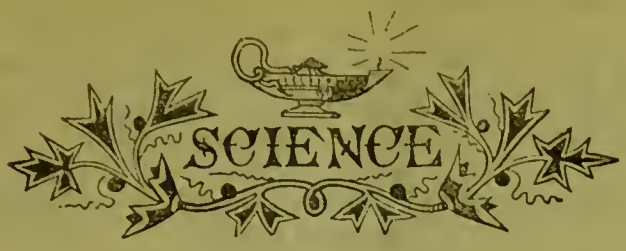


THE CHEMISTRY OF THE PHARMACOPŒIA

ACCORDING TO MODERN THEORIES.

BY JOHN CARGILL BROUGH.

IX.

OXYGEN-ACIDS AND SALTS—(*continued*).

Sulphates.

ZINCIC SULPHATE, $Zn''SO_4$. Crystallised, $Zn''SO_4.7H_2O$. (Sulphate of zinc; *Zinci sulphas*, $ZnO,SO_3 + 7\,HO$, B.P.)—In chemical constitution and crystalline form this salt resembles crystallised magnesic sulphate. It is obtained by the Pharmacopœia process in a state of great purity. In the first stage of the process, granulated zinc is dissolved in diluted sulphuric acid, while hydrogen is evolved:

$$H_2SO_4 + Zn = ZnSO_4 + H_2.$$

If the metal employed were pure, the solution thus obtained might be at once evaporated for crystals; but as the zinc of commerce invariably contains iron and other metals, the acid solution after filtration is treated with chlorine to further the separation of these foreign substances. The iron originally in the zinc having been dissolved by the acid, exist in the filtered solution as ferrous sulphate, $FeSO_4$; but by the indirect action of chlorine, this salt, in the presence of a sufficient proportion of free sulphuric acid, is converted into ferric sulphate, $Fe_2(SO_4)_3$, thus:

$$2FeSO_4 + H_2SO_4 + Cl_2 = Fe_2(SO_4)_3 + 2HCl.$$

The hydrochloric acid formed in this reaction does not interfere with the next part of the process, which consists in agitating the solution with a sufficient quantity of basic zincic carbonate to decompose the ferric sulphate and precipitate the iron as an insoluble hydrate. The reaction is expressed by the following equation:—

$$\underset{\text{Ferric sulph.}}{Fe_2(SO_4)_3} + \underset{\text{Basic zinc. carb.}}{3ZnO.CO_2.3H_2O} = \underset{\text{Ferric hydrate.}}{Fe_2H_6O_6} + \underset{\text{Zinc sulph.}}{3ZnSO_4} + \underset{\text{Carb. anhyd.}}{3CO_2}$$

By this treatment, the whole of the iron derived from the commercial zinc is precipitated, together with any manganese, copper, and tin that may be present, and a solution is obtained which, when filtered and evaporated, yields crystals of pure zincic sulphate. In the preparation of zincic chloride foreign metals are removed by a similar process.

CALCIC SULPHATE, $Ca''SO_4$. (Sulphate of calcium; *Sulphate of lime*, $CaO,\ SO_3$, B.P.)—This anhydrous sulphate is mentioned in the Appendix under the familiar name of "Plaster of Paris."

FERROUS SULPHATE, $Fe''SO_4$. Crystallised, $Fe''So_4.7H_2O$. (Green sulphate of iron; *Ferri sulphas*, $FeO,\ SO_3 + 7\,HO$, B.P.)—The molecule of this salt contains a *bivalent* atom of iron, and, therefore, corresponds to that of zincic sulphate. It is prepared by dissolving iron wire in diluted sulphuric acid, filtering the resulting solution, and setting it aside to deposit crystals.

FERRIC SULPHATE, $Fe'''_2(SO_4)_3$. (*Persulphate of iron*, $Fe_2O_3,3SO_3$, B.P.)—This salt in solution in one of the articles employed in the preparation of medicines. Its molecule contains the residues of three molecules of sulphuric acid, and two *trivalent* atoms of iron. The solution ordered in the Pharmacopœia is obtained by the reaction of ferrous sulphate, free sulphuric acid and nitric acid:—

$$6FeSO_4 + 3H_2SO_4 + 2HNO_3 = 3Fe_2(SO_4)_3 + 4H_2O + \underset{}{N_2O_2}.$$

The secondary products of this reaction are water and nitric oxide gas. The latter on escaping unites with the oxygen of the air to form the "ruddy vapours" mentioned in the directions of the Pharmacopœia.

POTASSIC ALUMINIC SULPHATE, $K'Al'''(SO_4)_2.12H_2O$. (Sulphate of potassium and aluminium; *Alumen, alum, sulphate of alumina and potash*, $Al_2O_3,3SO_3 + KO,SO_3 + 24\,HO$, B.P.)—This double salt, commonly called "potash alum," may be regarded as a derivative of two molecules of sulphuric acid, or $H_4(SO_4)_2$, with one univalent atom of potassium, and one trivalent atom of aluminium, occupying together the place of the four hydrogen atoms. In accordance with this view its molecule is represented above by the simple formula $K'Al'''(SO_4)_2$, omitting the latter part, $12H_2O$, which merely refers to water of crystallization. Many modern chemists, however, contend that the smallest proportion of alum that can exist is derived from four acid molecules, and that its rational formula is $K'_2Al'''_2(SO_4)_4$, with $24H_2O$. Though "potash alum" is prescribed by the British Pharmacœpia, this substance is unattainable in commerce, as all the alum now manufactured is a sulphate of ammonium and aluminium, $(NH_4)Al(SO_4)_2$.*

BEBERIA SULPHATE, $(C_{19}H_{21}NO_3)_2H_2SO_4$. (*Beberiæ sulphas*, $C_{38}H_{21}NO_6HO,SO_3$, B.P.)—Sulphuric acid combines directly with the vegetable alkaloïds, forming salts analogous to ammonic sulphate, $(NH_3)_2H_2SO_4$. In the prescribed process for preparing the impure beberia sulphate of the Pharmacopœia, the alkaloïd beberia is extracted from bebeeru bark with acidulated water, precipitated by calcic hydrate and ammonia, separated from foreign matters by the action of alcohol, in which it is soluble, and finally saturated with sulphuric acid.

QUINIA SULPHATE, $(C_{20}H_{24}N_2O_2)_2H_2SO_4.7H_2O$. (*Quiniæ sulphas*, $C_{40}H_{24}N_2O_4,HO,SO_3 + 7\,HO$, B.P.)—This important medicinal agent resembles the last noticed salt in chemical constitution. It is prepared by the action of dilute sulphuric acid upon the alkaloïd quinia obtained from yellow cinchona bark.

Hyposulphites or Sulphosulphates.

These salts are closely related to the sulphates, and are regarded as derivatives of Hyposulphurous or Sulphosulphuric acid, a hypothetical compound, having the formula $H_2S_2O_2$, which differs from that of ordinary sulphuric acid, H_2SO_4, in containing an additional sulphur atom in place of one of the four oxygen atoms. The only representative of this group of salts in the Pharmacopœia is the hyposulphite of sodium, or

SODIC HYPOSULPHITE, $Na_2S_2O_3.5H_2O$. (Sodic sulphosulphate; *Hyposulphite of soda*, $NaO,S_2O_2 + 5\,HO$, B.P.)—This is named in the Appendix as an article employed in chemical analysis. No process is given, but it may be stated that the usual method of preparing it is by boiling a solution of sodic sulphite with sulphur:—

$$Na_2SO_3 + S = Na_2S_2O_3.$$

Chromates.

Though Chromic acid or Hydric chromate, H_2CrO_4, is unknown, the anhydrous acid or chromic anhydride, CrO_3, is easily obtained by decomposing a metallic chromate with sulphuric acid. This anhydride bears the same relation to the normal chromates that sulphuric anhydride, SO_3, bears to the normal sulphates, thus:—

Potassic chromate $K_2O.CrO_3$ or K_2CrO_4.
Potassic sulphate $K_2O.SO_3$ or K_2SO_4.

Besides the normal chromates there are the well-known salts called di- or bi-chromates, which are represented in the Pharmacopœia Appendix by the useful oxidising agent.

POTASSIC DICHROMATE, $K_2CrO_4.CrO_3$. (Dichromate of potassium; *Bichromate of potash*, $KO,2CrO_3$, B.P.) This may be viewed as a compound of the normal chromate and chromic anhydride. Heated with strong sulphuric acid it gives off oxygen, and yields chrome alum (potassic chromic sulphate), and water:

$$K_2CrO_4.CrO_3 + H_2SO_4 = 2[KCr(SO_4)_2] + 4H_2O + O_3.$$

It is employed as a source of oxygen in the preparation of sodic valerianate (see page 114).

* See abstract of Paper read by Mr. John Watts at Brit. Pharm. Conference, *C. and D.*, present vol., p. 135

Carbonates.

These important salts may be looked upon as derivatives of a hypothetical acid, represented by the formula H_2CO_3. The gaseous compound, CO_2, which is often called carbonic acid is, in the nomenclature of modern chemistry, Carbonic Anhydride, and results from the union of one quadrivalent atom of carbon, and two bivalent atoms of oxygen.

Lithic Carbonate, Li_2CO_3. (Carbonate of lithium; *Lithiæ carbonas*, LO,CO_2, B.P.) In this officinal salt two atoms of the monad lithium (Li=7) take the place of the two hydrogen atoms of the hypothetical carbonic acid.

Sodic Carbonate, $Na_2CO_3.10H_2O$. (Carbonate of sodium; *Sodæ carbonas*, $NaO,CO_2 + 10HO$, B.P.) This resembles lithic carbonate in constitution, but in the crystalline form each of its molecules is combined with ten molecules of water.

Hydrosodic Carbonate, $HNaCO_3$. (Acid carbonate of sodium; *Sodæ bicarbonas, bicarbonate of soda*, $NaO,HO,2CO_2$, B.P.)—Like the hydropotassic sulphate, noticed on page 161, this compound stands midway between the acid and the normal metallic derivative, as it contains half the hydrogen of the former with half the metal of the latter. It is prepared by exposing the crystalline normal carbonate to the action of carbonic anhydride:

$$Na_2CO_3.10H_2O + CO_2 = 2\,HNaCO_3 + 9H_2O.$$

To reduce the proportion of water set free in the above reaction, the Pharmacopœia directs that the greater part of sodic carbonate employed shall be in the anhydrous condition. The carbonic anhydride is obtained from marble (calcic carbonate) by the action of dilute hydrochloric acid.

Potassic Carbonate, $K_2CO_3.2H_2O$. (Carbonate of potassium; *Potassæ carbonas*, $KO,CO_2 + 2HO$, B.P.)—This is the normal potassic carbonate corresponding to sodic carbonate. Its crystals contain two molecules of water to one molecule of the anhydrous salt.

Hydrotassic Carbonate, $HKCO_3$. (Acid carbonate of potassium; *Potassæ bicarbonas*, $KO,HO,2CO_2$, B.P.)—This salt is the analogue of hydrosodic carbonate, and is obtained by passing a stream of carbonic anhydride through a solution of normal potassic carbonate. The reaction is similar to that represented by the last equation.

Ammonic Sesquicarbonate, $2[(NH_4)_2CO_3]CO_2$. (*Ammoniæ carbonas*, $2NH_4O,3CO_2$, B.P.)—The normal ammonic carbonate, $(NH_4)_2CO_3$, corresponding to the lithic, sodic, and potassic carbonates, has never been isolated. The commercial and pharmaceutic carbonate is an anomalous compound, having the somewhat complex formula given above. By dissolving it in strong aqueous ammonia, and then adding a little alcohol, a regular compound, $H_2(NH_4)_4(CO_3)_3$, may be obtained in fine transparent, rectangular prisms, containing two molecules of water of crystallisation to each molecule of the salt. On comparing the formula of the ordinary sesquicarbonate with that of the pure crystallised salt, it will be observed that the former may be converted into the latter by the addition of H_2O, or a single molecule of water. The formula given in the Pharmacopœia does not correctly indicate the proportions of the elementary constituents of the commercial salt.

Calcic Carbonate, $Ca''CO_3$. (Carbonate of calcium; *Calcis carbonas*, CaO,CO_2, B.P.)—This abundant compound which comes before the student of the Pharmacopœia in the different forms of *chalk*, *marble*, *prepared chalk*, and *precipitated carbonate of lime*, may be taken as a model of the normal carbonates of the bivalent metals. In its molecule, a single atom of calcium represents the two hydrogen atoms of the hypothetical acid, H_2CO_3. The process for preparing precipitated calcic carbonate consists in mixing solutions of calcic chloride and sodic carbonate, and collecting and washing the precipitate. The reaction is a simple case of double decomposition;

$$Ca''Cl_2 + Na_2CO_3 = Ca''CO_3 + 2NaCl.$$

Ferrous Carbonate, $Fe''CO_3$. (*Ferri carbonas*, FeO,CO_2, B.P.)—In this salt, which is the principal constituent of the officinal *ferri carbonas saccharata*, the iron plays a bivalent part, like calcium. It is prepared by the double decomposition of ferrous sulphate and sodic carbonate:

$$Fe''SO_4 + Na_2CO_3 = Fe''CO_3 + Na_2SO_4.$$

Ferric carbonate does not appear to exist in a separate state.

The basic carbonates or hydrocarbonates of magnesium, zinc, and lead will be described in the next article. We hoped to complete this series in the present volume, but we now find that two, or perhaps three, more papers will be required for the proper treatment of the remaining subjects included in the Chemistry of the Pharmacopœia.

THE ARTIFICIAL PRODUCTION OF AROMATIC SUBSTANCES.

The following remarks upon the artificial production of aromatic substances are extracted from one of the Cantor Lectures, delivered by Dr. F. Crace Calvert, at the Society of Arts:—

The artificial production of this class of substances is a a subject which must excite interest, for it has reference to many of the perfumes which we use every day for our toilet, and which contribute to the enjoyment we feel when admiring certain flowers. Therefore I shall begin by stating that chemists have produced artificially that fragrant odour which is given off by an all-admired flower called the lily of the valley, and which perfume is identical with that given off by the small yellow flower of the *Spiræa ulmaria*, which grows and perfumes the banks of streams winding through our valleys, and which aromatic principle chemists have also traced in a most odoriferous bean, the tonka bean. What enhances the interest in the artificial reproduction of this aromatic compound is, that it is derived from a white crystallised substance, called salicine, having a most bitter taste, which is obtained from the bark of the willow or the poplar, trees which are often the companions of the lily of the valley and the *Spiræa ulmaria*.

To extract salicine from the bark of the willow or the poplar, it is simply necessary to boil it in water, to add a little oxide of lead so as to separate the resinous and other matters in solution, then to concentrate the liquors, when, on cooling, they yield salicine.

Let us now follow the transformations which this substance —which has been employed as a substitute for quinine in cases of intermittent fevers— undergoes, to become converted into a product identical with that which characterises the perfume of the lily of the valley, the *Spiræa ulmaria*, and the tonka bean, and which substance has received the name of salicylous acid. To prepare it from the *Spiræaulmaria*, or the lily of the valley, it is necessary to boil the flowers with a little caustic potash, which unites with the salicylous acid; and in removing that compound from the aqueous solution it is easy to obtain the acid above mentioned. To prepare it artificially from salicine, one part of that substance is mixed with one of bi-chromate of potash, 20 of water, and 2½ of sulphuric acid. On heat being applied to the mixtures salicyous acid distils, which, being insoluble in water, is easily separated, and its powerful fragrant odour easily appreciated.

