

DROPS.

BY CHARLES W. QUIN, F.R.S.

MR. FREDERIC GUTHRIE, Professor of Chemistry and Physics at the Royal College, Mauritius, has lately brought before the Royal Society the results of some investigations recently made by him into the laws which govern the formation of drops, an account of which cannot fail to interest our readers.

On turning to the subject of drops, as treated of in "Parrish's Practical Pharmacy," or any other standard pharmaceutical work, we cannot help being struck with the great difference observable in the relative size and weight of the drops of different fluids. Thus, although we are always taught that a fluidrachm contains on an average sixty drops, each of which is equal to a minim or a grain, we find it stated in Parrish, on the authority of Durand, that a fluidrachm of distilled water, hydrocyanic acid, or weak ammonia, contains only forty-five drops, or in other words that a drop of either of these substances is one-third greater than it is generally supposed to be. In the case of other fluids the discrepancy is in the opposite direction—for instance, a drop of crystallizable acetic acid, diluted alcohol, tincture of opium, and several other liquids used daily by the pharmacist, is only half the supposed size. A patient, therefore, who is prescribed acetic acid in drops gets less than the supposed quantity, while the one who is ordered hydrocyanic acid by the same measure would get more than the proper amount.

According to the same authority, the bottle or measure from which the liquid is dropped has a great influence on the size of the drops. Thus, according to Parrish's experiments, seventy-three drops of acetic acid dropped from a pint tincture bottle made up a fluidrachm, while 102 drops were necessary when a minim measure was used. These differences seem to show the difficulty of obtaining a standard drop—a difficulty which is still more increased by the knowledge that even when the same vessel and liquid are used the differences are almost as great as those already cited. Thus, in experimenting on water with ounce vials, Parrish found that in seven trials the number of drops required to make up a fluidrachm varied between thirty-two and sixty-five. The necessity, therefore, for Professor Guthrie's investigations is at once apparent.

The Professor sets out by defining a drop as any mass of liquid matter whose form is visibly influenced towards the spherical by the attraction of its parts, and whose sensible motion or tendency is towards the earth. He then goes on to exclude from consideration drops which are formed under indefinite, or at any rate unmeasurable, circumstances, such as rain drops, including only those that are formed under fixed and determinable conditions. The drops which form the subject of experiment may, therefore, be defined as masses of liquid collected or held together by the attraction of their parts, and separated from each other by the attraction of gravitation. This definition includes upward-moving drops, which are formed when a heavy liquid, such as water, is carefully poured into a bottle containing a lighter one, like petroleum, the bottom of the vessel always holding a certain quantity, which gradually "drops up" to the surface.

The size of a drop generally depends on, and is influenced by at least four conditions: 1. The self-attraction of the drop-generating liquid. 2. Its adhesion to the matter on which the drop is formed. 3. The shape of this matter. 4. The physical relations existing between the matter on which the drop is formed, the liquid constituting the drop itself, and the medium through which it passes.

Denoting the three states of matter by the letters S (solid), L (liquid), and G (gaseous), and considering the symbols in the order in which they are written to denote respectively the matter from which the dropping takes place, the drop

and the medium, we get a convenient notation. There are eight variations of these conditions, but only three of them are possible.

S L L, when from a solid a liquid drops through a liquid.

S L G, when from a solid a liquid drops through a gas.

L L L, when from a liquid a liquid drops through a liquid.

Of these three cases the first and last may be reversed,—as when from a solid a liquid *ascends* through a liquid; and when from a liquid a liquid *ascends* through a liquid. The middle case, of course, cannot be reversed as it would presuppose the existence of a liquid lighter than a gas.

The case S L G is the most common and important, and is the only one at present investigated by Professor Guthrie. In this case the variable conditions are the self-attraction and cohesion of the liquid, which is dependent on its chemical and physical constitution; the adhesion between the solid and the liquid, which is dependent on their relative chemical and physical constitution, and the shape of the solid. Temperature has also a considerable effect on the solid liquid and gas. There are also two other conditions,—the adhesion of the gas to the solid and to the liquid; but as atmospheric air at ordinary barometric pressure is always the gaseous medium through which the drop falls, these need not be noticed. The condition, however, which has the greatest effect on the size of the drop is the interval which takes place between the successive drops, and called by Professor Guthrie the *growth-time*. *Ceteris paribus*, therefore we may say that the growth-time being constant, the size of the drops produced will be the same for the same liquid.

It the first series of experiments Professor Guthrie used an ivory sphere having a diameter of 22.1 millimetres, and suspended from a retort stand by three fine wires. The sphere was dipped in hydrochloric acid so as to deaden its surface. The liquid under experiment was contained in a cylindrical vessel, and always kept at the same level by means of a pear-shaped reservoir, containing the same liquid, suspended over it with the mouth just touching the surface. The liquid was conveyed to the ivory ball, the upper half of which was covered with cotton wool, by a syphon which could be easily raised or lowered at pleasure, so as to regulate exactly the amount of liquid flowing on to the ball. The end of the syphon was slightly turned up, and touched a plug of cotton on the top of the sphere. The drops formed were received in a funnel placed in a beaker.

Cocoa-nut oil was the liquid used in the first series of experiments which had for their object the determination of how far the rapidity of dropping influenced the size of the drops, and to establish the fact of the uniformity between the size of drops falling at equal intervals of time. The temperature being at 23° 5 C, the flow of liquid was so regulated that a second elapsed between the fall of each drop. Eight batches of sixty drops each were then weighed accurately, and were found to have a mean weight of 3.9767 grammes, the variation between the extremes being insignificant. Thirty batches of sixty drops each were then prepared, the growth-time being varied six times in the course of the experiments, and ranging between 0.435 to 0.767 of a second. In this series of experiments some curious irregularities occur which have been confirmed by other experiments. The following table will show this:—

GROWTH-TIME.	MEAN DROP-WEIGHT.	GROWTH-TIME.	MEAN DROP-WEIGHT.
Seconds.	Grammes.	Seconds.	Grammes.
0.433	0.07540	0.633	0.07281
0.500	0.07275	0.700	0.07059
0.567	0.07456	0.767	0.06912

It will be seen that the weight of a drop formed in 0.500 of a second is less than those falling either in 0.567 of a second, or 0.633 of a second, although the law appears to be at first sight that the weight of a drop should diminish as its growth-time increases. In order to endeavour to establish some law with respect to these discrepancies, Professor Guthrie undertook a long series of experiments: the growth-time of the drops varying from the third of a second to twelve seconds, with the following result:—

From 0" 333 growth-time to 0" 433	there is diminution.
" 0" 433 "	" 0" 450 " increase.
" 0" 450 "	" 0" 467 " diminution.
" 0" 467 "	" 0" 500 " increase.
" 0" 500 "	" 12" 000 " continual diminution.

On the whole, the law seems to be that the slower the dropping, the smaller the drop. It was found too, that when the time between the drops was decreased to below 0.333, a continuous stream was the result. This first fact is most interesting to the pharmacist, as showing the influence of rate in dispensing drops. For a growth-time, 0.333, we get a drop weighing 0.09264 grammes, while for a growth-time of $1\frac{1}{2}$ seconds, we get a drop of only two-thirds the weight. A pharmacist who dispenses 100 drops of a liquid at the rate of three drops a second, will give half as much again as another who measures the same liquid at the rate of a drop every second and a half.

One peculiar fact that appeared during these investigations, was that when the drops changed to a stream, from the supply of liquid being increased, the amount of oil having decreased in quantity, or in other words, a fine stream delivered less in a given time, than a series of large drops.

It also appears that there is no such thing as a normal drop, for at no degree of slowness in dropping do the drops assume a size unaffected by a slight change in the rate of their sequence.

Professor Guthrie has also tried the effect of gradually decreasing the strength of saline solutions dropping at the rate of two seconds, and found that *decrease in solid constituent produced precisely the same effect upon the size of the drop as decrease in the growth-rate in the drops of a homogeneous liquid*, the same apparently abnormal maxima and minima presenting themselves.

In a theoretical point of view, these peculiar relations have the greatest importance, and will materially assist in determining the relation between a dissolved solid and its solvent. The secondary maxima and minima in the case of the chloride of calcium solution, may result from the formation of definite hydrates. Professor Guthrie does not give the exact amount of solid matter in the chloride of calcium solutions used, but only uses a nearly saturated solution, and dilutes it with twice 4, 8, 16, 32, &c., times its bulk of water. Had he given us equivalent solutions it would have been most interesting.

These experiments remind us in principle of those of Mr. Graham, in transpiration of fluids, or the passage of fluids through capillary tubes. Here similar apparent discrepancies occurred, but they were cleared up by the discovery that the definite hydrates always exerted a peculiar influence in retarding or accelerating the flow. In both cases friction of a fluid against a solid takes place, which friction is diminished or increased primarily, according to the amount of solid matter in the solution, and secondarily by that solid matter being in a state of mechanical or chemical union with its solvent. We should strongly recommend Professor Guthrie to experiment on solutions of the acids, and see the effect of their definite hydrates in altering the size of drops. According to Graham, nitric acid, with three equivalents of water, is found to have a lower rate of transpiration than when diluted more or less. With sulphuric acid, the maximum occurs with the monohydrate, with acetic acid, the bihydrate with hydrochloric acid, the dodecahydrate and so on. The determination of the relations, too, between the drop-size, and the boiling points, and composition of the alcohols, ethers, &c., would be most interesting. The influence of temperature also needs inquiring into, in fact, there is an enormous and evidently most fruitful field open to Professor Guthrie's talents and patience, of both of which the present paper has given us so high an opinion.



UNITED SOCIETY OF CHEMISTS AND DRUGGISTS.

THIRD ANNUAL REPORT.

The following Report was read at the third Annual Meeting of the Society:—

"The past year of the United Society of Chemists and Druggists has been pregnant with events of importance to the trade, and the Executive Committee trust that their Third

Annual Report will be read with interest and satisfaction by all the members.

"In discharging the responsible duties devolved upon them, the Executive Committee have had difficulties to contend with, of which, how to promote the progress of the Society within the limits of the narrow means afforded them, has not been the least; it is therefore, with much gratification, that they declare the numerical strength of the Society to consist of a body of nearly 3,000 members, which, united in will and in effort, is strong enough to resist aggression, and to achieve the redemption of the trade.

"That this Society should in three years attain to a position so commanding, is a significant fact which reproves its detractors with greater severity than words can express, whilst it proclaims to the public both the Society and its power, and evidences the intelligence, the respectability, the energy, the aspirations, and the determination of the trade.

"It may be within the recollection of many that the Committee accompanied their Report, last year, with a circular, which in the simplest form set forth 'SUGGESTIONS FOR A PROPOSED ACT OF INCORPORATION.'

"The Act was to be based upon a recognition of all claimants to an interest in the trade of a Chemist and Druggist prior to its passing, and the compulsory examination of all candidates for the trade after the Act had passed, as to their ability to read prescriptions with ease and accuracy, and their knowledge of drugs in general use, with their doses.

"District Associations with local boards of examination were to be instituted, so that the qualification of candidates could be certified without loss of time, and at a trifling expense; and it was further to provide for a representative government, whilst affording encouragement to those who might seek to distinguish themselves in chemical science. After a year's consideration the trade have stamped these 'Suggestions' with an unanimity of approbation as the principles to be embodied in an Act of Parliament for an incorporation of the trade.

"To form a correct judgment of the proceedings of the Medical Council in relation to the trade, it is necessary to mark the origin of these 'Suggestions.'

"Towards the close of 1862 many members of the United Society were of opinion that the great and increasing number of unqualified persons in the trade, was an evil which must be met by some legislative measure. This opinion rapidly spread; a general desire was expressed that the United Society should assume the initiative in the undertaking, and a growing distrust in the public mind tended also to render such a reform necessary. The Executive Committee were sensible of the delicacy and difficulty of the situation; but in responding to the wishes of the trade, they were encouraged by the consideration that they had a right to expect the co-operation of the Pharmaceutical Council. In that expectation, however, they were disappointed. During the ten years which followed the passing of the Pharmacy Bill, that Council, upon whose shoulders Jacob Bell's mantle had fallen, turned away from their mission; instead of conciliating the trade, and supplying the public want with an increasing staff of competent dispensers, they allowed the Pharmaceutical Society to diminish year by year, and not a whisper could be heard of any intention on their part to remedy this evil.

"Called upon, alike by public opinion and by the wishes of the trade, the Executive Committee felt it to be their duty to bring this question before the Annual Meeting of the United Society, and by an unanimous resolution of that Meeting, *the incorporation of the trade, as the only remedy for the evil, became a distinct object of the Society.* That resolution was made known to the trade by means of their Annual Report, and the circular with the 'Suggestions' for an Act of Incorporation in May, 1863; the reticence of the Medical Council in relation both to the resolution and to the 'Suggestions,' as evidenced by the 56th and 57th and other sections of their Medical Bill, published *six weeks later*, must therefore be attributable not so much to their anxiety for the public welfare, as to their desire to place the Chemists and Druggists in subordination to themselves. How much wiser and more graceful would it have been in the Medical Council to have encouraged that large and intelligent body of gentlemen with their advice and sympathy, and aided them in their declared intention to accomplish a thorough reform amongst themselves, than to have provoked them by contumely and

injustice to a contest which was sure to end in the discomfiture of those who commenced it!

