THE MONTH

UNITED SOCIETY OF CHEMISTS AND DRUGGISTS.

EXECUTIVE COMMITTEE MEETING, SEPTEMBER 4, 1867.

PRESENT—Mr. Pass, Vice-President, in the chair, and Messrs. Heppell, Jenkins, Betty, and Buott, jun.

The minutes of the former meeting were confirmed.

In the absence of the secretary, Mr. BUOTT, jun., reported the very gratifying intelligence that Mr. Hornby, their President, having, in accordance with the wishes of the Committee, visited Bolton, had succeeded in obtaining the adhesion of the Bolton District Association of Chemists and Druggists, and that a communication had since been received from Mr. Harwood, of Bolton, forwarding a list of the District Committee and members, together with a remittance for their membership fees for the United Society. Mr. Buott, jun., said that he had been specially requested by the President to express his grateful sense of the very cordial manner in which he had been received by their Bolton friends.

A memorial addressed to the United Society, signed by 43 assistants to chemists and druggists at Brighton, was read over, and the following resolution was passed in reference thereto:—"That the gentlemen signing the memorial be assured that their interests should be carefully looked after during the forthcoming session of Parliament."

The business of the meeting closed after issuing certain instructions with regard to the correspondence and notices of future committee meetings.

EXECUTIVE COMMITTEE MEETING, OCTOBER 3, 1867.

PRESENT—Messrs. Jenkins, Betty, Buott, jun., Anderson, and Heppell. Mr. Jenkins in the Chair.

The minutes of the former committee were confirmed.

The Secretary being absent in Wales on business of the Society, progress was reported by Mr. BUOTT, jun.

Amongst the correspondence laid upon the table, were letters from the President and the ex-President. The former drawing the attention of the Committee to the desirability of active operations being taken at the present time in support of the Testimonial Fund on behalf of the Secretary, and the latter gentleman cordially accepting the invitation of the Committee to form one of the Executive of the Society.

Mr. BETTY gave notice of a return that he should move for with reference to the comparative numerical strength of the Society during the past and present year, with any other information that the Secretary might deem it desirable to be known.

Mr. HEPPELL drew the attention of the Committee to the disadvantage of the rule they had adopted at their meeting of the 5th of August, with regard to the publication of their proceedings in the CHEMIST AND DRUGGIST. He admitted that it was undesirable to make many changes, and that it was hardly fair to those who had to carry out the instructions of the Committee, to pass resolutions one after another of a contradictory character, but he felt strongly that they were not at present carrying out the wishes of the members at the last annual meeting, by delaying the publishing of the report of the Committee meetings until their confirmation at a subsequent meeting, making a delay of fully a month in giving information to the district associations. He should therefore move that the mode of reporting the proceedings of the Committee meetings be strictly in accordance with the instructions given at the last annual meeting.

This motion, on being seconded by Mr. BUOTT, Jun., and supported by Mr. ANDERSON, was carried.

On a report being read from the Secretary with reference to the operations of the Society in the country, it was moved by Mr. ANDERSON, and seconded by Mr. BETTY, and carried—"That the Executive Committee view with great satisfaction the prosperity attending the efforts of the Secretary in increasing the numerical strength of the Society, in showing the unity of action, and cementing the friendship amongst all the members of the trade."

The meeting closed by constituting itself into a special meeting of the "Buott Testimonial" Committee.

SUICIDE BY PRUSSIC ACID.

ON Wednesday last an inquest was held before Mr. Weedon, deputy coroner for Berks, at Mortimer House, near Reading, on the body of Dr. Richard Pritchard Smith, who committed suicide on Monday night by swallowing a quantity of prussic acid. Among the witnesses examined was the deceased's son, Professor Goldwin Smith. It appeared from the evidence that Dr. Smith had for the last two years been failing mentally, was very peculiar in manner at times, and had certain delusions about himself. He had been visited at times by some medical gentlemen eminent for treatment of mental diseases, and in consequence of an opinion expressed by one, that the doctor was not a fit subject for legal restraint, and did not require more care than the family and servants could give, he was allowed to remain at home. On Monday afternoon, Dr. Smith rode in his carriage from Mortimer House to Reading, and called at the shop of Mr. Timothy, chemist, Castle-street. He appeared calm and rational in conversation, and at his request was ultimately supplied with an ounce bottle of Scheele's prussic acid. Before leaving, however, he remarked to Mr. Timothy, "I can't think why the Almighty has treated me so, for He has destroyed my nervous system, and my poor leg is dead." A short time afterwards Mr. Timothy informed a medical gentleman, well known to Dr. Smith, of what had occurred, and then, learning for the first time that the doctor had been mentally deranged for some time, he sent a messenger to Mortimer House to inform the butler that the doctor had been supplied with poison, and that a careful watch should be set upon his movements. On his return home the doctor appeared to have locked up the poison in a drawer in the library, and the latter was subsequently locked by a gentleman, and the key given to a member of the family, with directions that the doctor should not be allowed to have it again. Later in the evening he said he wanted something from the library, and wished for the key. It was refused, and this greatly excited him. On calmness returning, and his stating that there was nothing in the library injurious to health, the key was given to him. He returned from the library into the drawing-room, and conversed with his son for some time, after which he retired to bed. About an hour afterwards a groaning noise was heard in the bedroom, and on the housekeeper going there she found the doctor lying on the bed breathing very heard. A glass in which he had taken the fatal draught was found upon the mantel-shelf. Mr. Davis, surgeon, was immediately sent for, but before his arrival death had taken place. On the following day a *post-mortem* examination was made, and the result was the discovery of a softening of the brain. After hearing the evidence, the jury returned a verdict that the doctor committed suicide while in an unsound state of mind, and that no blame attached to Mr. Timothy. Dr. Smith was seventy-two years of age. His urbanity and kindness gained for him the esteem of all classes, and the lamentable event has cast a gloom over the parish, in which he has resided for several years since his retirement from active duties in the medical profession. During the time he was a director of the Great Western Railway Company he was a regular attendant at the meetings of the Board.

SCURVY AND LIME-JUICE.

THE official report of the medical men instructed to inquire into the breaking-out of scurvy on board the *Riversdale*, has just appeared. The stores appear to have been amply sufficient for the voyage, nothing having run short, with the exception of sugar, which had been replaced at Calcutta. Vinegar had been served out regularly. No limejuice remained on board. Twenty gallons in a cask had been obtained from Messrs. Yates and Son, of London; besides this, about sixteen gallons were on board when the master joined. The latter quantity had been bottled off and served out to the crew on the outward voyage. It was not until the ship was some way on her voyage home that they began to

use the limejuice from the cask, but it appears to have been of bad quality, or at least to have deteriorated so much by exposure to a warm climate as to have become undrinkable. In lieu of limejuice the master had issued to the crew spirits (rum and gin), and on alternate days claret in small quantities. Spirits did not form a part of the regular allowance of the ship. No preserved provisions appear to have been issued, but on the outward passage fresh potatoes were served out to all hands every day for a month, and afterwards once or twice a week while they lasted. In harbour the men were fed on fresh meat and vegetables obtained daily from the shore.

The vendors of the limejuice are convinced that it was perfectly pure when supplied, as they obtained it from Messrs. W. and C. Volckman, of Bishopsgate-street, who manufacture the article only from the fresh fruit. It appears, however, that no spirit had been added to it, and that it had been stored in the usual thoughtless and wasteful manner in a large cask.

GOSSIP.

The Cattle Plague Returns for the past week were blank.

By a recent order of the Minister of Public Instruction, foreigners intending to pass the medical examination in Russia are required to show their proficiency, by a special examen, in all branches of natural philosophy.

The *Lancet*, under the heading "Hospital Prescriptions," prints the following letter:—

"Sir,—Can any of your numerous readers inform me if there is any such mixture as the following in any Pharmacopœia or Materia Medica in Great Britain?

℞ Syr. strych. et ferri, ʒiv.
½ gr. & ijss. gr.
A teaspoonful three times a day.

The prescription was got at the Royal Infirmary, Glasgow, and presented to me to be dispensed, but was refused, as no such mixture is in the British Pharmacopœia. It would be well if physicians would adhere more strictly to this admirable book, without inventing any novelties of their own.

I am, Sir, yours, &c.,
A Country Druggist."

M. della Sudda (Faik Bey) has presented to the Faculty of Medicine of Paris the collection of simple drugs of Turkey, which is at present to be seen at the Paris Exhibition.

The French Society for the Protection of Children offer a prize of £20 for the best essay on the following subject:—"On the Nursing of Infants by the Mother, as regards the latter, the Child, and Society at large." To be sent before the 15th December, 1867, to the Secretary, Rue Béranger 17, Paris.

On Wednesday, the 18th ult., the premises of Messrs. Coulson and Jacomb, drysalters, Ludgate-hill, Birmingham, had a very narrow escape from being destroyed by fire. The warehouseman took a naked light into the petroleum and naphtha store, and an escape from some barrels ignited. The fire was subdued, and the damage was trivial.