But there is another series of facts connected with this subject to which I desire to call your attention, and which are linked together by the interesting substance, salicylous acid. Thus, when this organic compound is heated with potash, it fixes two proportions of oxygen, and becomes transformed into a substance called salicylic acid, which, when liberated from its combination by means of hydrochloric acid, separates under the form of white and well-defined prismatic crystals, perfectly inodorous, and soluble in water and alcohol. If to this acid we now add wood-naphtha and a little sulphuric acid, they yield, on the application of heat, a most fragrant perfume, which is identical to that imported at the present time in large quantities from America, under the name of essence of winter-green, or essence of *gaultheria*, extracted from a small heath plant, or *erica*, which grows wild on the sides of the mountain rocks of New Jersey.

The essence of winter-green offers to chemists, and to us this evening, a peculiar interest, owing to the fact that it is a natural ether, that is to say, a compound of salicylic acid united with the oxide of methyl; whilst all the other essences and perfumes are hydrocarbons, to many of which I called your attention in my last lecture, as well as to some other hydro-carbons, containing in addition a small amount of oxygen. When the discovery was made by Cahour that the essence of *gaultheria* was a natural ether, the chemical world became so excited, that they dreamt that they were at

once going to reproduce easily every known perfume; and although this has not been realized, still many interesting data have been added to our store of knowledge. As an example I can cite that if the essence of *gaultheria* is heated with caustic baryta it unfolds itself into carbonic acid and into a substance called anisol, which has a highly pungent odour, and quite different in its properties from that of the substance employed to generate it. On the other hand, if anisic acid, which is easily obtainable from the essence of aniseed, is acted upon in the same way, anisol is also produced, thus showing how closely allied, in a chemical point of view, are the essences of *gaultheria* and aniseed.

Let us proceed to examine together a substance which of late has been much used as medicine, called valerianic acid, and which offers much interest, owing to the various wide and curious sources from which chemists have been able to extract it. To prepare valerianic acid from the roots of the *Valeriana officinalis*, all that is required is to split the wood into small pieces, to place it with water into a retort, and on heat being applied the water distils, and there floats in it an oily matter, which is valerianic acid, separated easily. This acid can also be obtained by the same process from the guelder rose or water elder, as well as from the repulsive product called oil of porpoise, the odour of which is in a great measure due to valerianic acid. It has also been extracted from various classes of cheeses by my learned master, M. Chevreul, who has also traced its presence among the products which result when animal matter is allowed to enter into slow putrefaction.

But what are especially important are the means by which valerianic acid can be artificially produced. I shall begin by stating that when the essence of chamomile is allowed to fall, drop by drop, into melted caustic potash, it is oxidised and converted into valerianic acid. Another interesting production of this acid, is one which has been followed of late years in order to obtain it in sufficient quantity to meet the demand which has arisen in consequence of its therapeutic properties, and its employment by medical men, and this is its artificial production from fousel oil, a product which is obtained during the rectification of raw spirits. In fact, it is the entire removal of this substance through distillation that constitutes the art of the rectifier; for by so doing he obtains purer alcohol, which has an agreeable flavour, and which does not injure man but when taken in excess, whilst if it contains the fousel oil, not only is the taste of the alcohol rank and disagreeable, but it appears to have a peculiar irritating action on the nervous system.

Among the various methods which have been devised for converting fousel oil into valerianic acid, the most effective, I believe, consists in mixing fousel oil with bi-chromate of potash and sulphuric acid, when by the action of the oxygen liberated from the bi-chromate of potash through the action of the sulphuric acid, the fousel oil is oxidised and converted into valerianic acid.

As I have called your attention to fousel oil, let me state at once that this substance, which is so repulsive in consequence of its odour, has, notwithstanding, been much employed of late years to manufacture substances used extensively under the name of flavouring essences, that is to say, essences which are employed to impart the flavour of jargonel pears, as well as that of apples, to sweet drops, etc.

The first of these essences is produced by mixing together acetate of potash, fousel oil, and sulphuric acid, when the result of the operation is sulphate of potash and acetate of amyl, which compound is, in reality, the essence of the jargonel pear. To prepare that of apples, all that is required is to unite valerianic acid with its derivative, the oxide of amyl, producing the valerianate of amyl, or the essence of apple. And allow me to add, that the essence of pineapple is a product obtained through the oxidation of olive oil by nitric acid, giving rise to œnanthylic acid, and that when this acid is mixed with alcohol and sulphuric acid, they produce œnanthylic ether, called essence of pineapple. Practice and experience have gradually led to the manufacture of a large variety of these products, most of which are mixtures of various substances obtained through chemical actions, and certainly nothing can be more curious and instructive than to reflect that such aromatic flavours are derived from products which in reality have most noxious odours, and which are so repulsive in their nature that they are considered mere refuse. It is to Dr. Hoffman that we are indebted for a correct knowledge of the chemical composition of this interesting class of substances.

Permit me to dwell for a few minutes on the artificial production of the essence of lemon, now manufactured in large quantities by the process which I am going to describe, which consists in obtaining it from the essence of turpentine, substances, strange to say, differing one from the other only in the fact that one molecule of turpentine can be unfolded into two of essence of lemon. To effect this splitting (if I may so express myself) of a molecule of turpentine into two of essence of lemon, the turpentine is mixed with alcohol and nitric acid, and the mixture exposed to the rays of the sun, when gradually the turpentine unites with the water, giving rise to hydrate of turpentine; a combination of this substance with six atoms of water, giving birth to large, well-defined crystals, which are separated from the mother liquors in which they have been formed. These crystals, on being submitted to the action of hydrochloric acid, unite with the gas, and give rise to a liquid and a solid substance, which liquid portion, on being acted upon by potassium, gives birth to the essence of lemon. If, instead of operating upon the hydrate of turpentine with hydrochloric gas, we act with it at once on turpentine, we shall observe that the gas is absorbed in large quantities, and after a short time a white, solid, crystallised substance will be formed, which on being separated from the fluid in excess, pressed between folds of paper, and then sublimated by gentle heat in a retort, yields a white, crystalline, transparent substance, whose odour is identical to that of natural camphors as they are imported, either from China or the island of Borneo, countries which chiefly supply us with that useful aromatic substance, and which is easily obtained by placing slips of wood belonging to the tribe of plants called *laurus camphora* with water, in iron shallow vessels, and placing over them metallic cones filled with rice straw. On the application of heat the camphor is vaporised, and becomes condensed under the form of small crystals, which attach themselves to the rice straw, from which they are easily removed, collected, and shipped to this country, where they are introduced in large glass vessels, and which are in their turn placed in heated sand baths, where the camphor volatilises, and is re-condensed on the colder parts of the glass vessels, forming large solid white cakes, so well known to us as refined camphor.

There are few substances in the vegetable kingdom which have excited more interest in the chemist's mind, and have called forth more researches, than a seed, the products of which are extensively used in every-day life, and whose composition is still so little known by the public—I mean the seed of the mustard plant. It is necessary that I should state there is a marked difference between white and black mustards, notwithstanding both of them contain starch and a fatty matter. Thus, when white mustard is mixed with lukewarm water, the elements of the seed appear to undergo no modification; whilst if black mustard seed is placed under similar circumstances a most powerful and pungent odour is produced, arising from the generation of the essential oil of mustard. As this oil is the result of the action of an albuminous ferment, mysorine, on a substance called myronic acid, unfolding it into an essential oil, and that this chemical phenomenon is prevented by a temperature of 212°, it therefore follows that whenever it is desirable to produce this oil, which acts as a powerful caustic on the skin, it is necessary that the temperature of the water with which the mustard is mixed should not exceed 150°, for without this precaution the ferment mysorine is coagulated, the chemical action ceases, the essential oil is not produced, and thus the benefit which might result from the application of such a substance under the form of a poultice is not attained. It is no doubt with a view of avoiding the evil results which often occur when mustard seed is used as a poultice, that of late the essence itself has been patronised by medical men.

Among the numerous transformations which chemists have succeeded in effecting in connection with the essence of mustard, the most interesting is its conversion into essence of garlic, which is most easily effected under the following circumstances, namely, heating essence of mustard with potassium, when a certain amount of carbon, sulphur, and nitrogen are removed, which unite with the potassium to form sulpho-cyanide of potassium, the remaining elements being essence of garlic, which, being volatile, is easily diluted.

ON RESINS FOR VARNISHES.

BY M. VIOLETTE.

The resins, Calcutta copal and its congeners, as well as amber, which forms the basis of varnishes, are not in their crude state soluble in ether, oil of turpentine, benzine, petroleum, and other hydrocarbons, nor in vegetable oils. They become soluble when, by a preliminary distillation, they have lost 25 per cent. of their weight. This result, announced by the author in 1862, was the subject of a former memoir presented to the Academy of Sciences. The present paper contains some new researches, the conclusions of which may be stated as follows :—

1st. The above resins, when heated to a temperature of 350° or 400° centigrade (about 660° to 750° Fahrenheit) in a closed vessel, acquire, after cooling, the property of dissolving in the above liquids, and constitute excellent varnishes without any loss of material.

2nd. When heated as above mentioned *alone*, or mixed with one or more of the liquids named, these resins dissolve perfectly in them, and constitute new and very fine varnishes.

3rd. Calcutta copal resin, heated in this manner, with one-third of its weight of boiled linseed oil, and three-quarters of its weight of oil of turpentine, gives at once, without loss, a thick varnish, clear, limpid, of a fine colour, slightly yellow, quite fit for carriages and the most delicate interior and exterior house painting.

Resins, then, acquire new properties under the joint influence of heat and pressure; the latter rises as high as twenty atmospheres. This is a difficulty which manufacturers will have to solve in order to transfer this new process from the laboratory to the manufactory.—*Journal de Pharmacie*, October, 1866, p. 284.

UNITED SOCIETY OF CHEMISTS AND DRUGISTS.

IMPORTANT MEETING AT MANCHESTER.

The following Report has been forwarded to us by Mr. Holt, the Honorary Secretary to the Manchester Branch of the United Society :—

On the 23rd ult. a meeting of chemists and druggists was held at the Clarence Hotel, in favour of a system of incorporation amongst the trade. The chair was taken by Mr. Alderman Bowker; and there were present—Mr. C. Buott, Registrar and Secretary of the United Society of Chemists; Mr. Slugg, F.R.A.S., Manchester; Mr. Blain (Hon. Sec.), Mr. Harwood, and Mr. Langshaw, of Bolton; Mr. J. T. Holmes, Chairman of the Hanley District Association, Staffordshire; Mr. Mercer, secretary of the same; Mr. Morris Longton, Staffordshire; besides about eighty representatives from Manchester, Bolton, Leigh, Bury, Macclesfield, Burnley, and other places.

The Chairman, in opening the proceedings, said that for some years past an agitation had been going on throughout the kingdom with regard to the incorporation of chemists and druggists in one body. The Pharmaceutical Society had been incorporated for many years. The position of chemists and druggists was one of responsibility. They were called upon to perform a most important and arduous duty, and he thought the time had arrived when incorporation could be no longer delayed. Overtures had been made to the Pharmaceutical Society, but which had, to some extent, been failures. He thought some restrictions were needed with reference to the sale of medicines, in order to prevent unskilled persons from retailing poisons or medicines of a dangerous character. They did not want monopoly in the sale of simple medicines, but it was impossible that they could do their duty to the public until there was a monopoly established with reference to the sale of poisonous medicines. He called upon Mr. Cyrus Buott to explain the position of the Society.

Mr. Buott, before entering upon the general subject, adverted to a question that had been asked him—why the Society did not give greater prominence to the question of Sunday and early closing? He would reply that they recognised this movement, but at the same time considered that it was one of a local and social character, and one which he recommended to the action of the district associations. He referred to the past legislation on the subject of incorporation, and said that when they introduced a bill into the House of Commons, it was not done in any captious or antagonistic spirit to the Pharmaceutical Society, but on the contrary. The Executive Committee of the United Society of Chemists and Druggists were very desirous that the chemists and druggists of the country should be brought into union, with legal power, to prohibit for the future any incompetent person from exercising the trade. Being impressed with that feeling, they made overtures to the Pharmaceutical Society, but they were rejected, and that Society went to Parliament on their own account. It was not until their Bill was brought before Parliament that the precise motive which influenced the Council of the Pharmaceutical Society in rejecting the offer of co-operation could be understood. That Bill was not calculated to give protection to the public, or to place the chemists and druggists in a proper position towards each other. The ultimate failure of both Bills might have suggested the expediency of a common measure. The Executive Committee were so deeply impressed with the desirability of it, that they laid aside every other consideration, and again made an overture of co-operation to the Pharmaceutical Council. Indeed, they were not without some encouragement in doing so from the Pharmaceutical Council themselves, for the President of that Council wrote a letter to the President of the United Society in March last, in which he was pleased to say that "the union of all men of a common calling was an important means to elevate the whole body." And the Council echoed the sentiment of their chief in the *Pharmaceutical Journal* of the following May by expressing a hope "that those equally and alike interested would not be found in opposition to one another." Had this sentiment, so well expressed in words, been carried out in spirit, it would have embraced all the United Society asked for; antagonism between the two Societies might have ceased, and they might now have been rejoicing in the immediate prospect of an amalgamated trade. But, instead of meeting the Executive in a candid and friendly spirit, the Council declined their overture for joint action in evasive resolutions, and hastened to get the sanction of Government to some proposal of their own, which was kept a profound secret from the unincorporate chemists and druggists whose interests were to be affected by it. (Here Mr. Buott read the statement of the Executive Committee upon this transaction from the Annual Report for 1866.) He then proceeded to say that the Pharmaceutical Council were the sole impediment to an union of the trade. They affected to see a distinction between amalgamation and incorporation; and even amalgamation, in the sense of incorporation, was to be shunned. Why? Was not amalgamation with the Pharmaceutical Society upon equitable terms practical incorporation? So it appeared to him (Mr. Buott); but he feared the Council were not yet sufficiently impressed with the progress of events to agree to such terms, whilst they at the same time set themselves determinedly against any attempt of the outside chemists to procure their own incorporation. They declined to act with the Executive of the United Society. They refused to place their unexamined members upon an equality with their unexamined equals; and worse than all, they set up a claim to legislate for the unincorporated chemists and druggists of the United Society without consulting them. They treated them as if they were numerically and intellectually their inferiors, whom it was their duty to guide and care for, although they knew that they constituted three-fourths of the unincorporated chemists in all the large towns in the kingdom; that by their Executive Committee they fairly represented the intelligence, respectability, and aspirations of the unincorporated trade, and that they were both able and willing to take care of themselves. There was yet another idea which had better be abandoned. Since it had become evident that the members of the United Society were willing to accept of amalgamation, they were taunted with being suppliants for admission within the pale of Pharmaceutism. The absurdity and injustice of such a conclusion might be easily demonstrated; but it might be useful to intimate that it is not within the province of those who say so to decide whether the unincorporated chemists shall be incorporated or not; and if the Pharmaceutical Society refused to incorporate them by amalgamation with their own body upon reasonable terms, Parliament, in compliance with

the public demand for protection, would incorporate them. It was not the outside chemists and druggists that clamoured for admission to the Pharmaceutical Society, but it was the Pharmaceutical Council who were too importunate at the door of Government for power over the trade; and, therefore, it was that the unincorporated chemists were determined to know all about any measure affecting their interests before it was submitted to the legislature, and to judge of it for themselves. Mr. Buott thought there was such a thing as speaking firmly, yet respectfully; and that was the manner in which he wished to speak of the Pharmaceutical Council. He revered the memory of Jacob Bell, and would honour the excellent men upon whose shoulders his mantle had fallen; but were he to suppress or weaken the truth in deference to them, he should betray his trust. He was sorry the Pharmaceutical Council had placed themselves in a false position in relation to the United Society, for the Executive Committee were most anxious to come to some arrangement with them; indeed, they were willing to make any reasonable sacrifice. All they asked for was—prohibition for unqualified men, distinction for examined members, equality for unexamined members, and eligibility for each member upon the Council. Could not the Pharmaceutical Council accept these terms? Then let them not, as hitherto, reject [the proffered terms of the Executive Committee, but frankly state their own views, and thereby they would banish discord, and all might soon be well. The members of the United Society, and, indeed, all outside chemists, were desirous of amalgamation with the Pharmaceutical Society upon equitable terms; but they asked for it, not as a favour, because they knew that although many would thereby gain admission to the Society who ought never to have been in the trade, hundreds would also be gathered in who would be a credit to it. They would not consider it a favour, because they were sensible that the Pharmaceutical Society would be gainers by the transaction. They asked it as no favour, because they believed that, should the Pharmaceutical Society refuse to amalgamate them, they had, when united, the power, single-handed, to obtain incorporation for themselves If they desired amalgamation, it was because they hoped it would unite and elevate the trade, and confer an inestimable boon upon the rising generation who were to succeed them; that it would give both to the public and to the trade protection against unqualified druggists; that it would immensely extend the area and the usefulness of the Pharmaceutical Society; that it would promote the wealth, honour, and dignity of that Institution, and render it the pride and glory of the trade. Mr. Buott's explanatory address gave general satisfaction, and he sat down amidst the cheers of the meeting.