"The Medical Council have hitherto been defeated; and it may be both instructive and admonitory to remind the trade by what means the United Society have gained the advantage. *It was by the united action of that body organized and directed from a common centre.* When it was known to this Committee that the Pharmaceutical Council had given their adhesion to the Medical Bill, they immediately referred that bill to the judgment of the trade. The Chemists and Druggists being thus invited to speak for themselves, responded to the call; the United Society held meetings in nearly every large town in the kingdom—as also at many of the smaller ones—at every one of which it was unanimously resolved to oppose it; a thousand more Chemists rallied to the cause as members of the United Society; subscriptions to the Incorporation and Defence Fund came in daily; the public became interested in the discussion; the press took it up, and eventually the verdict was pronounced that the practice of Pharmacy needed reform, but the Chemists and Druggists might be safely left to the management of their own affairs.

"The contest between the United Society of Chemists and Druggists and the Medical Council is now a matter of history; and the trade might be left to the peaceful promotion of a good measure of reform, did not another impending and yet more important struggle for independence demand further sacrifices and further effort. One of the first fruits of this victory was the friendly tone of the Pharmaceutical Council towards the trade. They had stood aloof from the United Society of the trade—nay, more—they had pronounced in favour of the Medical Bill *against* the United Society of the trade during the conflict; but when that Society had *alone* defeated the Medical Council, then the Pharmaceutical Council 'could no longer remain indifferent or inactive spectators of the movement with reference to legislation in Pharmacy:' they acknowledged that 'the vested interests of Chemists and Druggists had been threatened;' and, as if to make amends for the support they had given to the Medical Council, they promised 'a vigorous effort to obtain an Act that should secure to all now engaged in the business of Chemists and Druggists the rights and privileges they at present possess, whilst it should render a professional examination necessary for those who might enter the business in future.' Nay, the promised Bill was to recognize the equality which was the essential principle of the Apothecaries' Act of 1815, and it was even intimated that members introduced to the Pharmaceutical Society under their Bill would be admitted to a voice in its government.

"Promises apparently so fair and liberal, coming from the Pharmaceutical Council, excited the hopes of some members of the United Society, whilst those more thoughtful doubted the reality of the change. Although the ungentlemanly conduct of their avowed partizans at the Meeting held at Birmingham might justify an opinion, the Executive Committee do not consider it within their province to divine the object of so sudden a conversion; but they feel it to be their duty, as guardians of the interests of the United Society, to record one event which it produced. It did not escape their observation, that to give the Pharmaceutical Council credit for sincerity would not only be a graceful act, but it would afford the Executive Committee a favourable opportunity to test that sincerity by another overture of friendly co-operation. That overture was made, and repulsed with discourtesy. The Bill promised, and framed ostensibly with disinterested solicitude for the benefit of the trade, appeared and *was discussed at a meeting from which the trade were excluded; and astonished them with the discovery that the two essential principles, distinctly promised, were as carefully omitted from its contents as they themselves were prohibited from taking any part in the discussion of its merits.* Four meetings were then held within the short space of one week, that the Executive Committee might be guided by the unbiassed judgment of the trade upon this Bill. At Bradford it was declared to be 'essentially unjust;' at Sheffield as 'degrading;' at Nottingham as 'inadequate to the requirements of the trade;' and at Hull it was denounced as 'thoroughly unjust and insulting.' Condemnation so uniform, confirmed by subsequent meetings and the opinions of gentlemen of acknowledged intelligence and position in every part of the kingdom, must be accepted as the deliberate judgment of the trade.

"Severe as this judgment may seem, it is a judgment defied with wreckless disdain, and therefore severely just. It is the logical sequence of a policy of insincerity—the moral penalty of a deliberate forfeiture of the confidence of the trade; it is *no* accident or mistake—*no* party demonstration, but a *righteous* retribution. In rejecting the proposal of the Executive Committee of the United Society for a Conference; in promising a Bill to maintain the rights of the trade, and to protect them against incompetent practitioners in pharmacy, with the obvious intention of forcing upon them a measure in which neither the one nor the other of these objects could be found; in proposing to perpetuate an odious distinction between equally intelligent and respectable Chemists; in violating the essential principle of the very Memorial upon which they based their assumption to legislate for the trade, whilst disdaining even to notice the protest of their own members at Leeds, or to be influenced by the opinion of their most intelligent supporters; in proclaiming their determination to seek only the benefit of the Pharmaceutical Society as a privileged institution; and in the practical affront to the trade evinced in an affectation of sympathy with their wants and wishes, whilst scorning to own their intelligence and respectability, the Pharmaceutical Council have renounced the mission devolved upon them by their Founder and Benefactor, 'to unite the Chemists and Druggists in one ostensible, recognised, and independent body,' and have abdicated all right to legislate for the trade, or in any way to interfere with them in future.

"Much of the time and energy of the Executive Committee has this year been taken up with the measures found necessary to defeat the proceedings of the Medical Council and their supporters. The numerous public meetings held through the country have involved much time, anxiety, and cost; the correspondence has doubled that of any previous year; a new element has latterly been added to their responsibilities in the literary articles for the press, found requisite to maintain and defend the principles and objects of the Society; add again to these various occupations—the registering, the book-keeping, the numerous circulars and lists required, the canvassing and collecting, and the preparation of the Annual Reports—and it will be a matter of wonder to any reflecting mind how these things have been done within the limited means of the Society. There is yet, however, another duty which, amidst all the calls upon them, the Executive Committee have not lost sight of—*viz.*, THE ADVANCEMENT OF THE BENEVOLENT FUND. They have returned to this duty with the greater pleasure, because it affords an occasional rest from the strife of conflicting opinion, and provides a ground upon which all may meet in good fellowship to provide relief for their destitute brethren; and whilst gratefully acknowledging the efforts made for the defence of the trade, they sincerely hope that the hand of Charity will not be contracted. The Fund is now approaching the amount prescribed by the Laws of the Society for investment, and a little—a very little effort is needed to raise it to the elevation of practical utility. Surely that effort will not be wanting!

"The rules of the Society, framed originally with a view to such alterations as experience might suggest, have undergone careful revision; and whilst no essential principle or object is disturbed, the Executive Committee hope that the beneficial results of their adaptation to the present condition, and harmonious working of the Society, will commend them to the support of all who desire its peace and prosperity. But no laws, however wisely framed, can be of much benefit, if not wisely and faithfully administered. District Associations have been formed by the Society at the cost of much time and money, with every possible advantage to local interests, and it cannot be too well understood that the prosperity of the Society depends upon the spirit and manner in which those Associations discharge their federal duties, whilst much reliance is necessarily placed upon the honour and loyalty of the Chairman and Secretaries, whose influence may be exerted either for good or evil.

"The Executive Committee will adhere in perfect faith to the principle of co-operation, and earnestly invite those gentlemen to act *with* them, to have no separate policy or object *away* from them, but to be *one with them in hand, in heart, and in council for the general good.* If the Officers of the Society work together in this oneness of spirit, the Society *must* prosper. 3,000 men thus united in a free country for a common object, is a principle to be known, and a power to be

felt, before which the opposition of sectional or party interests must fall. In such a spirit let the cause of the Society be conducted in the country and in Parliament, and the crowning result will be AN INCORPORATION OF THE TRADE.

"The Executive Committee frankly admit that other gentlemen might have brought more wisdom to bear in the management of the Society's affairs, but they feel assured that none could have been found more zealous for its honour and prosperity. They have had heavy responsibilities to bear, and difficult duties to perform, but they have never relaxed in their efforts for the good of their brethren, and they now render an account of their stewardship in the confidence that the United Society of Chemists and Druggists is destined to embrace all practitioners in pharmacy, and to advance in influence and in usefulness, as the bulwark and the hope of the trade.

"Signed,

"By order of the Executive Committee,

"C. F. BUOTT,
"Secretary."

THE SECRETARY.

We understand that Mr. C. F. Buott has intimated his intention of resigning his present position as Secretary of the United Society of Chemists and Druggists, in consequence of his engagement with the Wholesale and Export Drug Company, Limited.

PROPOSED ACT OF INCORPORATION.

A Sub-Committee has been appointed to draft a Bill of Incorporation, in accordance with the "Suggestions" which have been for some time before the trade. The heads of the Bill, together with an additional List of Subscribers to the Incorporation and Defence Fund, will probably be ready for publication next month.

SHEFFIELD ANNIVERSARY.

The Anniversary Dinner of the Sheffield Association of the above society took place at the King's Head Hotel, on the evening of the 31st ult. The dinner was an exceedingly good one, and there was a fair attendance of members present. The chair was occupied by Dr. Hall, and amongst those present were Mr. Hornby, Mr. J. T. Dobb, Mr. H. Gates, chairman of the Hull district, Mr. Buott, secretary, Mr. Leng, &c. The chairman proposed the loyal and patriotic toasts, after which

Mr. Dobb proposed "The United Society, and Prosperity to its Benevolent Fund." The formation of this fund was the first object of the society, and he was glad to say it had been a great success. He was pleased to find that it had been supported by gentlemen unconnected with the trade. Most of the members of the society were actuated by an earnest desire to raise the station, the position, and the educational standing of chemists and druggists in the land. He believed that was the leading principle; and if they could unite that with a charitable object, he thought they might fairly enlist the support of outsiders. He was glad to find that there were about 3,000 enrolled members of the United Society; and if they only carried out their motto, and were determined to be united, he felt assured they would meet with every success. The toast was drunk with enthusiasm, and was responded to by

Mr. Gates, who said the United Society of Chemists and Druggists had been in existence only three years. It was not formed for selfish trade purposes, as some had asserted; it was not commenced with the object of aggrandizing any particular individual, but it was established for the purpose of benefiting the trade in general. It had not placed itself in antagonism with any other society, but had endeavoured to cultivate a feeling of charitable brotherhood throughout the United Kingdom. Writers connected with the Pharmaceutical Society assumed that the "outsiders" were clamouring for rights and privileges to which they had no claim. That was basing the argument on false premises, and was sure to lead to false conclusions. The United Society wanted nothing that belonged to any other body. There had been three occasions upon which the United Society and the Pharmaceutical Society had apparently come into collision. The first was when the Executive of the former

body were striving to obtain for all dispensing chemists exemption from serving on juries. The Council of the Pharmaceutical Society, instead of using their influence to secure this privilege to all having equal claims to it—claims based upon the responsible nature of a dispenser's duties—had on that occasion merely looked after their own body, and in gaining a special privilege for "Pharmaceutical Chemists," had lost the confidence of the trade. A correspondent of the CHEMIST AND DRUGGIST had lately asserted that the success of the Pharmaceutical Society in this matter had been the insertion of the thin end of the wedge, but he (Mr. Gates) felt sure that if this wedge should ever be driven home it would be the work of the strong arm of the United Society. The second apparent collision between the two societies had occurred when the proposed Bill of the Medical Council was brought before the trade. Had that Bill become law, it would have seriously interfered with the rights, privileges, and prosperity of the trade in general; and when the Pharmaceutical Society in its recognised journal wrote so approvingly of the measure, it must have been thinking of the fees which it would be empowered to extort from the whole trade on granting dispensing licences. The organized opposition of the United Society to this measure, which threatened all "non-pharmacutists" with bondage, was no clamour for rights and privileges that had neither been paid nor laboured for. The two societies were now opposed to each other for the third time upon a question of trade legislation. The Pharmaceutical Council had recently framed an amended Pharmacy Bill, which, like the Bill of the Medical Council, contemplated placing chemists and druggists under their control, whether they were willing or not. The fact that this Bill had been framed in secret, and was to be urged through Parliament without consulting the wishes of those who would be most affected by it, was sufficient to render it odious to the great majority of the trade. Before the provisions of the Bill were made public, the Committee of the United Society, representing thousands of dispensing chemists, had offered to meet the Council of the Pharmaceutical Society to discuss the subject of trade legislation, but the offer had been refused; and now, when they protested against the unconstitutional proceedings of the Council, and called attention to the unfairness of the proposed measure, they were said to be inciting the trade to clamour for unpurchased and undeserved privileges. A pharmaceutical critic in the CHEMIST AND DRUGGIST had stated that the United Society had not shown sufficient regard for the principle of self-help. Such an assertion would only be met by a flat denial. The United Society had been self-reliant from the commencement, and that principle would enable it to accomplish that which it most desired—namely, the enrolment of the whole trade. Where could the Pharmaceutical Society get up such a meeting as that? The United Society had seventy-five members in Sheffield, but he should be surprised to hear that the Pharmaceutical Society had more than twenty. (Mr. Hornby: From six to ten.) There were in Hull fifty-nine members of the United Society, and about twelve members of the Pharmaceutical Society. Three only of the latter number had passed an examination, and one of those three was a member of the United Society of Chemists and Druggists. He felt convinced the society would go on improving if its members kept the motto, "Union is strength," in mind. The Benevolent Fund would very soon be in active operation, and they would be enabled to commence a career of charity which would put to shame the Pharmaceutical Society with its boasted sum of £7,000. If they went hand in hand, they would accomplish their object, and obtain for themselves their Act of Incorporation. (Applause.)

Mr. Buott proposed the Sheffield Local Association, and expressed the hope that it might promote the social, intellectual, and commercial progress of the chemists and druggists of the town and neighbourhood.

This toast, along with others, were duly responded to; and at the conclusion of an able speech from Mr. Hornby, the sum of ten guineas was handed by him to the General Secretary as an instalment of a subscription towards the Incorporation and Defence Funds, by the members of the Sheffield Association. Shortly after which, the proceedings of an agreeable evening were terminated, by the election of officers for the ensuing year.

LAW.

PILLS UNDER ROYAL PATRONAGE.

