their opinion on two questions beyond the scope of the Act referred to them, though not of the subject of their inquiry.

"A compulsory registration of births such as exists in Scotland and Ireland is needed, as the non-registered children are those most likely to escape the notice of the vaccinators.

"There also appear to be disadvantages in the present division of sanitary responsibility between the departments of the Government. The Medical Department of the Privy Council inspects the vaccination of every union, and advises the Poor-law Board in regard to the arrangements proposed by guardians, which arrangements are then approved or disapproved by the Poor-law Board.

"This division of duties cannot but tend to delay and to non-efficiency; and though your Committee do not pretend to decide to which of these departments the duty of administering the law should be entrusted, they do not think such duty should be shared between two offices, and they believe that one and the same department should advise, inspect, approve, and control."

GLYCERINE LYMPH.

PRUSSIA is avowedly the country where regular vaccination is most generally practised, the law making the precaution obligatory on every person, and the authorities conscientiously watching over its performance. As a natural result, cases of small-pox are very rare. It has, however, been objected, there as here, that lymph is scarce. To make the most of such lymph as there is, Government has tried its application mixed with glycerine, and the result has been so successful as to lead to a public recommendation of the mixture to official vaccinating surgeons. The manner in which the glycerine lymph is prepared is thus described by the *Reichsanzeiger*:—The pustules of a healthy vaccinated person are opened with a needle, and the effluent matter carefully removed by means of a lancet, the same instrument being gently applied to assist the efflux. The lymph is then

best placed in the hollow of a water glass, and there mixed with twice its quantity of chemically pure glycerine and as much distilled water. The liquids are thoroughly well mixed with a paint-brush. The mixture may be preserved for use in capillary tubes or small medicine glasses. The lymph thus procured is considered equal in effect to pure lymph; care must, however, be taken to shake it before use. As the same quantity that now suffices for one is thus made to suffice for five, the discovery ought to be extremely useful in crowded cities like ours.

ARTIFICIAL FRUIT ESSENCES.

THE artificial fruit essences now so largely employed for making fruit syrups, and as flavours for culinary purposes and confectionery, are a class of ethers, which consist of organic acids in combination with ethylic and amylic ethers, dissolved in odourless alcohol. But little practical information has been published with reference to their preparation, the manufacturers keeping their processes secret, in consequence of which the quality of the essences, as they occur in commerce, varies exceedingly. We subjoin complete technical formulæ for the essences, which, truly, have a most formidable appearance.

PINEAPPLE ESSENCE

Chloroform	1 part (by volume).
Aldehyde	1 "
Butyrate of ethyl	5 "
Butyrate of amyl	10 "
Glycerine	3 "
Alcohol	100 "

RASPBERRY ESSENCE—

Nitric ether	1 part.
Aldehyde	1 "
Acetate of ethyl	5 "
Formiate of ethyl	1 "
Butyrate of ethyl	1 "
Benzoate of ethyl	1 "
Enauthylate of ethyl	1 "
Sebacic ether	1 "
Salicylate of methyl	1 "
Acetate of amyl	1 "
Butyrate of amyl	1 "
Tartaric acid	5 "
Succinic acid	1 "
Glycerine	4 "
Alcohol	100 "

STRAWBERRY ESSENCE—

Nitric ether	1 part.
Acetate of ethyl	5 "
Formiate of ethyl	1 "
Butyrate of ethyl	5 "
Salicylate of methyl	1 "
Acetate of amyl	3 "
Butyrate of amyl	2 "
Glycerine	2 "
Alcohol	100 "

American Druggists' Circular.

A NEW USE FOR TAPIOCA.—To prepare tapioca paper, remarks the *Scientific Review*, which is very useful for copying photographs by artificial light, 200 grammes of tapioca are soaked for two days in an equal weight of water; ten litres of water are added, and afterwards for every litre of liquid, ten grammes iodide of potassium, thirty grammes chloride of potassium, one gramme bromide of potassium, are dissolved, and the whole boiled for ten minutes, allowed to stand for a day, and decanted and filtered through fine linen. The paper is immersed in it twelve to twenty sheets at a time—or can be floated upon it—for fifteen to twenty minutes; it is then hung up to dry in a dark room. If it has assumed a dark colour, that is of no consequence, as it disappears in the silver bath. This is to be prepared in the proportion of 1.15, and for every ounce of nitrate of silver, fifty to sixty grains of citric acid to be added. The developer is made of fifty grains of pyrogallic acid and eighty grains of citric acid in thirty ounces of water. The time of exposure varies from ten seconds to twenty-five minutes, according to the picture to be copied and the actinic force of the light.

Exchange Column.

REVISED TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the publisher of the CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to "The Publisher of the CHEMIST AND DRUGGIST, Colonial Buildings, Cannon-street, London, E.C.," the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

FOR DISPOSAL.

- Large £4 Golden Mortar, 40/. 48/400.
- Genuine Norfolk Honey, in large or small quantities. E. Watson, Chemist, Beccles.
- Richardson's "Mechanical Dentistry." Last edition, nearly new. Cost 19/6. Price 12/; or exchanged. 7/400.
- Pulvermacher's Band and Belt. Cost 70/. Nearly new. 11/400.
- Bentham's "Flora." Never used. Take 10/6. J. Kemble, St. Austell.
- Three dozen Nelson's Gelatine, in 2 oz. packets. Labels quite clean. 6/ per dozen. 16/400.
- Revolving Pistol, nearly new. Cost £3. Will take 35/; or offers. Sheel, Amble, Northumberland.
- "Pharmaceutical Journals," 1853 to 1868, complete. Offers. 24/400.
- 48 1/ Tins Gouilding Plant Food for 20/. T. White, Launceston.
- Druggists' Sundries, Smelling Bottles, Surplus Drugs, for exchange, care of Carrington, Wincanton.
- Gas Bag and Boards, Pepy's Gas-holder, Purifyer, and Retorts. B. Wyle, Bourn.
- "Chemists' and Druggists' Compendium." 1000, new and valuable receipts for chemists. Post free, 3/6. Owen, Chemist, Leytonstone.
- Clover's Inhaling Apparatus. Complete. Never been used. Cost £3 7s. 6d. Price £2 15s., or exchanged. Rare chance. 20/400.
- Twenty Cooper's Wheat Dressing, 6d. Three Fly Gall Powder, 1/6. Six Foot-rot Powder, 1/6; take 12/6. Also six McDougall's Dipping, 10/ each; take £1 4s. 19/400.
- Twenty-two packets Cooper's Foot-rot Powder. Retail, 1/6. Lot for 16/. Quite clean. T. W. Picken, Newport, Salop.
- Two vols. Squire's "Companion to the British Pharmacopœia." Fifth and Sixth editions. Each 5/. Also two "British Pharmacopœias." E. Taylor, Droitwich.
- 120 Mahogany-fronted Drawers; gilt labels, glass knobs. Two Counters, Glass Cases, Shelving, &c. In good order. By Charles Humphries, Garston, Liverpool.
- Smethurst's Patent Measuring Funnels. A job lot, quite new. Tin, 1/2 gallon, 3/6; 1 gallon, 4/6. Copper 5/ and 6/. Free in London. J. Floyd, Bury St. Edmund's.
- Six Tin-plate Oil Cisterns, in good condition, from 10 gal. to 80 gal. The lot for £5. H. Proctor and Son, Grey-street, Newcastle.
- Cabinet of Materia Medica (quite new), by Evans, Lescher, and Evans. Cost 50/. 40/. W. T. Maddock, 17, Bloomsbury-square, London.
- Bell's "Progress of Pharmacy," 1/. "Chemist and Druggist," 3/. Case Dissecting Instruments, quite new, 14/. Alfred Davis, 21, Kenton-street, London, W.C.
- Marking Ink and other proprietareis, Show Globes, Electric Machine, Tall Show Bottle, Finest Naval Arrowroot, Air Bed. 45/400.
- An assortment of Pulvermacher's Chain Bands and Galvanic Batteries, in perfect condition, and at a fair reduction. The whole or part will be disposed of. 58/388.