Dr. Broadbent, in his Introductory Lecture at St. Mary's Hospital Medical School, justly observed that chemistry did not take the hold it ought to have on the attention of students, and expressed the opinion that this was in part the fault of the text-books, which made so much of nomenclature, and passed over the grand generalizations of the science.

The monthly meeting of the Quekett Microscopic Club was held at University College on Friday evening, the 27th ult., Mr. Arthur E. Durham, President, in the Chair. Mr. Slade read a paper "On Snail's Teeth," in which he described those organs of mollusca, known as the tongue or palate, consisting of a long and narrow strip of membrane, on which are arranged, in various patterns, successive series of strong recurved teeth, by the rasping action of which the animal is enabled to obtain its food. By this means the carnivorous mollusca bore through the shells of the animals on which they prey. The number, arrangement, and shape of these teeth afford to naturalists a means of determining species. Dr. Maddox exhibited a collection of beautifully executed micro-photographs of deep-sea soundings, many of the objects being magnified 3,000 times.

The University of London has vacated its office-quarters in Burlington House, and removed to 17, Savile-row. The actual examinations will be held as usual at Burlington House, but the business matters of the University will be transacted at Savile-row, until the new building, which is progressing satisfactorily, shall have been completed.

An inquest was held on the 30th ult. by Mr. Booth, coroner for Staffordshire, at Stoke-upon-Trent, on the body of a respectable grocer, aged twenty-nine, who died from the effects of tobacco. He had been drinking, and put into his mouth the greater portion of half an ounce of tobacco. He would not remove it from his mouth, and he became insensible, falling suddenly, and apparently swallowing a portion of the tobacco. The deceased died in three days. The verdict was according to the evidence.

According to the *St. Petersburg Gazette*, a young Russian lady, Mdlle. Susslow, has just passed her examination as Doctor of Medicine at the University of Zurich. She was a pupil four years at one of the colleges of St. Petersburg, and subsequently attended the courses of the Medical Academy up to the time the doors of that institution were closed to lady pupils.

Mr. J. Spiller, F.C.S., in a letter addressed to a contemporary, has called attention to the good results of chemical teaching in one of our largest schools. "For seven years past the study of chemistry and the allied sciences has been introduced as a branch of general education in the City of London School, and prizes offered in all the classes, by way of encouragement, besides a silver medal given annually by Mr. Alderman Hale. The lecture course is necessarily somewhat elementary, and there are not at present any facilities offered for laboratory practice, mainly on account of the want of space; but surely the circumstance, that upwards of six hundred youths have the opportunity of attending Mr. Hall's lectures, and of seeing the prominent facts of science experimentally demonstrated, must be a hopeful sign for the future; and I know, from my own experience as examiner, that the information thus acquired in the school is, in the case of the senior pupils, largely supplemented, both by reading and private study, with such aids as they are enabled to command at home during the necessarily short intervals of leisure."

Trichiniasis has re-appeared in Berlin. Seventy persons having eaten meat bought from the same pork butcher, were taken ill; two are dead.

The Hollandsche Maatschappij der Wetenschappen, at Haarlem, have published their prize list for the present year, including subjects of natural history, chemistry, geology of the colonial possessions of the Netherlands, and physical science. The prize offered is a gold medal, or 150 florins. In some instances this sum will be doubled, and for one subject, the kine-pest, it is to be raised to 500 florins. The question is thus stated:—A searching inquiry into the infecting principle of the contagious typhus of the bovine species, with an indication of the prophylactic means which ensue rationally from the result of the inquiry. Among the other subjects are a monograph of some one species of marine mollusca, at the choice of the author. Tyndall's experiments show that the intensity of sound differs considerably, according as it is propagated through hydrogen or through atmospheric air, even at equal densities—required, comparative experiments at this point, made with at least three different simple gases. Decide experimentally whether the extremities of the rootlets of plants exude matters capable of dissolving the silicic acid existing in the soil in the state of quartz. A new determination of the constant of aberration deduced from observations of the phenomena presented by Jupiter's satellites. In recent years, observations of the sun, executed systematically and with improved instruments, have led to the discovery of a mass of facts—required, a critical estimate of the conclusions drawn therefrom as to the nature of the sun. The answers to these questions, which may be written in Dutch, French, Latin, English, Italian, or German, are to be sent to the Secretary of the Society, at Haarlem, before January, 1869.

During the winter quarter, in the parish of Marylebone alone, the number of persons attacked with small-pox amounted to 378, of whom 300 were children under five years of age. The fatal cases amounted to 46, being in the proportion of about one death to every eight persons attacked, or twelve per cent. of the entire number. "There can be no

doubt," says the *British Medical Journal*, "that the prevalence of this loathsome malady is due to unsuccessful and non-vaccination. From careful inquiries instituted by Dr. Whitmore, he ascertained that from 15 to 20 per cent. of young children resident in the Christ Church district had never been vaccinated at all, and with a large number of others the operation had been so imperfectly performed as to afford them no protection."

A new and very important article of commerce has been lately introduced into America, called "New Grass Sponge." It is found in almost exhaustless quantities among the coral reefs of the Bahamas and coasts of Mexico and Florida. The sponge is washed and freed from grit, passed between india-rubber rollers saturated with glycerine, and then seasoned in ovens. After undergoing this treatment it is fit for use. The purposes to which it can be applied are very various; but it is especially adapted for stuffing beds, sofas, chairs, &c. One pound of this sponge is equal, for these purposes, to one and a half pound of hair. Several ships are now employed in carrying large cargoes of this material to New York.

Mr. J. E. Howard, of the Linnean Society, states that in 1859 he received some cinchona seeds, as a present from South America. He gave one of the plants raised from these seeds to the Government of India, and in six years more than 8,000 plants had been derived from it, and were growing in the cinchona nurseries.

One of the surgeons of St Thomas's Hospital has given the following explanation of the revolting story of a student eating human flesh, which has been going the round of the papers:—"A young man, employed in the laboratory of the chemist, but not a student, nor in any way connected with the medical profession, availed himself of the opportunity afforded him, through the agency of the dead-house porter, to procure a piece of human flesh, which he cooked and ate. What may have been the motive for this loathsome act I know not; but I need scarcely add that when it became known by his own avowal he was ignominiously dismissed by his employer; and that this filthy deed, of which the perpetrator boasted, is regarded with the disgust and abhorrence it deserves by the students of St. Thomas's Hospital."

Dr. Véron died at Paris on the 27th ult. at the age of 69.

It appears from the *Medical Times and Gazette* that the Government has ordered a quantity of light wine and beer to be exported to Abyssinia for the use of the army. In the event of the campaign being a lengthened one, the *Medical Times* recommends that a supply of preserved potatoes, as suggested by Dr. Domett Stone, should also be sent out; likewise a supply of limejuice, the latter anti-scorbutic to be given in case of absolute need and not as a substitute for vegetable diet. If due attention be given to these simple precautions, the mortality from scurvy will be *nil*, which the nation knows to its cost was not the case during the Russian war.

The *Athenæum* of last Saturday states that Her Majesty, of her own proper motion, has written to Lord Derby, suggesting that a fitting provision should be made for the widow of Prof. Faraday. Nothing has yet been done in the way of fixing the sum to be secured to the bereaved lady; but our contemporary has no doubt that it will be such as England should propose to the relict of her foremost man of science.

The *Pall Mall Gazette* has raised the question as to the propriety of printing the qualifications and the private addresses of hospital medical officers on the letters which are delivered to out-patients. The *Lancet* referring to the practice admits that it is carried to an extent, in some cases, which is improper, and tends to lower the dignity of the profession.

On the 5th inst. an inquest was held on the body of a girl named Payn, aged fourteen years, who committed suicide by taking three packets of vermin-killing powder.

Dr. Guy read a paper, "On the Sublimation of Alkaloids," of importance in a toxicological point of view, at the meeting of the Microscopical Society last Wednesday night. He detailed the results of his investigations, conducted for some years past, which showed that sublimates might be obtained from the minutest quantities of mineral substances and many alkaloids, and that these are possessed of recognisable and characteristic features, and act peculiarly with reagents applied under the microscope.

Dr. Richardson opened his winter course of Lectures on Experimental and Practical Medicine, on Tuesday last, with a lecture "On Bichloride of Methyleneas a general Anæsthetic." There was a full attendance of members of the profession, including Dr. Rubio (of Seville), and other foreign visitors. The lecture was a series of experimental demonstrations from the beginning to the end.

A Cure for the Measles.—A lady who had two children sick with measles wrote to a friend for the best remedy. The friend had just received a note from another lady, inquiring the way to pickle cucumbers. In the confusion the lady who inquired about the pickles received the remedy for the measles, and the anxious mother of the sick children with horror read the following:—"Scald them three or four times in very hot vinegar and sprinkle them with salt, and in a very few days they will be cured."

GAZETTE.

BANKRUPTS.