AT the City Sheriffs' Court, on Thursday, September 8, before Mr. Serjeant Tindal Atkinson, was tried the case of *Beddel v. Malhardo*, plaintiff being a printer and defendant proprietor of a gout and rheumatic pill. The plaintiff said that in November, 1859, defendant came to him, and required to have a quantity of testimonials printed. It was arranged that the work should be done by a certain time, and defendant saw the proofs. He expressed himself perfectly satisfied. His Honour inquired as to the nature of the testimonial. Plaintiff produced a small pamphlet, headed "Malhardo's Gout and Rheumatic Pills," which were to cure all the ills to which flesh is heir. His Honour asked if the work had been sent home. Plaintiff had sent in the work, but it had been returned. Defendant said upon one occasion that his brother, who was coming over from India, with the stuff for the pills, had been wrecked, and so the books were of no use at all. Defendant, however, had paid £2 on account, and had repeatedly promised the remainder. Defendant.—I wish to call your Honour's attention to the royal coat of arms on the title-page of the pamphlet, and to assure the Court that its presence renders the pamphlet valueless to me. As to what the plaintiff says about my brother, I can say that although he was wrecked he had not the stuff for the pills with him, and I only went to India myself to administer to his effects. My principal objection to not paying was, that there was another small sheet to have been printed and issued with the pamphlet, and as plaintiff refused to complete his work, I refused to pay.—His Honour felt obliged to pay attention to what had fallen from plaintiff, upon the promise to pay; and as to the royal arms, that could not have injured defendant much, as everything produced to the public now was under royal patronage. Plaintiff would have a verdict, with costs.

AN IMPORTANT POINT OF LAW.

In the City Sheriffs' Court, before Mr. Joyce, recently was tried the case of *Boor v. Weston*, Mr. Buchanan appearing for plaintiff, who is a manufacturing chemist of Bishopsgate-street, and Mr. Smith representing defendant, who carries on business at 65, Kennington-road. Mr. Buchanan called his client, who said that the present claim was to recover £13 5s. 9d., for chemicals supplied to defendant. Mr. Smith inquired if the order had not been sent in in the name of Fyge and Co. Mr. Boor said he could explain that. He had supplied goods to the defendant, and one day he received an order signed Fyge and Co. Plaintiff refused to execute it, and received a communication from defendant on the subject. Defendant said it was all right and he would pay; the result was that the goods were duly delivered, and the account sent to defendant, who paid it. Messrs. Fyge and Co. carried on business at the same place as did the defendant. Mr. Smith said that unfortunately his client was out of town, or he could have explained the matter. As it was, however, there was nothing to show that defendant was liable for the present claim, even if he had paid for the first order in the name of Fyge and Co. Plaintiff said he had very good reasons for believing that Fyge was Weston, but at all events the present goods were supplied under the same understanding as the first order purporting to come from Fyge and Co. In addition to this, there had been a promise to pay the amount. His Honour said that it would appear that defendant was liable upon the evidence of the plaintiff, in addition to which there was a promise to pay. If defendant thought he could alter the facts, he might apply for a new trial, but the verdict now would be for the plaintiff, with full costs.

THE CASE OF POISONING BY STRYCHNINE.—LINGARD, ADMINISTRATRIX, v. CLAY AND ABRAHAM.

This cause, which came before Mr. Baron Pigott and a special jury, at the Liverpool Assizes, on the 17th ult., was an action brought under Lord Campbell's Act, for the recovery of damages. The circumstances which led to the action were fully described in our last, in the report of a trial for manslaughter. Mr. Attorney-General James, Q.C., Mr. Aspinall, Q.C., and Mr. Samucl were retained for the plaintiff;

Mr. Temple, Q.C., and Mr. Quain were counsel for the defence. When the cause was called on,

Mr. Attorney-General James, addressing his lordship, said—We are going to take a verdict, my lord, for £1,500.

His Lordship.—A verdict by consent, is it?

The Attorney-General.—If your lordship will wait for one moment, it is necessary to say a few words. The action is brought under Lord Campbell's Act, and as there must be an apportionment, no doubt the jury will take what we suggest. The verdict will be for £1,500; £500 to the widow, and £500 each to the two younger children. The eldest child comes in for some property by the death of the father.

His Lordship.—You must give the eldest child something.

The Attorney-General.—Yes, my lord, we will give him, say, £1; though I don't know that it is necessary.

His Lordship.—Well, I thought that he had sustained some damage.

The Attorney-General.—Well, say a shilling to the other. Then the verdict will be for £1,500 1s.

Mr. Temple.—Now, my lord, this was an action brought by the administratrix of a person who met with his death in consequence of a person in the employ of the defendants, who are eminent chemists in this town, having unfortunately mixed strychnine, instead of James's Powder, with the medicine that had to be administered. Now, I was prepared with a large body of evidence, comprising nearly all the most eminent physicians and surgeons in this town, and also a great number of chemists from different parts of the country—amongst the rest from the chemists of her Majesty, who have dispensed the medicines of the Royal Family for the last thirty years—for the purpose of making out that, although this sad mischance had taken place, the defendants had always conducted their business with great care, and had so arranged the various medicine bottles, including poisons, as in their best judgment would be most likely to guard against accidents. I have this vast body of evidence to express approval of the mode adopted by the defendants; and also to show that it was very commonly adopted and most approved of by the profession. I think it but justice, with the consent of the Attorney-General, to make that statement; but, as your lordship knows, it would have amounted to no defence. We still should have been liable at law. And I may say that Messrs. Clay and Abraham have said to me that, even supposing they could have hoped for a verdict on any strictly legal ground, they should feel it their bounden duty, under the circumstances, to pay to the widow such a sum as might be considered reasonable and proper. For these reasons the defendants have consented, as has been stated, to a verdict for £1,500.

His Lordship said—Gentlemen of the jury, I think we may all say we approve of the course the defendants have taken. For my own part, I must say, we all know accidents will happen, as the common saying is, in the best-regulated establishments; but I would make this one further observation, that in these matters of dealing with poisons I think it would be an excellent practice for everybody to keep them under lock and key, and separate from any other and harmless drugs. I do not by any means say the defendants have not done so. I am glad there should have been all this testimony to the good management of the establishment; and the defendants having consented to a verdict is, I think, an act of good feeling on their part. The damages will be £1,500, £500 of which will go to the widow. Under the Act of Parliament, you are to say how the damages shall be divided between the widow and children if it is the case of a parent. In this case it is the parent, and £500 will go to the widow and £500 each to the younger children. The eldest child comes into some money by the death of the parent, and one shilling is sufficient, in the view of the parties who are watching the case in his interest. You will find a verdict to this effect.

The jury found accordingly.

ACCIDENTS.

POISONING BY CALABAR BEANS IN LIVERPOOL.

FROM forty to fifty children were poisoned by Calabar beans in Liverpool on the 11th ult. The circumstances of this remarkable case are fully detailed in the following report of the

inquest held upon the body of Michael Russell, the only child who died from the effects of the poison. The inquest was held by Mr. P. F. Currey, the borough coroner, on the 19th ult. Jane Russell, the first witness, said the deceased was her son, and, at the time of his death, was 6½ years old. On the day in question he went out to play, and shortly afterwards returned, crying, and fell on the floor. She asked if any one had hurt him, and he said he had eaten some nuts that he had found on some waste ground near the school in Greenland-street. She took him to the Southern Hospital, where he died twenty-five minutes afterwards.—Thomas Costain, overlooker for the company of African merchants, whose place of business is in Walmer-buildings, Water-street, and who were the owners of the barque *Commodore*, now lying in the Queen's Basin, said the barque was discharged eight or nine days ago, of a cargo of palm oil, Calabar beans, and ebony. Had seen some of the beans scattered about, and had told the porters and lumpers to pick them up, as they were valuable.—Inspector Moore, of the Fire Brigade, said he was in Jordan-street on Thursday last week, when he saw several children, several women carrying children, some of whom were vomiting, going towards the Southern Hospital. He followed and made inquiries, and then went to a piece of waste land, between Greenland-street and New Bird-street, where Police-constable 802 and several other people were searching a quantity of rubbish for the beans, which he produced. Sent for a spade and broom and riddles, and had the rubbish cleared of the beans. He also took beans from several children. Then he had all the rubbish removed in a cart to the night-soil yard, Vauxhall-road. Police-constable 802 afterwards brought a carter named Samuel Price to Jordan-street Bridewell, and the carter stated that he had been employed by the overlooker of the *Commodore* to remove the rubbish from the vessel. He was to have two shillings for doing so. He took the rubbish to the waste land in Greenland-street. He had been told to take it to the North End, but could not afford to do so for so small a price.—Mr. James Irvine, general merchant, No. 31, The Temple, Dale-street, said the beans produced were Calabar or Esery beans, the botanical name of which was *Physostigma Venenosum*. They were highly poisonous, but scarce. They had as yet been found only in the Calabar river, and had been brought here lately as part cargo. In Calabar they were used only for poisoning, but in this country they were employed to make an eye lotion. Sometimes half a bean would poison a man, but twenty would not, because they would cause vomiting.—Samuel Price, the carter, was called, and said he had thought it no harm to put the rubbish on the ground in Greenland-street, because there was a bit of a hole there. He did not see the beans amongst the rubbish.—James Storey, Police-constable 802, described the occurrences of which Inspector Moore had spoken, and said he received a quantity of beans from the master of St. Barnabas' School, who had collected them from the children. He apprehended Price, and heard him make the statement given by the inspector.—Mr. Thomas Gulston Wollaston, surgeon at the Southern Hospital, said that when the deceased was brought to the hospital he was in a state of extreme collapse, from which he never rallied. Witness had made a *post-mortem* examination of the body, and found all the organs healthy except the lungs, which were somewhat tuberculous. The stomach and upper part of the intestines contained a substance resembling slightly digested nuts. He attributed death to the poisonous effect of the Calabar beans taken into the stomach.—Dr. John Cameron gave similar evidence, and said forty-six patients were admitted to the hospital suffering from the effects of the same poison.

Mr. John Baker Edwards deposed—I am an analytical chemist and lecturer on medical jurisprudence at the Royal Infirmary School of Medicine, Liverpool. On Friday, the 12th instant, I attended a *post-mortem* examination of the remains of the deceased Michael Russell, and removed the stomach, intestines, and parts of the viscera of deceased in jars, which I conveyed to my laboratory at the Royal Institution for chemical examination. On the same day I received from Inspector Moore a parcel of beans, said to be similar to those of which the said Michael Russell had eaten. The beans are those known in medicine as Calabar or ordeal beans (*Physostigma Venenosum*). I proceeded to make an alcoholic extract of the beans, also of the contents of the deceased's stomach, and of the contents of

the deceased's intestines. The stomach contained only five fluid ounces of fluid, consisting of a few fragments of the bean and the remains of a mustard emulsion which had been administered shortly before death. The quantity of alcoholic extract from the stomach was therefore very small, and its reactions were obscured by the mustard. After further purification by ether, an extract was obtained which caused marked contraction of the pupil in the eye of a rabbit when applied to it externally. From the intestines of deceased I obtained 17 fluid ounces of an emulsive fluid, which, after digestion with the alcohol, yielded an extract, which was then purified by ether and evaporated. This ethereal extract corresponded in its reactions with a similarly prepared extract of the beans under examination. The chemical reactions on a watery solution of the ethereal extract are as follows:—

1. A pink colour, struck by caustic potash, which gradually increases in intensity to a deep red, and when mixed with chloroform forms a deep red chloroformic solution, which separates from the clear yellowish supernatant liquor.
2. A red colour, struck by strong sulphuric acid, with separation of a resinoid coagulum.
3. A violet colour, changing to red by sulphuric acid and crystals of bichromate of potash.
4. A similar colour, with sulphuric acid and binoxide of manganese, retaining the purple colour for a long time.
5. A yellow precipitate, with solution of iodine in iodide of potassium.
6. A purple colour, with terchloride of gold and reduction of metallic gold.
7. A yellow colour, struck with caustic ammonia, which, exposed for some hours to light, turned green, and finally a deep blue. I applied a few drops of the aqueous emulsion of this ethereal extract obtained from the intestines of deceased to a frog's back, by insertion under the skin. In a short time the animal manifested an indisposition to movement, and became very quiet. In the course of an hour it became unable to jump, or to remove from the position in which its limbs were placed, and in about two hours it became perfectly flaccid and insensible to any external irritation; although stimulated by strychnine, it was incapable of being roused to muscular exertion, and soon expired, having previously exhibited very irregular respiration and pulsation. A second portion of the emulsion was exhibited to a mouse, which became soon paralysed in its limbs, and died after a few hours. A third portion was introduced into the circulation of a mouse by the ear, and after twenty-four hours the poison operated fatally, by complete paralysis of the limbs and senses, and the animal died by syncope. A fourth portion of the emulsion from the intestines of deceased applied to the eye of a rabbit caused strong contraction of the pupil after three-quarters of an hour. Similar results were obtained by an ethereal extract of the bean itself.

The Coroner told the jury there was no doubt that the death of the deceased had been caused by the poisonous action of the Calabar beans he had eaten. The only question for them was whether there had been negligence on the part of anyone who had had anything to do with the beans. He recited the carter's evidence. Care ought to be taken in discharging such cargoes, because children would do as the children in this case had done. Forty-six children had eaten of these beans, and suffered from them, though only one had died. That one had not been sick, but had retained the poison in his stomach. He read an extract from a paper read before the Royal Society of Edinburgh by Professor Balfour, stating that the Esery bean was used in Old Calabar as an ordeal, and administered to persons accused of crimes. There was no doubt that the beans had been taken from the barque *Commodore* in this rubbish, and that proper caution had not been used; but the child had injured himself by eating the beans, and he knew of no law to touch the parties concerned.