- An American Ice Soda Cream Apparatus, with Generator. In good order, and will be sold on advantageous terms. 37/100.
- Forty-two 4-oz., 25 3-oz. and 7 2-oz. York Glass Patent Safety Drop Bottles. 3 5/ Tins McDougall's Sheep Dipping Composition. 7/6, or offers. 33/400.
- Three dozen Denoual's best Copaiba Capsules (green label). 12/6. 12 bottles (1/ each) Bayley's Antiseptic Salt. 5/. 1 dozen Rumsey's Jewellery Tablets (2/), and 2 dozen Furniture Polish (1/), at half retail prices. 3/400.
- Salmon's Translation of "London Dispensatory," 1676. Complete condition. Very fair. Three bottles H. G. Hotchkiss's Peppermint Oil. Cash or goods. G. H. Burley, Selby.
- Chocolate Vanille (Compagnie Coloniale), in $\frac{1}{2}$ kilo. packets. Fine, retails 3/ packet; Superfine, 3s. 6d.; Extra, 4/. A dozen of each to be disposed of, not spoiled in the least. Will take two-thirds of retail price. 9/400.
- Homœopathy. A Bargain. Handsome Embossed Door Panel, 3 $\frac{1}{2}$ feet by 2 feet; crimson ground, lettered in gold, "Homœopathic Dispensing Department." Original cost, £6 6s.; price £2. F. Oldfield, 71, Newborough-street, Scarborough.
- Muspratt's "Manufacturing Chemistry," 40/. Ure's "Dictionary," 10/. Cooper's "Dictionary of Surgery," 10/. Lindley's "Botany," 5/. Bateman's "Skin Diseases," with Plates, 5/. Elliotson's "Physiology," 10/. B. Wyles, Bourn.
- 2 $\frac{3}{4}$ doz. 2/6 Beaufoy's Concentrated Chloride of Lime (perfectly clean), 40/. 1 doz. 7 $\frac{1}{2}$ d., 1 doz. 1/1 $\frac{1}{2}$, and $\frac{1}{2}$ doz. 2/9 Dr. Oxley's Balsamic Cough Elixir, 13/. 1 $\frac{1}{2}$ doz. 1/ Harriss's Harness Composition, 8/. $\frac{1}{2}$ doz., 2/9 Holloway's Ointment, 10/. $\frac{1}{2}$ doz. 2/9 Parr's Pills, 9/. $\frac{1}{2}$ doz. 2/9 Johnson's Soothing Syrup, 4/6. 4 Dr. Roos's 1/1 $\frac{1}{2}$ Renal Pills, 2/6. Or offers. Lowe, Chemist, Chesterfield.

WANTED.

- Small Syruping Gauge for Aërated Waters. 51/388.
- Plates of Plants for the Modified Examination. 34/400.
- A Circular-fronted Glass Case, 5 ft. long 23 in. wide. 39/400.
- Richardson's "Mechanical Dentistry. (Philadelphia.) State price. 40/400.
- Oliver's "Botany." To buy, or in exchange for Barlow's "Medicine." J. H. Appleton, Attercliffe.
- Two Oil Cisterns, with taps complete, 30 to 40 gallons each. J. Barker, Chemist, Wakefield.
- A good Microscope, or Object Glasses. J. C. Walcs, 7, St. Anne-street, Liverpool.
- Second-hand Fixtures, in good condition, and Stock for a new business. 14/400.
- Vols. 1 and 3, "Pharmaceutical Journal," second series. J. Dale, West Bromwich.
- A large Iron or Brass Mortar, to hold ten or fourteen pints. E. Taylor, Droitwich.
- Four 32-in. Specie Jars, with or without mahogany stands, State condition and price. F. Robertson, 302, Camberwell-road, S.E.
- Iron Mortar and Pestle, fluid capacity, twelve pints or more. Syruping Tap for aërated waters. Amoores, Chemist, Battle.
- Bentley's "Botany," 2nd edition. Lescher's "Elements," or Smith's "Pharmaceutical Guide." State price and condition. W. Farnsworth, Codnor, Alfreton.
- A No. 1 Soda Water Machine, in good condition, and all Apparatus used for making a first-class water. F. Earle, Chemist, Hull.
- Two Show Bottles (pear-shape preferred), about 2 ft. 6 in. high, 1 $\frac{1}{2}$ in. circum. State price. Also Desk and price, and dimensions of Counter. T. Alford, Stonehouse, Gloucester.

PETROLEUM IN ITALY.

ANOTHER important enterprise is about to be developed in Italy, namely, the working of some petroleum wells in Northern Italy. The existence of petroleum in Italy is a fact which was ascertained some centuries ago, and referred to in the works of some of the most prominent ancient scientific authors of the time. Of late years this subject has attracted the serious attention both of the Italian Government and of private individuals. A short time ago an Englishman turned his special attention and study to this question, and succeeded in obtaining from the Italian Government some valuable concessions of extensive petroleum-yielding lands, situated in the provinces of Modena and Reggio (Emilia), Northern Italy. A small private pioneer company has now been formed on the spot, to develop these properties, and it appears that the first trial efforts have given most satisfactory results.

The Italian Government, it seems, is very cautious in granting concessions, and only does so after most mature study and assurance that the object sought for and asserted to exist, does actually exist in serious and probably remunerative quantities. This system, although entailing an expenditure of extra time and extra fatigue, is a certain safeguard to those who invest in mining speculations, which otherwise oftentimes turn out to be mines which exist only in the imagination of the promoters, or to fill their own pockets in emptying those of their credulous neighbours.

If this industry is developed, as doubtless it will be, we may expect to see Italian petroleum soon on our markets in competition with that of America.

THE FLORIDA SPONGE TRADE.