Collins, Alfred, Brewer-street, Regent-street, preparer of photographic papers.
Darling, James, Wickhill, near Bracknell, veterinary surgeon.
Evans, Henry, Birmingham, chemist.
Hogg, Walter, Newcastle upon-Tyne, chemist.
Prust, R., jun., and John, W. D., Cardiff, chemists.
Robinson, John Francis, Middlesborough, chemist.

PARTNERSHIPS DISSOLVED.

Austin, J. and W., Birmingham, druggists.
Cantrell and Son, Worksworth and Cromford, Derbyshire, surgeons.
Hale, J. L., and Co., James-street, Walworth, and Anerley, agricultural chemists.
Herbert, W., and Herbert, E., Oxfordshire, manure manufacturers.
Marsh Alkali Company, The, Lansamlet, Glamorganshire and elsewhere.
Philpot and Kempe, Edward-street, Hampstead-road, surgeons.

BRITISH PHARMACEUTICAL CONFERENCE.

FOURTH ANNUAL MEETING—DUNDEE.

In fulfilment of the promise made last month, we now publish our brief notes of the discussions called forth by the reading of the papers.

WHITE PRECIPITATE.

The paper "On the Adulteration of White Precipitate," by Mr. J. B. Barnes, F.C.S. (see page 136), gave satisfactory evidence of the purity of the commercial article, as the author found only four samples adulterated, though his investigations extended to sixty-two, nearly all of which had been obtained in neighbourhoods where adulterated drugs might be reasonably looked for.

Mr. Hanbury alluded to the different physical states in which this drug was met with. He had noticed that when lumps of white precipitate were shaken in a glass bottle they produced a characteristic ringing sound. The advantage of having it in the form of a powder ready for use in ointments, had led one house to supply it finely levigated.

Dr. Cocks said that the paper was a good illustration of the importance of the Conference. It had brought before the members certain facts that had been ascertained at the expense of much time and trouble. The subject of the purity of drugs was no small one. There would be no end of mistakes in prescribing were medical men in doubt as to the strength and qualities of their materials, and he thought that physicians were more indebted to the Conference for papers like that of Mr. Barnes than the members themselves were. As a physician of Dundee, he tendered the thanks of the medical profession to the Conference for their determination to uphold the purity of drugs.

On the motion of Mr. Brough, the thanks of the meeting were voted to the author of the paper.

EXCISE INTERFERENCE WITH PHARMACY.

The plain statement of facts relating to a case of Excise interference with the sale of quinine wine, made by Mr. Charles Kerr, of Dundee (see page 136), gave rise to an animated discussion.

Mr. Aynsley asked whether he might be allowed to dispense quinine wine prescribed.

Mr. Young thought that there could be no question as to the right of a chemist to sell the article when it was ordered in a prescription.

Mr. Deane felt sure that there was no liability incurred in the sale of quinine wine, now that it was included in the British Pharmacopœia. The question of the sale of this preparation had come before the Council of the Pharmaceutical Society, but the particular grievance now exposed by Mr. Kerr demanded close investigation. He would undertake to bring it under the notice of the Council. It was possible that the label on Mr. Kerr's wine had led to the extraordinary proceedings of the Excise.

Mr. Nicol said that although the word "tonic" appeared upon the label, that did not in the least affect the question before them, which was the excise claim to impose a licence upon all those who sold quinine wine, on the ground that it came under the definition of "sweets." It was nothing new for the excise to ride over them roughshod, and he trusted that the question would be taken up earnestly by the Conference.

Mr. Mackay alluded to the supposed infringement of the Patent Medicine Act by the use of the word "tonic," without a stamp being added. If the employment of this word created the liability, then many of their medicines must, by analogy, be infringements of the Act; for instance, Gregory's Powder, to which he supposed they all added the descriptive word "Stomachic." Mr. Mackay gave, as an illustration of the severe course adopted by the excise towards persons who had unwittingly infringed their laws, the following case from his personal experience:—A flavouring liquid had been repeatedly sent to London, and he was assured in Edinburgh that such a course was perfectly regular. On one occasion a seizure was made, and a fine of £200 imposed, which, after extreme annoyance and heavy cost, was reduced to £10.

Mr. Hanbury reminded the meeting that the stamp duty and the excise licence were distinct subjects.

Mr. Savage recommended that Mr. Kerr's case shouldbe laid before the Council of the Pharmaceutical Society, and their interference solicited. He had himself come into conflict with the excise by omitting to take out a license for the sale of pepper, though he merely used the pepper in making curry powder.

Mr. Brady suggested that the most ready way to ascertain if any labels were liable to the patent medicine stamp was to send them up to Somerset House, and ask the direct question.

Mr. Schacht said he would be sorry to have to confess that he had never come into antagonism with the Board of Inland Revenue. It was almost impossible to avoid the infringement of the arbitrary rules of that body. Many cases had come under his notice which proved that the Excise did not hesitate to treat with unnecessary severity persons whose offences could not be traced to unworthy motives, but simply to a pardonable ignorance of certain bye-laws. The discussion that had already occurred, showed how liable they were to fall into error, as there had been very different opinions expressed as to what was allowable and what was not. Mr. Schacht stated that he once tried the course suggested by Mr. Brady, and sent up *all* his labels to Somerset House for opinions as to their involving stamps. A number were returned to him as not being liable, but no answer was given as to those he was most anxious to be informed about, but the labels were kept! The grievances belonging to an excise prosecution were very great, even when the defendant came off victorious, since the existence of a charge of defrauding the excise was insufferable to an honourable tradesman. He urged that an attempt should be made to reduce to a simple code the excise laws, which were now so dubious. Were this done, he was sure that the members of the drug trade would obey the law.

Mr. Baildon thought that the whole question of the patent medicine stamp should be looked into. It was based upon a deception, since the public believed that so-called "patent medicines" were really what the literal construction of the term implied. Of course, those present knew that the patents for Anderson's pills, and a few other proprietary medicines which alone could properly claim the term "patent," had long since expired.

Mr. Ebert explained the relation of pharmaceutists to the excise laws in the United States. Many pharmaceutists take out a liquor licence, and are thus enabled to supply wines and spirits. Some of the leading houses will not take this licence. Since the war, all pharmaceutists pay a distinct tax for exercising their profession. The definition of liability to the patent medicine stamp is similar to that obtaining in England.

After the thanks of the meeting had been offered to Mr. Kerr for bringing the subject forward, it was resolved, on the motion of Mr. Brady, seconded by Mr. Andrews (London), that the President, Messrs. Brough, Kerr, Nicol, Schacht, and Young be a sub-committee to prepare a recommendation upon the subject, and bring forward the same at the sitting on the following morning.

[The Report of this Committee recommended that the following memorial on the subject should be presented to the Council of the Pharmaceutical Society:—

"The memorial of the British Pharmaceutical Conference to the Council of the Pharmaceutical Society of Great Britain showeth, that whereas prosecutions have frequently been entered upon by the Board of Excise against persons carrying on the trade of chemists and druggists, and that such persons have, in numerous instances, endured penalties, the prosecution at the same time admitting the offences to have been committed in pure ignorance; and whereas the most strenuous efforts of many of the most conscientious members of this body to comprehend their true obligations to the Board of Inland Revenue have utterly failed; and whereas it appears that one of the chief causes of these difficulties consists in the dispersed nature of the information conveyed from time to time, and through various channels from the Board: Your memorialists respectfully pray that the Council of the Pharmaceutical Society will use its best efforts to induce the Board of Inland Revenue to reduce all legislative enactments bearing upon the subject to the simplest possible code, and to adopt any other measures which may appear to them desirable to place the relations of the excise towards pharmacy in a clearer light."

It was moved by Mr. Schacht, seconded by Mr. Baildon, and carried,—

"That the foregoing memorial to the Council of the Pharmaceutical Society be adopted, and the President be requested to sign the same on behalf of the Conference."]

BURGUNDY PITCH.

After the reading of Mr. Daniel Hanbury's admirable monograph on Burgundy Pitch (see page 137),

The President expressed the cordial thanks of the Conference to the author for his communication which had completely exhausted the subject.

Mr. Ebert in reply to an inquiry of the President, said that the Burgundy Pitch met with in the United States varied considerably; but he had every reason to believe that it was always an artificial product.

RELATIVE VALUE OF COMMERCIAL SPECIMENS OF JALAP.

With refereuce to Mr. Alfred Southall's analysis and valuation of ordinary commercial specimens of Jalap (see page 139),

Mr. Hanbury referred to a case in which the roots of *Aconitum ferox* were mistaken in India for jalap, and a quantity powdered, the error not being detected until several persons had been poisoned. He had the curiosity to procure specimens of this particular parcel, and although the appearance of the aconite as a whole was sufficiently distinct from jalap, he found that there were many roots so similar in appearance to Tampico jalap as to be almost undistinguishable. The difficulty of getting good jalap root had become very great, and the question arose whether its cultivation would not be the remedy for this state of things. He (Mr. Hanbury) had procured plants, and succeeded in growing them even in England; but it was in India that success must be looked for if we were to supersede Mexican supplies of this drug. The plants which he had sent to the Neilgherries were flourishing. In reply to Mr. Mackay, he stated that he had not compared the powdered aconite with powdered jalap.