The jury found that the deceased had died from the effects of Calabar beans, which he had incautiously eaten, not knowing them to be poisonous. They expressed an opinion that captains of ships bringing such cargoes ought to exercise more caution.

The Coroner, addressing Mr. Costain, the overlooker, told him that it would lie with him to give this caution to the captains of ships bringing home such things as these beans. Strict instructions ought to be given to captains of such ships to secure proper precautions. Great credit was due to Inspector Moore and Police-constable 802, for the means they had taken to prevent further mischief.



A Dictionary of Chemistry and the Allied Branches of other Sciences, &c. By HENRY WATTS. Parts XVII., XVIII., and XIX., IODINE—LEUCATES.

THIS excellent work still continues to fulfil in the completest manner all the good things we ventured to prophesy concerning it in our first notices of it. In the three numbers before us, we would more especially point out to our readers the articles on iodine (in which, by the way, no mention is made of Mr. Stanford's process for obtaining that element from sea-weed), iodic acid, and the iodates; ipecacuanha, iron (an exhaustive article extending over between 70 and 80 pages), isomerism (by Professor Wanklyn, who has written one of the best articles that has yet appeared on this subject), isomorphism (by the editor, to whom the same praise may be extended; jalap, jalapic acid, and their derivations; jervine, lactic acid, lactucarium, lead (a very fine article by Dr. Richardson, one of our highest authorities on the metallurgy of this metal), and legumin.

The Prescriber's Analysis of the British Pharmacopœia. By J. BIRKBECK NEVINS, M.D. London: John Churchill. 1864. Second Edition. Pp. 264. Price 3s. 6d.

WE have already reviewed with commendation the first edition of this useful little work. The second edition now before us, has been enlarged to three times the original size, the first having been sold off almost immediately after it was printed. A copious list of the strengths of the various preparations has been added, and as far as we have tested, it appears perfectly correct. A detailed account of all new substances and preparations is also given, which forms the bulk of the additional matter. The general list of changes will be found most useful to the prescriber who has not time to study the original in detail. The table of doses and incompatibles is also a great improvement, and the copious index at the end supplies a want greatly felt by the possessors of the first edition.

Selections from Physicians' Prescriptions, &c. By JONATHAN PEREIRA, M.D., &c. &c. Fourteenth Edition. John Churchill and Sons. 1864. Pp. iv. 352.

THE fourteenth edition of this standard work has just been published with all the additions necessitated by the recent appearance of the British Pharmacopœia. It would be loss of time on our part to bestow any praise on a work whose merits are so well known to our readers as Pereira's *Selecta à Præscriptis*, it will, therefore, be only needful to say that the changes made appear to have been executed with great care and judgment. We strongly recommend our readers to possess themselves speedily of this new edition of an old friend.

Manual of the Medicinal Preparations of Iron, including their Preparation, Chemistry, Physiological Action, and Therapeutical Use, with an Appendix containing the New Preparations of the British Pharmacopœia. By H. N. DRAPER, F.C.S. Dublin: Fannin and Co. 1864. Pp. x., 131.

THE almost endless number of ferric compounds with which every pharmaceutical formulary is loaded—we ought, perhaps, to say encumbered—has long rendered a monograph of iron preparations not merely advisable but absolutely necessary. This want has been met by Mr. Draper in the fullest manner in the little manual before us.

Hardly a day passes but the pharmacist receives a prescription containing some new combination of an iron salt, with one, two, or often three different vegetable alkaloids of which he possibly has never before heard, and which must be compounded extemporaneously; very much puzzled, he refers to Beasley, Cooley, or some other manual, and spends half the day in hunting up the method of making the new preparation without success, and is at last obliged to fall back on his own chemical knowledge. But with Mr. Draper's book by his side no such difficulty need exist, for it contains the formula of every preparation of iron of any worth, and of many whose only merit is, we fear, that of having very long names containing three or four sonorous Latin genitives. Of course Mr. Draper does not give every preparation which has been formulated during the last twenty years. That would be impossible, for ten years since Beasley

enumerated about 150 preparation of iron in medicinal use, since when we have had the phosphorus, glycerin, granulation, and several other manias, which must have, at least, trebled this quantity. The best preparations are given, and the principle of combining iron salts with almost every class of substances, animal, vegetable, or mineral, is so explained that the pharmacist will for the future be prepared for any ferric compound, no matter how long its name may be, or how absurd its apparent composition.

The history and preparation of each compound are first given. The different methods adopted by different pharmacists being described at length. The precautions necessary to ensure a satisfactory result are then described, and are followed by the physical characters, chemistry, contaminations, tests for purity, physiological action, therapeutical use, and dose of the compound under consideration.

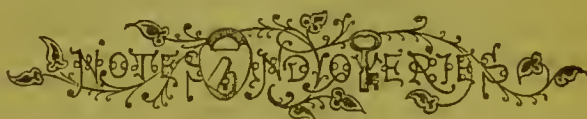
We are glad to see that Mr. Draper goes very fully into the ferric scale preparations of the vegetable alkaloids. The shameful manner in which these compounds have been lately adulterated, or rather diluted, has induced many pharmacists to manufacture them for themselves, frequently, however, with great want of success. We hear that some revelations of a somewhat surprising nature respecting the frauds carried on in this direction by certain manufacturing chemists will be made at the coming meeting of the Pharmaceutical Conference at Bath.

The appendix contains the iron preparations of the British Pharmacopœia, the chemical principles involved being fully explained. Some of the critical remarks on these preparations are most judicious, and form additional proofs if, indeed, any were wanting, of the careless manner in which our guide—but certainly neither philosopher nor friend—the British Pharmacopœia has been put together.

At the end is given a synoptical table of the medicinal preparations of iron, with the composition and doses of each appended. We see that Mr. Draper gives Fabri's absurd formula for making the so-called albuminate of iron and soda, adding in the appendix a more rational method of making it, devised by Mr. Edwin Smith. For an exposition of the absurdity of Fabri's formula we may refer our readers to an excellent article on the subject from the talented pen of Mr. Barnard Proctor, at page 122, vol. iv., of this Journal.

The printers have been somewhat cruel to Mr. Draper in some of the chemical formulæ, and we see that he does not scruple to call quinine both *quina* and *quinia*.

As the only work on iron preparations Mr. Draper's exhaustive little treatise has our strongest recommendation, as one that must of necessity soon take its place on the counter of every pharmacist.



A REPORTER'S ERROR.

IN the Report of the Annual Festival of the United Society, some strictures upon the Pharmaceutical Society were wrongly attributed to Mr. Manby, of Southampton. This gentleman states that he is really under obligation to the Council, and is naturally annoyed at having his views so completely misrepresented. We can assure Mr. Manby that the misrepresentation was accidental, and that we greatly regret it.

PATENT MEDICINE LICENCE.

The Licence fell due on the 1st inst., and is now to be paid at the Inland Revenue Office, No. 23, in Gresham House, Old Broad Street, City.

GENERAL NOTE.

Several queries which have been received during the month will be answered through the post in the course of a few days.

GAZETTE.

BANKRUPTS.

ROBERT LIVESAY, Everton, Lancashire, chemist
HENRY ROTHERHAM, jun., Ekeington, Dorbyshire, druggist's assistant.

PARTNERSHIPS DISSOLVED.

ALLSOP and BUCK, Oldbury, Worcestershire, chemists.
W. COUPLAND and J. W. AXE, Nottingham, chemists.



LONDON, SEPTEMBER 15, 1864.

CORRESPONDENCE.—All communications should be addressed to the Editor, at 24, BOW-LANE, E.C.; those intended for publication should be accompanied by the real names and addresses of the writers.

QUERIES.—The Editor cannot undertake to attend to those which are anonymous, or to send answers through the post.

SUBSCRIPTION.—The subscription to the CHEMIST AND DRUGGIST is 5s. per annum, payable in advance. Should a receipt be required, a stamped envelope must be sent with the amount of subscription. A specimen number may be had upon application, price 6d.

POST OFFICE ORDERS.—Post-Office Orders to be made payable at the General Post Office to the Publisher, JAMES FIRTH, who is alone authorized to receive accounts.

SCALE OF CHARGES FOR ADVERTISEMENTS.

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The CHEMIST AND DRUGGIST is published on the Fifteenth of every month, and regularly supplied direct to the Members of the Trade in Great Britain, Ireland, the Colonies, and all the principal seats of foreign commerce.

Everything intended for insertion in the current Month, must be sent in before the 10th, except Employers' and Assistants' Advertisements, which will be received until 9 a.m. on the morning previous to publication.

THE BRITISH PHARMACEUTICAL CONFERENCE.

By the time the present number is in the hands of our readers, the British Pharmaceutical Conference will have commenced its first annual session with every chance of achieving a great success. We have already laid before our readers an account of the various subjects upon which the members of the Conference have been working during the past year, and from the knowledge we have of the manner in which these investigations have been carried out in several instances that have come under our personal observation, we venture to prophesy that great benefits will accrue to pharmaceutical science, from the facts that will be brought before the Conference. The practical part of pharmacy has also received a large amount of attention from several well-known pharmacists. On the very interesting question of adulteration, several valuable papers will be read; giving analyses of certain much-used preparations, which will somewhat surprise their consumers, and send them to their test glasses and reagents.

Having aided the movement to the utmost of our power, since it was started at Newcastle last year, we look forward to the first meeting with a great deal of expectation, but knowing what we do of its promoters, with very little anxiety as to its success.

The principle of holding periodical local Conferences is an excellent one, and has been carried out by the American Pharmaceutical Association, with great benefit to the science of pharmacy on the other side of the Atlantic, as is plainly apparent to those who are acquainted with its proceedings.

Believing as we do in the high value and interest of the doings of the Conference, we have already sent down a member of our staff to prepare a special report of the meeting for our next number.

THE NEW TRADE COMPANY.

WE have great pleasure in drawing attention to the very important announcement in our advertisement columns of the establishment of an Wholesale and Export Drug Company (Limited), upon a principle of co-operation that will enable the retail chemist and druggist to become a par-

ticipator in the profits that he has for so many years past been the means of producing for others, while the responsibility will be strictly limited to the amount of his shares. The project appears to us to be based upon a sound principle, and we shall not be surprised if the undertaking rapidly grows into an important property. It is very evident that the management will secure a large connection, as it will be the direct interest of every shareholder in the trade to transfer his business to the firm who will share the profits with him.

There are several noticeable features connected with the prospectus that deserve attention, and we cannot but commend the careful avoidance of anything of a speculative character about the affair, as well as the entire absence of professional promotion fees, and also the determination of the Directors to return the deposit money intact should it appear that the undertaking is not sufficiently supported. From what we can hear this is not a likely contingency, as some very valuable offers of support have been received by the Company, and a large proportion of the shares are already applied for. This will, of course, render an immediate application necessary; and as the proposal will be first offered to the trade, and then to the public, we cannot help thinking that the first holders of the shares will have a very good prospect of their property securing a premium at the onset.

From the foregoing it will be seen that we feel a warm interest in this matter. We do this because we sincerely believe it to be a thoroughly legitimate undertaking, and knowing that its promoters are gentlemen whose energies and business experience will be devoted to making a safe and profitable result.

It appears that we are not alone in this opinion, as, at the preliminary meetings of the trade held in the provinces to promote the Company, some very satisfactory evidences of confidence were obtained.

THE SALE OF POISONS.

THE Report lately issued by the Medical Officer of the Privy Council comprises some observations by Dr. Alfred Taylor on the sale of poisons which we cannot disregard, especially as they have given rise to an article in *The Times* which is calculated to mislead the public, and injure all chemists and druggists.

Dr. Taylor declares that the administration of poison causes death and disease in England to an alarming extent, and demands the direct interference of the Legislature with the sale of poisons. He has much to say respecting the facility with which poison may be obtained for criminal purposes, and the danger which arises from the carelessness and ignorance of druggists. Upon the first point he remarks—

“So long as a person of any age has the command of three-pence he can procure a sufficient quantity of one of the most deadly poisons to destroy the lives of two adults.”

This is perfectly true, but it is absurd to suppose that the deadly poison can only be obtained at the druggist's shop. The salts and colours which are used for the every-day purposes of life are quite as deadly as the articles used in medicine.

The remarks of the *Medical Circular* upon this subject are so good that we take the liberty of quoting them:—

“We doubt,” says our contemporary, “whether any legislative restrictions on the sale of poisons, however desirable such restrictions may be on other grounds, would materially diminish the number of murders and suicides with which we are daily horrified. With regard to arsenic, we do not see why the chemist and druggist should sell it at all, and, indeed, we do not know why he should even keep it in his shop, unless for the preparation of the arsenical solution of the Pharmacopœia; and any person coming for a penny-worth of arsenic ought at once to be suspected. If the sale of arsenic was prohibited altogether, the chemist and druggist would not suffer in a pecuniary sense, but would murders and suicides be thereby diminished? The mind bent on murderous intentions will, unhappily, never find any lack of weapons to gratify its morbid propensity, and poisons equally or more deadly than those sold by the chemists and druggists may be procured of the photographer,

the confectioner, or the paint-seller; while, as daily experience too plainly shows, there are innumerable paths, besides those by poison, by which a person bent on suicide may terminate his own existence, or the murderer take away the life of his fellow-creature. By all means let the business of the chemist and druggist be supervised; but murders and suicides will not be checked by such supervision."