IN *Harper's Weekly* for February, Mr. J. B. Holden has a paper on his travellings "Along the Florida Reef." We take this extract in regard to the Florida sponge trade:—

Sponges were very numerous, though we were told that a large portion were not worth gathering. The sponger could readily distinguish the best as he pushed his boat over them. Some of the coarser kinds, not marketable, are four feet in diameter. They are all more or less concave at the apex. A black membranous tunic covers them, and soft, jelly-like portions project into the pores and cavities, constituting the slight claim they have to a place in the animal kingdom. Animal mucus and fat oil have been found in their analysis; so the vexed question is settled by chemistry, and they are unquestionably admitted to the ranks of animated nature, though far from active members. A slight current is observable over the openings, and nourishment is probably absorbed as it circulates through them. The framework is made up of silica, a wonderful proportion, in the form of spiculae or splinters. Unlike most other marine objects, sponge is less attractive in its living state; only after the soft parts are removed is it pleasing to the eye. The pretty urn and other shaped sponges found on the beaches are merely the skeletons. A large trade is now carried on at Key West in this article. Small schooners, from ten to twenty tons burden are employed. They are much the shape of half an egg, and as flat as is consistent with due regard to sailing qualities; approaching, probably, as near as possible the mythic craft that is said to "float in a heavy dew." These vessels lie at anchor in the channels while the spongers push their small boats over the flats to gather the sponge. In some places they dive for it, and in shoal water grapple them. The specimens are very heavy, being loaded with water and the jelly-like animal matter. They are buried in the sand of the beaches until the matter is decomposed, when they are washed and carried to Key West, collected upon strings of convenient length, and bleached in the sun. That portion of Key West called Couchtown is the principal depository, where the yards and fences are loaded with them. For many years all the sponge collected on the Florida Reef was sold at Key West to an Israelite of New York, one Isaacs; latterly, others have entered the trade, and a very respectable income is derived from it.

THE publisher of the CHEMIST AND DRUGGIST has in stock some handsome reading cases to hold six numbers of this publication. These will be found very convenient by those who care to keep their papers in order. price 2s. 6d. each, sent for enclosure to any London wholesale houses. 2s. 9d. post free.—[ADVT.]

CIGARS.

MARKS, BRANDS, ETC.

It is strange that of an article in such universal use, so little comparatively is known by the consumers themselves concerning the distinctive marks made use of by manufacturers to indicate the make, colour, size, shape, and quality of cigars. The impression seems to be universal that the name, Concha, Regalia, or Londres, means a superior brand of especially fine quality, when in fact it designates a cigar of a certain size or shape, the quality of which may be anything from the finest Cabarga to the most execrable Connecticut. How often have we been offered a cigar with the remark, "It's a genuine Breva," or "best quality Madura," by which the giver intended to denote the quality, when the first applies only to the shape of the cigar and the latter to the colour.

The marks used by the trade on cigar boxes are seldom understood aright, that is, by the public generally. The most important is the brand, so called because it is almost always burned on the box with a hot iron. The brand may be either the name of the proprietor, as Carbanasey Carbajal, or of the manufacturing firm, as Cabarga and Co., Upman and Co., or a special fancy name, generally that of the factory, from a Cuban custom of placing on the sign of retail stores and places of business a fancy name instead of the firm name; as "La Carona" (The Crown), "La Perla" (The Pearl), or "Flor de Fumar" (Flower of Smoking). These are the trade marks of the factories indicated.

Next come the indications of style, that is, shape and size; the terms used are, as a rule, common to all manufacturing, as very few make any particular shape or size exclusively. This is stencilled, and usually on the front of the box. The most familiar are: Regalia (present or gift), about ordinary size; Media Regalia, a smaller size; Regalia del Rey (King Regalia), still smaller; Regalia de la Reina (Queen Regalia), the smallest; Londres (London), so called from being a favourite in London, is medium size in length and thickness; Brevas, named from a luscious variety of the fig grown in Spain, a large cigar; Concha (a shell), but really named after General Concha, a former well-known Captain-General of Cuba, who having squandered his fortune, and being heavily in debt, was appointed to the command of the island by the Queen, from which he retired in five years with the modest sum of \$7,000,000. A well-known brand is Concha de Regalia (Conchas for presents). Imperiales and Napoleons are extra large and fancy sizes, and are but little known. Compound words are also used, as Londres-Cortes (short Londres), Regalia Britannia, Regalia de Londres, etc. Another indication of style, or more properly, style of packing, is often met with, that is, Cylindrados and Prusados. The first signifies that they are in cylindrical bunches, and the last that they are pressed while new and moist, so as to flatten the surfaces.

Two marks once familiar, but now not often met with, are the Trabuco (Blunderbuss), a short and thick cigar, and the Panetela (Sponge-cake), a long and slim one.

Next come the marks used to denote the quality of the tobacco. The mark for the best is now generally Flor (Flower), instead of "Firsts;" the next grade is designated by Segundo (second), or Superior, used by some manufacturers. Lower grades, or "Thirds," are not often marked, though sometimes they are to be met with marked Bueno (Good). These marks are stencilled on one end of the box, and on the other the mark of the colour, which is always expressed in Spanish; as Oscuro (obscure), very dark; Maduro (mature), dark; Colorado (reddish), brown; Claro (elcar), light-coloured. These are also used compounded to designate intermediate shades: as Colorado-Claro, light brown; Colorado-Maduro, dark brown. A still lighter colour than Claro, known as Pagizor, is manufactured in Havana, but is not known here. It is of a light straw colour, very mild grade, and used only in some parts of Spain. Brands or shapes change often; those popular a few years past are now unsaleable. The "Norma," the "Panetela," the "Trabuco" have disappeared, and also that once world-renowned cigar the "Prineipi," made from the best of Yara tobacco. The favourites of to-day are the "Partigas," "Figaros," "Espanolas," "Flor de Fuma," etc.—*American Grocer.*

SAUCE.

The American Druggists' Circular gives the following recipes which are said to represent the genuine "Worcester:"—

White vinegar	...	...	...	15 gallons.
Walnut catsup	...	...	...	10 "
Madeira wine	...	...	...	5 "
Mushroom catsup	...	...	...	10 "
Table salt	...	...	...	25 pounds.
Canton soy	...	...	...	4 gallons.
Powd. capsicum	...	...	...	2 pounds.
Allspice, powd.				
Coriander, powd., āā	...	...	...	1 pound.
Cloves,				
Mace,				
Cinnamon, āā	...	...	...	½ pound.
Assafœtida, ¼ pound, dissolved				
in brandy	...	...	...	1 gallon.

Twenty pounds of hogs' liver is boiled for 12 hours with 10 gallons of water, renewing the water from time to time. Take out the liver, chop it, mix with water, and work it through a sieve: mix with the sauce.

No. 2.

White vinegar	...	...	...	240 gallons.
Canton soy	...	...	...	36 "
Sugarhouse syrup	...	...	...	30 "
Walnut catsup	...	...	...	50 "
Mushroom catsup	...	...	...	50 "
Table salt	...	...	...	120 pounds.
Powd. capsicum	...	...	...	15 "
Allspice,				
Coriander, of each	...	...	...	7 pounds.
Cloves,				
Mace,				
Cinnamon, of each	...	...	...	4 pounds.
Assafœtida, 2½ pounds dissolved				
in St. Croix rum	...	...	...	1 gallon.

No. 3.

White vinegar	...	...	...	1 gallon.
Canton soy,				
Molasses, of each	...	...	...	Oj.
Walnut catsup	...	...	...	Ojss.
Table salt	...	...	...	4 ounces.
Powd. capsic.,				
Allspice, of each	...	...	...	1 ounce.
Coriander...	...	...	...	½ ounce.
Cloves,				
Mace, of each	...	...	...	½ ounce.
Cinnamon	...	...	...	6 drachms.
Assafœtida, ¼ ounce, in 4 ounces rum.				