Mr. Holt, of Deansgate, said, that after the exposition of the policy and position of the Society so clearly set before them by Mr. Buott, there was little necessity for his advocacy. The resolution he was about to propose was one, he thought, which would commend itself to the judgment of the meeting. He was much in favour of the union of the trade in one society, but it must be upon equitable terms. He then moved—

"That, as voluntary examination has failed to protect the public against incompetent druggists, this meeting recommends that a bill be brought into Parliament to alter and amend the Pharmacy Act, so as to embrace all chemists and druggists within the Pharmaceutical Society upon the principle of compulsory examination."

Mr. Holmes, of Hanley, had much pleasure in seconding the resolution. The trade was reduced to a degrading condition through ignorant people taking it up as a mere employment, and the only remedy lay in incorporation with the power to submit all comers to examination.

Mr. J. T. Slugg, F.R.A.S., moved the resolution as follows:—

"That under the new Act, all examined members of the Pharmaceutical Society shall be entitled to distinction, whilst all other chemists and druggists, now in business, shall be members of the Society on payment of an annual fee, and be eligible to nominate, or to be nominated, upon the Council.'

He congratulated the meeting on the very large attendance of members, being the largest gathering he had yet seen in Manchester, though he had attended nearly every meeting since the commencement of the Society. He also congratulated the meeting on the presence of Mr. Buott, whom they warmly welcomed again. The present position of the question which had brought them together was an encouraging one. He should have to speak of the Pharmaceutical Society, but he wished it to be distinctly understood that what he said would be kindly meant, and that he for one wished to act in a conciliatory spirit. The resolution demanded the admission of all chemists and druggists into the Pharmaceutical Society on an equal footing with all non-examined members of that Society. And why should they not be thus admitted? The answer generally given to this question was this—"After we have subscribers twenty years to the funds of the Society, it is not fair to admit you to equal advantages." Now what were those advantages? He could only, after much consideration, discover three—1. The privilege of using the name, "Pharmaceutical Chemist;" 2. The reception of the *Journal* equal in value to twelve shillings a year; and 3. Exemption from serving on juries. The last was certainly an important one; the journal any non-member could purchase; and as to the name, it was practically of no value, so long as there were so many non-examined pharmaceutical chemists in proportion to the number of the examined ones, and so many first-class chemists who were not members of the Society. If the Society were a trading concern, the answer would be satisfactory. But in this Society the advantages were not cumulative, but each member received whatever advantages membership could confer, during the year in return for his yearly subscription. But this was taking a very low view of the question. He would, ask why was the Pharmaceutical Society established? What was the object proposed by Jacob Bell and others in founding the Society? Was it any selfish end? Mr. Slugg quoted the preamble of the Pharmaceutical Act, and said that the object was to raise the standard of education amongst druggists, and raise the status of the members of the trade. Had that end been accomplished? Most decidedly not, except in a comparatively very few cases. Then why had the Society so signally failed? There were various reasons, but principally because it was left voluntary for a person opening a chemist's shop as to whether he should be examined or not. That was a great mistake, which chemists were now seeking to rectify. If the Pharmaceutical Society were to open their doors again to-morrow, and still retain the voluntary principle, failure would still be the result. Nine out of every ten who now entered into business, entered it without examination, and such would ever continue to be the case. Now, if the object of the founders of the Society was ever to be attained, it could only be by carrying out the principle of the resolution, by admitting all chemists now in business on equal terms with the non-examined members of the Pharmaceutical Society, and obtaining an Act of Incorporation, enforcing examination in every future case. Mr. Slugg challenged any member of the Pharmaceutical Society to a public discussion on this point, either in Manchester or London. In conclusion, he said, "'There is a tide in the affairs of men, and it is now flood-tide in regard to this question. The fields are now white to the harvest. A glorious opportunity presents itself to the Pharmaceutical Society, to rectify the error of its founders, and to confer an inestimable boon on the present and future generations. Any man, be he who he may, who shall wickedly place obstructions in the way of obtaining so great a desideratum, will be execrated by all good men. In regard to the necessity for an act of incorporation, both Societies are sailing in the same boat. The Pharmaceutical Society may take the right-hand oar, and we will take the left; the chairman of the Pharmaceutical Society shall be the captain, and our good friend Buott shall be coxswain; then let us give a long pull, a strong pull, and a pull altogether, and we shall win the race."

Mr. Mercer was much gratified with the opportunity to second a resolution which he thought embodied the sentiments of the United Society.

Mr. Massey of Deansgate, proposed the third resolution—

"That all existing assistants and apprentices may be registered as such, and be admitted as members of the Society on becoming chemists and druggists in business; but that all other persons, on becoming chemists and druggists, shall be required to pass a certain examination, and to pay such fees as may be agreed upon."

Mr. Blain, of Bolton, said he quite concurred with the resolution, and had much pleasure in seconding it; but if such expressions as "odds and ends" were to be made use of to describe gentlemen——

The Chairman: That is a mistake.

Mr. Blain: There can be little hope of conciliation.

The Chairman: It is altogether a mistake, and has been explained.

Mr. Slugg: Yes, satisfactorily explained.

Mr. Blain was glad to hear it.

Mr. Mercer said, that as he had been the innocent cause of the mistake, he thought it best candidly to explain how it occurred. He had written out the report of the Hanley meeting, and having been strongly urged by Mr. Buott to abbreviate his speech as much as possible, he had placed it in the hands of a friend for further abbreviation, who, it seems, had misunderstood his (Mr. Mercer's) meaning, and had unfortunately introduced the words which had, he thought, been dwelt upon with too much severity. The report did not come under his notice again, or he should have detected the error.

Mr. Wood, of Macclesfield, in a few appropriate words, moved—

"That the Executive Committee of the United Society be requested, as the representatives of the unincorporated chemists and druggists of the country, whose interests must chiefly be affected by any measure to regulate the trade, to lay these proposals before the Pharmaceutical Council for consideration; and that the Pharmaceutical Council be respectfully requested to communicate their answer to such proposals, unreservedly, to the Executive Committee, so that that Committee may take the sense of the unincorporated chemists and druggists upon it before the meeting of Parliament."

This resolution having been seconded by Mr. Morris, of Loughton, and adopted,

Mr. Bowker vacated the chair; and Mr. Blain having been called to it,

Mr. Slugg, in terms warmly eulogistic of Mr. Bowker, and obviously inspired by old acquaintance, moved—

"That the best thanks of this meeting be given to Mr. Alderman Bowker for his ability and courtesy in the chair."

The resolution having been seconded, was carried by acclamation.

Mr. Bowker, in return, expressed the gratification he felt by the appreciation of his service to the meeting, and by the flattering manner in which his friend, Mr. Slugg, had spoken of him. He would be happy, as far as his public duties would permit, to aid them at all times in so good a cause. He congratulated the numerous gentlemen present upon the harmonious spirit of the meeting, which had so clearly and temperately pronounced the judgment of the chemists and druggists of the Manchester district. He also congratulated them upon the important attitude of the United Society before the trade. They were proud of their Society, and proud of their Mr. Buott—(loud and prolonged cheering)—and he had much pleasure in moving

"That the thanks of the meeting be given to Mr. Buett for his able speech on that occasion, and for his services to the Society."

Mr. Buott acknowledged the compliment amidst much enthusiasm.

The meeting was remarkable for unanimity, all the resolutions having been carried without dissent, and for the obvious desire of the speakers to be understood as friendly to the Pharmaceutical Society. It was a gratification to all present, and will rank among the most important and successful meetings of the trade.

EXECUTIVE COMMITTEE MEETING, DECEMBER 6, 1866.

Present,—Messrs. Betty, Yeates, Heppell, Salter, Pass, Stacey, Warden, Anderson, Crotch, Baumgarten, and Buott, jun. Mr. Pass in the chair.

The minutes of the previous meeting were read and confirmed.

Mr. Buott, jun., gave a resumé of the proceedings of the Registrar in the provinces, to present date. In reference to which, a vote of thanks was unanimously passed to the different district chairmen, honorary secretaries, and the country members who had so zealously given their support in carrying out the objects of the Society.

A resolution was also passed:—"That the confidence and thanks of the Executive Committee be given to Mr. Buott for his services in the country, and that he continue the same, according to his judgment."

With regard to certain resolutions forwarded to the Executive from the chemists and druggists in the Manchester district, it was agreed that they should be sent to the Pharmaceutical Council, in accordance with the request accompanying them.

Further progress was reported on the general business of the Society, and the proceedings concluded by a vote of thanks to the chairman.

By order of the Publishing Committee.

MEETING OF MEMBERS OF THE MEDICAL AND DENTAL PROFESSIONS.

THE CASE OF MR. STATHAM, DENTIST.

On the 11th inst. a largely attended meeting of members of the medical and dental professions was held in the Literary and Scientific Institution, Edward-street, Portman Square, Sir William Fergusson presiding, to consider the case of Mr. Statham, dentist, the defendant in the cause "Absolon *v.* Statham," who was charged with assaulting the plaintiff, with forcibly administering chloroform to her, and with improperly extracting six of her teeth. The defendant is one of the surgeon-dentists of the Great Northern Hospital, which was founded by his brother. Evidence was adduced on the part of the defendant that the chloroform was administered correctly, and that the teeth were rightly and skilfully extracted; and the trial, which lasted two days, ended in the jury being dismissed, because they were unable to agree to a verdict. Feeling that injustice was done to Mr. Statham by such a termination of the case, Mr. Charles James Fox, dentist, with the concurrence of many leading practitioners, convened a meeting, which passed a resolution expressing sympathy with Mr. Statham, and declaring that actions of this nature were calculated to embarrass every practitioner. The meeting appointed a committee, whose report has been received. It had concluded that it was unadvisable to take steps now for the organization of a defence fund; that it was not expedient to address a statement to the public, and, as a new trial could not be moved for, and Mr. Statham would not accept the legal expenses he had been put to, it recommended the adoption of a resolution declaring the warmest sympathy with Mr. Statham in the unjust and cruel persecution he had been subjected to, and unabated confidence in his practical skill and professional integrity and honour; and that in this particular case his treatment was sound, skilful, humane, and beyond reproach. It was resolved that this resolution should be engrossed on vellum, signed by the chairman and others, and presented to Mr. Statham. The resolutions were advocated by Dr. Richardson, Mr. Lawson, Mr. Ibbetson, Mr. Hulme, Dr. Cholmley, Dr. Sansom, Dr. Anstie, Mr. E. Wilson, and Mr. A. Brown. The chairman commented upon the erroneous notions entertained by the public, and even by the less experienced members of the profession, respecting the administration of chloroform, and stated that the late Lord Campbell was only prevented by the late Dr. Snow from introducing a Bill based on the supposition that a person could be rendered temporarily insensible in the street by merely waving before his face a handkerchief which contained chloroform. Several gentlemen declared it was a public calamity that it should be supposed that charity on the part of medical men was practised with ulterior motives.

DR. ODLING'S EVIDENCE IN THE CASE OF HUNTER *v.* SHARPE.

The trial of the action brought by Dr. Hunter against the printer of the *Pall Mall Gazette* for an alleged libel, was concluded on the 1st of the month, when the jury gave a nominal verdict for the plaintiff with one farthing damages. The evidence given by Dr. William Odling—whom the Lord Chief Justice described as one of the most acute and intelligent professors of chemistry it had ever been his good fortune to listen to—may be perused with profit by all who are inclined to regard with favour any new system of medical treatment. To our thinking it completely demonstrates the fallacy of Dr. Hunter's much puffed method of "curing" consumption, and the new theory that tubercle is carbon on which his treatment is based. The following is the substance of this masterly piece of scientific evidence:—

The plaintiff's account of tubercle, he said, was a complete misstatement. Its composition was substantially the same as that of all other animal tissues, healthy or unhealthy, except that instead of containing more carbon it contained rather less; and this was stated in all the text-books and received works on physiology. Atmospheric air, he stated, contained one-fifth part of oxygen, so that a person breathed three cubic feet of it per hour, and thus therefore the inhalation of a few gallons of it more or less in a day would be of very trivial importance, even assuming it to be pure oxygen,

and of course if mixed with other vaporous matter it would be of still less value. As to chloric acid, which the plaintiff said he got oxygen from, he had never known it used medicinally, nor otherwise than in the manufacture of fireworks; and chlorine, which would be got along with oxygen, was extremely irritating, even in the proportion of half per cent. Below that proportion it might be breathed, but not above it. It therefore came to this, that if the product were diluted so as to render the chlorine not irritating the oxygen would be so diluted as to be weak. And the practical result would be this, that as it was a well-known fact that 85 grains of chloric acid would only give off 36 in. of oxygen (80 in. of oxygen being absorbed every minute), there would be no real effect of the oxygen. Added to this, he stated that in the preparations given by the plaintiff neither chlorine nor oxygen would be obtained, for both would be absorbed. As to the plaintiff's view that carbon was the basis of tubercle and inimical to life, he said the blood contained rather more oxygen in disease than in health, and carbon was the "basis of tubercle" only in the same sense in which it was the basis of all animal tissue. And the statement that carbon was inimical to life was a jumble of different and opposite things. Carbon in itself was "not inimical to life;" on the contrary, it was like the coal in a steam-engine—it was rather a source of heat and life. No doubt carbon which had been breathed and corrupted (like coal which had been burnt) was useless to life; but then, on the other hand, it was powerless to produce life either in a healthy form or a diseased form; and it could no more produce tubercle than it could produce flesh and blood. It was not so much the presence of oxygen that was beneficial as the absence of respired carbon or carbonic acid gas. There was an excess of oxygen in the one, and not above one-fifth of it was used in respiration. But respired air was pernicious because corrupted. The plaintiff's compounds would not, he said, give out oxygen—even assuming it to be of any use; but the mere administration of oxygen would be of no use. Pure oxygen no doubt could be administered; but it required either a gas-holder (or a rough substitute for it, like a bladder) or a gas-chamber, which latter would require to be artificially prepared for the purpose, with its ordinary atmosphere altered by having infused into it oxygen gas.