Respecting Dr. Taylor's second point,—the danger which arises from the carelessness or ignorance of druggists,—the leading daily journal makes the following exaggerated statements:—

"A large number of persons wholly unacquainted with the properties of powerful drugs are allowed to retail them to the public on demand without check or control, and that great mistakes must arise in consequence is obvious. But this danger is increased a hundredfold by the practice of keeping innocent medicines and poisonous compounds resembling each other on shelves or drawers in close proximity. Laudanum, tincture of rhubarb, senna, and black draughts, like each other in colour, may be seen standing side by side, in bottles of like size and shape, and with labels easily mistaken by the ignorant and careless. Strychnine may be side by side with jalapine, morph'a, and quinine. It is no wonder if many eases are known in which laudanum and strychnine have been given in place of innocent tinctures and have caused death. The danger reaches its height in village shops, where draperies, and groceries, and drugs, and poisons, are all kept and sold in confusion. From shops of this description Dr. Taylor has known instances in which arrowroot, rice, oatmeal, or something else in common demand, has been sold with a fatal admixture of arsenic. In one case where arsenic had been given instead of arrowroot, and had killed the consumer, a witness who went to the shop after the accident found 'rice, corrosive sublimate, jalap, and oxalic acid in different papers in the same drawer, and all under the care of an ignorant boy.' Even in the sale of poisons upon a large scale, similar mistakes have been known to follow from the same carelessness. Twelve pounds of white arsenic have been sold instead of plaster of Paris, and have been used to adulterate lozenges, or thirty pounds of sugar of lead have been sent, perhaps instead of alum, to a miller, and used for admixture with eighty sacks of flour. In the one case, at Bradford, arsenical lozenges killed seventeen persons and severely injured 183 others; in the other case, no fewer than 500 persons were more or less affected—none, indeed, fatally, but some with great severity—by the poisoning of their bread with lead."

We admit that there is some truth in the above remarks, and believe that poisoning by *accident* would be much less frequent if the dealers in drugs were all properly qualified. The Act of Incorporation proposed by the United Society provides for the examination of all future chemists and druggists, and if the Legislature sanctions this measure the public will be protected in a more effectual manner than they would be by any absurd restrictions on the sale of useful articles. On the day following the publication of the article on Dr. Taylor's report, a letter from Mr. C. F. Buott, calling public attention to the proposed Act of Incorporation, appeared in the columns of *The Times*.

Accidental poisoning cannot be entirely prevented. The recent sad case at Liverpool proves that knowledge and experience will not always preserve a dispenser from mistakes.

The penalties which chemists and druggists are now liable to incur for errors in dispensing are so heavy that there is no occasion for *The Times* to call for "such an alteration of the law as would make persons readily and seriously responsible for any negligence." In conclusion, we refer our readers to the report of the cause of *Lingard v. Clay and Abraham*, to the article which we reprint from the *Liverpool Daily Post*, and to the admirable suggestions made by our correspondent "An Outsider."

OUR CORRESPONDENCE.

We had intended to criticise Mr. Proctor's last letter upon Pharmaceutical Politics, but the cogent replies of Messrs. Wade, D'Aubney, and Hayland, have left us little to say, and we have good reasons for leaving that little unsaid at present. When we are quite certain that the controversy is at an end we will endeavour to review it impartially.

A REVIEW OF THE BRITISH PHARMACOPŒIA.

BY J. C. BRAITHWAITE AND J. C. BROUGH.

VII. ORGANIC MATERIA MEDICA.

In this article we will merely notice the Vegetable and Animal Substances which have been added to the *Materia Medica*. For fuller details respecting the Organic Substances of the British Pharmacopœia we beg to refer the reader to Professor Bentley's Lectures reported in the *Pharmaceutical Journal* of March and April.

ACONITIA.—*Aconitia*. This alkaloid, which was officinal in the London Pharmacopœia of 1836 under the name of "Aconitina," has been restored to the *Materia Medica*. The process given for obtaining it from the *Aconite* root is said to be that adopted by Messrs. Hopkin and Williams, the principal London makers. It has the therapeutic properties of *Aconite*, and is chiefly employed in the form of an ointment to relieve acute nervous pain. The *Unguentum Aconitiæ*, Brit. Ph., is made by mixing 8 grains dissolved in spirit with 1 oz. of prepared lard. *Aconitia* is a potent poison, and when administered internally as a medicine its dose should not exceed the one-fiftieth of a grain.

ACONITUM.—*Aconite*. "The fresh leaves and flowering tops; gathered when about one-third of the flowers are expanded, from plants cultivated in Britain." The *flowering tops* have not hitherto been officinal. The root is now distinguished as "*Aconiti Radix*."

ARNICA.—*Arnica Root*. Preparations of *Arnica montana*, or German Leopard's Bane,* are largely employed in Germany, Italy, and the North American States, both as internal and external remedies. The *flowers* are generally preferred to the *root* for making Tincture of Arnica, but the latter was selected by the compilers of the Brit. Ph. on account of its possessing a distinctive odour. Arnica is rarely employed as an internal medicine in Britain, except by the homœopaths, who prescribe it in infinitesimal doses. It is said to act as a powerful irritant, exciting sneezing when applied to the nose, and producing emetic and purgative effects if given in large quantities. In mild doses it appears to be a useful stimulant, acting on the brain and the whole nervous system. It has been recommended in cases of paralysis and nervous headache. As an external application to contusions, sprains, and lacerations, Tincture of Arnica is by many regarded as "the sovereign'st thing on earth," but the experiments of Dr. Garrod drive us to the conclusion that its efficacy is mainly, if not entirely due to the rectified spirit employed in its preparation. These experiments were made with bruises produced artificially by dry-cupping. Some were treated with diluted Tincture of Arnica, and others with simple spirit-and-water of the same alcoholic strength, while a few were left to themselves. On comparing the results, Dr. Garrod found that the application of spirit was decidedly beneficial, but that the addition of Arnica to the spirit was unattended with appreciable good effects. The bruises left to themselves ran through all the changes of coloration, but those treated with the plain spirit or the tincture faded rapidly. The only preparation of Arnica in the new Pharmacopœia is the Tincture, which is made by percolation from 1 oz. of the root and 1 pint of spirit. Its dose is from 2 to 4 drachms. For external use it should be mixed with an equal quantity of hot water and applied with lint.

BEBERLE SULPHAS.—*Sulphate of Beberia*. This is the sulphate of an alkaloid, prepared from *Bebeeru Bark*. The bark itself is placed in the *Materia Medica* under the Latin pharmacutic name of *NECTANDRA*. It is imported from British Guiana, and is the produce of *Nectandra Rodiei*, the Greenheart tree, a member of the Natural Order *Lauraceæ*. *Nectandra* may be given in the form of powder, infusion, or decoction, but no such preparations are introduced in the Pharmacopœia. The sulphate of its alkaloid is one of the many substances which have been proposed as substitutes for quinine. It has been largely employed in Edinburgh on the recommendation of Dr. Douglas Maclagan, and is said to be a valuable tonic and anti-periodic. The dose is from 2 to 5 grains.

BELA.—*Bael*. The dried half-ripe fruit of *Ægle Marmelos*, a tree belonging to the Natural Order *Aurantiaceæ*. In India this drug has long been a popular remedy for diarrhœa and

* See "Botanical Calendar," CHEMIST AND DRUGGIST, vol. i. p. 213.

dysentery. *Extractum Belæ Liquidum* is the only preparation in the Pharmacopœia. Each fluid ounce of this is equal to an ounce by weight of Bael in medicinal power. A teaspoonful may be taken two or three times a day.

BELLADONNA.—*Belladonna*. The fresh branches are now ordered as well as the leaves, in accordance with the recommendation of Mr. Squire, Professor Bentley, and others. The root, which was included in D., is introduced under the name of *Belladonnæ Radix*. The alkaloid *Atropia* is retained in the *Materia Medica*, but its sulphate is omitted.

CANNABIS INDICA.—*Indian Hemp*. The flowering tops of the female plant of the *Cannabis sativa*, from which the resin has not been removed; cultivated in India. This important drug is represented in D. by the extract, but is not included in the *Materia Medica* of L. and E.

CHIRATA.—*Chiretta*. This substance is not comprised in the *Materia Medica* of L., though ordered by both the Edinburgh and Dublin Colleges. It is known to botanists as *Ophelia Chirata*, and belongs to the Natural Order *Gentianaceæ*. The entire plant is officinal, and is collected in Northern India when the fruit begins to form. It is a valuable stomachic, and is especially useful in forms of dyspepsia resulting from too free living and indulgence in the use of alcoholic beverages. The dose of the tincture is from half a drachm to 1 drachm; of the infusion, from 1 fl. oz. to 1½ fl. oz.

COCCULUS.—*Cocculus Indicus*. The fruit of *Anamirta Cocculus*, a plant belonging to the Natural Order *Menispermaceæ*. This dangerous drug has hitherto been officinal in the E. only, and its introduction into the Brit. Ph. is much to be regretted. The ointment prepared with it is said to be an effective application for ringworm of the scalp, but it should be used with great caution.

CONII FRUCTUS.—*Hemlock Fruit*. This is made officinal for the first time, and is substituted for the leaf in the preparation of the tincture. Hemlock, *Conium maculatum*, owes its activity to the presence of a peculiar alkaloid termed *Conia*, which very readily undergoes decomposition. The fruit has been introduced because this part of the plant appears to retain the active principle much longer than the leaf. Under the head of *Conium*, the fresh branches as well as the leaves arc now ordered, as in the case of *Belladonna*.

CUSO.—*Kouso*. This article is entirely new to the Pharmacopœia. It consists of the flowers of *Brayera anthelmintica*, a plant belonging to the Natural Order *Rosacæ* growing in Abyssinia. Only one preparation, *Infusum Cusso*, is made officinal. In this, four fluid ounces contain a quarter of an ounce of the drug, and the powder as well as the fluid portion is to be administered. It is a powerful remedy in cases of tapeworm.

DIGITALINUM.—*Digitalin*. This is a very poisonous principle obtained from *Digitalis*. The dose is the one-fiftieth of a grain. The compilers of the Pharmacopœia have been much blamed for introducing a substance so dangerous, and at the same time so little understood. According to Mr. Squire, it will probably be excluded from the next edition.

FEL BOVINUM PURIFICATUM.—*Purified Ox Bile*. Fresh Ox Bile is purified by agitation with rectified spirit, and evaporated to the consistence of a vegetable extract. It is supposed to be of value in certain forms of dyspepsia. Its dose is 2 grains, and it should be given in capsules or well-covered pills. Dr. Garrod, in noticing the introduction of this drug, remarks:—"I am not a convert to the use of the products of the digestive apparatus of animals in the treatment of disease: without denying their influence, as my insufficient experience would not allow me to do, I cannot help thinking that our endeavour in diseases of these organs should rather be directed to the restoration of their functions, than to the supplying them with the products obtained from other animals, which, at the best, must be looked upon as a very temporary method of relief." These remarks will of course apply to *Pepsine* as well as to Ox Bile.

FILIX.—*Fern Root*. The rhizome of *Aspidium Filix mas*, collected in summer and dried. This has hitherto been confined to the *Materia Medica* of E. It is chiefly used as an anthelmintic. The dose of the powder is 1 to 3 drachms. A liquid extract is officinal, the dose of which is 30 to 60 minims.

HEMIDESMUS.—*Hemidesmus*. The dried root of *Hemidesmus indicus*, or Indian Sarsaparilla, a plant belonging to the Nat. Ord. *Asclepiadaceæ*. It is officinal in D., but not in L. or E. It was brought to England upwards of thirty years ago by

Dr. Ashburner, and was prescribed for skin diseases and indigestion like Sarsaparilla, but did not prove very satisfactory. The only preparation in the Brit. Ph. is a syrup, the dose of which is 1 to 4 drachms.

JALAPÆ RESINA.—*Resin of Jalap*. This is one of the substances that have hitherto been peculiar to the E. The dose is from 2 to 6 grains.

KAMELA.—*Kamela*. This is another new worm medicine, consisting of the granular powder which adheres to the capsules of the *Rottlera tinctoria* belonging to the Nat. Ord. *Euphorbiaceæ*. It has been largely employed in India for expelling tape-worm. It may be given in doses of 1, 2, or even 3 drachms, suspended in gruel or mucilage.

LAUROCERASUS.—*Cherry Laurel Leaves*. In E. and D., but not in L. The Aqua is the only preparation. In medicinal properties it resembles hydrocyanic acid, but its strength varies. The dose is from half a drachm to a drachm.

LINI FARINA.—*Linseed Meal*. Hitherto in E. only. This is described as "the seeds ground and deprived of their oil by expression," and is used instead of powdered linseed for making Cataplasma Lini. The natural oil, which would soon become rancid in the crushed seed, is replaced by olive oil in the new poultice.

MATICA.—*Matico*. The dried leaves of *Artanthe elongata*, a member of the Nat. Ord. *Piperaceæ*, imported from Peru. It is included in the *Materia Medica* of the Dublin College. It is an aromatic stimulant and tonic, and is efficacious in arresting hæmorrhage when given as an internal remedy, and also when applied externally. The powder may be given in doses of ½ drachm to 2 drachms, three times daily. The dose of the infusion is 1 to 2 fluid ounces.

OLEUM CORIANDRI.—*Oil of Coriander*. This is a new addition to the group of distilled oils.

OLEUM CUBEBÆ.—*Oil of Cubebs*. This is also an entirely new article in the British Pharmacopœia.

OLEUM MYRISTICÆ.—*Volatile Oil of Nutmeg*. This has hitherto been confined to the E.