The President confirmed the statement of Mr. Hanbury as to the resemblance between certain roots of Tampico jalap and those of *Aconitum ferox*.

EFFERVESCING CITRATE OF MAGNESIA.

Mr. Dymond's note on the popular preparation known as granular citrate of magnesia, and his proposed substitute for it (see page 138), gave rise to an interesting discussion on

the questionable propriety of applying deceptive names to medicinal compounds. The high motives influencing the writer of the paper were fully appreciated by the meeting, but the general impression appeared to be that Mr. Dymond had protested too strongly against the use of the conventional name of "Granular Citrate of Magnesia."

Mr. DEANE expressed his hearty approval of the author's condemnation of the growing practice of calling things by wrong names.

Mr. BRADY said that Mr. Dymond had made chemists appear worse than they really were, The name which had been objected to, described with sufficient accuracy the original article, and had stuck to the effervescent preparation after the omission of the salt of magnesia. He admitted that the name was an improper one but it had become popular. There were so many other more salient points for attack, from seidlitz powders downwards, that he was rather surprised at the author's selection of this comparatively new addition to the Materia Medica.

Mr. SCHACHT thought that the British Pharmacopœia afforded many instances of the application of names not strictly accurate.

Mr. HANBURY did not hesitate to express the strong objection he felt to the employment of definite chemical names for substances, the composition of which they were intended to conceal. It appeared to him that medical men were chiefly responsible for this sort of thing, since strange compounds, such as granular effervescent bromides or iodides were introduced by the makers to their notice, and by prescribing them they created the demand for substances of the real nature of which they could know very little. At the Exhibition of 1862, the jury in the section of pharmacy condemned the use of such preparations.

Mr. BROUGH pointed out that even Mr. Dymond's preparation was not accurately named. It was not citrate of magnesia, but a mixture of substances which ultimately produced such a salt.

Mr. EBERT said that, instead of the so-called citrate of magnesia, he had prepared a mixture of citric acid, carbonate of soda, and sugar, and given it the name of "Granular Effervescent Aperient," supplying it where the other was asked for, and explaining that it was the same excepting in name.

ALCOHOLOMETER DEPENDING ON CAPILLARY ACTION.

In introducing this pretty little instrument to the Conference (see page 140), Mr. REYNOLDS referred to the importance of physical methods of testing as ready substitutes for chemical operations. In the present instance, it was not very easy to reply at once to the query with the pharmaceutist would put, *cui bono?* The instrument gave correct results with water, claret, whisky, and diluted alcohol of known strength, but it must be confessed that the hydrometer supplied to the pharmaceutist a more ready means of ascertaining the strength of purely alcoholic fluids. Then, for tinctures, many of which contained viscid matters in varying quantities, the instrument was inapplicable. The present utility of the liquometre appeared to apply to light wines chiefly. Possibly fixed oils would give results of some value, but the important point seemed to be that the principle of capillary action should not be lost sight of by practical physicists, now that a great degree of success had attended its introduction in a particular direction.

Mr. BROUGH expressed much interest in the subject, and approval of the attempt to extend physical investigations. He referred to Mr. Tomlinson's results upon the subject of cohesion-figures as showing what might be done by simple means.

Professor ATTFIELD remarked that in some French works there were given tables of adhesion, cohesion, and efflux, and he fully concurred in the opinion that these physical conditions deserved more precise study than they had received.

THE MICROSCOPE AND ITS CRYSTALLOGRAPHIC APPLICATION.

Mr. STODDART'S paper (see page 140) which was read in the absence of the author, by Mr. Schacht, was truly characterised by the PRESIDENT as a valuable addition to the series of microscopic investigations relating to pharmacy already brought before the Conference at the meetings of previous years. He (Prof. Bentley) could not say more of the paper than that it was worthy of a place beside the well-known and highly valued monographs on subjects of microscopic pharmacy, by his friends Messrs. Deane and Brady, and he trusted that its publication would stimulate others to work in this promising field.

Mr. BRADY expressed his gratification at the publication of these new results of Mr. Stoddart's labours. When that gentleman called his attention to the subject of microscopic crystallography, upon the occasion of the Bath Conference, it was new to him (Mr. B.); but he had subsequently made some experiments. He had to confess that one result of these experiments was to impress him strongly with the difficulties which at present existed to obtaining uniform results. It would be evident to every one, that there was a great difference between measuring the angles of a tangible and large crystal, and measuring those of a crystal of microscopic proportions. In the field of the microscope the same crystal would, of course, present different angles according to its position, with respect to the observer, and there was a difficulty in distinguishing the real angles of the crystal from the angles dependent on its deviation from the plane of observation. Moreover he had not determined how far the forms of crystals would be modified by the presence of foreign matter, as, for instance, viscid substances in the solutions. Mr. Brady alluded to a rotating object-holder, introduced by Messrs. R. and J. Beck and Co., as likely to facilitate such operations as those now under consideration. In connection with the histology of salts, he also referred to Wormley's "Micro-chemistry of Poisons."

TINCTURA OPII AND LIQ. OPII SEDATIVUS.

In the discussion on Mr. Southall's paper (see page 140),—

Mr. HEATHFIELD remarked that there could be no standard for the strength of liquor opii sedativus while its exact composition remained unknown.

Dr. ATTFIELD said that a chemist wishing to know what quality of opium he is using, should demand an analysis from the seller. The necessity for this had been established by the full proof that physical appearances would not indicate the strength of the drug.

Mr. BRADY thought that by drying and powdering the opium the most serious sources of discrepancy were eliminated.

Mr. YOUNG advocated the introduction of an opium with a standard percentage of morphia into the national Pharmacopœia.

Mr. BAILDON thought that the remedy lay in the substitution of its principal alkaloid, morphia, for a drug of such uncertain strength as opium.

GLYCELÆUM, A PROPOSED BASIS FOR OINTMENTS.

With respect to Mr. Groves's proposed basis for ointments (see page 140),—

Mr. DEANE said he did not wish to trespass upon the province of the surgeon by offering his opinion on the respective therapeutic merits of fatty or other bases for ointments, but he did not think that fatty substances were perfectly satisfactory. As to plasma, he had certainly known a good deal of it spoil by keeping. Mr. Groves was quite right in not using a mortar for his emulsion. Emulsions could nearly always be made better by simply shaking the ingredients in a bottle.

Mr. BRADY regretted the absence of the author of the paper, in which he thought there might be descried the elements of an important improvement. Plasma could hardly be regarded as giving so much satisfaction as had been anticipated from it.

[The above notes of the discussions will convey but a poor idea of the interesting proceedings of the Conference. The pharmaceutists, chemists, and medical men who met together at Dundee, did not make set speeches. They simply conversed upon the subjects brought before them, and conversation cannot be reproduced in a short report. We have made free use of the notes given in the *Pharmaceutical Journal*.]

CLOSE OF THE MEETING.

When the papers had all been read—

Mr. DEANE rose and said, that he had a very pleasant duty to perform in expressing, on behalf of the Conference, the obligations that its members felt very deeply to their

brethren in Dundee. After stating how admirable were all the arrangements made, and how pleasantly those who had come from England would always think of the cordial reception given them by Dundee on behalf of Scotland, he concluded by moving:—

"That the warmest thanks of this meeting be hereby offered to the Dundee members of the Conference generally, and especially to the Local Secretary, Mr. Hodge, for their cordial and very successful efforts to promote the objects of the meeting, and the convenience and pleasure of their visitors."

Mr. MACKAY seconded the resolution in an able and earnest speech, alluding to the rapid growth of Dundee, which placed it second only to Glasgow, and to the great prosperity that it had enjoyed for the last few years. The way in which his Dundee brethren had acquitted themselves in the entertainment of the British Pharmaceutical Conference, showed that the reputation of their good old town could not have been in better hands.

The PRESIDENT feelingly added his testimony to the excellence of the arrangements, and to the very considerate kindness shown at all points by the chemists of Dundee.

The resolution was carried with a burst of applause.

In the temporary absence of Mr. Hodge, the vote was acknowledged, on behalf of the Dundee chemists, by Mr. KERR. Mr. Kerr said, that from the great distance from Scotland at which previous meetings of the Conference had been held, but little was known of its operations up to the time when it resolved to pay their town the visit that had just been made. They had consequently to inform themselves, in the first place, as to its objects, and were soon satisfied of the desirability of promoting these. They felt uncertainty as to whether they could carry out, as well as had been done in various towns in England, the reception of the Association, but all determined to do their best, and it was extremely gratifying to them to find that their visitors were satisfied. The chemists of Dundee had already reaped fruit from the movement, by the inauguration of a good feeling and cordiality amongst themselves that had previously been unknown, and they trusted that it would continue and extend.