In cross-examination, Dr. Odling stated that it was not so much the absence of oxygen which rendered the air injurious—as the atmosphere of a crowded court—but the presence of something injurious—carbonic acid gas, or respired breath.

ACCIDENTS.

POISONING BY MISTAKE.—BURNETT'S DISINFECTING FLUID.

Mr. Humphreys, Middlesex coroner, last Wednesday evening held an inquiry at the Wellington tavern, Commercial-road, relative to the death, through accidental poisoning, of Henry Webb, aged 55 years. Mr. John Swaine, 5, Burnett-road, Kingsland, said he was inspector of the General Post-office in the Commercial-road East. The deceased was a letter-carrier attached to that office. On the 22nd of May last he came to the office and complained of diarrhœa. It was usual to keep medicines for such attacks at all the offices, the mixture being supplied by order of Dr. Lewis, of the head office in St. Martin's-le-Grand. Witness had just come from the N.E. Post-office, where the mixture was kept in a stone jar, and seeing a precisely similar jar in the Commercial-road office he gave Webb two tablespoonsful of the liquid, and Webb swallowed it, but immediately complained of being burnt. Witness then examined the bottle more carefully, and observed that there was a label showing that the contents were Burnett's disinfecting fluid. The label was nearly obliterated by the action of the liquid. Witness at once sent the deceased to Dr. Tainton. Dr. Henry Tainton said that he found the deceased suffering from poison, which had already become largely absorbed into the system. Remedies were applied, and deceased was kept alive until Saturday last, when he died from the effects of the poison. The *post mortem* examination showed that the stomach was shrivelled up and extensively ulcerated. The jury returned a verdict "That the deceased died from poison administered by mistake for medicine, and that Mr. Swaine showed want of care in so administering it."

[illegible]

On the 15th [illegible] Birkenhead, from the effects of [illegible] before an operation for [illegible] had been placed under the influence of [illegible] evil results. On each [illegible] by Dr. S[illegible]d, [illegible] experience [illegible]. Dr J[illegible] could only account for the [illegible] third [illegible] by their [illegible] peculiarity in the [illegible]. The [illegible] the evidence, remarked [illegible] as coroner, this was only [illegible] had proved fatal [illegible]. The jury returned a verdict to the effect that "Death was caused by [illegible] which was being properly administered."

GOSSIP.

Mr. J[illegible] entitled, "[illegible]," for the British Pharmaceutical Conference.

Mr. John W[illegible], nephew to Mr. [illegible], of [illegible], has recently joined the firm of [illegible] and Co., fancy soap manufacturers and perfumers, [illegible]-street.

Dr. L[illegible]y has supplied the [illegible] city of London [illegible]

[illegible]

With the present number of this journal, a [illegible] Almanack for [illegible] of the Calendar [illegible] make [illegible]

GAZETTE.

BANKRUPTS.

COLEMAN, HENRY EDWARD, Micheldean, Gloucestershire, apothecary.
CONWAY, J. W., Coventry, soda-water maker.
DINGLEY, THOMAS K., Winkleigh, Devonshire, surgeon.
DYER, WILLIAM ANDREW, East Stonehouse, druggist.
EATON, SARAH ANN, Tamworth, soda water manufacturer.
FESENMEYER, JOHN WILLIAM H., Clapham, chemist.
FARRANT, JOHN G., High street, New Brentford, chemist.
FARMER, ARTH R C., Southwick, Sussex, chemist.
HARDWICK BENJAMIN, Leeds, brushmaker.
HOYLE, RICHARD ELKANAH, Lincoln, surgeon.
MEDD, JOHN, Holme, surgeon.
NORRIS, THOMAS, Leanhead, near Rochdale, manufacturing chemist.
PERFECT, ALFRED, Birchin lane, dentist.
PHILLIPS, WILLIAM WELD, Sutton Bonington, Nottingham, surgeon.
PHILLIPS, THOMAS GRACE, Oxford-s reet, apothecary.
SIMPSON, JAMES, East Dereham and King's Lynn, soda water manufacturer.
SWAIN, WILLIAM HARRIMAN, Sunderland, chemist.
WILSON, CHARLES TYLER, Cambridge, chemist.

PARTNERSHIPS DISSOLVED.

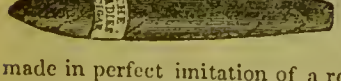
ANDERSON, D., and TRAILL, W., Upper East Smithfield, chemists.
BRIDGE and WOOKEY, Wellington, surgeons.
GRIFFITHS, J., and BLAND, J., Penton-street, Pentonville, pharmaceutical chemists.
NASON, E. B., and R., Nuneaton, surgeons.
SPICE, R. P., and FOX, J. T., Egham, Surrey, manufacturers of articles from gas products.
THOMAS, J., and Co., Morriston, near Swansea, chemical manufacturers.
TANNER, J. and EDWARDS, M. J., Newington-causeway, surgeons.
WILLIAMSON, J., and TREND, H. J., Clarendon-villas, Mildmay-park, and South gate-road, De Beauvoir Town, surgeons.

SCOTCH SEQUESTRATIONS.

SHAND, G., and Co., Stirling, manufacturing chemists.
SWANN, J., Belness, druggist.

CHRISTMAS NOVELTIES.

THOUGH Christmas comes but once a year, our leading perfumers must keep certain ingenious persons constantly at work, designing pretty trifles and startling novelties, suitable for Christmas presents or adapted to promote the merriment of Christmas parties. Mr. Rimmel has always many things quite new to offer to his customers, and the happy combination of French taste and English enterprise, which keeps four or five large establishments in a thriving condition is specially noteworthy about this time of the year. His perfumed Almanack for 1867 is a charming specimen of French chromo-lithography, and its chubby groups of children are no mean works of art. The Christmas sachets, illuminated cards, and other minor articles, display the same refined taste, and, we may of course add, the same delicate smell. One of the most attractive novelties which Mr. Rimmel brings out this year is, seemingly, a neatly-bound volume, entitled "The Mugby Boy's Toilet Companion," but really, a book-shaped box containing a bottle of fine pomade, a tablet of scented soap, and a bottle of perfume for the handkerchief. The "Princess Dagmar's Bouquet" is another article which is likely to be very popular throughout the coming season. One of the funny little tangible jokes which Mr. Rimmel has provided for Christmas parties, is registered under the name of "The Lady's Cigar," and is simply a scent-bottle made in perfect imitation of a real Havannah. The "Magic Grapes," containing scent, are not new this season, but they will always be coveted by those who delight in surprises. Each grape is a little flask of thin glass, and a bunch of these elegant vessels cannot be readily distinguished from the fruit which they counterfeit.



The fancy soaps and perfumes of Messrs. Richardson and Co. also deserve special notice. We have a box before us, which apparently contains an apple, a pear, a huge walnut, an orange, a tomato, and a bunch of grapes, but each of these articles is entirely formed of fine toilet soap. Again, the same firm sends us a well-made fancy-box, containing a large soap tablet, a case of cosmetique, and two bottles of perfume. This box of toilet requisites is prettily ornamented, and bears on the inner side of the lid an embossed red-breast, with the legend, "A happy New Year."

EDWARDS'S CORNUCOPIAN FEEDER AND MEDICINE VESSEL.

OUR notice of the convenient instruments devised by Mr. Edwards for administering liquid food and medicines to invalids or infants need not occupy much space, as their construction is remarkably simple, and their utility quite obvious. The feeder is a horn-shaped glass vessel capable of holding half-a-pint or three-quarters of a pint of liquid, having at the broad end a well-made bottle-neck, and at the small end an orifice, around which the glass is moulded to form a smooth mouthpiece. The food is introduced into the vessel through the neck, which is then closed by means of a box-wood capped cork, in which there is a vent-hole that may be readily stopped by the finger or thumb. As long as this vent is open the food flows regularly through the orifice of the mouthpiece, but on closing it the flow is instantly checked by atmospheric pressure. Every married lady who, while lying in bed, has experienced the difficulty of taking food from the old-fashioned caudle cup or some less convenient vessel, and every sick person who knows the misery of being fed with a spoon, will at once appreciate the advantages of this handy contrivance. When used for feeding infants an india-rubber nipple or prepared teat is fixed on the mouth-piece; but the smooth glass itself may often be placed between the little gums when the teeth are coming through. As the feeder when in use is held nearly upright, no air can possibly be drawn in with the liquid. In order to keep food warm, during the night, Mr. Edwards has invented an ingenious stand, by which the Cornucopia is supported over the flame of a small lamp or ordinary night-light.

The medicine-vessel is much smaller than the feeder, and is formed of coloured glass. By its aid medicines can be administered with the greatest facility to helpless patients or young children. It is specially adapted for conveying oils and acids into the system, and may also be used as an inhaler in the manner shown by the annexed wood-cut.

SCIENTIFIC DISCOVERY.—Mr. Crookes, F.C.S., in an article upon his independent discovery of the Sodium Amalgamation Process, makes the following remarks:—"It is a very common error in scientific ethics that 'priority of publication constitutes priority of discovery.' I venture to say that this rule has no existence, and, from the nature of the case, it can and ought to have none. Professor Asa Gray, one of the leading scientific men in the Unites States, has commented very clearly on this point, and his decision is now universally accepted. He says, 'The fact of a *discovery* is to be established by evidence, and no sort of evidence by which it may be established can be excluded. Abundant illustrations of this may be adduced from the history of almost every science. The rule which has here been misapprehended is one which fixes *nomenclature*. Naturalists have established, and physicists adopted, the very necessary rule that the publication is essential to give reality to a *name*, that the name first published takes precedence. The discovery of a fact or a thing, and the imposition of a name, are two different matters, and not rarely dissociated. The first is to be established by any good evidence; the second is governed by an arbitrary but most just rule.' The date of a discovery is a question of *fact*, and not a question of nomenclature, and may be authenticated by whatever testimony can be adduced."

THE CHEMIST AND DRUGGIST

LONDON, DECEMBER 15, 1866.

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The CHEMIST AND DRUGGIST is published on the Fifteenth of every month, except when that date falls upon a Sunday, when it is published on the preceding day. It is 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 CODEX; OR, FRENCH PHARMACOPŒIA, 1866.

A NEW edition of this work has at last appeared. Some extracts from the preface have already been printed in this Journal; but as it is of great importance that every English student engaged in the pursuit of pharmacy should be practically acquainted with its details, it is proposed during the course of the new year to give a series of papers on the subject. These contributions will be produced by known and experienced writers, whose aim will be to offer a serviceable and working guide to the practice of French pharmacy. To effect this object, while the higher branches of chemistry and science will not be overlooked, the more familiar facts connected with the routine occupation of the druggist will receive due attention. A complete vocabulary of popular terms, and of expressions not included in books of reference, will commence the series. All such formulæ, a knowledge of which may be of use in England, will be translated; and it is expected that a report on the Materia Medica, together with an explanatory abstract of *Notions Préliminaires* will be presented. The Editor also hopes to subjoin a digest of the laws which regulate French pharmacy, and to notice foreign critiques that may have appeared in reference to the present Codex.

THE MANCHESTER MEETING.

AT the commencement of the present year we dared to avow our belief that no satisfactory Bill for elevating the calling of Chemists and Druggists in this country could be carried through Parliament while the "Pharmaceutists" and their unincorporated brethren were at variance, although we had been warned that the members of the United Society were disposed to start a rival trade journal on account of our heretical tenet. Strange to say the whirligig of time has brought round to our side the very men who were shocked at our pharmaceutical tendencies; and even Mr. BUORT who little more than a year ago so energetically denounced the druggists' "morbid craving for Pharmaceutical connection," seems now to have little faith in his Society's independent action.

The resolutions passed at the important meeting of Chemists and Druggists in Manchester on the 23rd of last month convince us that we have lost nothing by the fearless declaration of our opinion. With Mr. Alderman BOWKER presiding, a large meeting of unincorporated chemists, including delegates from Bolton, Burnley, Bury, Hanley, Leigh and Macclesfield, unanimously recommended, in the leading resolution, the introduction of a Bill into Parliament to *alter and amend the Pharmacy Act*, so that, on the principle of compulsory examination, all chemists and druggists might be brought within the Pharmaceutical Society. The United Society's impracticable measure was ignored, and the chief speakers advocated, what we have so long desired, the fusion of all sections of the trade into one registered body. We are hardly prepared to indorse the proposal that all chemists and druggists should become members of the Pharmaceutical Society, but we grant that all should be eligible for membership. At the present time a person who holds the title of "Pharmaceutical Chemist" by examination, need not be a member of the Society unless he likes, and we doubt whether the legal right to carry on the business of a chemist and druggist ought to be dependent on an annual contribution to any Society's funds.

The first part of the second resolution acknowledging the right of examined men to distinction has our full approval, but with regard to the constitution of the Council, we are inclined to think that only those holding certificates of examination should be eligible for election. However, this is a subject upon which we do not venture to express a decided opinion, but simply call attention to it as one worthy of careful consideration. Mr. SLUGG in moving this resolution did good service to the cause of trade legislation by explaining that the old supporters of the Pharmaceutical Society had annually received their money's worth, and had therefore no just cause to complain of the proposed extension of the institution.

The third resolution related to the registration of existing assistants and apprentices, and to the compulsory examination of all future chemists and druggists. No objection can possibly be raised to this resolution by any one who really wishes to see the trade of Pharmacy placed at its proper elevation.

By the fourth resolution the meeting acknowledged the Executive Committee of the United Society as the representatives of the unincorporated druggists of the country, whereas those gentlemen merely represent a section of the unincorporated trade. On this account we lament that the resolutions were not forwarded direct to the Pharmaceutical Council by the Chairman of the meeting. The London Executive are not bound to adopt the policy advocated by the chemists at Manchester, and we do not think that their mediation will hasten the desired union of the "Pharmaceutists" and the unincorporated members of the trade. However, this Manchester meeting ought to elicit from the Council an open declaration of their future policy. If they have matured any project they should at once lay it before those whom it specially concerns. The trade generally, and the public,

demand an Act which shall effectually shut out unqualified persons from an honourable calling that requires much scientific and practical knowledge. Let it not be said that the men who oppose this healthy demand are those who five-and-twenty years ago established the Pharmaceutical Society for the purpose of advancing Chemistry and Pharmacy, and protecting those who carry on the business of Chemists and Druggists.

THE BENEVOLENT FUND DINNER OF THE PHARMACEUTICAL SOCIETY.