PODOPHYLLI RESINA.—*Resin of Podophyllum*. This important drug is obtained from the root of *Podophyllum peltatum*, a native of North America, belonging to the Nat. Ord. *Ranunculaceæ*. The root is placed in the *Materia Medica* under the simple name of *PODOPHYLLUM*. For full details of the history, chemistry, botany, and medicinal properties of the *Podophyllum peltatum*, we refer the reader to an early number of the CHEMIST AND DRUGGIST.* The powder of the root is an active and certain cathartic. The dose is 20 grains. The Resin is frequently used as a substitute for calomel. The dose is ¼ to ½ grain, given in pills with soap and henbane.

SABADILLA.—*Cevadilla*. This is restored to the Pharmacopœia for the purpose of being employed in the preparation of *Veratria*. It was officinal in the L. of 1836.

SANTONICA.—*Santonica*. "The unexpanded Flower-heads of an undetermined species of *Artemisia*." *Santonica* is imported from Russia, and is commonly known by the name of *worm-seed*. It may be employed as an anthelmintic in doses of from 1 to 2 drachms.

SANTONINUM.—*Santonin*. This is a crystalline neutral principle obtained from the above drug. It is said to be a very effective anthelmintic, and to have proved particularly successful in cases where the lumbricus or round worm was present. It is inodorous and tasteless, and therefore admirably adapted for administration to children. The dose is from 2 to 6 grains for children, followed by a brisk cathartic.

SCAMMONIÆ RADIX.—*Scammony Root*. This is now placed in the *Materia Medica* as the source of Resin of Scammony (*SCAMMONIÆ RESINA*), which is obtained from it by means of rectified spirit. The dose of this resin is the same as that of the best Scammony.

POISONING BY CALABAR BEANS.

WHEN it was reported that from forty to fifty children in Liverpool had been poisoned by Calabar beans collected from a dust heap, many doubted the fact and suspected that the poisonous seeds were *Jatropha* nuts. It certainly seemed very unlikely that a drug which could be sold at the rate of thirty shillings a pound should be thrown away in large quantities. All doubts upon the matter were removed by the evidence given at the inquest held on the body of the one

* Vol. ii. page 15.

child who died through having eaten the beans. A report of this inquest will be found in another column, and we advise every reader interested in Toxicology to pay particular attention to the evidence of Dr. J. Baker Edwards, whose physiological experiments have greatly increased our knowledge of the effects of the poison. Dr. Edwards has indeed made good use of the mishap, and his scientific brethren are greatly indebted to him for the facts he has published.

In the *Pharmaceutical Journal* of the present month there is a short paper by Dr. Edwards describing the symptoms and *post-mortem* appearances, and giving the conclusions which he has arrived at. These conclusions are so important that we take the liberty of reprinting them:—

"1. The bean is edible in poisonous quantities, and although slightly rough in its flavour, does not appear to excite disgust or alarm when eaten alone, and would be undiscovered when mixed with food.

"2. The symptoms are not always immediate, nor is vomiting induced, except when the dose is excessive; nor would the secondary symptoms, viz, dizziness, faintness, and loss of power in the limbs, excite sufficient alarm to call for medical assistance until life was really in immediate danger.

"3. The symptoms would scarcely be distinguished from sudden indigestion or English Cholera in time to save the life of the patient.

"4. In criminal cases, nothing might be detected by autopsy, or by chemical analysis to reveal the cause of death.

"5. So insidious a poison should not only be stored but also handled with great caution; its alcoholic solutions or extractive, when introduced into the circulation, acting as a slow but certain poison, leaving no trace in the body which can be identified by chemical tests in our present knowledge of the poison."

As much has been written on the Calabar bean of late, in consequence of its increasing use in surgery to induce contraction of the pupil, it is scarcely necessary to remind our readers that it is the seed of a leguminous plant, *Physostigma venenosum*, and that it is used in Old Calabar as an ordeal poison.

THE CLAY AND ABRAHAM CASE.

(From the *Liverpool Daily Post*.)

THE action brought by the family of the late Mr. Lingard against Messrs. Clay and Abraham, the chemists in whose shop was purchased the strychnine that killed him, was settled on Wednesday—a verdict being consented to by which £1,500 was awarded as compensation for the loss occasioned by Mr. Lingard's untimely death. There can be no doubt that Messrs. Clay and Abraham are deeply sympathized with. They are very highly respectable tradesmen of long standing. Thousands have tested and approved their system of business, to which indeed they owe the first-class position which they enjoy. To be harmlessly the occasion of the death of a fellow-creature must in itself have proved the severest of afflictions to them as men of kindly dispositions; and the *prima facie* though we believe perfectly undeserved imputation of careless management gave additional poignancy to their trouble. To crown it they have to pay £1,500 as a penalty for an act which neither they nor their assistant deliberately committed, and which they themselves could not possibly have prevented—in fact, for as sheer a misadventure as ever was committed. It would be little creditable to their townsmen if in such a position these gentlemen did not receive the most earnest expressions of sympathy; but there will perhaps be a disposition to check the feeling, from a very proper instinct, which tells us to compassionate the sufferers rather than those who, however innocently, occasioned their sufferings. It becomes, therefore, a very fit and even pressing subject for public discussion, whether Messrs. Clay and Abraham have or have not sustained an injustice at the hands of the law. For it is the law which has condemned them, though the verdict went by consent. They consented to pay the £1,500 because counsel told them, and told them soundly, that, however excellent the regulations of their shop, however competent their servants, however uniformly faultless the operations of their trade, they must pay a penalty proportioned to the station and means of the victim of the

accidental error which was committed. This is law; is it justice?

It may indirectly help us to an answer if we remember how the criminal law dealt with the young man who was actually and personally instrumental in the death of Mr. Lingard. He was absolutely acquitted. Now, far be it from us to add to his pain by saying he ought to have been punished. But we defy anyone to advance a tenable theory on which the only culpable man goes entirely unreprieved by the law, while his perfectly innocent employers have to pay a fine of £1,500 for his conduct. We submit that this is beginning at the wrong end of the chapter. A ward of the dispenser such a punishment as will caution his brother dispensers all over the country, and you give the employers of dispensers at least some purchase over those who may at any moment plunge them into a loss which in ninety-nine cases out of a hundred would be ruinous. But to acquit the only man who did wrong, and who had the power of avoiding it—to decline to administer even a correction to him, while you come upon his employers—is not to protect the public at all, but to render such protection as the law affords entirely nugatory. The best protection so afforded is undoubtedly in the old criminal law, though it might be improved by modifications rendering it more acceptable to juries who have to enforce it. "Manslaughter" is a very serious thing to convict a man of, and juries will not be induced to pronounce anyone guilty of it who has not acted very grossly. The man who shot the poor soldier at Wimbledon was clearly answerable to the law for his death; yet the people applauded lustily when an "accidental" verdict was returned. The present protection would be greater therefore, to use an old locution, if it were less. People would be far safer if killing, by negligence or unavoidable misadventure were made a separate offence, of which it would be impossible for a jury to acquit a man really guilty of it, and attached to which were to be punishments such as, while sufficiently severe to inspire caution, no judge would hesitate to inflict.

The civil remedy against the employer, on the other hand, while little better than useless when accompanied by criminal penalties inflicted on the servant, is worse than useless when the criminal penalties are easily evaded. The only effectual result of such penalties as Messrs. Clay and Abraham have paid must be to disgust all really responsible men with the trade, and to make them leave it. The chemist's is an extremely hazardous trade, and the better the business the more hazardous it becomes. In an instant of thoughtlessness any assistant in a shop in a good neighbourhood may plunge his employer into irretrievable ruin by administering poison to one of the many who in these days of plenty and prosperity make good incomes by business. Those chemists who have little to lose—by far the majority of the trade—cannot be visited by this law, for no one would sue them. It is only those who by long-continued excellence of management have realized a position and acquired property that are liable to be muled in this way; and we ask, is it likely men of means will keep their capital invested in a business that exposes them momentarily to immense losses which it is utterly impossible for them to avoid with certainty? Now, the loss of such men from the trade is a loss to the public, and thus that which is intended to be a security becomes a source of danger. The business falls into the hands of a lower and more thoughtless class of men, and people get neither the care guaranteed by character and experience nor the compensation provided by law; for it is the double beauty of Lord Campbell's Act that, while it makes the compensation depend on the position and money-value of the person killed—giving little for a wife, and nothing for a child—it makes the obtaining of the compensation a matter of total uncertainty, depending on the means of the employer whose servant occasions the death.

In the great run of cases no verdict for any large amount could be executed, simply from the fact that, whatever may be the case with builders and other persons liable to the application of Lord Campbell's Act, very few chemists have the means to meet a heavy demand. In the case of the railways, with reference to which the Act was passed, there was the less hesitation in enacting it because they were corporate bodies, and verdicts against them would not inflict personal loss. Moreover, supposing accidents to seriously affect the average of profits, the directors would arrange accordingly the average rates of traffic. But in the case of private

persons there is no such power of making good losses of this kind. Chemists cannot insure each other against verdicts arising out of accidental poisoning cases, and if they did the result would be a tendency to carelessness. A dispenser who feels himself in little danger of criminal penalties is not likely to be made very careful by the reflection, that his employer will be cast in a civil action if he makes a mistake; and, *a fortiori*, he would be encouraged in carelessness if he knew that by an arrangement amongst all the chemists his employer would not personally have to suffer the loss. Indeed, it may fairly be argued against the present law that it places an employer entirely at the mercy of a spiteful assistant, who may administer poison to a customer whom he dislikes or does not dislike, and so ruin his master deliberately with a dose off his own shelves. Nay, more unlikely things have happened than for a man to commit suicide after surreptitiously mixing poison with a dose from a chemist, and to virtually bequeath to his family the damages obtainable by an action under Lord Campbell's Act. The deed is an unlikely one; but as the Insurance Companies deem it worth while to except suicide from the causes of death allowed by their policies, our supposition is not beyond the bounds of possibility.

The question to be considered as a matter of public policy is whether any one has a right to exact more from an employer of labour than such a penalty as the law may award to him for the carelessness with which his business is conducted. Lord Campbell's Act goes upon the principle, not of punishing neglect, but of giving money compensation for its results. We hold this to be right as respects corporate bodies, because, where suffering can be relieved and distress prevented without inflicting hardship, it should be done, and because nothing but money loss will ever make railway direction careful, even if that will. But to make individuals recompense individuals, under circumstances such as those we have been dealing with, is, in our opinion, to compel mere blind, thoughtless instruments to make good the losses mysteriously occasioned by Providence. It is against public policy, for it rather tends to peril than security. Employers should be compelled to take every precaution on system; and if they have not competent people or do not give them ample and well-considered instructions, they should be deemed as punishable as if with their own hands they dealt out the deadly dose, or brought down the ill-constructed scaffolding, or dropped on the passing passenger the ill-secured bale of merchandise. They should not be made to adopt every new-fangled device, for in the business of a chemist particularly these devices rather dull caution than encourage it. But there should be no leniency towards them if the loss of life or other accident is owing to their bad management or bad selection of assistants. If, having done all they can to avoid mischief, mischief comes through the carelessness of their servants, then they should be held harmless, and the servants should be punished. But in every case the punishment should be directly penal; and tradesmen should not stand exposed to be ruined for acts over which they have no more control than the victims of them, and by laws which, while often failing even to obtain compensation, must always fail to ensure security.

The cell of a bee, like that made by the wasp, is hexagonal, and the cells are put together in a manner which secures the greatest strength for the least possible material. Kirby and Spence state that "Maraldi found that the great angles were generally 10 degrees 28 minutes, and the smaller ones 70 degrees 32 minutes; and Mr. König, an eminent mathematician, calculated that they ought to be 109 degrees 26 minutes, and 70 degrees 34 minutes, to obtain the greatest strength with any given amount of material." Lord Brougham states that he has discovered that the bee is right and the mathematician was wrong, and that other mathematicians with whom he has communicated agree with him, and have detected the source of the error.



MR. PROCTOR AND THE TWO SOCIETIES.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

98, York-street, Westminster, S.W.
August 22, 1864.

SIR,—I presume that Mr. B. S. Proctor when he entered the lists to discuss the position of the two Societies, and more especially to vindicate his own, had a motive beyond merely apologising for the past, and desired to arrive at some satisfactory conclusion. For my part, I would not have ventured to occupy so much of your space, or have given my own time to the matter, had I not hoped by so doing to clear away the difficulties which had hitherto prevented the Pharmaceutical and United Societies working together; and did I not now think that an advantage had been gained, and that Mr. Proctor might still be induced to alter his opinions, I would leave the question as it stands, well satisfied that my reply to Mr. Proctor's first letter has not been weakened by the criticism in his second. I fail to detect any want of courtesy in the several replies to Mr. Proctor, and can only account for his change of tone, which is now as much conservative as it was before liberal, by supposing that as one of the Council, he has been in communication with the officials, and is now the actual mouthpiece of the Pharmaceutical Society. But, although Mr. Proctor has lately altered his tone, I prefer to think of him as the champion of the outsiders in the Council, and will venture to assume that he regrets his misconceptions, and is now convinced by the publication of members' names, that a Society does exist which represents a larger portion of the trade than his own, and that the desire of its Executive to place all chemists on the same footing with respect to trading rights gives it a greater claim to the representation of the whole trade than the Pharmaceutical Society, which Mr. Proctor says, is bound like every other corporation to give its first attention to the good of its own members.