THE ROYAL SOCIETY'S LIST FOR 1871

The following fifteen have been selected by the Council of the Royal Society out of the fifty candidates, and recommended to the Fellows for election:—William Henry Besant, M.A., Mathematical Lecturer at St. John's College; Senior Wrangler and First Smith's Prizeman in 1850, Moderator in 1856, Examiner in the University of London from 1860 to 1865; author of 'Treatises on "Hydro-mechanics and the Theory of Sound," 2nd ed. 1867; "Elementary Hydrostatics," 2nd ed. 1867; "Geometrical Conic Sections," 1869; "Roulettes and Glissettes," 1870. William Budd, M.D. (Edin.), physician, author of various medical papers, especially relating to contagious diseases. George W. Callender, F.R.C.S., lecturer on Anatomy at St. Bartholomew's Hospital School, and Assistant-Surgeon to Bartholomew's Hospital; author of Anatomical papers. William Carruthers, F.L.S., F.G.S., keeper of the Botanical Department, British Museum; author of "Fossil Cycadean Stems from the Secondary Rocks of Britain;" "On the Structure and Affinities of Sigillaria and Allied Genera;" "The Cryptogamic Forests of the Coal Period;" "On the Structure of the Stems of the Arborescent Lycopodiaceæ of the Coal-measures;" "Revision of the British Graptolites," etc. Robert Etheridge, F.R.S.E., F.G.S., Palæontologist to H.M. Geolo-

logical Survey of Great Britain; Demonstrator on Palæontology, Royal School of Mines; author of numerous geological papers. Frederick Guthrie, B.A., F.R.S.E., F.C.S., Professor of Physics in the Royal School of Mines; author of various papers on Chemistry and Physics. Captain John Herschell, R.E., of the Great Trigonometrical Survey of India. Captain Alexander Moncrieff, Militia Artillery, C.E., inventor of the Moncrieff gun-carriage, and author of the Moncrieff system of defence. Richard Quain, M.D. (Lond.), Fellow and late Censor of the Royal College of Physicians; author of a paper "On Fatty Degeneration of the Heart," which has exerted a marked influence on certain branches of pathological science; and of numerous communications published in the Transactions of the Pathological Society, of which Society he was President (1869-70). Carl Schorlemmer, Senior Assistant in Owen's College Laboratory, Manchester; author of a series of papers on the Constitution of the Paraffins, chiefly published in the Proceedings of the Society since 1862. Edward Thomas, Treas. R.A.S., author of numerous papers on Indian Coins and Gems. Edward Burnet Tylor, author of "Researches into the Early History of Mankind;" "Primitive Culture;" and various memoirs on Savages and their Customs. Cromwell Fleetwood Varley, Civil and Telegraphic Engineer, M.I.C.E.; Consulting Electrician to the Electric and International Telegraph Company, the Atlantic Telegraph Company, la Société du Câble Transatlantique Français; author of many inventions in connection with the electric telegraph. Viscount Wulden, President of the Zoological Society of London; author of various papers on Ornithology. John Wood, F.R.C.S., Examiner in Anatomy at the University of London; author of a number of anatomical papers published in the Phil. Trans.



THE occurrence of Whitsuntide, and the remarkably cold weather which has signalized the commencement of June, have been influences tending to check the current of business. There has been, however, no cause for complaint, and from the latest published returns of the Board of Trade, it is quite evident that British commerce is at once flourishing and advancing. By the official accounts for last month, it appears that the declared value of our national exports amounted to £19,099,880 against £16,786,940 in the corresponding month last year, showing an increase of £2,312,940. It is satisfactory to remark that this increase, instead of being confined to a few departments of industry, is pretty generally distributed over all. The total exportation for the first five months this year exceeded in value that in the same period in 1870 by £2,578,553, and that in 1869 by £7,635,117.

Some figures lately published in the *Times*, over the signature of Sir John Lubbock, illustrate very remarkably and conclusively the lively condition of our finances:—

"The total amount of bills, cheques, &c., paid at the Clearing-house during the year ending the 30th of April, 1871, was £4,018,464,000, which shows an increase of £297,841,000 over 1870, and of £761,053,000 over 1868."

This is a glimpse of the vastness of the transactions which are proceeding around us, and of which the City of London is the acknowledged centre.

Two drug sales have occurred since we last wrote, and on each occasion the competition was steady, though not brisk. Buchu leaves have been scarce and in good demand. Long, narrow, and bright green leaves, free from stalks, are wanted. There has been more demand for Camphor, and considerable quantities have been sold. About 500 cases of China were placed at prices between 66s. and 70s., and small sales of Japan were made at 72s. 6d. The stock is large, but holders

are firm, and the tendency at this moment is to advance. Cardamoms are in plentiful supply, and though good business has been done, quotations are lower.

CASTOR OIL.—Only fine pale is wanted; common kinds are dull of sale.

RHUBARB sold very irregularly, but generally with a downward tendency; at recent public sales, which embraced 210 cases, two-thirds were placed: fairly trimmed root, two-thirds fair fracture, at 1s. 11d. to 2s.; middling to good middling 1s. to 1s. 7d.; ordinary to middling, part rather rough coat, 6d. to 11d.

SENNA.—Tinnevely sold at lower prices, none of fine quality being offered; good middling to bold 6½d., fair 8d., low middling 3½d., very ordinary 3d. Bombay: of 182 bales offered only 15 sold, fair 3½d., common, ½d. to 1¾d.; some sales have privately been made since at 3½d. for fair, and at the latest sales prices were still weaker.

There is a large stock of **COCHINEAL**, and prices are lower. **CAPE ALOES** have advanced in price, which is however chiefly due to the fact of some better qualities having been put on the market. At the latest sales 6 barrels good Jamaica **HONEY** sold at 46s., and 4 barrels West India at 48s., also 3 kegs from Valparaiso at 33s. 6d. 31 packages, Australian, bought in at 36s. to 45s. 1 cask very ordinary Cuba sold at 26s.

The Chemical market remains very steady. The export demand has been pretty uniform, notwithstanding advices from New York reporting a dull market there. The shipments to Canada have considerably slackened. The home trade has been brisk, the most lively demand being for Caustic Soda and Soda Ash. There has been a degree of agitation in the Newcastle market; this has had a tendency probably to create a degree of artificial firmness. Bleaching Powder is rather easier. Nitrate of Soda has experienced a decline of 15s. or 20s. Pelletier's Sulphate of Quinine experienced considerable dulness during the month, but has since recovered.

CREAM OF TARTAR dull, and although still quoted at 92s. 6d. per cwt., could have been bought for less.

REFINED BORAX has advanced to 80s. per cwt., but even at this price there is but little to be had for present delivery.

SALTPETRE has varied in price during the month; at the early part the market was easier and dull, afterwards more was doing and prices advanced 1s.; the demand then fell off, and market again receded and left off dull.

In **DRYSALTERIES** and **DYEWOODS** there has not been a large range of business. Prices for Cutch, Gambier, Safflower, and Turmeric have all been on the decline. Some considerable French orders raised the quotations for China Galls. Madder roots are much wanted, and are not to be found. Red Sanderswood has sold freely at advancing rates, and the market closes with an excellent demand. Shellac, after a period of dulness, is now smarter.

The **OIL** markets have shown little or no activity. A steady advance in the price of Turpentine has been noticeable, and American now commands 39s. Petroleum is firm at 1s. 5¾d. to 1s. 6d., and advanced prices are paid for forward delivery.