We beg to call attention to a dinner which has been proposed in aid of the funds of this excellent institution. It is expected to be held in London, early in February next, at, we believe, Willis's Rooms. Sometimes it is a disadvantage to have too good a theme; little can be said with much effect in praise of virtue, for which reason laudation seems thrown away in favour of so admirable a cause as this Benevolent Fund.

Let want and poverty turn orators (of all the most eloquent), and plead in its behalf. It is thought that no less sum than £10,000 would form a sufficient basis on which satisfactorily to conduct its operations. Spasmodic effort is a doubtful substitute for permanent and wisely-directed endowment. Already a resolution has been carried, anticipating the time for granting annuities. In 1865 two were given, and in the present year two more, each of £30.

The value of these pensions can be best appreciated by those who knew the condition of the recipients previously, and have seen the comfort carried to their desolate homes by the assurance even of these small yearly sums which the Society has been able to provide.

To hope that the number of candidates for such relief will not increase as time rolls on would be to hope against reason. Age brings infirmity and incapacity for business to its members individually, in too many cases before due provision has been made; and as it is manifest that the amount of pensions should not exceed the interest on capital, it must be also manifest that unless the present capital be augmented, the good work which has been commenced cannot be carried much further.

Persons eligible for relief are such necessitous members or associates whose connection with the Pharmaceutical Society has been of not less than four years' date; and such widows and orphans of members or associates as are in necessitous circumstances. A confident expectation is entertained that those who may not themselves be members of the society will, in such an occasion, waive their minor differences, and join in extending a helping hand to their brethren whom Providence has thought fit to place in adversity.

Some charities have had to cover an inconvenient multitude of sins; in this instance, however, the most timid need not fear but that the pecuniary aid will be administered not only with intelligent philanthropy, but with financial skill; of which a simple reference to the names on the Benevolent Fund Committee will be the most convincing proof.

We would ask the readers of this Journal to use their best endeavours in order to ensure success.

THE QUININE DISTRICTS OF THE ANDES.

The official report on the efforts of the Indian Government to introduce the quinine plant in the mountainous regions of India, to which we drew attention in a previous number, contains also a very interesting account of the culture, climate, and habitat of the cinchona plant of South America. Mr. C. R. Markham of the India Office, in a memorandum which he submitted to the Indian Government, stated that he considered it to be very important that seeds of the species which grow in New Granada, being hardy, and yielding a large per-centage of quinine, should be obtained for propagation in India, and the Secretary of State made arrangements with Mr. Cross for this purpose. That gentleman accordingly made a tour of the Andes, and passed through districts which had not been previously explored, for it appears that even Humboldt, who visited Popayan, did not penetrate many of the forests which were visited in this search for seed. The official notice of the work performed states that Mr. Cross had to face dangers and hardships of no ordinary kind, which proved fatal to the object of his first mission, as the seeds he had collected were destroyed; but a renewed visit, made at the instance of the India Office, was more successful. At the time of receiving his instructions, Mr. Cross was residing near the Red Bark Forests, on a high table-land on the western slopes of Chimboraza, at an elevation of 10,000 feet above the level of the sea, and from this district he commenced his ascent of the northern shoulder of the Chimboraza, and reached the highest part of the pass, which has an elevation of nearly 15,000 feet. After passing through districts where barley and potatoes were cultivated, he came upon an edible species of *Oxalis*, and then reached immense tracts of land covered by a species of *Stipa*, which with gentians, *Chuquiragua insignis*, and other plants of the order *Compositæ*, ran up to the very verge of perpetual snow. Passing along a road, hedged on each side by monstrous specimens of *Agave Americana*, he came to the snow-covered cone of the volcano Cotopaxi, from which a perpetual rumbling noise is heard, and which sends up flame to a height of 1,000 feet above the summit of the crater. Our traveller next passed the borders of the Laguna de San Paolo, which was surrounded by tumuli, some of which were of the extraordinary height of 400 feet, and thence to the plain of Tuquerres, which, at a height of 10,500 feet, produces a *Barnadesia* with white flowers, and where a dwarf species of gentian was in full bloom, covering the ground as thickly as daisies do in a pasture field in England. At Pasta he came to a district which has a wild temperature, being surrounded by forest-covered mountains, where a species of *Cinchona* is cultivated, chiefly for export to the United States. Pasta is also a market for vegetable dyes, which are brought there by the Indians. There was much cinchona bark stored up at this place, and also in sheds in the forests; but as its yield of quinine was small, it did not sell readily. The bark had a yellow or orange colour, and in the fracture was coarse and fibrous. Mr. Cross describes the tree producing it as the *Cinchona lancifolia* of Karsten, being of great size, with large lanceolate coriaceous leaves and bark, covered with silvery epidermis. After passing through a series of adventures of no ordinary kind, Mr. Cross arrived at the city of Popayan, which lies between two volcanos, at nearly 6,000 feet above the sea. He next reached Sylvia, the head-quarters of those who buy the bark of Pitayo, Hambola, Tortoro, and Purrace. Passing on to Pitayo, some choice plants were discovered, and here Mr. Cross selected seed from trees about fifteen feet high. He remarks that the colour and depth of the soil varied from light brown to nearly black, and was from three inches to three feet in depth. In all situations the vigour of the cinchona plant appeared the same, but it was restricted to the dry slopes, and was never found on wet ground. After drying the capsules, he occupied himself in taking the temperature of the region, and he found that at the lowest limit of the cinchona it rose during the hottest days to 59° or 60°, but at night fell to 46° or 48°, and at certain periods below freezing point; at the upper limit, the temperature ranged during the day from 40° to 48°, and at night fell to 35° or 36°. Hence it would appear that in dry situations it favours the plant to have an occasional fall in the temperature of three or four degrees below freezing point, and a daily range of from eight to twelve degrees.

The general vegetation of this region consisted of pipers, solanums, brugmanzias, fuchsias, smilax, etc. The winds, which in summer are often violent, do not appear to affect the cinchona, but the forests are very rarely enveloped in mist. It appears to be a delusion, therefore, on the part of those persons who assert that torrents of rain and mist are necessary for its growth. Mr. Cross states that "he had been in localities in the Andes which had altitudes similar to that

of the cold cinchona region, where only a species of *Solanum* would grow, and which looked as if on the point of extinction, from the abundance of mosses which twined round the smallest shoots to the points. No cinchona could live in such a climate, a certain amount of dry weather being necessary for ripening the capsules." It appears that all the bark taken from Pitayo is sent to France, and that the bark sold in England under that name is not true Pitayo bark, but comes from the mountains which border on the valley of Magdalena, from Almaquer and Pasto. Mr. Cross states that this spurious Pitayo bark of the English market is from the *C. lancifolia* of Karsten, and is very inferior in quality to that of "Pitayo, the latter being not much thicker than window-glass, being taken from small plants; the large trees having been destroyed long ago." Mr. Cross then continued his journey to the great valley of the Magdalena, the town of Neyva being the principal emporium for the bark of the district; and thence he returned to Paramo, having accomplished a difficult and interesting journey, during which he collected a vast amount of information, which cannot fail to be of great practical importance to cultivators of this valuable plant. Viewed merely as a geographical exploration, this journey over a considerable portion of the Andes cannot fail to attract the attention of scientific men, and Mr. Cross's remarks on the vegetable productions of this vast region must interest botanists and chemists. Mr. Clements R. Markham, in his official memorandum, states that "Mr. Cross deserves great credit for the skilful and energetic way in which he performed this difficult service." It appears that a portion of the seed obtained has been supplied to the Mexican Government, who are anxious to cultivate the cinchona plant.

NOTES TO CORRESPONDENTS.

W. (Weston-S.-Mare).—Ordinary marine glue requires to be heated to its melting point (about 250° F.) in an iron vessel, and applied in a liquid state with a brush.

"*Castiglione.*"—"Journal de Pharmacie et de Chimie," monthly 15s. per annum, Paris.

ASYLUM FOR INSANE CHILDREN.

Mr. T. J. Hapelby, pharmaceutical chemist, of Aire-street, Goole, writes as follows:—"I should feel greatly obliged if you, or any of your readers, could inform me respecting any asylum or home for children who are not in a sane condition. The widow of a late member of the United Society of Chemists and Druggists, who was a supporter of the Incorporation Fund, is left with six children, one of whom is not in his right mind. I trust that those members of the trade who may be acquainted with such a place, and the way of admission, will kindly send their aid in such a sad case."

FINISH.

"*A Subscriber*" (Cambridge).—The recent alteration in the law respecting the use of methylated spirit does not affect the general order of the Board of Inland Revenue respecting Finish, which is to this effect:—"One ounce of shellac, or gum-resin, dissolved in one gallon of methylated spirit, constitutes 'Finish,' which may be sold without further restriction." By the recent Act, however, it is provided that if any person shall separate the gum-resin from the spirit, or alter the mixture called "Finish" in any manner, except by adding thereto a further quantity of gum-resin, or any article for the sole purpose of colouring the same, he shall forfeit the sum of £200, together with the separated spirit or altered mixture, and the vessels containing it. The Act of August last was not directed against honest traders, who keep and sell "Finish" as "Finish."

ON "GLYCONINE"—A NEW GLYCEROLE?

To obtain this compound, M. Edmond Sichel employs 4 parts (by weight) of yolk of egg, and 5 parts of glycerin, which he mixes simply in a mortar. It has the consistence of liquid honey, and is unctous like the fatty substances, over which it has the advantage of being easily removed by water. It is unalterable, a specimen having been left exposed to the air for three years with impunity. Applied to the skin, it forms on the surface a varnish, which protects it from the contact of the air. These properties render it serviceable for broken surfaces of all kinds, particularly for burns, erysipelas, and cutaneous affections, in which it soothes the itching, and also for sore nipples; its harmlessness prevents, in the latter case, any interruption of suckling.—*Journal de Pharmacie*, September, 1866. Extracted from *Bulletin de Thérapeutique.*

EMULSION OF TAR.

M. Jeannel recommends the following form for this preparation:—

Crystals of carbonate of soda .	1 part (by weight)
Wood tar	1 part "
Water	100 parts "

Mix the tar and carbonate of soda intimately in a porcelain mortar, introduce the mixture into a large flask containing the water, shake vigorously for several minutes, and filter. This emulsion mixes with water in all proportions. The quantity of tar cannot be increased advantageously by using a larger porportion of carbonate of soda, for the author finds that with 2 per cent. of carbonate of soda and of tar, a brown mixture is formed, which soon deposits a black fluid resin.—*Journal de Pharmacie*, October 1866.

ON THE PREPARATION OF OXYGENATED WATER.

With the object of obtaining a concentrated preparation, M. Hofmann operates with peroxide of potassium, prepared by burning potassium in a porcelain crucible and blowing air into it. A greenish yellow mass is thus obtained, rich in peroxide, which is introduced into a very cold solution of hydrofluosilicic acid or tartaric acid. The liquid contains $\frac{1}{373}$ of peroxide of hydrogen; $\frac{1}{753}$ only is retained when the operation is not performed at a lower temperature than 32° F.—*Journal fur Prakt. Chem.* xcxvii., p. 512.

SOLUBILITY OF IODINE IN TANNIN.

Iodine is known to be more soluble in water containing tannin than in pure water. M. Koller has found that to dissolve one gramme (about 15½ grains) in 450 grammes (about 14½ oz. Troy) of water at 120° F., the latter must contain 3·29 grammes (about 50 grains) of tannin. By raising the temperature, the proportion of tannin may be diminished. Pure water dissolves more iodine than water containing sugar.—*Zeitschrift f. Chemie*, ix., p. 380.

CHEMICAL WORKS.—Our long review of Dr. Frankland's "Lecture Notes" (Van Voorst), and other works embodying the views of modern chemists, cannot appear this month owing to the pressure of matter that could not stand over. We hope to publish it in our next, together with a notice of the new edition of Professor Miller's "Organic Chemistry" (Longmans).

PNEUMATIC OCCLUSION.—At the Academy of Sciences in Paris, M. Guérin has been reading a paper upon the use of an apparatus for keeping the skin free from the contact of air—pneumatic occlusion, as he calls it. His plan includes—1st. An exhausting air-pump; 2nd. Vulcanised caoutchouc "mufflers" (*manchons*) of suitable form for the parts to be acted upon. The opening of the envelope has a diameter about two centimetres less than the diameter of the surface it is to surround, so that by means of moderate elastic pressure all communication with the external air can be cut off. Each muffler is furnished with one or more india-rubber tubes connecting the confined spaces with the receiver of the air-pump. 3rd. A number of envelopes made of some permeable material of varying thickness, which are to be placed between the impermeable muffler and the tegumentary surface, and are intended to facilitate the removal of vapour, etc., by the air-pump. If the hand, for example, is to be acted upon, it is first enveloped in cotton-wool, then placed in the india-rubber muffler, which is closed by an elastic band round the wrist. The tube is then connected with the exhaustive receiver, so that when the tap is turned a vacuum is formed, and the enveloping membrane "glues" itself over the surface, and maps out, like a second skin, the form of the fingers, and the marks upon their surfaces.—*Lancet.*

Correspondence.

THE HANLEY MEETING OF CHEMISTS AND DRUGGISTS.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

SIR,—As you have given some degree of prominence to my name in your editorial article on the Hanley Meeting, I venture to request a short space in your journal for the purpose of making a few observations as to the alleged remarks I made, and the position I sustained at that meeting.

I am obliged by your generous sympathy for me, but I can assure you I was unconscious of any suffering arising from the remarks of Mr. Mercer. I cannot extend to those remarks the indulgence which Mr. Buott claimed for them, as being merely the energetic utterances of an earnest advocate, seeing that they had been brought to the meeting cut and dry, and were the fruit of premeditation. If any feeling on my part prevailed, it was that of regret at the injudicious and irritating course which Mr. Mercer's language disclosed.

Your correspondent has scarcely reported my few observations accurately. I did not express myself as being either friendly or unfriendly to the United Society. I said I should like to see a better feeling existing between the two Societies, and that if any course could be devised that would conduce to that end, it should have my support. From the report referred to, your readers would conclude that I voted for all the resolutions passed at the meeting. The first had been disposed of before my arrival, and before the second was put I stated my dissent from the course it was proposed to adopt, and so declined to vote for any of the resolutions.

I did not attend, as intimated, as the representative of the Pharmaceutical Society, but simply went to the meeting on the invitation of Mr. Buott, who assured me that the proceedings would be of a conciliatory character. If objecting to language relating to that Society which one or two speakers employed, which I regarded as unjust, constituted me a representative of that body, then I must admit the correctness of the position assigned me. Still my voluntary representation extended no further than what I have described.

I am, Sir, yours truly,

THOS. BLACKSHAW.

Burslem, Nov. 23, 1866.

CONCILIATORY PROCEEDINGS.

TO THE EDITOR OF THE CHEMIST AND DRUGOIST.