It is some satisfaction to find that Mr. Proctor did not attribute want of moderation to the members of the United Society. He states that Mr. D'Auhney and myself have fallen into a mistake, in supposing he meant the United Society, when alluding to the outsiders whose letters have appeared in your Journal. I think, Sir, we were quite justified in putting this construction upon his remarks, for, I believe, that most of your correspondents, especially those who have entered into Pharmaceutical politics, have been leading members of the United Society. But supposing that your correspondents were simply non-pharmacutists, unconnected with the United Society, my reply to Mr. Proctor's accusation stands equally correct in that sense, and I now repeat that there is not one letter in the first three volumes of the CHEMIST AND DRUGGIST, nor up to the passing of the Juries' Bill, exhibiting any want of moderation, or a desire to claim advantages of the Pharmaceutical Society without having expended either the money or labour to obtain them.

Mr. Proctor is mistaken in supposing that the United Society requires to be reminded of the importance of the principle of self-help, and considering that his knowledge of the United Society is so recent and limited, it is rather presumptuous of him to state so positively that "It is from having neglected to rest upon this fundamental truth that the United Society has not obtained that respect which it would otherwise have enjoyed." Self-reliance has enabled the Executive to surmount every difficulty: self-help is the very principle on which the United Society is founded. The Pharmaceutical Council were mistaken in the United Society when it first started, and have ever since determined not to be better informed, notwithstanding, Sir, your Journal is received by them every month with thanks, and has kept them acquainted with our doings.

It is true "the United Society was got up for trade purposes." What else, as tradesmen not wishing to interfere with the Scientific Institute in Bloomsbury, should we have got it up for? and if those who read the objects of the Society, and the names of the promoters did not wilfully pervert the intentions of its founders, they have had ample time and opportunity since to have discovered their error. But on what grounds did the Council conclude that those who originated it were not mainly influenced by a desire for public good? Why were our overtures not respected as they would have been had they been known to proceed from any considerable portion of those dispensing chemists not at present connected with the Pharmaceutical Society? What can be said against our six objects first put forward to warrant such an assumption? 13,000 druggists, having no claim upon the relief fund of the Pharmaceutical Society, and no resource in old age, were invited to unite for the purpose of creating that which their Pharmaceutical brethren already possessed, and by combination to effect a general improvement in trade concerns. Is it possible in first forming such an institution that any considerable portion of non-pharmacutists could be got together without first soliciting their help? If not, then this feeling which influenced the Pharmaceutical Council was unwarrantable, and the excuse as weak as it is puerile. For the men composing our first Executive were every one *bona fide* druggists, and as independent and free to act as though every one fixed "M.P.S." to his name. It matters not whether Mr. Proctor was a member of the Council then, he is a Councillor now, and as he believes the same feeling in a great measure exists it remains for him, who is rightly informed, to explain to his fellows their mistake. And I call upon him, or any member of the Council, to state which of our objects, or which of our members caused a want of respect to be shown. Mr. Proctor is now in possession of three annual reports, containing the names of members for each year, and which he might have had any time previous had he applied to our secretary, therefore his statement that he could not have had that satisfaction is another error. If, with these before him, he still remains clothed with pharmaceutical incredulity, I beg to assure him that Mr. D'Auhney first proposed the formation of the United Society for the purpose of forming a relief fund for distressed chemists. I have had the satisfaction of assisting in the building up of the Institution, and I emphatically declare, without reservation, that the Executive have ever jealously guarded the druggist's rights, and never permitted the entrance of any element but that which belonged to the druggist proper. The

Council may object to us as representative men, we, nevertheless, consider that the thousands in business hitherto unrepresented are in like position to ourselves, and we well understand their wants. We have always desired to work in good-will with the Pharmaceutical Society, and do so now, but such is our self-reliance that we will persevere to the end, in spite of any opposition that may proceed from that body.

Mr. Proctor says we have as yet done no great work to merit respect. May I inquire of him what great work the Pharmaceutical Society has accomplished to obtain that respect denied to the United? Not many years ago the chemists were without any society. A medical Bill affecting the druggists' privileges was brought before the Legislature. The wholesale trade as a body came forward with their wealth and influence, and assisted some of the leading West-end retailers to defeat that Bill. The subscriptions sent up from various parts of the country were not needed, and the Pharmaceutical Society was formed on the balance of that account: 4,000 men thus brought together with such help and means ought to have done some great work. What is it?

The United Society was formed by a few earnest men to establish a fund for the aged, when a political element was infused into it similar to that which made the Pharmaceutical Society. Another medical Bill was introduced, threatening the chemists with annihilation unless they were members of the Pharmaceutical Society, and our Society has accomplished almost as much without the help and wealth of the wholesale druggists as the Pharmaceutical did with them. True it is the United Society is only a very small part of the trade, but the Pharmaceutical is a still smaller part, and on the first appearance of the new medical Bill it hailed it as correct in principle, and would have supported the Medical Council to the injury of the whole 13,000 non-pharmaceuticals. The United Society defended their interests, and became the avowed and trusted representative of all outsiders; its great work is "to legislate for the good of the nation, and not for the benefit of a class only," and it hopes to accomplish that great work, the incorporation of the trade, which the Pharmaceutical has left undone.

Mr. Proctor enters again into the Juries' Bill dispute. As this is a matter which does not affect the future, I have no desire to re-open the question. I must state, however, that no application had been made to the Home Secretary, or to the holder of the bill, by his Society when our interviews were held, it is quite pardonable for us to be ignorant of the great efforts of the Council. But there is no need to quarrel over this old bone if we can agree better in the future. Mr. Proctor exercises becoming discretion in replying only to those parts where he thinks he can convince others that he is right; but his statements that we are only to pay our guinea for its worth (simply for registration), does not answer my objection, and I again say, Why should we pay at all, when we can be registered by the United, which will defend all our trade interests as well?

In Mr. Proctor's first letter he "commented freely," but did not endeavour "to prove his position," &c. This time he has certainly done his utmost to show that the Pharmaceutical is all that can be desired, and has gathered up every thing which could be used against the United. He is thoroughly convinced of the difficulties of our position in a financial sense, and his approval of our economical habits, enables me to admit the several failings he has pointed out as being quite correct, but at the same time quite inseparable from the formation of a young society under similar conditions. Mr. Proctor endeavours to make much of the fact, that our proposed Act of Incorporation is not in the actual form of a bill. The main feature of the pharmaceutical proposition, was to obtain a guinea for registering every chemist, and then to study pharmaceuticals only. It is the spirit of this bill in its exclusiveness that we object to, and it matters not to us whether it is in legal phrase or not; that is merely a matter of time and money. The United Society proposes to incorporate all claiming to be chemists and druggists, thus carrying out the original desire of the Pharmaceutical Society's founder, and then to compel every one to pass such a practical examination before entering the trade as shall meet the requirements of the age, and do away with the present scandal, the indiscriminate sale of poisons. The "suggestions" have been before the trade for some time, and we are in a position, when the time arrives, to have them made into a real bill after Mr. Proctor's own ideal. It has never been our intention to hurry the matter, or to take our bill up before the next session, and therefore it was quite unnecessary to expend the money entrusted to our care especially for that purpose. Mr. Proctor and others may be assured, that when the time arrives for us to bring out our bill, we shall be provided with all that is necessary. Mr. Proctor requested to see our bill, but he could hardly suppose Mr. D'Aubney would give him more particulars than those he forwarded, until he knew in what spirit Mr. Proctor would use them.

If this correspondence with Mr. Proctor is not likely to result in a better understanding, I can see no good in continuing it. Let me endeavour to place the position of the trade in its true light. The druggists are desirous of being incorporated. The Pharmaceutical Society, by its charter, is unwillingly a stumbling-block to its accomplishment; and because it cannot take all in without an examination, it is jealous of any other society which is competent to do so. Whatever may have been the origin of the United Society,—whatever may have been the intention of its founders,—whatever means it may have adopted to raise itself, there is no gainsaying the fact, that it does exist, and that it has obtained nearly 1000 members per annum. It is perfectly independent of the Pharmaceutical, and is determined to resist its present pretensions to govern those who do not belong to it. It respects education, and desires to promote pharmacy, but it has yet to learn that it is necessary to pay so much money, or to expend so much labour in the laboratories of the Pharmaceutical Society to become an efficient dispenser. The hundreds now holding the Bloomshury certificate were contemporaries of many of those who are without it; many of those now paying up back subscriptions are in no sense better qualified than those who remain independent of the Society. It is the intention of the United Society to see that these gentlemen whose interests are the same as Pharmaceuticalists, should not be injured by exclusive legislation. The United Society is nearly 3,000 strong. Its officers are willing to give every information consistent with self-respect; and whilst it is willing to act in concert with the Pharmaceutical, the executive will admit of no inequality as tradesmen. Will the Pharmaceutical Council acknowledge the United Society? Is it not better to do so than to allow a society of nearly 3,000 men to engender bitter thoughts against it, to the prevention of any useful measure being carried? Will it open its eyes to the

fact, that our opposition is too much for it? We are influenced by no ill-will in consequence of the past. All we desire is to accomplish our object, leaving the Pharmaceutical a college for our chemists to aspire to. We do not even desire to keep the examination in our own hands, but would allow the Pharmaceutical that privilege, if they consented to the degree we considered necessary. We are determined to register every druggist as a tradesman, and to promote the trading interest, and we desire to see the Pharmaceutical Society flourish as a college of pharmacy. If the Council will not act with us it is quite useless occupying more of your space with this correspondence.

I am, Sir, yours obediently

JOHN WADE.

P.S.—I had almost forgotten a short reply to "A Lover of Fair Play" who suggests that we should report more of our proceedings in your journal. "Lover of Fair Play" evidently forgets that the CHEMIST AND DRUGGIST is an independent journal, representing the whole trade, and not that of the United Society only. We are, Sir, considerably indebted to you for the publicity you have given us, as well as the valuable aid rendered by your editorial pen; and seeing how occupied your columns have lately been with correspondents' letters, "A Lover of Fair Play" must agree with me that there is a limit even to an editor's forbearance. It is not that the Executive desire to prevent their proceedings being known, but as we are entirely dependent on your courtesy for those reports which do appear, "A Lover of Fair Play" must excuse us if we do not trespass too far on your generosity.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Shepherdess-walk, London, September 9, 1864.

SIR,—I have read Mr. B. S. Proctor's last chapter on pharmaceutical politics, and have been not a little surprised at its tone. It will be remembered that this gentleman, in opening the present correspondence, complained of our want of moderation, laid down stringent rules for the guidance of those with whom he might condescend to enter the lists of discussion, and set forth generally the absolute necessity of facts being used in argument instead of vague assertions.

Now, Sir, it strikes me that vague assertion is the chief ingredient in Mr. Proctor's last composition.

In the sixth paragraph several unfounded statements are made from which a reader entirely ignorant of trade matters might infer that the constitution and rules of the United Society have been kept secret, that the Executive Committee prefer darkness to light, and that gentlemen interested in the Society have no means of getting at the names of the members. In the same paragraph Mr. Proctor asserts, that the United Society have not yet done any great work to entitle them to respect: that they constitute only a very small part of the body of ordinary chemists and druggists, and that only a very small portion of the United Society voted in the election of its Executive.

In opposition to these assertions, I will now give a few facts. A pamphlet containing the Annual Report of the Proceedings of the United Society, a Statement of the Objects, the Rules, the Cash Account, together with a complete List of Members and Officers, has been published at the end of every year; this has been sent to every one of the members, circulated widely among non-members, and given unreservedly to any one who desired to learn the truth about the Society.

The work already done by the Society may not be great in the estimation of Mr. Proctor, but it most certainly entitles it to the respect of the trade. The Society worked well, though unsuccessfully, on behalf of the entire body of dispensing chemists, to procure the Jury Exemption Clause. It has defeated the Medical Aggression Bill of last Session, although the Bill appeared to have the united support of the Medical and Pharmaceutical Councils. It has formed an Incorporation Fund, which is steadily increasing for the redemption of the trade. It has founded a Benevolent Fund, which will soon be doing better work in the way of active and practical charity than can ever be accomplished by the exclusive fund of the Pharmaceutical Society. By these services, performed during the short space of three years, and by the successful promotion of other objects, our Society has gained the confidence and respect of the trade.

In Mr. Proctor's letters there are some elaborate hypothetical calculations respecting the number of chemists and druggists in England and Wales, which lead to results strangely inconsistent with his assertion, that the United Society comprises but a very small number of the outsiders. Again, Mr. Proctor asserts that the Executive were elected by a very small portion of the members. If Mr. Proctor will refer to the last printed Report, and to the columns of the CHEMIST AND DRUGGIST for July, he will find a full account of the annual meeting, and learn that the election of the Executive in London took place by the unanimous vote of a large number of members in open meeting publicly convened, and in the presence of delegates sent to represent eleven district Associations belonging to the United Society. This method of election has been practised each year. Can Mr. Proctor suggest a more constitutional plan? As to the general assertions of Mr. Proctor about the want of publicity of the actions of the Society, they may be disposed of by informing him and his pharmaceutical brethren that the United Society has never yet held a meeting with closed doors similar to the one recently held by the Pharmaceutical Society, and that the public meetings held by the Executive throughout the kingdom (to which the trade were always invited) have during a single year exceeded in number the whole of the public meetings of the trade held by the Pharmaceutical Society during the twenty-three years of its existence.

Why should Mr. Proctor, after writing to the Secretary and receiving "a satisfactory reply" upon the only point he required information, so positively assert so many untruths? I do not, of course, for one moment impute any desire on the part of Mr. Proctor to state anything false, but it is not creditable to him that he should be so woefully ignorant of matters about which he makes so many reckless assertions.