LINSEED OIL has been in less demand, and there are now sellers on the spot at £32 15s., and business has taken place for the last four months at £32 10s. **RAPE** has moved off slowly, English brown at £43 5s. to £43 10s. on the spot, and it has been sold at the same price for September-December and also for the last six months. Refined £45 10s., Foreign £46 to £48, according to quality. Crude **COTON** has found buyers at £27. Refined has been in rather more request, and has found buyers at £31 to £31 10s. on the spot; July-December still quoted £33. A little **GINOELLY** has been sold at £39. The demand for **OLIVE** has not shown much improvement. **COCONUT** has continued firm so far as Cochin is concerned at £47 to £50; but Ceylon has been saleable in small parcels only at £39 10s. cash and, at £40 with three months' prompt. The market for **PALM** has been steady at £37 for fine Lagos, but no sales of importance have been effected thereat. There are still sellers of crude **SPERM** at £82, but the market is dull, and no sales are reported. **WHALE OIL** of good quality is worth £33 to £34, pale Greenland **SEAL** £33 10s. Cod is inactive at £35 10s.

Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mining-lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.]

CHEMICALS.	1871.		1870.	
	s. d.	s. d.	s. d.	s. d.
ACIDS—				
Acetic	0 4 to	0 0	0 4 to	0 0
Citric	2 11 ..	0 0	2 5½ ..	2 6
Hydrochlor.	4 0 ..	7 0	4 0 ..	7 0
Nitric	0 5 ..	0 5½	0 5 ..	0 5½
Oxalic	0 9½ ..	0 10	0 8 ..	0 9
Sulphuric	0 0½ ..	0 1	0 0½ ..	0 1
Tartaric crystal ..	1 2¾ ..	1 3	1 3½ ..	0 0
powdered ..	1 3 ..	1 3½	1 3½ ..	0 0
ANTIMONY ore.....	240 0 ..	260 0	340 0 ..	400 0
crude ..per cwt	36 0 ..	38 0	40 0 ..	0 0
regulus.. ,,	46 0 ..	47 0	80 0 ..	0 0
star ,,	48 0 ..	49 0	80 0 ..	0 0
ANSENIC, lump.....	15 6 ..	16 0	16 0 ..	16 6
powder.	6 9 ..	7 3	7 3 ..	7 6
BRIMSTONE, rough ..	160 0 ..	0 0	160 0 ..	0 0
roll ....per cwt	10 0 ..	10 3	11 0 ..	0 0
flour.....	12 0 ..	13 0	12 0 ..	13 0
Iodine, dry	1 0 ..	0 0	0 9 ..	0 9½
Ivory Black, dry..	0 0 ..	0 0	0 0 ..	0 0
Magnesia, calcined..	1 1 ..	0 0	1 2 ..	0 0
Mercury.....	200 0 ..	0 0	157 0 ..	0 0
Minium, red	20 6 ..	31 0	20 6 ..	21 0
orange	31 6 ..	0 0	31 6 ..	32 6
Precipitate, red ..	3 5 ..	0 0	2 9 ..	0 0
white	3 4 ..	0 0	2 8 ..	0 0
Prussian Blue	0 0 ..	0 0	0 0 ..	0 0
SALTS—				
Alum	135 0 ..	140 0	140 0 ..	155 0
powder	145 0 ..	150 0	160 0 ..	165 0
Ammonia:				
Carbonate	0 6½ ..	0 6½	0 5½ ..	0 6
Hydrochlorate, crude,				
white..... per ton	460 0 ..	560 0	480 0 ..	560 0
British (see Sal Ammoniac)				
Sulphate	380 0 ..	390 0	320 0 ..	325 0
Argol, Cape	45 0 ..	79 0	50 0 ..	67 6
France	0 0 ..	0 0	40 0 ..	50 0
Oporto, red ..	22 0 ..	24 0	22 0 ..	24 0
Sicily	0 0 ..	0 0	32 0 ..	40 0
Naples, white,,	0 0 ..	0 0	0 0 ..	0 0
Florence, white	0 0 ..	0 0	0 0 ..	0 0
" red ..	0 0 ..	0 0	0 0 ..	0 0
Ashes (see Potash and Soda)				
Bleaching powd..per cwt.	12 6 ..	14 0	8 6 ..	9 0
Borax, crude	25 0 ..	40 0	25 0 ..	35 0
(Tinca)	45 0 ..	60 0	50 0 ..	62 0
British refined,,	75 0 ..	30 0	68 0 ..	70 0
Calomel	3 4 ..	0 0	2 8 ..	0 0
Copper:				
Sulphate	22 6 ..	25 0	23 6 ..	24 0
Copperas, green ..	50 0 ..	60 0	50 0 ..	60 0
Corrosive Sublimatc..	2 7 ..	0 0	2 1 ..	0 0
Cr. Tartar, French, p. cwt.	92 6 ..	95 0	83 0 ..	84 0
Venetian grey ..	95 0 ..	0 0	83 0 ..	0 0
" brown ..	75 0 ..	85 0	0 0 ..	0 0
Epsom Salts	6 0 ..	7 0	6 0 ..	7 0
Glauber Salts	4 6 ..	6 0	4 6 ..	6 0
Lime:				
Acetate, white, per cwt.	12 6 ..	23 0	12 6 ..	23 0
Magnesia: Carbonate,,	42 6 ..	0 0	42 6 ..	0 0
Potash:				
Bichromate ....per lb.	0 6 ..	0 6½	0 5½ ..	0 5½
Carbonate:				
Potashes, Canada, 1st				
sort	36 6 ..	0 0	32 0 ..	0 0
Pearlashes, Canada, 1st				
sort	41 0 ..	42 0	34 0 ..	0 0
Chlorate	1 4 ..	1 4½	0 9¾ ..	0 10
Prussiate	1 4 ..	0 0	1 0 ..	0 0
red	2 0½ ..	2 2	1 9½ ..	1 10
Tartrate (see Argol and Cream of Tartar)				
Potassium:				
Chlorido	11 0 ..	12 0	9 6 ..	0 0
Iodide.....per lb.	16 0 ..	17 0	12 0 ..	0 0
Quinine:				
Sulphate, British, in				
bottles	7 2 ..	0 0	5 10 ..	0 0
Sulphate, French ..	6 10 ..	0 0	5 6 ..	5 7
Sal Acetos	1 0 ..	0 0	0 10 ..	0 0
Sal Ammoniac, Brit. cwt.	41 0 ..	42 0	41 0 ..	42 0
Saltpetre:				
Bengal, 6 per cent or				
under	20 9 ..	23 0	24 0 ..	25 6
Bengal, over 6 per cent.				
per cwt.	25 6 ..	26 9	22 6 ..	23 6
Madras.....	0 0 ..	0 0	21 6 ..	22 0
Bomb & Kurrachee p.ct.	0 0 ..	0 0	0 0 ..	0 0
European.....	0 0 ..	0 0	25 0 ..	26 0
British, refined ..	30 6 ..	31 8	27 0 ..	27 6
Soda: Bicarbonate, p.cwt.	12 0 ..	12 6	10 0 ..	0 0
Carbonate:				
Soda Ash.....perdeg.	0 2½ ..	0 2½	0 1½ ..	0 2
Soda Crystals per ton	95 0 ..	0 0	77 6 ..	80 0
Hyposulphite..per cwt	18 0 ..	0 0	18 0 ..	0 0