Mr. YOUNG, in eulogistic terms, moved a vote of thanks to the President, for the way in which he had fulfilled the duties of his office. He expressed the great gratification that he had derived from the meeting.

Mr. KINNINMONT seconded the resolution, and spoke of the novelty of the occasion to himself, in meeting so many of his professional brethren, with whose writings he was familiar, but whom he had never had the pleasure of seeing. For the future, his interest in the published works of those whose personal acquaintance he had made, would be much enhanced. He regretted that Glasgow had not yet taken a position in relation to pharmacy commensurate with its population and importance, but they were trying to do something by means of the Glasgow Chemists and Druggists' Association; and such meetings as this would stimulate to further exertions.

Mr. DEANE put the resolution, which was most heartily carried.

The PRESIDENT acknowledged the vote. He said that he had always been convinced of the soundness of the plan of action laid down by the Conference; hence he had earnestly assisted in its formation and subsequent support, and he was satisfied that it had already accomplished a great deal of good.

THE FINAL SITTING.

The final meeting was held on Monday, September 16th; Mr. JAMES HARDIE, V.P., in the chair.

It was resolved—"That the meeting of the British Pharmaceutical Conference for 1868 be held at Norwich, concurrently with the meeting of the British Association for the Advancement of Science."

Moved by Mr. Hodge, seconded by Mr. Levie.

The following officers were elected by ballot for the year 1867-8:—

President:—D. Hanbury, F.R.S., F.L.S., etc.

Vice-Presidents who have passed the chair:—H. Deane, F.L.S., etc.; Professor Bentley, F.L.S., etc.

Other Vice-Presidents:—R. Fitch, F.G.S., Norwich; J. Ince, F.L.S., etc.; W. W. Stoddart, F.G.S.; J. Young, Edinburgh.

Treasurer:—H. B. Brady, F.L.S., etc.

General Secretaries:—Professor Attfield, Ph.D., F.C.S.; R. Reynolds, F.C.S.

Local Secretary:—F. Sutton, F.C.S., Norwich.

Committee:—E. Arnold, F.C.S., Norwich; J. H. Atherton, F.C.S., Nottingham;* J. C. Brough, F.C.S., Stockwell; A. J. Caley, Norwich; M. Carteighe, London; T. B. Groves, F.C.S., Weymouth; J. Mackay, Edinburgh; D. Russell, Dundee; G. F. Schacht, Clifton.

Auditors:—W. Laird; G. B. Mackay.

The following new members were elected at the Dundee meeting:—

Allan, P. M., M.D., Tay Street, Dundee.
Black, Mr. J., 34, Rutherglen Road, Glasgow.
Blanshard, Mr. G., Leith Walk, Edinburgh.
Bowen, Mr. W., Portobello.
Brady, Mr. Alfred, Newcastle-on-Tyne.
Burell, Mr. G., 43, High Street, Montrose.
Burn, Mr. D. H., High Street, Arbroath.
Clayton, Mr. W., 41, Wicker, Sheffield.
Clinghan, Mr. W., Edinburgh.
Crarar, Mr. J., Blairgowrie.
Davy, Mr. Humphrey, High Street, Rotherham.
Deane, Mr. James, Clapham Common, S.
Ellwood, Mr. J., 13, Mosley Street, Newcastle-on-Tyne.
Finlayson, Mr. T., Leith.
Fitch, Mr. R., Norwich.
Fleming, Mr. W., Scouringburn, Dundee.
Ford, Mr. J., Kirriemuir.
Gittors, Mr. S. J., Park Villa, Wednesbury,
Grant, Mr. W., Blairgowrie.
Hallaway, Mr. J., 54, Castle Street, Carlisle.
Hemingway, Mr. A., Portman Street, Portman Square.
Henderson, Mr. W. P., 104, Nethergate, Dundee.
Jefferson, Mr. T., Clapham Common, S.
Kinninmont, Mr. A., 69, South Portland Street, Glasgow.
Lord, Mr. C., Todmorden, Lancashire.
Nicol, Mr. J., 21, Dundas Street, Edinburgh.
Noble, Mr. A., North-West Circus Place, Edinburgh.
Padwick, Mr., 5, Preston Street, Brighton.
Payne, Mr. S., Wallingford, Berkshire.
Pedler, Mr. A., 199, Fleet Street.
Raimes, Mr. R., Leith Walk, Edinburgh.
Reid, Mr. N., Perth.
Russell, Mr. James, 97, Nethergate, Dundee.
Saville, Mr. J., Howden.
Severs, Mr. J., Kendal.
Storrar, Mr. D., Kirkaldy, Fifeshire.
Strachan, Mr. B., Murraygate, Dundee.

The following gentlemen had been elected by the Executive Committee since the previous meeting:—

Ainslie, Mr. W., 68, George Street, Edinburgh.
Allis, Mr. F., Tewkesbury.
Anderson, Mr. A. B., 44, Princes Street, Dundee.
Anderson, Mr. T. S., 30, Duke Street, Manchester Square, W.
Baildon, Mr. H. C., 73, Princes Street, Edinburgh.
Barnard, Mr. J., 338, Oxford Street, W.
Bateson, Mr. T., 23, Stricklandgate, Kendal.
Betty, Mr. S. C., 1, Park Street, Regent's Park.
Boyce, Mr. G., Chertsey.
Carter, Mr. F. G., Swan Lane, E.C.
Cole, Mr. F., South Kensington Museum, W.
Cracknell, Mr. C., 107, Edgeware Road, W.
Dandie, Mr. G. D., 45, Overgate, Dundee.
Doig, Mr. W., 1, Castle Street, Dundee.
Donald, Mr. P. G., 27, Hilltown, Dundee.
Dutton, Mr. F., Market Square, Bolton.
Ferrier, Mr. D. H., 3, Hilltown, Dundee.
Floyd, Mr. J., Town Hall, Bury St. Edmund's.
Frank, Mr. J. M., Liverpool.
Gardner, Mr. J., 68, George Street, Edinburgh.
Gibbons, Mr. G., Weston-super-Mare.
Goodman, Mr., Bolton.
Griffin, Mr. G. E., Deansgate, Bolton.
Hardie, Mr. J., 68, High Street, Dundee.
Hickey, Mr. E. L., 199, King's Road, Chelsea.

* The name of this active member of the Committee was accidentally omitted in the list of officers for 1867 which headed our report last month.

Hodge, Mr. J., 249, Overgate, Dundee.
Ince, The Rev. Wm. (The Rev. Sub-Rector of Exeter College), Oxford.
Jack, Mr. G., 98, King Street, Dundee.
Kemp, Mr. D. S., Bombay. (Letters, &c., to Mr. Sheppard, 106, Leadenhall Street, E.C.)
Kerr, Mr. C., 56, Nethergate, Dundee.
Laird, Mr. W., 30, West Port, Dundee.
Levie, Mr. A. M., 1, Reform Street, Dundee.
Long, Mr. A. T. B, Bognor, Sussex.
Lowe, Mr. C., Surbiton.
Mackay, Mr. G. B., 47, Scouringburn, Dundee.
M'Kinnon, Mr. D. J., 104, Hawkhill, Dundee.
Miller, Mr. T. S., Broughty Ferry, Dundee.
Munro, Mr. G., Lochee, Dundee.
Park, Mr. W., Broughty Ferry, Dundee.
Rattray, Mr. A., 12, Murraygate, Dundee.
Richardson, Mr. J., 17, Market Street, Bolton.
Roberts, Mr. A. J., 270, Walworth Road, S.
Rogerson, Mr. M., Bradford.
Russell, Mr. David, 97, Nethergate, Dundee.
Sandiman, Mr. P., 17, High Street, Dundee.
Scott, Mr. W. L., F.C.S., 24, Cornwall Road, Westbourne Park, W.
Smith, Mr. C. S., Cirencester.
Stable, Mr. R. H., Swan Lane, E.C.
Swenden, Mr. J., High Row Darlington.
Taylor, Mr. G. B., 46, Wellgate, Dundee.
Wallwork, Mr. J., Tyldesley, near Manchester.
Watson, Mr. D., 104, Nethergate, Dundee.
Willmott, Mr. W., 27, Bishopsgate Within, E.C.
Wilson, Mr. E. W., 32, Upper Belgrave Place, S.W.
Wyles, Mr. B., Bourne.
Young, Mr. P., F.R.C.S., 28, Ann Street, Dundee.

GERMAN YEAST.