SIR,—Under this heading, you have in your last number strongly condemned what you call the "violent declamation," "absurd exaggeration," and "unwarranted misrepresentation" of the speakers at the United Society's meeting at Hanley. Do you take particular exception to my own remarks, wherein I declared the policy of the Pharmaceutical Council in wishing to divide their "ill-gotten gains" with the Medical Council, as "clandestine, austere, and selfish?" Permit me, in fair play, to say something in my defence. I think I can prove that an authority, whose matter and style you cannot possibly object to, has denounced the very same policy with stronger indignation, and in more violent terms, than myself. On the 15th January 1863, you, as the Editor of the CHEMIST AND DRUGGIST, speak of the "arrogance," "selfishness," and "treachery" that has been displayed in the maintenance of this policy. On the 15th July, 1863, you again, in your editorial article commenting upon the proposed joint action of the Medical and Pharmaceutical Councils, make use of a poetical quotation, describing them as "usurping terriers and fierce rats," for joining in what is elsewhere called a "robbery." Rather strong terms from one who now objects to the words "austere," "selfish," etc., as improper language! Again, on the 15th February, 1864, in an editorial article, entitled "Crocodiles' Tears," in reference to the Medical Bill, the Pharmaceutical Society is called a "wide-mouthed reptile;" and in reference again to this self-same policy, which you consider me rude about, this same editorial article says, "that where crocodiles and alligators" (Medical and Pharmaceutical Councils) "consort together in amity, those most interested in their proceedings should keep their eyes open." Shall I go on? Pardon me if I say that I prefer this honest, outspoken indignation you then expressed much more than the mincing style of speaking of the same people, that you now think to be the etiquette. You may be a great deal more refined, but alas! you have lost all your force. But you may say that it is best now to be conciliatory. Well, have you been successful in showing us an example? Let us see. After reproving me for my rudeness, you are still more severe upon Mr. Buott for his remarks upon the Pharmaceutical Conference. In common justice to this gentleman, I trust you will allow me to say that I am authorized by Mr. Newbold, who sent you the report of the meeting, to express his regret, that in his anxiety to abridge it, and not anticipating any hostile criticism, he unfortunately, by the term "odds and ends," neither conveyed what Mr. Buott said, nor yet what he wished himself to say as an approach to the remarks. So far from Mr. Buott having spoken disparagingly of the Pharmaceutical Conference, the reverse was the case. In answer to a question, what he said was, "It consisted of gentlemen to whom much honour is due, as promoters of chemical science; that like all bodies, they were given to gossip during the periods of social relaxation, but such gossip could have no political influence." These words created no angry feeling, and Mr. Buott left the town, having won the respect of all who attended the meeting. In your criticism of the erroneous remark, you ironically speak of it as "a most remarkable instance of conciliation;" but will you let me point out a far more wonderful specimen of conciliation? Is it not true that you received a communication from Mr. Buott to the effect, that should you see anything calculated in his remarks to give offence, you would kindly expunge it? Is it true, as I learn by my London correspondence, that this very remark of "odds and ends" was pointed out to you, and asked to be removed, but that you insisted on retaining it, so it seems, on purpose to attack it? Perhaps also you will be good enough, in allusion to your sneer against the Registrar of the Society as a "paid agent," to explain the difference between this position and that of a paid Editor going down to the Pharmaceutical Conference, in order to take notes. I should not thus allude to mere personalities, but that I think it a fair answer to your complaint about the want of manners in other people. Let me, in conclusion, express the deep regret of many in the trade that you should take every opportunity to disparage the United Society. The last part of your editorial article gives an instance, when you say that you must condemn the "parrot cries" at the meetings of the United Society, and correct the statement that its Bill has received Parliamentary sanction. I trust that you have not copied this parrot-like from the statement of the Pharmaceutical Council. Can you dispute that the report of the Select Committee shows that the Bill of the Pharmaceutical Society was rejected, and that the Bill of the United Society was adopted as a basis of legislation; that the seven first clauses with some minor additions, were agreed to, which clauses, especially number three, entirely carry out the principal object of the United Society—namely, the right of the self-government of the trade. This was the progress of the Select Committee, until the approaching end of the session stopped their proceedings; and yet you, as a well-informed and independent journalist, state that the United Society have received no Parliamentary sanction for their proceedings; this too, in spite of the fact, that by the efforts of this Society, the House of Commons appointed the Select Committee, against the strenuous objections of the Pharmaceutical Council, who did not wish the Committee to be elected at all. You spoke highly of the efforts of the United Society at the time, but your readers must be painfully convinced that you are now more against the men who compose the Society rather than for its objects. In making this communication, I do it more in sorrow than in anger, and earnestly ask you to show us, with the spirit of former times, and with it the right hand of fellowship, a generous appreciation of our struggle. So believe me, dear Sir, yours obediently, G. T. MERCER.

Longton, 7th December, 1866.

[We are glad to find that Mr. Mercer has preserved our back numbers for reference, as a more attentive study of the

articles he notices will perhaps lead him to perceive that the expressions gleaned from them do not fairly represent their general tone. Four years ago we certainly denounced the selfishness displayed by the leaders of the Pharmaceutical body in their proceedings with regard to the Juries' Bill, and our caustic article in January, 1863 was a fair answer to an ill-considered leader in the *Pharmaceutical Journal*. Again, in our July article we pointed out the injustice of the suggested alterations in the Medical Acts, but Mr. Mercer utterly misrepresents that article, when he states that we *described* the Medical and Pharmaceutical Councils as "usurping terriers and fierce rats." We blamed the latter Council for not opposing the suggested alterations, but our apologue of the terriers and the rats implied that they were the dupes, not the accomplices of the medical body. The article entitled "Crocodile's Tears," which we published in February, 1864, was mere banter called forth by another leader in the *Pharmaceutical Journal*. We figured the Council as a crocodile bedewing the pavement of Bloomsbury-square with his tears, just as we might figure Mr. Mercer as a parrot, uttering such cries as "naughty doctors," "wicked pharmaceutists," "pretty United Society." However, even supposing that the remarks made by us three or four years ago were correctly described, we should not be ashamed of them. The whole aspect of trade legislation has changed since they were penned, and we have no respect for that blind consistency which vainly attempts to withstand the current of progress. The fact that there has been some alteration in the state of affairs is proved by the present tactics of Mr. Buott and the Executive of the United Society. The unaccountable blunder made by Mr. Newbold is a matter that we cannot be held responsible for. It is quite true that on the eve of publication last month, when our number was ready for the press, we received a private communication from Mr. C. F. Buott requesting us to cancel anything that might seem objectionable in his father's speeches, and the fact that this private note has become the subject of public comment does not increase our confidence in the Committee of which that gentleman is a leading member. Of course we were compelled to disregard this communication, for on Mr. Buott's sole authority we were not justified in cancelling anything in the report sent to us by Mr. Newbold, or any article that we had based on that report. The words spoken at a public meeting seemed to us to form a legitimate subject for editorial comment, and we confess that the knowledge that Mr. Buott had not revised Mr. Newbold's report rather strengthened our belief in its correctness. We have never disputed Mr. Buott's legitimate claim to his salary, and what Mr. Mercer terms our "sneer" against him as a paid agent, was the simple expression of a doubt as to his fitness for carrying out the new conciliatory policy of his employers. We do dispute the fact that the resolutions of the Select Committee of the House of Commons are consistent with the main object of the United Society's Bill, which is the incorporation of the trade. They admitted the right of self-government in a way that was fatal to both the Bills, for they decided that there should be no compulsory examination or registration for chemists now in business. We are not afraid to acknowledge that we have no faith in some of the men who lead the United Society. We cannot forget that the last annual meeting of that Society was a packed one, that one of the principal speakers was unconnected with the Society, and that the founders of the body were virtually turned out under a contemptible charge unsupported by any trustworthy evidence.—Ed. *C. and D.*]

THE EARLY CLOSING MOVEMENT.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Sir,—I must request space for a few words in reply to the letter from South Belgravia. It is quite true that I promised to close my shop at nine o'clock if others did the same, and I was quite willing to do so; but when I found that it was a mere farce, notice being given that all cases of emergency would be attended to as usual (this not having been mentioned in the agreement I signed), I at once decided upon not having anything to do with it. I attend to my business myself, not having three or four assistants who could stay in alternately; and am I to shut myself up in my back room waiting for such an emergency, for the accommodation of those whose establishments are larger than mine? It is scarcely to be expected that I should do that, however much it might suit my neighbour, who, wishing his kind actions to be done in secret, withholds his name in his communication to you.

I am, Sir, yours truly,

D. J. Lewis.

13, Upper Tachbrook Street, Pimlico, S.W.
December 10th, 1866.

[There was no necessity to mention cases of emergency in the agreement, as every chemist knows that they must be attended to at any hour of the day or night. The fact that Mr. Lewis has utterly disregarded the terms of an agreement to which he signed his name is not satisfactorily accounted for by the minor fact that he prefers his shop to his back room.—Ed. *C. and D.*]

THE YORK CHEMISTS.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Sir,—I should not have troubled you further on the subject of the correspondence that has lately passed in your columns, but as Mr. W. C. Hayland was the aggressor in making several unfounded charges against me, and has further attempted to defame me in his concluding letter, I must again ask your indulgence to this reply.

Mr. W. C. Hayland states that the only time he assumed the duties of secretary was in assisting Mr. Buott to collect subscriptions overdue several months, and which I ought to have collected before. To prove the utter falsity and recklessness of this statement, I have in my possession a circular he sent round to the York members on the 15th May, 1865, soliciting subscriptions to the Defence Fund at the very time I was in correspondence with Mr. Buott on the subject; and with regard to the subscriptions due in 1865, to which he alludes, they were collected by Mr. Buott and himself before they were due, as the following particulars will show:—When Mr. Buott came to York in 1863 to organise and advocate the cause of the United Society, the subscriptions were mostly paid to Mr. Buott himself on the day following the meeting, viz., the 24th October. In the following year I collected them, and sent them to Mr. Buott on the 14th October, as I have a warm acknowledgement of thanks from him on the 15th to prove; and in 1865 they were collected by Messrs. Buott and Hayland in the latter part of August previous to being due, and which would have been collected by me and sent to London in October had I not previously been dismissed from office, and from the Society at the same time.

Then, again, in relation to the petition, Mr. W. C. Hayland in his last letter most innocently turns round and asks how he has misrepresented me! In his first letter he states positively, without any reservation, that "much to his surprise, and that of some others, the petition was found to have been sent to the Home Secretary, instead of to the United Society;" and when I state the plain facts, and refer to two numbers of your Journal for verification, he falls back upon two letters of Mr. Buott's to himself in justification of his statement, but somehow cannot get out of it without confessing his error, and then winds up by asking wherein he has misrepresented me. Can anything be more lame and impotent than this defence? The very letters to Mr. W. C. Hayland, from which he quotes to show that the petition would not be sent to the United Society, and though Sir George Grey's name was mentioned as likely to present it to Parliament, it was thought advisable by the York Executive that Colonel Smyth should do so, and that a letter strongly urging the wishes of the York Association should be sent to Sir George Grey to obtain his support, and which letter was published in your Journal of the 15th March, 1865.

The various charges brought against me by Mr. W. C. Hayland have their climax in the assertion that I "irritated, opposed, and obstructed" Mr. Buott, I suppose it is meant by this that an unpaid local secretary, who gives his time, his money, and his abilities, to assist and serve his local brethren, is to have no opinion of his own, is to merge every feeling, every thought, and every impulse into a passive obedience to the dictation of one who is the paid servant of the United Society, under the pains and penalties of dismissal and excommunication. This is almost on a par with his repeated recommendation of his wise suggestions with regard to public meetings of societies, which are impracticable and absurd. Query, will the Executive of the United Society act upon them? I will in conclusion only further allude to the anomalous position that Mr. W. C. Hayland appears to have held with Mr. Buott and the York Society, and of which

he himself has given sufficient evidence; the underhand manner in which I have been treated, the continual correspondence that has taken place between them when I was secretary, and the want of candour on the part of Mr. W. C. Hayland, in not communicating to me the objections he entertained to our proceedings, and his non-attendance at our meetings to discuss them, are all evidence of anything but fair and open dealing; and show a predetermined, and I might almost say a personal hostility and whatever opinion Mr. W. C. Hayland may entertain of me, I believe that the services I have rendered for many years to the York Chemists are duly honoured and appreciated "in the circle in which I am supposed to shine."

I am, dear sir, yours truly,

JOHN BROWN,

Nov. 30, 1866. Hon. Sec. York Chemists' Association.

[We cannot fairly refuse to publish the above letter as Mr. Hayland certainly commenced the personal discussion by his letter in our September number. We may state, however, that Mr. Hayland has written us a letter, not intended for publication, in which he disclaims any intention of fomenting discord in York, and intimates that the sole object of his letters has been to defend a public man from attacks which he considered unfair. With the sincere hope that our York correspondents may settle their differences amicably, we close our columns against any further personal discussion.—ED. *C. and D.*]

OUR APPRENTICES.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

DEAR SIR,—While anxious to educate our apprentices, I cannot see the degradation of window cleaning, or conveying out a parcel or two. The latter work I often looked forward to with pleasure, as it enabled me to get out of shop a few minutes. As to the first duty, if the master performs it (and he often does), where is the hardship in the apprentices doing likewise? I do not think we should make the business such a burden as to destroy all pleasure therein, or that its study should absorb all our time and faculties; but there is such a thing as being too genteel, and there is such a thing as effeminacy. The danger of the present age is that of building on outward appearances, and the plea is, "it would not be respectable not to attend to the custom of the day," or "it would be menial to do this or that."

Young men, if the advice of one who has fought his way is worth accepting, I beseech you never be ashamed of soiling your hands so long as your moral character is safe. Even what some call menial's work may be yours, and if it should fall to your lot, grapple with it boldly and cheerfully, and you will be the stronger and happier, for the reflection of duties performed is sweet.

No one will hold you in less esteem because they have seen you brightening a window or even sweeping out a cellar. If there is one who would despise you for this, censure from such a one is better than praise. The lessons our youth must learn are self-dependence, concentration of thought on the objects of pursuit, cultivation of memory, and adaptation to circumstances. Never speak of those beneath you as "the vulgar herd," for many among those are our superiors in piety and intelligence, and as we are much indebted to them, we ought ever to be most cautious how we act towards them, lest we destroy the confidence they oft repose in us. Fastidiousness begets much evil, but diligence and urbanity will make you many friends. If your lot is among favoured ones, make good use of the time, and if not, steadily pursue the path of duty, and the issue will be for your good.

It often has crossed my mind that the apprenticeship, like school days, is thought to be the all and in all, whereas those days were only seed days; the growth and fruit is for after time. It is exceedingly important that apprentices should be well trained, that clear notions should be given them, that their judgment should be guided and corrected, and that right motives in all things be insisted on.

The groundwork is all we can give, but that must be solid, worthy our time, and such as will bear inspection hereafter, and able to carry a worthy superstructure.

If apprentices have a home of comfort, and a tuition honest and truthful, I do not fear but the next generation of druggists will be wiser and better than the present. May they be so, and always aim to be equal to the exigencies of the day, yet not above the toil, is the earnest wish of one who has toiled above many.

AN OLD SUBSCRIBER.

Just as we are going to press, we receive an important communication from Mr. T. S. Anderson, animadverting upon the accounts of the United Society, and expressing his hearty approval of our leader of last month. This letter shall have our careful consideration.