Soda:	1871.		1870.	
	s. d.	s. d.	s. d.	s. d.
Nitrate	15 9 to	16 0	16 6 to	17 6
SUGAR OF LEAD, White, cwt.	39 0 ..	40 0	39 0 ..	40 0
Brown	26 0 ..	28 0	26 0 ..	28 0
SULPHUR (see Brimstone)				
VERDIGRIS	1 0 ..	1 2	1 0 ..	1 2
VERMILION, English..per lb.	3 6 ..	6 0	2 7 ..	2 9
China.....	3 6 ..	0 0	3 0 ..	3 7
DRUGS.				
ALGEE, Hepatic....per cwt.	50 0 ..	220 0	60 0 ..	160 0
Socotrinc ..	120 0 ..	320 0	100 0 ..	220 0
Cape, good..	25 0 ..	23 6	26 0 ..	28 6
Inferior ..	17 0 ..	24 0	17 0 ..	25 0
Barbadoes ..	70 0 ..	200 0	80 0 ..	220 0
AMBERGRIS, grey..... oz.	25 0 ..	30 0	25 0 ..	28 0
BALSAMS—				
Canada	0 10 ..	0 11	0 10½ ..	1 0
Cavi	1 11 ..	2 0	1 9 ..	1 11
Peru	9 6 ..	0 0	7 8 ..	7 19
Tolu	1 10 ..	0 0	2 3 ..	2 6
BARKS—				
Canela alba ....per cwt.	15 0 ..	25 0	20 0 ..	34 0
Cascarilla.....	20 0 ..	36 0	22 0 ..	34 0
Peru, crown & grey per lb.	0 10 ..	2 5	0 10 ..	2 4
Calisaya, flat ..	3 2 ..	3 6	3 5 ..	3 8
" quill ..	3 2 ..	3 6	3 4 ..	3 7
Carthagea ..	0 10 ..	1 10	1 0 ..	1 9
Pitayo	0 10 ..	1 6	0 10 ..	1 6
Red	2 0 ..	7 0	1 6 ..	7 0
Bucho Leaves	0 5½ ..	0 10	0 3 ..	0 6
CAMPHOR, China.. per cwt.	60 0 ..	65 0	82 6 ..	87 6
Japan	67 6 ..	79 0	87 6 ..	90 0
Refin Eng. per lb.	1 2 ..	1 3	1 3 ..	0 0
CANTHARIDES	5 3 ..	0 0	3 6 ..	0 0
CHAMOMILE FLOWERS p. cwt.	40 0 ..	62 6	40 0 ..	72 6
CASTOREUM	3 0 ..	30 0	4 0 ..	32 0
DRAGON'S BLOOD, lp. p. cwt.	90 0 ..	210 0	90 0 ..	200 0
FRUITS AND SEEDS (see also Seeds and Spices)				
Anise, China Star pr cwt.	110 0 ..	0 0	120 0 ..	130 0
German, &c. ..	44 0 ..	50 0	28 0 ..	40 0
Beans, Tonquin .. per lb.	0 9 ..	1 6	1 0 ..	1 6
Cardamoms, Malabar				
good ..	6 6 ..	7 6	10 0 ..	11 0
inferior ..	4 0 ..	6 0	7 6 ..	9 6
Madras ..	3 6 ..	7 0	5 6 ..	10 0
Ceylon ..	2 8 ..	2 10	3 0 ..	3 7
Cassia Fistula.. per cwt.	12 0 ..	30 0	16 0 ..	35 0
Castor Seeds ..	10 0 ..	12 0	10 0 ..	12 0
Cocculus Indicus ..	14 0 ..	17 6	19 0 ..	20 0
Colocynth, apple.. per lb.	0 3 ..	0 6	0 4 ..	0 8
Croton Seeds .. per cwt.	77 0 ..	82 6	50 0 ..	61 0
Cnbebs	25 0 ..	23 0	27 6 ..	32 6
Cummin.....	90 0 ..	105 0	100 0 ..	110 0
Dividivi	12 0 ..	14 0	12 0 ..	14 0
Fenugreek.....	17 0 ..	25 0	13 0 ..	15 0
Guinea Grains ..	23 0 ..	24 0	29 0 ..	32 0
Juniper Berries ..	15 0 ..	15 6	7 6 ..	3 6
Myrobalans	10 0 ..	15 6	8 0 ..	16 0
Nux Vomica.....	11 0 ..	14 0	11 0 ..	15 0
Tamarinds, East India,,	5 0 ..	12 0	10 0 ..	16 0
West India, new ..	10 0 ..	16 6	10 6 ..	20 0
Vanilla, large ... per lb.	27 0 ..	37 6	24 0 ..	32 0
inferior ..	10 0 ..	25 0	12 0 ..	22 0
Wormseed .. per cwt.	0 6 ..	0 0	35 0 ..	0 0
GINOER, Preserved, in bond				
(duty 1d. per lb.) per lb.	0 6 ..	0 8	0 6 ..	0 0
GUMS (see separate list)				
HONEY, Chili.... per cwt.	36 0 ..	46 0	30 0 ..	47 0
Cuba	22 0 ..	36 0	22 0 ..	36 0
Jamaica..	31 0 ..	52 0	31 0 ..	55 0
IPECACUANHA ... per lb.	6 0 ..	6 1	6 6 ..	6 8
ISINGLASS, Brazil..	2 6 ..	4 3	3 0 ..	4 6
Tongue sort ..	3 6 ..	5 0	3 2 ..	4 9
East India ..	1 6 ..	3 11	1 8 ..	3 11
West India ..	3 9 ..	4 2	3 9 ..	4 3
Russ. long staple	5 6 ..	8 0	5 0 ..	8 0
" leaf ..	3 0 ..	5 6	3 0 ..	5 0
" Simovia ..	2 0 ..	3 6	1 6 ..	2 6
JALAP, good	1 9 ..	3 2	2 8 ..	3 4
infer. & stems ..	0 6 ..	1 7	0 6 ..	2 7
LEMON JUICE ... per degree	0 1 ..	0 1½	0 1 ..	0 1½
LIQUORICE, Spanish per cwt.	0 0 ..	0 0	60 0 ..	65 0
Italian ..	40 0 ..	60 0	48 0 ..	63 0
MANNA, flaky ... per lb.	3 6 ..	4 0	3 0 ..	3 6
small.....	2 0 ..	2 2	1 6 ..	1 9
MUSK..... per oz.	21 0 ..	36 0	18 0 ..	35 0
OILS (see also separate List)				
Almond, expressed per lb.	1 2 ..	0 0	1 0 ..	0 0
Castor, 1st pale	0 5½ ..	0 5½	0 4½ ..	0 5
" second ..	0 4½ ..	0 5	0 4½ ..	0 4½
infer. & dark ..	0 4½ ..	0 4½	0 4 ..	0 4½
Bombay (in casks)	0 0 ..	0 0	0 4 ..	0 4½
Cod Liver	5 0 ..	6 0	5 0 ..	6 6
Croton.....per oz.	0 3½ ..	0 4½	0 3½ ..	0 4½
Essential Oils:				
Almond	42 0 ..	0 0	42 0 ..	0 0
Anise-seed	8 9 ..	0 0	8 7 ..	0 0
Bay	65 0 ..	70 0	65 0 ..	70 0
Bergamot	8 9 ..	0 0	8 0 ..	15 0
Cajeput, (in bond) per oz.	0 2½ ..	0 3	0 2½ ..	0 3
Caraway	5 6 ..	6 3	5 6 ..	6 3
Cassia	4 3 ..	4 4	4 7 ..	0 0
Cinnamon	1 0 ..	4 6	1 0 ..	4 6
Cinnamon-leaf ..	0 2 ..	0 6	0 2 ..	0 6