The *Chemical News*, on the authority of a valued correspondent, publishes the following information respecting the manufacture of "German Yeast:"—"The bulk of what is erroneously called in this country German yeast is made at Schiedam, Delftshaven, and Rotterdam. In a large cylindrical wooden vat, 1·15 metres high, and 1·6 metres diameter, a large quantity of tepid water is poured, and 180 kilogrammes of coarsely-ground rye and barley malt are added; this mixture is beaten into a thin paste, and the vat closed with a well-fitting lid; in order to prevent too rapid cooling, it is covered with a stout blanket, and left at rest for about two hours. At the end of this time the paste is diluted with very cold water and thin distiller's wash, till perfectly fluid. Beer-yeast of good quality is now added, in the proportion of half a kilogramme for every 2,000 litres of fluid; the whole is well stirred and left to settle. Fermentation soon commences, and after from five to seven hours the larger portion of the fluid is carefully drawn off from the sediment and collected in a tank; thence it is pumped into shallow wooden troughs placed under shelter and surrounded on all sides by louvre blinds. Each trough is 4 metres long, 2·75 broad, and 0·5 deep. The liquid shortly becomes very turbid, a thick mass, not unlike boiled starch, settles to the bottom, and the surface also becomes covered with a thick coherent cream-like scum; each of these deposits is the yeast; after 24 hours the intermediate fluid is withdrawn and returned to the original vat, whence it had been taken. The yeast is collected in bags made of strongly-woven linen canvas, and submitted to great pressure for 24 hours; it is then fit for use, and is exported as dry yeast. When one-third by weight of best barley malt and two-thirds of rye of good quality are used, and the operations carefully conducted, and when it is *not* intended to obtain spirits, the quantity of yeast may be very much increased. There is no truth in the assertion that such materials as chalk, bone-ash, plaster of Paris, French chalk, pipeclay, etc., are used as adulterants. A small quantity of the best starch is, in the summer, sometimes mixed with the yeast. It makes it keep better in hot weather.

At the Royal School of Mines, on the 21st of the month, Dr. Frankland, F.R.S. will commence a course of evening lectures to the working classes "On the Chemistry of Water."

REVIEWS.

An Introduction to Pharmaceutical Chemistry. By John Attfield, Ph.D., F.C.S., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain. London: Van Voorst. 10s. 6d.

Just as we are going to press we receive a copy of Dr. Attfield's long promised text-book on Pharmaceutical Chemistry, and a hasty glance at its contents convinces us that it is a comprehensive, well-digested, and thoroughly practical introduction to the special department of chemistry which is connected with the practice of Pharmacy. We shall fully describe the work in another article, and shall simply reproduce Dr. Attfield's Preface as a preliminary notice.

"This work is essentially a handbook of Practical Chemistry. It is intended as a laboratory guide for medical and pharmaceutical students, and as an aid to the study of pharmaceutical chemistry by the pupils of medical practitioners, and chemists and druggists.

"The aim of the author has been threefold:—to give concise data for a complete course of qualitative and quantitative analysis; to associate with these data simple experiments in imitation of all the chemical processes of the British Pharmacopœia; and by means of short introductory, explanatory, and suggestive notes to direct attention to the principles and facts which the analytical and synthetical experiments are designed to illustrate. Practical toxicology and the chemical and microscopical characters of morbid urine, urinary deposits, and calculi are included, and questions on the whole work given in an Appendix.

"Two leading features in the book will be found to be the separation of reactions having synthetical from those possessing analytical interest, and the addition of a large number of new reactions of the former class; the chemistry of the Pharmacopœia is thus brought prominently into view, while the art of analysis is made clear and concise. Only by such plans can any practical knowledge of chemistry be gained by medical students in the short period devoted to this subject during the summer session. Pharmaceutical students also will thus economize time, and, by viewing a chemical reaction from more than one point of view, be better able to acquire a philosophical conception respecting it than if performing experiments solely with an analytical or a synthetical object. Even those just entering on pharmacy will, by this mode of study, be able to attain a knowledge of chemistry without undue deduction of time from their other duties, or too lavish an expenditure in the purchase of apparatus.

"The chemical notation of the work is in accordance with modern theories. Equations illustrative of pharmacopœial decompositions have a name attached to every formula; this has been done for the convenience of those who have been accustomed to the old method of notation. Chemical nomenclature has been modernized to the extent of defining the alkaline and earthy salts, as those of potassium, sodium, ammonium, barium, calcium, magnesium, and aluminium, instead of potash, soda, ammonia, baryta, lime, magnesia, and alumina. The author confidently believes that this change, extensively adopted by scientific men, will be accepted and become popular with pharmaceutical chemists, as it is a step in the direction of consistency, simplicity, and truth. Hitherto the names of salts have included metals and metallic oxides, as sulphate of copper and sulphate of potash; henceforward they will include the names of metals only, thus—sulphate of copper and sulphate of potassium.

"It is hoped that the numerous etymological references scattered through the following pages will be found useful. Words in Greek have been rendered in English characters, letter for letter.

"The author is indebted to his friends, Joseph Ince, F.L.S., for much assistance and many kind suggestions during the revision of the proof-sheets, and Henry B. Brady, F.L.S., for the excellent drawings from which the plates have been engraved."

The stock and copyrights of the valuable scientific publications of the late Mr. Hippolyte Baillière, of 219, Regent-street, will be sold by auction early in November.

THE CHEMIST AND DRUGGIST

LONDON, OCTOBER 15, 1867.

NOTICE TO SUBSCRIBERS AND ADVERTISERS.

CORRESPONDENCE.—All communications should be addressed to the Editor, at 42a, CANNON-STREET, E.C.; those intended for publication should be accompanied by the real names and addresses of the writers.

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

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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 *LANCET* ON CERTAIN TRADE ADVERTISEMENTS.

IT appears that there has been a disruption of the medical staff of the Royal Hospital for Diseases of the Chest, City-road, and that a paper war is being carried on between Dr. DOBELL and the three officers who have resigned, Drs. RICHARDSON, LEARED, and POWELL. This new illustration of the truth that doctors differ has been brought under our notice by a leading article in the *Lancet*, from which we learn that one of the questions involved in the dispute is in some way connected with the personal recommendation of particular remedies.

"The time has come," says our medical contemporary, "for most loudly protesting against the fashion of advertising a remedy for a very common disease in connection with the name of a physician who has introduced the agent. Does chloroform require to be thus advertised?—or cod-liver oil? Certainly not. Simply because their powers are apparent, and the whole profession admits them. It should be the same with every real medical discovery. Let it be discussed in the medical journals, and its value determined by medical men generally. It is a prosumption against a remedy when it is ticketed as the remedy of one man. If it were a true one it would be the remedy of the profession. We would point out to men who think that they have made a real discovery in medicine, that nothing will commend it more than the quiet and impersonal publication of it, not in the newspapers, but in the medical journals of the country."

In other words, names of physicians should be suppressed in advertisements, but all new remedies should be made known to the profession through the advertising columns of the *Lancet*.

Referring to previous remarks on the manner in which Dr. DOBELL's name had been kept before the public as the introducer of pancreatic emulsion, the *Lancet* continues:—

"If we appear to be hard on Dr. DOBELL, it is only because we feel strongly. We will admit that he has only done more extensively and loudly what has been done by others to a less extent and in a more quiet way. We have before us a round box, containing charcoal capsules, and thus labelled: 'Charcoal capsules as prescribed by Dr. LEARED,' etc. Here is the authority of one of Dr. DOBELL'S complaining colleagues for the principle of all he did, though, we repeat, Dr. DOBELL has carried out the principle on a scale all his own. We wish we could say that these two exhaust the list of medical men whose names figure prominently in advertisements; and in an early number we shall enumerate the principal offenders in this way. Gentlemen whose names appear thus will perhaps say, that it is the work of the chemist or the manufacturer. But they will not deny that they are on such excellent terms with the respective chemist or manufacturer as to be well able to correct the great evil of which we complain, which is demoralising discovery, and leading undoubtedly able and original men to regard more the advertising columns of newspapers than the competent and critical judgment of their professional brethren.

"We look confidently to good chemists and pharmaceutists to support us in our opposition to this growing fashion. 'Prepared only by So-and-so' is surely a reproach upon the body at large. There is a secrecy and commercial selfishness about the whole arrangement which is neither just in a trade point of view nor seemly in a professional one. And in the name of fair trade, and of a profession, one of whose fundamental maxims is to have no secret ways or remedies, we call for the discontinuance of this unseemly publication of the name of one doctor and one chemist. It will be a good result of this event at the City-road hospital if it should bring about the entire disappearance of the names of medical practitioners in trade advertisements. We are glad, as some set-off to our somewhat severe strictures on Dr. DOBELL'S conduct, to be able to announce the fact, which we have learned from Messrs. SAVORY and MOORE, that, in deference to the feeling of the profession, Dr. DOBELL has insisted on their ceasing to use his name in any kind of advertisement."

We agree with the *Lancet* in thinking that medical practitioners ought not to allow their names to appear in trade advertisements, and we trust that we shall not have to wait long for the promised list of the principal offenders.

We cannot think, however, that a chemist is to be blamed for stating that a particular remedy is prepared only by himself. The advertising columns of the *Lancet* afford ample evidence of the use of secret remedies by the medical profession, and the chemists who prepare such remedies naturally repudiate all connection with imitations. When medical men agree to reject all medicines prepared by secret processes, good chemists and pharmaceutists will cease to advertise special preparations.