With regard to the Juries' Exemption Clause it is useless for Mr. Proctor to set only his "belief" against the fact that the United Society first waited in deputation upon the promoters of the Bill, and secured their consent to an exemption clause in favour of all dispensing chemists, and that the movement thus commenced was suddenly checked by the amended or altered notice of motion that the exemption be extended to members of the Pharmaceutical Society only. If challenged, I can show dates of printed documents and testimony of personal witnesses that will place this matter beyond dispute.

I am, Sir, yours most obediently,

THOMAS D'AUBNEY.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

21, High Ousegate, York, August 24, 1864.

SIR,—If you will allow me space for a few remarks in your next number, I will endeavour to follow out your maxim, that the least said is the soonest mended.

Permit me to say that I feel both disappointed and surprised at the tone of Mr. Proctor's letter in this month's Journal.

My reason for not dividing my letter into paragraphs was, that I wished to elicit an answer to the one great question,—Are we to look for any expression of desire from the Pharmaceutical Society to meet the requirements of the trade, or are we to help ourselves? Pages may be filled in useless controversy, but this is the one great question, and upon this point Mr. Proctor is clear enough. "Outsiders, help yourselves," is his answer, and the answer of common sense.

The next question we (the outsiders) are concerned in is—Is the United Society a veritable reality, or a myth? Mr. Proctor scarcely seems decided in his views upon this. I should hope, however, that the Third Annual Report, just published by the Society, containing the names of nearly 3,000 members, will be sufficient to satisfy him or any other who may choose to be sceptical, or who, not being sceptical, may require information.

Another question which next suggests itself is this,—The existence of the United Society being an established fact, does it merit the confidence of the trade? Now here, I think, the Report, which calls attention to the work that has been already done for the benefit of the trade, and to the great objects for which the Society is now striving, will give a very satisfactory answer.

If Mr. Proctor is a sample of the liberal element in the Pharmaceutical Society, then (judging from his last letter) I should say, we have nothing to hope for from that body. Thanks, however, are due to Mr. Proctor for his candour, and I hope we shall not be slow to follow his suggestions, in trusting only to our own exertions, to the sense of justice in an independent legislation, and to the feeling of a discriminating public.

The remarks made in the Third Annual Report of the United Society, with reference to the Pharmaceutical, commend themselves to the attention of the trade at large. They express precisely my own sentiments in every way. The writer justly observes, that 3,000 men united in a free country, with a common object based upon equitable principles, is a power to be felt, and cannot be ignored.

Statistics are worth something. In the York trade list for 1864, the retail chemists in business in this city are set down as about thirty. Out of this number, nineteen, I find by your published list, are members of the United Society; and after the most careful examination I can only find seven members of the Pharmaceutical, and, I believe, it is a question whether more than one of these can show the certificate of examination.

The present chairman of our district Association was for years a member of the Pharmaceutical Society, but joined the United because he said the other had never been any good to him. We—the outsiders—would not care to join the Pharmaceutical Society except it underwent a great change. There was only one way for the Pharmaceutical Society to have placed itself in a right position, and that was, to begin again. There is no hope of its doing this, and therefore I earnestly advise the Executive of the United Society to lose as little time as possible in trying for the Act of Incorporation. Let it be made known what funds are wanted for this object, and let direct application be made to each member for his quota, and I believe it will be forthcoming. This once obtained, the Benevolent Fund will expand, and the Society will begin to bear fruit. Those who can remember the country trade twenty-five years ago, will recollect the universally late hours which prevailed in our business. Now, although there is still much room for improvement, a step has been made in the right direction. Then, as to Sunday closing, out of the thirty chemists in York, I believe there are not more than two or three who keep their shops open; a strong argument against the necessity of such a custom.

Yours respectfully,

WILLIAM CHARLES HAYLAND.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

September 9th, 1864.

SIR,—After having carefully read the correspondence and other matter relating to the two Societies, and not finding any reason advanced by the Council of the Pharmaceutical Society for excluding the trade generally (except, indeed, the universally admitted fact, that all future chemists and druggists ought to be qualified), I thought it possible that the gentlemen forming the Council did not consider that it would be fair that others should be admitted to the same privileges as themselves without going through some amount of toil and study, as they, no doubt, had gone through, in order to qualify themselves for the position which they now hold; but, alas! my notions of fairness were destined to be completely overthrown, when, on referring to the list of gentlemen forming the Council of the Pharmaceutical Society, I found, to my surprise and astonishment, that only four out of the twenty-one members of that body had obtained their membership of the Society by examination. Under these circumstances, I, as an absolute outsider (not even being in the trade), do not understand the reasons for the exclusive policy of the Pharmaceutical Council.

I am, &c.,
A DISAPPOINTED INQUIRER.

THE COST OF AN ACCIDENT.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

September 9, 1864.

SIR,—The *Pharmaceutical Journal* of the present month calls the attention of chemists and druggists to the operation of Lord Campbell's Act in cases of accident, as instanced by the result of the action recently brought against Messrs. Clay and Abraham, of Liverpool. The accidental substitution of strychnine for James's powder by an assistant (who is admitted to have been a qualified and experienced dispenser), has cost the firm £1,500 damages, besides legal expenses, and has probably done great injury to the business. The hard case of Messrs. Clay and Abraham may at any time be that of any one of us, for it is evident that education and careful arrangement are not infallible safeguards against mistakes in

dispensing. Working day after day with an inadequate remuneration and a chance of ruin before us, such as exists in no other trade, it does "behoove us to consider how we can best turn this occurrence to account in providing for the future."

As chemists we are justified in seeking protection for ourselves, but as members of the community we ought also to think of the public. Sympathy is pleasing, but something more than sympathy is now required. It is hard that Messrs. Clay and Abraham should have to pay such a sum, but who shall say it is not a greater trial for the poor family deprived of their protector? Is there one among us who would not grieve as much at being the innocent cause of desolating a home,—of making a wife a widow, and children orphans, as in losing property and business? Messrs. Clay and Abraham expressed their intention, even without the law, to compensate the widow, and, I believe, the desire of most of us would be to offer reparation to the utmost of our means. Is £500 compensation for a husband or a father lost? £1,500 is a heavy sum for a druggist to pay, and would have ruined most of us, but twice that amount will not repair the loss to the widow.

Then let our sympathy take a practical form in providing a fund which shall enable us to relieve the sufferers without bringing ruin on ourselves. There is no difference in law between a pharmacist and an outsider; then let us put aside the false distinction, and rally as men having a common interest at stake. Shall it be said that amongst a body of 16,000 men there was neither sympathy nor means to raise £1,000? I hope Messrs. Clay will not decline to accept the help of the trade to defray their heavy loss, and that the trade will do as they would be done by if placed in like position. Example, Sir, is often all that is needed to carry out a project. May I request you to receive the enclosed subscription with a wish that others may follow, and that those wholesale firms with whom Messrs. Clay have done business will add generously to the fund.

There is a want of unity in the trade. The chemist has hitherto kept himself too exclusive, and considered himself independent of his neighbour. There is a narrow-mindedness and cowardice ever growing from such habits, not consistent with those of the present age. There ought to be more unanimity amongst us, and in contributing to a fund, the first thought should not be how much shall I get out of it,—as I am sorry to say is often the case,—but what benefit shall I confer upon my brother druggist who is in misfortune.

I believe the United Society has done much to bring the druggists to believe they have a common interest at stake, and in the power of combination for social as well as political advantages. Then I would suggest that the scheme put forward by Mr. Barnaby, of Rochester, in your journal, September 26, 1862, Vol. 3, page 311 be accepted as the basis upon which we may found a Chemist's Protection Society, independent of any other, and that pharmacutists and outsiders go hand in hand to accomplish this desirable object. I have communicated with Mr. Barnaby, and several other gentlemen who are prepared to act in concert with any who will assist, and although the following propositions are advanced, it is not with the idea that some things better may not be forthcoming, but in their absence we propose to form a Society, to become a member of which a subscription of 5s. per annum shall entitle the individual to his legal expenses: by paying £1 per annum both legal costs and damages will be defrayed, always provided the action is not criminal, and that the claimant has been a member over one year. I am, Sir,

AN OUTSIDER.

P.S.—Any gentlemen willing to aid in the furtherance of this object are requested to communicate with Mr. Henry Barnaby, Druggist, Star Hill, Rochester, Kent, who has consented to act as Honorary Secretary.

Subscriptions to the Clay and Abraham Fund.

	£	s.	d.
Thomas D'Auhney	1	1	0
Mr. Barnaby, Rochester	0	10	6
An Outsider	0	10	6
Henry King	0	10	6
John Wade	0	10	6



THE market throughout the month has been extremely dull for all kinds of chemicals: business has been quite of a retail character for home use, and the export orders have also been very trifling; prices generally are in favour of the buyers. The last price paid for Tartaric Acid was 1s. 6d. Citric Acid, however, is firm at 1s. 7d. to 1s. 7½d. Oxalic remains dull at 10d. Chlorate of Potass is quiet at 1s. 1d. to 1s. 1½d. Prussiate of Potass is dull at 11½d., and Bichromate at 7d. Small sales have been recorded in Iodine at 6d. for seconds, and 6½d. for firsts. Sal-Acetos is quiet at 1s. Carbonate of Soda is steady at 5½d. in bulk and 6d. in jars. Quinine is dull, and prices almost nominal: French 5s. 10d. to 6s., and English 6s. 3d. to 6s. 6d. Cream Tartar has declined to 10s., and only small sales. Sal-Ammoniac is firm at 38s. for first and 36s. for seconds. Sulphate of Ammonia has continued in good demand at 13s. 6d. to 14s. 3d. according to quality. Bleaching Powder is quiet at 12s. 6d. Flour of Brimstone 12s. to 12s. 6d., and Roll in better demand at 10s. 3d. to 10s. 6d. Small sales of Lump Alum made at

£6 2s. 6d. Sulphate of Copper is dull at 29s. 6d. to 30s. Soda Crystals in fair demand at 97s. 6d. ex ship. Ash is steady at 2d. per cent. White Sugar of Lead is quiet at 38s. Linseed Oil is again cheaper, and the market very dull: on the spot the price is now 34s. 9d. to 35s., and Hull 34s. to 34s. 3d. Rape is also easier: brown 42s., and refined 46s. Turpentine is rather lower: last sales made at 66s. 6d. to 67s. for French. Saltpetre is dull at 35s. to 35s. 6d. for English refined. Petroleum is lower on the spot: the price is 2s. 0½d., and to the end of the year 2s. 2d. Three cargoes have arrived off the coast. Crude is scarce, and held for £18. A cargo of 1500 barrels lately sold at £17 2s. 6d. for the Continent.

In the Drug market business has been very trifling, the high price of money limiting purchases. A fair parcel of good Turkey Opium sold at 17s. to 17s. 6d. Some Scammony realized 18s. to 23s. Gums are without change. Turkey sold at 80s. to 85s., and picked £6 15s. to £9 10s. Turkey Blue Galls are held for £8 to £9. Castor Oil is steady, middling and good pale selling at 5½d. to 6d. Oil Aniseed declined to 6s. 3d., but leaving off buyers thereat. Oil Cassia is lower; small sales made at 8s. 5d. to 8s. 6d. Several parcels Citronelle were sold at 5½d. to 5¾d. Camphor has declined to 85s. to 87s. 6d. for China. Some Japan sold at 90s. to 92s. 6d. Cod Liver Oil of low quality has been sold at 5s. to 7s. 6d. Ipeacuanha is quiet, the last sales being bought in at 7s. 3d. Jalap is quiet. Tampico was held for 2s. 10d., and tops 4d. Star Aniseed have declined to 107s. 6d. to 110s. Shellac is fully 5s. to 10s. cheaper. Gambier is quiet at 25s. to 25s. 6d., and Cubes 30s. to 30s. 6d. Bark has sold at former prices. In other goods there is no change to notice.

PRICE CURRENT.

These quotations are the latest for ACTUAL SALES in Mincing Lane. It will be necessary for our retail subscribers to bear in mind that they cannot, as a rule, purchase at the prices quoted, inasmuch as these are the CASH PRICES IN BULK. They will, however, be able to form a tolerably correct idea of what they ought to pay.

Table with 4 columns: Item, 1864 s. d., 1864 s. d., 1863 s. d., 1863 s. d. Includes items like ARGOL, ARROWROOT, ASHES, BRIMSTONE, CHEMICALS, Alum, Ammonia, Antimony, Arsenic, Bleaching powder, Borax, Calomel, Camphor, Copperas, Corrosive Sublimato, Green Emerald, Brunawick.

Table with 4 columns: Item, 1864 s. d., 1864 s. d., 1863 s. d., 1863 s. d. Includes sections for CHEMICALS, COCHINEAL, and DRUGS. Items include Iodine, Magnesia, Minium, Potash, Prussian Blue, Sal-Aectos, Sal-Ammoniac, Salts, Soda, Sugar Lead, Sulphate Quinine, Sulphate Zinc, Verdigris, Vermilion, Vitriol, Aloys, Cocotrine, Cape, Barbadoes, Ambergis, Angelica Root, Aniseed, Balsam, Bay Berries, Bucca Leaves, Camomile Flowers, Camphor, Canella alba, Cantharides, Cardamoms, Cassia Fistula, Castor Oil, Castorum, China Root, Cocculus Indicus, Cod Liver Oil, Colocynth, Colombo Root, Cream Tartar, Croton Seed, Cubeba, Cummin Seed, Dragon's blood root, Galangal Root, Gontian Root, Guinea Grains, Honey, Ipeacuanha, Isinglass, Jalap.