	1871.		1870.	
	s. d.	s. d.	s. d.	s. d.
Essential Oils, continued:—				
Citronelle per oz.	0 2 to	0 0	0 2 1/2 to	0 2 1/2
fino	0 2 1/2 ..	0 0	0 2 1/2 ..	0 2 1/2
Clove per lb.	2 4 ..	0 0	2 0 ..	0 0
Juniper "	1 9 ..	2 0	1 9 ..	2 0
Lavender "	3 6 ..	6 0	3 0 ..	4 3
Lemon "	5 0 ..	9 6	5 0 ..	7 0
Lemongrass per oz.	0 2 3/4 ..	0 3	0 3 1/2 ..	0 3 1/2
Neroli "	0 5 ..	0 6	0 5 ..	0 6
Nutmeg "	0 4 ..	0 7	0 4 ..	0 7 1/2
Orange per lb.	5 0 ..	7 0	5 0 ..	7 0
Otto of Roses per oz.	12 0 ..	21 0	13 0 ..	20 0
Patchouli "	3 0 ..	0 0	6 0 ..	0 0
Peppermint:				
American per lb.	15 6 ..	17 0	14 0 ..	14 6
English "	33 0 ..	34 0	32 0 ..	42 0
Rosemary "	1 9 ..	2 0	1 9 ..	2 0
Sassafras "	3 0 ..	3 6	4 0 ..	4 6
Spearmint "	4 0 ..	16 0	4 0 ..	16 0
Thyme "	1 10 ..	2 0	1 10 ..	2 0
Mace, expressed per oz.	0 1 1/2 ..	0 3	0 1 ..	0 2 1/2
Opium, Turkey per lb.	23 0 ..	25 0	33 0 ..	35 0
inferior "	14 0 ..	22 0	23 0 ..	32 0
Quassia (bitter wood) per ton	60 0 ..	70 0	140 0 ..	150 0
Rhubarb, China, good and fine per lb.	2 0 ..	6 4	4 6 ..	3 0
Good, mid. to ord. "	0 3 ..	1 10	0 7 ..	4 3
Dutch trimmed "	0 0 ..	0 0	9 6 ..	10 0
Russian "	0 0 ..	0 0	0 0 ..	0 0
ROOTS—Calumba per cwt.	25 0 ..	42 0	27 0 ..	35 0
China "	22 0 ..	24 0	25 0 ..	35 0
Galangal "	15 0 ..	17 0	17 0 ..	20 0
Gentian "	27 0 ..	30 0	17 0 ..	18 0
Helleboro "	30 0 ..	35 0	22 0 ..	30 0
Orris "	65 0 ..	80 0	50 0 ..	52 0
Pellitory "	58 0 ..	60 0	53 0 ..	60 0
Pink per lb.	0 9 ..	1 3	0 7 ..	0 10
Rhatany "	0 5 ..	0 11	0 5 ..	0 10
Seneka "	4 0 ..	4 3	2 10 ..	0 0
Snake "	0 11 ..	1 0	1 0 ..	0 0
Saffron, Spanish "	35 0 ..	44 0	50 0 ..	56 0
Salep per cwt.	200 0 ..	245 0	110 0 ..	0 0
Sarsaparilla, Lima per lb.	0 6 ..	0 7 1/2	0 6 ..	0 7
Para "	1 0 ..	1 3	1 0 ..	1 3
Honduras "	1 2 ..	1 7	1 2 ..	1 6
Jamaica "	1 7 ..	3 2	2 6 ..	4 4
Sassafras per cwt.	0 0 ..	0 0	0 0 ..	0 0
Scammony, Virgin per lb.	25 0 ..	29 0	28 0 ..	32 0
second & ordinary "	10 0 ..	23 0	10 0 ..	23 0
Senna, Bombay "	0 3 1/2 ..	0 6	0 3 1/2 ..	0 6
Tinnivelly "	0 3 1/2 ..	1 6	0 3 ..	1 4
Alexandria "	0 3 1/2 ..	1 7	0 4 1/2 ..	1 7
Spermaceti, refined "	1 6 ..	1 7	1 6 ..	1 7
American "	1 2 ..	1 3	1 6 ..	0 0
Squill "	0 1 1/2 ..	0 1 3/4	0 1 1/2 ..	0 2 1/4
GUMS.				
Ammoniac drop per cwt.	80 0 ..	155 0	105 0 ..	120 0
lump "	55 0 ..	75 0	60 0 ..	90 0
Animi, fine washed "	260 0 ..	320 0	300 0 ..	340 0
boldscraped "	200 0 ..	250 0	220 0 ..	290 0
sorts "	120 0 ..	200 0	100 0 ..	200 0
dark "	75 0 ..	110 0	75 0 ..	100 0
Arabic, E. I., fine				
pale picked "	70 0 ..	75 0	80 0 ..	85 0
srts, gd. to fin "	57 6 ..	69 0	67 0 ..	79 0
garblings "	25 0 ..	45 0	40 0 ..	00 0
Turkey, pick. gd to fin "	160 0 ..	200 0	170 0 ..	210 0
second & inf. "	85 0 ..	155 0	90 0 ..	160 0
in sorts "	65 0 ..	80 0	75 0 ..	100 0
Gedda "	38 0 ..	44 0	38 0 ..	44 0
Barbary, white "	0 0 ..	0 0	77 6 ..	82 6
brown "	45 0 ..	49 0	67 0 ..	72 6
Australian "	24 0 ..	43 0	22 0 ..	42 0
Assafetida, com. to gd "	35 0 ..	100 0	30 0 ..	90 0
Benjamin, 1st qual. "	160 0 ..	400 0	280 0 ..	460 0
2nd "	150 0 ..	215 0	140 0 ..	220 0
3rd "	40 0 ..	85 0	50 0 ..	100 0
Copal, Angola red "	120 0 ..	137 6	90 0 ..	102 0
Benguela "	98 0 ..	106 0	90 0 ..	102 0
Sierra Leone per lb.	0 2 ..	0 10 1/2	0 3 1/2 ..	1 2
Manilla per cwt.	16 6 ..	43 0	30 0 ..	52 0
Dammar, palo "	60 0 ..	64 6	77 6 ..	85 0
Euphorbium "	10 0 ..	0 0	13 0 ..	14 0
Galbanum "	500 0 ..	260 0	160 0 ..	260 0
Gamboge, pckd. pipe "	260 0 ..	300 0	300 0 ..	340 0
Guaiacum per lb.	0 9 ..	2 9	0 9 ..	1 6
Kino per cwt.	60 0 ..	115 0	60 0 ..	140 0
Kowrie, rough "	20 0 ..	33 0	40 0 ..	51 0
scraped "	34 0 ..	70 0	52 0 ..	105 0
Mastic, picked per lb.	5 6 ..	7 0	7 6 ..	8 0
Myrrh, gd. & fine per cwt.	120 0 ..	160 0	190 0 ..	260 0
sorts "	80 0 ..	115 0	92 0 ..	185 0
OLIBANUM, p. sorts "	75 0 ..	77 6	80 6 ..	82 6
amber & ylw. "	65 0 ..	73 0	72 0 ..	79 0
garblings "	19 0 ..	46 0	23 0 ..	47 0
SENEGAL per cwt.	65 0 ..	85 0	77 6 ..	95 0
SANDARAC "	55 0 ..	110 0	60 0 ..	100 0
THUR "	16 0 ..	22 6	13 0 ..	14 0
TRAGACANTH, leaf "	200 0 ..	310 0	220 0 ..	380 0
in sorts "	110 0 ..	180 0	115 0 ..	210 0
OILS.				
SEAL, palo per tun	£33 10 ..	36 0	£33 0 ..	0 0
yellow to tinged "	32 0 ..	35 0	36 0 ..	37 0
brown "	31 0 ..	0 0	34 0 ..	35 0
Sperm, body "	82 0 ..	0 0	90 0 ..	0 0
headmatter "	82 0 ..	0 0	0 0 ..	0 0