THE DEAD SEASON.

As there are in the gambler's rotary wheel certain places marking blank, so there are barren intervals in the round of editorial duties. We have just passed through a month which has yielded little that is interesting to chemists and druggists. There have been no meetings to report, and no topics of interest to discuss. Even the daily journals have suffered from the want of important subjects of comment, and have been compelled to pad their columns with trifling paragraphs. We hope that next month we shall have ample material for the production of an interesting number.

THE SIZE OF OUR JOURNAL.

Mr. Joseph Ince has written a letter asking why we have altered the size of the Journal, and expressing an opinion that a return to the octavo form would be desirable. Our correspondent has opened a question which must be settled before the termination of the present volume. We altered the size of the Chemist and Druggist in the belief that the form adopted by the *Lancet*, *Athenæum*, and other class journals, was the best. It must, however, be remembered, that these journals are issued weekly, and our own monthly, and it is probable that an approximation to the magazine, form, combining more compact pages and a greater number of them, would be advisable. We are desirous of eliciting the views of our subscribers as to which size they prefer. A difference of opinion has been evinced as to the necessity of continuing the Price Current at the end of each number. This is also a matter upon which we need their advice.

LAUDANUM FOR TINCTURE OF RHUBARB.

Evidence of the want of proper legislation on the sale of dangerous drugs, is afforded by the report of an inquest held at Leicester several weeks ago on the body of a child, named James Henry Herbert, whose parents reside in Grange-lane, in that town, and who had been poisoned through the negligence of a shopkeeper, named Alfred Peberdy. The child being unwell, his grandmother went to the shop of Peberdy, who sells grocery and a few drugs, for a penny-worth of tincture of rhubarb. She was served with a certain tincture, and told by the accused to give the child from seven to eight drops, which she did on her arrival home. The child then fell asleep, and, as it continued to be very drowsy, the parents began to make inquiries whether tincture of rhubarb would have such an effect. It was tasted, and found to contain the bitter flavour of opium. The grandmother then went to Peberdy and asked what he had given her, when he said she asked for tincture of rhubarb and he gave her it, and showed her the bottle from which he served her; but she denied that it was the same bottle, upon which he said he must have measured it in the laudanum glass. He at length discovered that he had served her with laudanum; but, instead of promptly calling in medical aid, he resorted to his own skill in medicine, and suggested the propriety of giving the child a powder and a little antimony wine, which he sent it. In the meantime a doctor was called in, but his efforts were of no avail, and the child died in the course of the evening. As this is the second case of the kind in Leicester within the past six months, the jury made an example of the accused by returning a verdict of "Manslaughter," and he was committed on the coroner's warrant to take his trial at the Assizes.

DR. ODLING ON THE ACTION OF MEDICINES.

The Introductory address delivered by Dr. William Odling, F.R.S., at St. Bartholomew's Hospital Medical School on the opening of the present session was characterised by that pure literary style and masterly grasp of subject which we have repeatedly referred to in noticing the publications of this distinguished chemist. The whole discourse would not be out of place in these columns, but as it would occupy many pages we simply quote that portion which touches upon therapeutics. Addressing the students, Dr. Odling says:—"Your treatment of disease must be founded, not upon any specific system of cure—for there exists no such system—but upon a familiarity with, and understanding of, disease itself. You will have to interpret in a wide sense the phenomena of any particular case presented to you, not merely to ascertain the present condition and wants of the patient, but to appreciate the nature of the disease from which he is suffering, to foresee the course it will take, and the conditions to which it will give rise; and guided by your acquaintance with the natural history of the disease, of how your patient is, and how he will be, guided also by your further knowledge of the effects of remedies, so will you determine upon the course of treatment to be adopted. When I speak of the effects of remedies, I do not limit myself to the effects of medicines. These form indeed a valuable, but not, I conceive, the most valuable portion of your armoury. By quality of diet and its mode of administration, by extent of depletion or support, by bodily rest or exercise, by fixity or variety of position, by mental quiet or excitation, by maintenance of warmth or application of cold, by change of climate, and various other means, how much may be effected in the way of cure, without even any assistance from medicines, properly so called!

Nevertheless, the right use of medicines as auxiliaries in the treatment of disease will very properly form an important item of your professional study here, and of your professional practice hereafter. And, in pursuance of the object I have set before myself in this address—of impressing you at the outset of your careers with a conviction of the truthfulness of your calling—I am desirous of making some reply to the charge so commonly urged against the physician that in his habitual resort to medicines he is guilty of a blind, discreditable empiricism, employing tools of which he understands neither the nature nor the operation. And in considering how far such an allegation is warrantable, I trust you will pardon me if I refer you, by way of illustration, to the somewhat similar employment of reagents in my own art of chemical analysis. To take a very simple example let us suppose, for instance, that a certain liquid under examination contains some sulphuric acid which the chemist wishes to remove. How does he proceed? He adds to the liquid in question a salt of barium—say chloride of barium—and thereby effects a removal of the sulphuric acid from the liquid as an insoluble white precipitate of sulphate of barium. And, in doing this, no one accuses him of empiricism; but all admit that he has a sufficient, if not a complete, understanding of what he is about. In reality, however, his knowledge that chloride of barium will precipitate sulphuric acid is much on a par with your knowledge that colocynth will produce purging, antimony vomiting, opium narcotism, and so on. He knows, as a matter of fact, that the barium salt does produce an insoluble compound with the sulphuric acid, and he avails himself of that knowledge over and over again; but he has no more notion why sulphate of barium should be insoluble, while sulphate of magnesium is so freely soluble, than you have why colocynth should purge and digitalis act upon the heart or kidneys. But it may be said that, although the chemist does not understand why sulphuric acid should be precipitated by a particular reagent, he does know that it is precipitated invariably, and that he can effect its precipitation by means of that reagent whenever he pleases; whereas the physician cannot invariably produce diuresis by digitalis, or even catharsis by colocynth. The chemist uses his tools, it is said, with an absolute certainty; the physician his with a miserable uncertainty of their effecting the desired result. But this statement is not strictly true, even of the very simple and constantly used reaction I have just adduced, and is very far indeed from being true of chemical reactions in general. In chemistry, as in medicine, reagents or medicaments produce their characteristic effects only under certain specified conditions; and the chief difference in favour of chemistry is that, with regard to it, the existence or non-existence of these conditions is for the most part more easily ascertained than in the case of medicine. But there exist many conditions of a liquid which will, wholly or partially, interfere with the precipitation from it of sulphuric acid by chloride of barium, just as there exist various conditions of the human body which will interfere with the action of digitalis or colocynth. And in many cases our understanding of the mode of action of these interferences in the human body is better even than our understanding of their mode of action in the test-glass. We can form, for instance, a much better notion of why the production of diuresis should be interfered with by an impeded circulation through the portal or cardiac systems, than of why the presence of citric acid rather than of hydrochloric acid should interfere with the precipitation of sulphate of barium. I am far indeed from wishing you to rest satisfied with our present most defective knowledge of the modes in which medicines act, and I see no reason why you should rest satisfied with it. If you cannot know how or it must nevertheless be possible for you to attain the same

sort of knowledge of what happens between the body and the medicine which the chemist has of what happens between any two mutual reagents. But while the purely chemical problem is already in great measure solved, the far more difficult chemico-physiological problem still awaits the solution which a higher chemistry alone can furnish.