HEROIC DANGERS.—The death was announced on Saturday of Dr. Jeaffreson, Fellow and Censor of the College of Physicians, and senior physician to St. Bartholomew's Hospital, at little more than the middle age. Typhus fever, which was the cause of death, was also fatal a few weeks since to Dr. T. Southey Warter, a very accomplished young physician at the same hospital. The fever is a contagious one, and likely to be contracted in the course of attendance upon patients. Dr. Jeaffreson was a man of great reputation for clinical skill. Vigorous in frame, and of a vivacious and agreeable character, he had recently built a fine country house, and was contemplating the pleasures of partial country retirement when he was seized with typhus. St. Bartholomew's Hospital has prematurely lost several of its most eminent physicians of late years. Dr. Bailey was a few years since killed in a railway accident, just after being appointed physician to the Queen; Dr. Kirkes died in the year of attaining his position as physician; and now Dr. Jeaffreson has been carried away from the staff of this important hospital.—*Pall Mall Gazette.*

TRADE REPORT.

IN Chemicals, during the past month, business has been very quiet, buyers both for home use and export taking only sufficient for actual wants, prices being generally in their favour. The stoppage of a large manufacturer of acids is reported as likely to give a firmer tone to the market at the opening of the new year. Small sales have been made in Tartaric Acid at 1s 3½d. to 1s. 3¾d. Oxalic Acid is lower, and only trifling sales made at 10½d. Citric Acid is quiet at 1s. 11d. to 2s. Only a limited business has been done in Sal Acetos at 12½d. Bichromate remains quiet at 5½d. to 5¾d., and Prussiate of Potass at 13d. to 13½d. Iodine remains nominally at 9¼d. to 9½d. Sulphate of Quinine is easier, and only small sales. French is nominal at 4s. 4d. to 4s. 5d., and English 4s. 9d. to 5s. Soda Crystals are lower, but rather more doing. The last sales made were at 115s. ex ship. A good business has been done in Soda Ash at 2⅝d. to 3¼d., according to quality. Bicarbonate is lower, and is now 17s. 6d. to 20s., and Caustic 19s. to 27s. Cream of Tartar is dull, and small sales made at 83s. to 85s. Sulphate of Ammonia is quiet at 11s. to 11s. 6d. A fair business doing in Bleaching Powder at 14s. 6d. to 15s. Sulphate of Copper is dull at 25s. to 27s. In Sal Ammoniac or Alum no change. Refined Camphor is dearer, 1s. 9½d. to 1s. 10d. Flour of Brimstone is quiet, 12s. to 12s. 6d., and Roll 10s. Small sales of best unmixed rough Brimstone at 135s. Turpentine is again lower, last sales made in French at 36s. to 36s. 6d., and American 38s. to 38s. 6d., nothing done in Rough. Petroleum is dull, and the failure of two large holders has caused prices to decline; on the spot, the price is now 1s. 5d.; several cargoes to arrive have been sold for the Continent at about 1s. 5½d. to 1s. 6½d. Linseed Oil has declined to 36s. on the spot, but is now firmer. Rape is rather better, English Brown is 39s. 6d. Refined Saltpetre is dull at 24s. to 24s. 6d.; Rough is rather better.

The market for Drugs continues very dull, and with the exception of a few articles which have been taken on speculation at rather better prices, all other descriptions are easier to buy, where sales are made. A large business has been done in camphor, and the prices have advanced to £7 5s. for China and Japan. East India Arabic is 3s. to 5s. lower, but Turkey is held for late prices. Large parcels of Gum Benjamin have been offered and sold at irregular prices, some fine firsts having realized as high as £30 to £32 5s. Gamboge is lower and dull. Tonquin Musk is 2s. to 3s. dearer for the middling and good qualities. Cubebs are lower, some ordinary quality sold at 64s. Ipecacuanha is lower, best sales made at 10s. 6d. Croton Seeds much cheaper, good of late import sold at £7 to £8. Barbadoes and East India Aloes without change; Cape is 2s. to 3s. cheaper. Several parcels of China Rhubarb have been offered and chiefly taken in at late prices. Senna is without change. Castor Oil is about ¼d. cheaper, fair straw to good pale ⅜d. to 6½d. Citronelle is quiet at 3d. to 3¼d. Aniseed is 1s. 1d. to 9s. 2d., with few sales. Cassia is quiet at 7s. 6d. Cardamons are lower and dull. Colombo Root is much cheaper. Cochineal is fully 1d. to 2d. lower. Jalap is without change. Gambia is dull and easier. Cutch is rather dearer, good Pegue sold at 33s. 6d. Turmeric is rather cheaper, fair Bengal sold at 24s. to 24s. 6d. Turkey Opium steady, good and fine 17s. 6d. to 19s. New Spanish Saffron sold at 40s. to 43s. Shellac is lower, except for the fine qualities. Roll Annatto is rather easier. Arrowroot is 1d. dearer, and more doing. Safflower is steady without change. In other goods there is little doing, without material alteration in prices.

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.*

	1866.	1866.	1865.	1865.
	s. d.	s. d.	s. d.	s. d.
ARGOL, Cape, per cwt.	75 0 ..	85 0	75 0 ..	95 0
French	56 0 ..	76 0	53 0 ..	83 0
Oporto, red	30 0 ..	32 0	45 0 ..	47 0
Sicily	67 6 ..	70 0	72 6 ..	75 0
Naples, white	66 0 ..	71 0	68 0 ..	75 0
Florence, white	85 0 ..	90 0	0 0 ..	0 0
red	77 0 ..	80 0	0 0 ..	0 0
Bologna, white	87 0 ..	90 0	00 0 ..	05 0
ARROWROOT..(duty 4½ per cwt.)				
Bermuda..per lb.	1 0 ..	1 4	1 2 ..	1 6
St. Vincent	0 2½ ..	0 5¼	0 2¾ ..	0 6
Jamaica	0 3 ..	0 4½	0 3 ..	0 5½
Other West India	0 2 ..	0 3½	0 2½ ..	0 3½
Brazil	0 2½ ..	0 3	0 2¼ ..	0 3
East India	0 2½ ..	0 4	0 2 ..	0 3½
Natal	0 3½ ..	0 7¾	0 4½ ..	0 8¾
Sierra Leone	0 3½ ..	0 4	0 3½ ..	0 4½
ASHES....per cwt.				
Pot, Canada, 1st sort	38 0 ..	0 0	42 6 ..	0 0
Pearl, ditto, 1st sort	46 0 ..	0 0	42 6 ..	0 0
BRIMSTONE,				
rough....per ton	132 6 ..	135 0	165 0 ..	170 0
roll	200 0 ..	210 0	210 0 ..	215 0
flour	245 0 ..	250 0	250 0 ..	0 0
CHEMICALS,				
Acid—Acetic, per lb.	0 4 ..	0 0	0 4 ..	0 0
Citric	1 11 ..	2 0	2 0 ..	2 0½
Nitric	0 5 ..	0 5½	0 5 ..	0 5½
Oxalic	0 10½ ..	0 11	1 0 ..	0 0
Sulphuric	0 0¾ ..	0 1	0 0¾ ..	0 1
Tartaric crystal	1 3½ ..	1 3¾	1 5¼ ..	1 5¾
powdered	1 5 ..	1 5½	1 6 ..	0 0
Alum ..per ton	150 0 ..	160 0	140 0 ..	145 0
powder	170 0 ..	0 0	160 0 ..	0 0
Ammonia, Carbonate, per lb.	0 5 ..	0 5½	0 5½ ..	0 5¾
Sulphate ..per ton	220 0 ..	230 0	250 0 ..	270 0
Antimony, ore	200 0 ..	220 0	180 0 ..	0 0
crude ..per cwt	24 0 ..	25 0	24 0 ..	25 0
regulus	34 0 ..	0 0	34 0 ..	35 6
French star	34 0 ..	0 0	34 0 ..	35 6
Arsenic, lump	15 0 ..	15 0	15 0 ..	15 6
powder	0 9 ..	7 0	6 0 ..	0 0
Bleaching powder	14 6 ..	15 0	14 0 ..	0 0
Borax, East India refined	0 0 ..	0 0	0 0 ..	0 0
British	65 0 ..	0 0	54 0 ..	0 0
Calomel ..per lb.	2 5 ..	2 6	2 8 ..	0 0
Camphor, refined	1 0½ ..	1 10	1 4½ ..	1 5
Copperas, green ..per ton	52 6 ..	55 0	52 0 ..	55 0
Corrosive Sublimate, per lb.	1 11 ..	0 0	2 2 ..	0 0
Green Emerald	0 0 ..	0 0	0 0 ..	0 0
Brunswick ..per cwt.	0 0 ..	0 0	0 0 ..	0 0
CHEMICALS.	1866. s. d.	1866. s. d.	1865. s. d.	1865. s. d.
Iodine, dry ..per oz.	0 9¼ ..	0 9½	0 6 ..	0 6½
Magnesia, Carbon..per cwt.	42 6 ..	45 0	42 6 ..	45 0
Calcined..per lb.	1 6 ..	1 8	1 6 ..	1 8
Minium, red ..por cwt.	22 0 ..	28 6	22 0 ..	22 3
orange	32 6 ..	0 0	32 6 ..	0 0
Potash, Bichromato..per lb.	0 5¼ ..	0 5½	0 6 ..	0 0
Chlorate	1 1 ..	0 0	1 2 ..	0 0
Hydriodate..per lb.	13 0 ..	0 0	8 4 ..	8 0
Prussiate..per lb.	1 0½ ..	1 1½	1 0¾ ..	1 1
red	1 0½ ..	1 10	1 0½ ..	1 10
Precipitate, red ..per lb.	0 0 ..	2 0	2 9 ..	0 0
white	0 0 ..	2 5	2 0 ..	0 0
Prussian Blue	1 0 ..	1 10	1 0 ..	1 10
Rose Pink ..per cwt.	29 0 ..	0 0	29 0 ..	0 0
Sal-Acetos ..per lb.	1 0½ ..	1 1	0 0 ..	1 2
Sal-Ammoniac ..per cwt.				
British	85 0 ..	37 0	35 6 ..	38 0
Salts, Epsom	8 6 ..	9 0	8 0 ..	0 0
Glauber	5 6 ..	0 0	5 0 ..	5 6
Soda, Ash..per deg.	0 2⅝ ..	0 3⅛	0 2¾ ..	0 3
Bicarbonate..per cwt.	20 0 ..	21 0	19 6 ..	20 0
Crystals ..per ton	115 0 ..	120 0	120 0 ..	0 0
Sugar Lead, white per cwt.	88 0 ..	0 0	36 6 ..	37 0
brown	27 0 ..	0 0	26 6 ..	27 0
Sulphate Quinine..per oz.				
British, in bottle	4 0 ..	5 0	5 3 ..	0 0
Foreign	4 4 ..	4 5	4 11 ..	5 2
Sulphate Zinc..per cwt.	0 0 ..	0 0	14 6 ..	15 0
Verdigris..per lb.	0 11 ..	1 0	0 11 ..	1 0
Vermilion, English	2 9 ..	3 2	2 11 ..	3 3
China	2 7 ..	0 0	0 0 ..	3 0
Vitriol, blue or Rom. per ct.	25 0 ..	27 0	35 0 ..	0 0
COCHINEAL, per lb.				
Honduras, black	8 0 ..	4 7	3 8 ..	5 0
silver	3 0 ..	3 7	2 0 ..	3 5
Mexican, black	3 5 ..	3 6	3 2 ..	3 7
silver	3 4 ..	3 5	3 1 ..	3 2
Lima	0 0 ..	0 0	3 0 ..	3 2
Teneriffe, black	3 7 ..	4 6	3 5 ..	4 0
silver	3 2 ..	3 7	3 3 ..	3 5
DRUGS,				
Aloes, Hepatic ..per cwt.	80 0 ..	190 0	100 0 ..	190 0
Socotrine	140 0 ..	290 0	140 0 ..	290 0
Cape, good	35 0 ..	37 0	46 0 ..	47 0
inferior	20 0 ..	84 0	28 0 ..	44 0
Barbadoes	50 0 ..	260 0	70 0 ..	280 0
Ambergris, grey ..per oz.	30 0 ..	35 0	21 0 ..	25 0
Angelica Root ..per cwt.	0 0 ..	0 0	20 0 ..	35 0
Aniseed, China star	85 0 ..	87 6	160 0 ..	210 0
German, &c.	26 0 ..	40 0	24 0 ..	40 0
Balsam, Canada ..per lb.	1 8 ..	1 9	0 10 ..	0 11
Capivi	1 8 ..	1 0½	1 8 ..	1 8½
Peru	5 6 ..	0 0	4 9 ..	0 0
Tolu	3 0 ..	0 0	2 11 ..	3 0
Bark, Cascarilla..per cwt.	18 0 ..	29 0	22 0 ..	34 0
Peru, crown & grey per lb.	1 3 ..	2 2	1 1 ..	2 2
Calisaya, flat	2 6 ..	2 8	2 2 ..	2 9
quill	2 0 ..	2 5	2 0 ..	2 8
Carthagena	1 0 ..	1 6	0 10 ..	1 9
Pitayo	0 7 ..	2 0	0 10 ..	2 2
Red	2 6 ..	12 0	1 9 ..	10 0
Bay Berries..per cwt.	0 0 ..	0 0	0 0 ..	0 0
Bucca Leaves..per lb.	0 3¾ ..	0 10	0 9 ..	0 11
Camomile Flowers	40 0 ..	120 0	20 0 ..	100 0
Camphor, China	142 6 ..	145 0	97 6 ..	100 0
Canella alba	45 0 ..	80 0	0 0 ..	0 0
Cantharides ..per lb.	2 2 ..	2 5	2 4 ..	2 5
Cardamoms, Malabar, good	5 6 ..	6 3	6 0 ..	6 4
inferior	3 9 ..	5 3	4 6 ..	5 10
Madras	3 6 ..	5 8	2 9 ..	5 5
Ceylon	3 6 ..	4 0	3 3 ..	4 0
Cassia Fistula..per cwt.	18 0 ..	36 0	23 0 ..	28 0
Castor Oil, 1st palo ..per lb.	0 6¾ ..	0 7¼	0 6 ..	0 6½
2nd	0 6 ..	0 6½	0 5½ ..	0 5¾
inferior and dark	0 5¾ ..	0 6	0 4½ ..	0 5
Bombay, in casks	0 5¾ ..	0 6	0 4½ ..	0 5
Castorum	1 0 ..	20 0	1 0 ..	20 0
China Root ..per cwt.	20 0 ..	40 0	0 0 ..	0 0
Cocculus Indicus	26 0 ..	30 0	27 0 ..	28 0
Cod Liver Oil ..per gal.	4 0 ..	3 0	4 0 ..	6 6
Colocynth, apple ..per lb.	0 7½ ..	0 11	0 7½ ..	1 1
Colombo Root ..per cwt.	30 0 ..	90 0	280 0 ..	320 0
Cream Tartar				
French	82 6 ..	85 0	97 6 ..	102 6
Venetian	85 0 ..	87 6	102 6 ..	0 0
grey	80 0 ..	82 6	90 0 ..	95 0
brown	80 0 ..	0 0	90 0 ..	92 0
Croton Seed	140 0 ..	160 0	460 0 ..	530 0
Cubebs	64 0 ..	70 0	82 6 ..	85 0
Cummin Seed	16 0 ..	23 0	19 0 ..	23 0
Dragon's blood reed	240 0	340 0	240 0 ..	300 0
lump	85 0 ..	280 0	80 0 ..	260 0
Galangal Root	11 6 ..	12 0	13 0 ..	15 0
Gentian Root	16 0 ..	17 0	21 0 ..	22 0
Guinea Grains ..per cwt.	60 0 ..	63 0	55 0 ..	60 0
Honey, Narbonne	50 0 ..	70 0	50 0 ..	70 0
Cuba	26 0 ..	40 0	25 0 ..	88 0
Jamaica	25 0 ..	55 0	26 0 ..	61 0
Ipecacuanha ..per lb.	10 6 ..	0 0	8 10 ..	9 0
Isinglass, Brazil	2 2 ..	4 9	2 2 ..	5 4
East India	1 10 ..	4 4	1 6 ..	4 4
West India	3 0 ..	4 2	3 9 ..	4 2
Russian	8 0 ..	11 0	8 0 ..	10 9
Jalap	0 9 ..	5 0	1 0 ..	5 3