	1871.		1870.	
	£ s.	£ s.	£ s.	£ s.
Oils, continued:—				
COD per tun	35 10 to	0 0	41 0 to	0 0
WHALE, South Sea, pale "	34 0 ..	0 0	37 10 ..	0 0
yellow "	33 0 ..	33 10	36 10 ..	37 0
brown "	30 0 ..	32 0	35 0 ..	6 0
East India, Fish "	28 0 ..	29 0	32 9 ..	33 0
OLIVE, Gallipoli "	47 10 ..	48 0	52 0 ..	0 0
Trieste "	47 0 ..	0 0	47 0 ..	0 0
Levant "	45 0 ..	0 0	50 0 ..	0 0
Mogador "	44 0 ..	0 0	50 0 ..	0 0
Spanish "	47 0 ..	0 0	0 0 ..	0 0
Sicily "	46 0 ..	0 0	51 0 ..	0 0
COCOANUT, Cochinchina per ton	50 0 ..	0 0	45 0 ..	0 0
Ceylon "	40 5 ..	0 0	38 0 ..	38 10
Sydney "	33 0 ..	39 0	34 10 ..	38 0
GROUND NUT AND GINOLELLY:				
Bombay "	0 0 ..	0 0	0 0 ..	0 0
Madras "	43 0 ..	44 0	43 0 ..	0 0
PALM, fine "	37 0 ..	0 0	29 10 ..	0 0
LINSEED "	32 10 ..	32 15	31 15 ..	0 0
RAPESEED, English, pale "	45 10 ..	0 0	45 10 ..	46 0
brown "	43 5 ..	43 10	43 10 ..	42 15
Foreign pale "	47 0 ..	48 0	47 0 ..	48 0
brown "	43 10 ..	0 0	45 10 ..	0 0
COTTONSEED "	27 0 ..	31 10	30 0 ..	35 10
LARD "	58 0 ..	60 0	72 0 ..	74 0
TALLOW "	36 0 ..	0 0	35 0 ..	0 0
TURPENTINE, American, cks. "	39 0 ..	40 0	30 9 ..	0 0
PETROLEUM, Crude "	0 0 ..	0 0	0 0 ..	0 0
s. d.	s. d.	s. d.	s. d.	
refined, per gall.	1 5 1/2 ..	1 6	1 7 ..	0 0
Spirit "	0 9 ..	0 0	1 0 ..	0 0
SEEDS.				
CANARY per qr.	40 0 ..	48 0	42 0 ..	48 0
CARAWAY, English per cwt.	0 0 ..	0 0	40 0 ..	45 0
German, &c. "	0 0 ..	0 0	25 0 ..	34 0
CORIANDER "	0 0 ..	0 0	0 0 ..	0 0
HEMP per qr.	44 0 ..	48 0	44 0 ..	48 0
LINSEED, English per qr. "	0 0 ..	0 0	0 0 ..	0 0
Black Sea & Azof "	63 3 ..	63 9	62 9 ..	0 9
Calcutta "	61 3 ..	0 0	63 9 ..	0 0
St. Petersburg "	59 6 ..	60 0	57 6 ..	58 6
Mustard, brown per bush.	0 0 ..	0 0	0 0 ..	0 0
white "	0 0 ..	0 0	0 0 ..	0 0
POPPY, East India per qr.	60 6 ..	0 0	58 6 ..	0 0
SPICES.				
CASSIA LIGNEA per cwt.	105 0 ..	121 0	115 0 ..	128 0
Vera "	45 0 ..	80 0	47 0 ..	88 0
Buds "	125 0 ..	145 0	155 0 ..	175 0
CINNAMON, Ceylon,				
1st quality per lb.	2 5 ..	3 8	1 9 ..	3 8
2nd do. "	1 9 ..	3 4	1 4 ..	3 6
3rd do. "	1 7 ..	3 1	1 2 ..	3 5
Tellicherry "	2 7 ..	3 0	2 8 ..	3 1
Cloves, Penang "	1 1 ..	1 2	0 10 1/2 ..	1 0
Amboyna "	0 4 ..	0 5 1/2	0 4 1/2 ..	0 5 1/2
Zanzibar "	0 2 1/2 ..	0 3	0 3 1/2 ..	0 3 1/2
GINGER, Jam, fine per cwt.	80 0 ..	180 0	100 0 ..	200 0
Ord. to good "	37 0 ..	77 0	35 0 ..	80 0
African "	29 0 ..	30 0	27 0 ..	28 0
Bengal "	25 0 ..	26 0	26 0 ..	0 0
Malabar "	0 0 ..	0 0	23 6 ..	27 0
Cochin "	37 0 ..	112 0	40 0 ..	126 0
PEPPER, Blk, Malabar, per lb.	0 6 ..	0 6 1/2	0 5 1/2 ..	0 6
White, Tellicherry "	0 9 1/2 ..	1 2 1/2	0 9 ..	1 5
Cayenne "	0 9 ..	1 6 1/2	0 9 ..	1
MACIS, 1st quality per lb.	3 3 ..	3 11	3 1 ..	3 9
2nd and inferior "	2 8 ..	3 2	2 4 ..	3 0
NUTMEGS, 78 to 60 to lb. "	2 3 ..	3 10	2 7 ..	4 4
90 to 80 "	2 3 ..	2 6	2 2 ..	2 6
132 to 95 "	1 9 ..	2 3	1 6 ..	2 1
VARIOUS PRODUCTS.				
COCHINEAL—				
Honduras, black per lb.	2 4 ..	3 4	2 8 ..	3 10
" silver "	2 4 ..	2 8	2 6 ..	3 0
" pasty "	0 0 ..	0 0	2 1 ..	2 5
Mexican, black "	2 5 ..	2 9	2 8 ..	3 1
" silver "	2 3 ..	0 0	2 6 ..	2 7
Toneriffe, black "	2 4 ..	3 6	2 8 ..	4 4
" silver "	2 3 ..	2 5	2 7 ..	2 0
PUMICE STONE per ton	120 0 ..	150 0	120 0 ..	160 0
SOAP, Castillo per cwt.	35 0 ..	0 0	35 0 ..	0 0
SPONGE, Turk. fin pkd pr lb.	12 0 ..	16 0	12 0 ..	16 0
Fair to good "	4 0 ..	11 0	4 0 ..	11 0
Ordinary "	1 0 ..	3 6	1 0 ..	3 6
Bahama "	0 6 ..	2 0	0 6 ..	2 6
TERRA JAPONICA—</				