DRUGS—*continued.*	1866. s. d.		1866. s. d.	1865. s. d.		1865. s. d.
Juniper Berries ....per cwt.	8 6	..	10 0	7 0	..	9 0
German and French ..	9 0	..	10 0	9 6	..	10 6
Italian		..				
Lemon Juice .....per deg.	0 0¾	..	0 0¾	0 0¾	..	0 0⅞
Liquorice .....per cwt.		..				
Spanish	65 0	..	75 0	75 0	..	80 0
Italian	50 0	..	70 0	55 0	..	70 0
Manna, flaky	4 6	..	4 9	2 0	..	2 6
small	1 10	..	2 0	1 2	..	1 4
Musk .....per oz.	18 0	..	33 0	17 0	..	41 0
Nux Vomica	8 6	..	11 0	15 0	..	17 0
Opium, Turkey	17 6	..	19 0	12 0	..	14 6
Egyptian	3 6	..	7 0	0 0	..	0 0
Orris Root .....per cwt.	32 0	..	37 0	28 0	..	31 0
Pink Root ..... per lb.	3 6	..	4 0	3 0	..	0 0
Quassia (bitter wood) per ton	110 0	..	130 0	100 0	..	0 0
Rhatany Root .....per lb.	0 6	..	1 0	0 0	..	1 2
Rhubarb, China, round	2 6	..	10 0	3 6	..	9 6
flat	2 0	..	5 0	2 9	..	7 0
Dutch, trimmed ..	0 0	..	0 0	15 0	..	15 6
Russian	9 0	..	10 0	15 0	..	16 0
Saffron, Spanish	34 0	..	42 0	35 0	..	36 0
Salep..... per cwt.	130 0	..	140 0	140 0	..	150 0
Sarsaparilla, Lima	1 0	..	1 4	1 0	..	1 4
Para	0 11	..	1 1	0 11	..	1 1
Honduras	0 10	..	1 0	0 0	..	1 7
Jamaica	1 2	..	2 2	1 1	..	2 3
Sassafras .....per cwt.	8 0	..	0 0	10 0	..	0 0
Scammony, virgin ..por lb.	30 0	..	42 0	30 0	..	44 0
second	12 0	..	23 0	14 0	..	28 0
Seneka Root	1 9	..	2 0	3 3	..	3 6
Senna, Calcutta	0 0	..	0 0	0 0	..	0 0
Bombay	0 3½	..	0 5	0 4	..	0 5½
Tinnevelly	0 3½	..	0 9	0 3¾	..	1 0
Alexandria	0 5	..	0 10	0 3	..	0 9
Snake Root	4 3	..	0 0	3 6	..	0 0
Spermaceti, refined	1 0	..	1 2	0 11	..	0 0
Squills	0 2	..	0 3½	0 1	..	0 3¼
Tamarinds, E. India, per cwt.	25 0	..	26 0	15 0	..	17 0
West India	12 0	..	19 0	10 0	..	20 0
Terra Japonica—						
Gambier ....per cwt.	21 0	..	30 0	20 0	..	27 6
Cutch	25 0	..	34 0	29 0	..	80 0
Valerian Root, English	20 0	..	29 0	20 0	..	30 0
Vanilla, Mexican.....per b.	5 0	..	16 0	4 0	..	25 0
Wormseed.....per cwt.	5 6	..	6 0	10 0	..	0 0
GUM—Ammoniac, drop, per cwt.	160 0	..	210 0	120 0	..	170 0
lump	70 0	..	125 0	40 0	..	85 0
Animi, fine pale	210 0	..	230 0	210 0	..	220 0
bold amber.....	190 0	..	200 0	190 0	..	210 0
medium	160 0	..	180 0	160 0	..	180 0
small and dark	100 0	..	150 0	100 0	..	155 0
ordinary dark	60 0	..	97 0	40 0	..	95 0
Arabic, E. I , fine pale picked	110 0	..	115 0	78 0	..	85 0
unsorted, good to fine	95 0	..	105 0	60 0	..	75 0
red and mixed	85 0	..	90 0	40 0	..	55 0
siftings	45 0	..	50 0	25 0	..	40 0
Turkey, picked, good to fine	170 0	..	220 0	180 0	..	215 0
second and inferior.	95 0	..	160 0	85 0	..	160 0
in sorts.....	56 0	..	70 0	48 0	..	70 0
Gedda.....	64 0	..	66 0	45 0	..	50 0
Barbary, white	95 0	..	100 0	70 0	..	90 0
brown	90 0	..	100 0	52 0	..	60 0
Australian.....	60 0	..	66 0	35 0	..	48 0
Assafœtida, fair to good	30 0	..	85 0	25 0	..	55 0
Benjamin, 1st quality	360 0	..	700 0	550 0	..	950 0
2nd „	240 0	..	350 0	440 0	..	500 0
3rd „	50 0	..	240 0	80 0	..	940 0
Copal, Angola, red	70 0	..	80 0	75 0	..	85 0
pale	85 0	..	90 0	70 0	..	80 0
Benguela	60 0	..	80 0	69 0	..	85 0
Sierra Leone .. per lb.	0 5	..	0 11½	0 3	..	0 11
Manilla..... per cwt.	25 0	..	48 0	23 0	..	36 0
Dammar, pale .....per cwt.	52 6	..	65 0	45 0	..	58 0
Galbanum.....	200 0	..	210 0	200 0	..	210 0
Gamboge, picked, pipo	500 0	..	600 0	190 0	..	240 0
in sorts	400 0	..	400 0	160 0	..	200 0
Guaiacum.....por lb,	0 7	..	1 10	0 9	..	2 1
Kino ..... per cwt.	200 0	..	350 0	340 0	..	460 0
Kowrie	27 0	..	75 0	35 0	..	72 6
Mastic, picked ..... per lb.	8 0	..	10 0	8 6	..	0 0
Myrrh, gd. and fine, per cwt.	150 0	..	180 0	130 0	..	180 0
sorts.....	80 0	..	140 0	70 0	..	130 0
Olibanum, pale drop	69 0	..	80 0	68 0	..	76 0
amber and yellow	59 0	..	68 0	62 0	..	68 0
mixed and dark..	20 0	..	46 0	16 0	..	42 0
Senegal	105 0	..	115 0	75 0	..	80 0
Sandrac	80 0	..	110 0	82 6	..	100 0
Tragacanth, leaf	200 0	..	280 0	200 0	..	280 0
in sorts	70 0	..	180 0	80 0	..	160 0
OILS.....per tun	£ s.		£ s.	£ s.		£ s.
Seal	43 0	..	47 0	44 0	..	50 0
Sperm, body.....	125 0	..	126 0	115 0	..	118 0
Cod	43 0	..	0 0	54 0	..	0 0
Whale, Greenland	0 0	..	0 0	0 0	..	0 0
South Sea, pale.....	42 0	..	45 0	44 0	..	50 0
East India Fish.....	35 0	..	0 0	36 0	..	37 0
Olive, Galipoli ..... per ton	61 0	..	0 0	56 0	..	57 0
	s. d.		s. d.	s. d.		s. d.
Florence, half-chest ..	0 0	..	0 0	0 0	..	0 0
Cocoanut, Cocain ..per cwt.	61 6	..	62 0	52 0	..	0 0
Ceylon	50 6	..	51 0	47 6	..	48 0
Sydney	44 0	..	49 0	43 0	..	48 0
Ground Nut and Gin.						
Bombay	54 0	..	0 0	44 0	..	0 0

OILS—*continued.*	1866. s. d.		1866. s. d.	1865. s. d.		1865. s. d.
Madras .....per cwt.	50 0	..	51 0	52 0	..	0 0
Palm, fine	43 0	..	43 6	44 6	..	45 0
Linseed	36 0	..	0 0	38 6	..	38 0
Rapeseed, English, pale	41 6	..	42 0	55 6	..	0 0
brown	39 0	..	39 3	50 0	..	0 0
Foreign pale	43 6	..	0 0	58 0	..	0 0
brown	40 6	..	0 0	51 6	..	0 0
Lard	60 0	..	62 0	85 0	..	0 0
Tallow	35 0	..	30 0	40 0	..	0 0
Rock Crude ..... per ton	£14 0	..	0 0	£23 0	..	£ 0 0
Oils, Essential—						
Almond, essential ....per lb.	32 0	..	0 0	20 0	..	0 0
expressed	1 8	..	0 0	1 2	..	0 0
Aniseed	9 0	..	9 2	7 8	..	0 0
Bay .....per cwt.	80 0	..	90 0	87 6	..	0 0
Bergamot ....per lb.	11 0	..	16 0	10 0	..	12 0
Cajeputa, (in bond) ..per oz.	0 2½	..	0 3	0 2	..	0 0
Caraway .....per lb.	5 0	..	6 6	5 0	..	6 0
Cassia	7 6	..	0 0	7 9	..	0 0
Cinnamon (in bond) ..per oz.	1 6	..	3 3	1 3	..	3 6
Cinnamon Leaf	0 4	..	0 6	0 5	..	0 6
Citronel	0 3½	..	0 5½	0 4½	..	0 5
Clove	2 8	..	0 0	2 9	..	0 0
Croton	1 2	..	1 6	1 2	..	1 6
Juniper.....per lb.	1 9	..	2 0	1 9	..	2 0
Lavender	2 0	..	3 3	1 9	..	2 10
Lemon	6 0	..	10 0	0 9	..	10 0
Lemongrass.....per oz.	1 0	..	1 2	1 7	..	1 8
Mace, ex.	0 1	..	0 2½	0 1	..	0 2
Neroli	3 6	..	4 6	5 0	..	5 9
Nutmeg	0 8	..	0 11	0 3	..	0 4
Orange .....per lb.	5 0	..	7 6	5 0	..	6 0
Otto of Roses .....per oz.	17 0	..	21 0	19 0	..	23 0
Peppermint, per lb.						
Amoricau	19 0	..	20 0	14 6	..	15 0
English	28 0	..	30 0	0 0	..	0 0
Rhodium .....per oz.	0 0	..	0 0	0 0	..	0 0
Rosemary .....per lb.	1 9	..	2 0	2 0	..	2 3
Sassafras	3 0	..	3 6	3 3	..	3 6
Spearmint	21 0	..	0 0	5 8	..	8 0
Spike	0 0	..	0 0	0 0	..	0 0
Thyme	1 8	..	2 0	1 9	..	2 0
PITCH, British .....per cwt.	8 6	..	0 0	9 0	..	9 6
Swedish	0 0	..	0 0	0 0	..	0 0
SALTPETRE, por cwt.						
English, 6 per cent. or under	19 6	..	20 6	25 0	..	25 6
over 6 per cent.....	18 0	..	19 8	24 3	..	24 6
Madras	17 6	..	19 0	22 6	..	24 0
Bombay.....	14 0	..	18 0	19 0	..	23 0
British-refined	24 0	..	24 6	28 0	..	29 0
Nitrate of soda.....	11 0	..	12 6	13 0	..	14 0
SEED, Canary .....per qr.	60 0	..	68 0	56 0	..	63 0
Caraway, English .. per cwt.	0 0	..	0 0	0 0	..	0 0
German, &c.	0 0	..	0 0	0 0	..	0 0
Coriander	18 0	..	20 0	0 0	..	0 0
East India.....	0 0	..	0 0	0 0	..	0 0
Hemp.....	44 0	..	46 0	44 0	..	46 0
Linseed, Black Sea.....	66 0	..	67 0	65 6	..	0 0
Calcutta	68 0	..	0 0	67 0	..	67 6
Bombay	70 0	..	0 0	70 0	..	0 0
Egyptian	0 0	..	0 0	61 0	..	0 0
Mustard, brown....per bshl.	15 0	..	17 0	0 0	..	0 0
white	12 0	..	15 0	0 0	..	0 0
Poppy, East India....per qr.	60 0	..	61 0	58 6	..	59 6
Rape, English	0 0	..	0 0	0 0	..	0 0
Danubo	54 0	..	55 0	72 0	..	73 0
Calcutta fine.....	52 0	..	53 0	70 0	..	0 0
Bombay	55 0	..	60 0	75 0	..	0 0
Teel, Sosmy or Gngy.....	75 0	..	80 0	68 0	..	70 0
Cotton .....per ton	140 0	..	200 0	160 0	..	170 0
Ground Nut Kernels per ton	340 0	..	350 0	340 0	..	350 0
SOAP, London yel. .. per cwt.	28 0	..	32 0	28 0	..	32 0
mottled	32 0	..	36 0	32 0	..	36 0
curd	46 0	..	50 0	46 0	..	50 0
Castile	40 0	..	42 0	40 0	..	42 0
Marseilles	40 0	..	42 0	40 0	..	42 0
Soy, China .....per gal.	2 9	..	3 0	3 6	..	3 9
Japan	0 0	..	0 0	0 0	..	0 0
Sponge, Turkey, fine picked	14 0	..	18 0	19 0	..	23 0
fair to good	6 0	..	12 0	7 0	..	17 0
ordinary ..	1 6	..	4 0	2 6	..	6 0
Bahama ..	0 8	..	2 6	0 4	..	1 3
TURPENTINE, Rough, per cwt.	12 6	..	13 0	14 0	..	0 0
Spirits, French	36 0	..	36 6	47 0	..	0 0
American, in casks	38 0	..	38 6	0 0	..	0 0
WAX, Boos, English	180 0	..	185 0	170 0	..	175 6
German	195 0	..	200 0	162 6	..	185 0
American	185 0	..	190 0	175 0	..	0 0
white fine	0 0	..	0 0	8 0	..	0 0
Jamaica	160 0	..	170 0	190 0	..	195 0
Gambia	175 0	..	190 0	180 0	..	210 0
Mogadore	140 0	..	165 0	125 0	..	100 0
East India.....	160 0	..	190 0	150 0	..	180 0
ditto, bleached	190 0	..	220 0	200 0	..	230 0
vegetable, Japan	54 0	..	88 0	65 0	..	78 0
WOOD, Dye, per ton						
Fustic, Cuba.....	140 0	..	150 0	150 0	..	170 0
Jamaica	100 0	..	110 0	100 0	..	120 0
Savanilla	120 0	..	130 0	120 0	..	130 0
Zante	0 0	..	0 0	0 0	..	0 0
Logwood, Campeachy	165 0	..	170 0	165 0	..	180 0
Honduras ..	100 0	..	105 0	100 0	..	105 0
St. Domingo	85 0	..	90 0	85 0	..	90 0
Jamaica....	75 0	..	0 0	85 0	..	90 0