Because, however, your knowledge of the mode of action of medicines is so imperfect, I would not on that account have you feel any hesitation in using them to produce their well-ascertained effects. As a reaction against the excessive belief in their curative powers which formerly prevailed, and as a protest against the evils which sometimes resulted from their excessive employment, it is possible that we ourselves may, in feeling at least, if not in practice, be swaying a little too far in the opposite direction. It is now, indeed, a well-recognised truth that few if any diseases are, strictly speaking, curable by medicine. We know, at any rate, that most diseases which get cured at all, cure themselves; in the same sense, I mean, as a broken leg repairs itself. But it is also a truth that the conditions affecting cure may be as effectually promoted or impeded by medicinal treatment in the one case, as by mechanical treatment in the other. I recognise as fully, I think, as any one that the physician cannot, and ought not, to be regarded, or allow himself to be regarded, in the light of a medicine-man; that his practice must be based upon a knowledge of disease, and of all the circumstances influencing it; not, even chiefly, upon a knowledge of drugs, as the public are apt to suppose, who, when dosing themselves with drugs, imagine they are practising physic; but, seeing that the object of the physician's existence is not knowledge, but cure, I consider the most special of all the aids to cure is deserving of a more special study than is now habitually accorded to it. I rather think that in this age of rationalism, our ignorance of the intimate nature of the action of medicines has prevented our study of those obvious actions for which they are alone employed. Considering the great powers of many of them, for evil as well as for good, considering the constant resort that is had to them, I question whether, in any medical school, the study of therapeutics—the study of the effects of medicines, of the mode of using them, and the conditions affecting their action in different cases—is pursued in a sufficiently systematic manner. It would seem, indeed, that clinical teachers do not think it needful to impart, or examining boards think it right to expect, the same kind of knowledge of therapeutics that they do of symptomatology or morbid anatomy, for instance. Either, however, the general use of medicines in the treatment of disease should be abandoned, or be made the subject of earnest systematic study; for want of which study I sometimes doubt whether a knowledge of the properties of medicines, and a skill in using them, are met with now-a-days, even in the same degree, and to the same general extent, as heretofore. For myself, I am inclined to think that the scepticism which undoubtedly prevails in the minds of many as to the utility of medicines is not well founded, but results from an insufficient examination of their properties and conditions of action. The impossibility at present of understanding their mode of action has interfered unnecessarily with the study of their kind of action; an ignorance of the conditions of their action has led to a belief in the radical uncertainty of their action; and this belief, by leading to an indifference in their employment, has reacted in producing an apparent evidence of their uncertainty. In your study of therapeutics, however, let it be your encouragement to know that uncertainty, complexity, and irregularity have pertained to the early study of all natural phenomena; even, for example, of those astronomical phenomena which we now recognise as the very perfection of order and regularity. But further study gradually teaches us that the appearance of uncertainty and inconsequence by which we are surrounded belongs, not to the phenomena themselves, but to our imperfect conceptions of them; and that, in any particular case, it has but a temporary existence. With increasing knowledge we at length become satisfied that in every natural phenomenon the inconsequence is apparent, the certainty actual; that in every seeming irregularity there is a latent regularity waiting to be discovered. And by way of illustrating this position, let me direct your attention to an example I have employed on other occasions, drawn from the phenomena of the terrestrial gravitation.

The simplest observation teaches us that most bodies fall to the earth; that some fall quickly, as do stones, while others fall slowly, as do leaves and feathers. But some bodies, instead of falling, ascend—such, for instance, are smoke and flame, to which we may, now-a-days, add balloons. while a third sot of bodies, illustrated very well by clouds, have no particular preference for ascending or descending, but indulge sometimes in the one movement, sometimes in the other. You talk about the vagaries of medical phenomena; you say that most patients are rendered sleepy by opium—that some patients are rendered wakeful by it, and that others are rendered sometimes sleepy and sometimes wakeful; there is no certainty in medicine. Why what is all this uncertainty to the uncertainty of terrestrial gravity? Most bodies fall, more or less quickly; some bodies rise, while other bodies sometimes rise and sometimes fall, just as the humour takes them. But disembarrass the phenomena of all interfering conditions, and what is the result? Why, the establishment of the law that all bodies whatsoever—why digitalis is diuretic, and sulphate of barium insoluble, metals, stones, feathers, clouds, and even balloons, all fall to the earth, and with exactly the same rapidity. Mankind had noticed the falling of bodies in all ages, and speculated upon it at least 2,000 years ago, but it is only within a comparatively modern period that this grandly simple but strictly observational law was discovered by Galileo. Similarly, in every branch of human discovery, what is now most simple was once most obscure; and assure yourselves that, with time, and thought, and work, the obscurity of medicine will also yield to a constantly increasing knowledge. Do not, then be deterred from the investigation of any action by its seeming irregularity. Do not, I say, doubt for one instant the susceptibility to interpretation by which all natural phenomena are characterised.

AUTOMATIC COOKERY.

We take from the *Pall Mall Gazette* a description of an invention shown in actual operation at the Paris Exhibition, believing that a similar apparatus would be applicable to certain pharmaceutical processes. In a former number we described a contrivance for keeping invalid's food hot, based upon the same principle.

La cuisine automatique Norvegienne is an apparatus composed of a wooden box, lined and stuffed with a non-conducting material, and containing a tin cooking vessel, which exactly fits into the stuffed aperture of the box. The principle of the invention lies in the power of the stuffed lining to act as a non-conductor of heat or cold, so that the temperature at which substances are placed in the box shall be retained for a long time. Thus, if the cooking vessel be filled with water at the boiling point (212° Fahr.) and shut up in the box, it is found by experiment that in seventeen hours the temperature of the water will be reduced only to about 172° Fahr. How long a block of ice might be thus conserved has not yet been ascertained. One who has had an opportunity of "assisting" at a trial of this automatic cookery thus describes the *modus operandi*:—

A piece of beef, weighing about four pound, was put into the cooking vessel with the necessary quantity of cold water; the vessel was then set on an ordinary open fire until the water boiled and had continued boiling for five minutes; after these had expired the vessel was removed from the fire, and quickly placed in the isolating box, where it was closely shut down. The box was then removed as far from the fire as possible, and left alone for about three hours. It was then opened; and the beef was found to be thoroughly cooked, with a flavour superior to what is secured by the common process of cooking. Dr. Parkes, in his work on Hygiene, says that to retain the maximum nutritive qualities of meat it should be first subjected to an intense heat so as to retain the juices, and afterwards cooked slowly at a low temperature; then, whether in boiling, stewing, or roasting, the loss of weight in cooking will consist of little more than water. But keep the pot—as M. Soyer found was the rule, especially among the poor—"boiling like the very deuce all the time," or let the roasting be done almost at white heat (as it too commonly is), and the result is that the muscular tissues of the meat shrink and become hard and indigestible, while a large proportion of its nutritive products are

volatilized and escape into the kitchen or up the chimney, the fat and gelatine being melted out to the deterioration of the meat.

It appears, then, that by employing this apparatus the essentials of good boiling and stewing are secured, and the wastefulness and ignorance of incompetent cooks counteracted.

In using the apparatus, care must be taken that after the contents of the cooking vessel have been brought to boiling point and shut up in the box, it be not opened during the time required for cooking the food. The length of time which different meats or vegetables should remain in the apparatus varies, according to their nature, from one to three, four, or five hours; but after they have been in long enough to be thoroughly cooked, they may be left shut up, we are told, twelve or eighteen hours without losing heat, flavour, or quality. Then the economy in fuel appears to be very considerable; and also the economy in labour. The food has to boil on the fire no longer than five minutes; when it is placed in the isolating apparatus the cooking will complete itself; so materfamilias, meditating a savoury stew or *bouilli* for dinner, may employ the same fire used for breakfast to prepare the next meal, and may then be at liberty to attend to other domestic affairs, leaving the cooking to take care of itself. The apparatus is very simple, and the smaller ones may be carried from place to place like a hatbox or portmanteau. They are made of different dimensions to suit various purposes; the one seen by our correspondent was about eighteen inches square, the tin cooking case being about the size of an ordinary hat. The patentee had all the materials for a *pot au feu* prepared and shut up in the apparatus at Paris, at five o'clock p.m., and he brought it with him *viâ* Dover to London, where it was opened, and furnished a smoking hot breakfast at nine o'clock on the following morning.

PHOTOGRAPHY AT THE UNIVERSAL EXHIBITION.

The special correspondent of the *Times* gives the following sketch of the history of the photographic art:—

In no department of the Exhibition is there more activity of mind displayed than in that which is allotted to photographs. No recent discovery excites more curiosity and interest, nor calls into play more ingenuity and science and taste, than this of printing by the aid of light. The art, in all its various processes, has become of immense importance, admits of innumerable applications, and gives employment to a host of people, many of them highly endowed. Far more than the discovery of the telescope, of the microscope, or of a perfect balance, it has made a new era in science; and in the fine arts, also, it has exercised a prodigious influence. It is stated on authority that Sir Henry James has already saved the British Exchequer at least £40,000 by the use of photo-zincography in the production of the maps of the Ordnance survey; and the copies of Doomsday Book now at Paris, printed by photo-zincography, speak for the value and beauty of the process. Photography is useful in so many ways—in astronomy, in ethnology, in anatomy, in botany, in architecture, in land surveying, in engraving on wood and steel and copper, not to speak of ordinary portraiture, that no modern art can be said more truly to live than this; and few of us who visit the French Exhibition can form an adequate idea of the vast amount of scientific research and mechanical industry which are represented by the hundreds of photographic pictures and apparatus that meet our view. An index of patents relating to photography alone tells us that down to the end of the year 1859 upwards of 100 separate patents had been granted in England; and since that period the number has been enormously increased. This, however, gives a very insufficient idea of the energy with which the wonderful art is pursued; for, in point of fact, the most important discoveries in photography have not been protected by the patent laws. Thus, the collodion process—a process by which nine-tenths of all the photographs in all countries are now produced—was made known freely to the public by its originator. So likewise the essential principles of all the various carbon processes of printing were announced by their discoverers without any attempt to secure their rights by patent. So long ago as December, 1827, M. Niepce, then living at Kew, submitted to the Royal Society some pictures taken on silvered copper plates smeared with the bitumen of Judæa, a substance which is soluble in certain essential oils, but not so after exposure to light. Specimens of his skill are in existence as perfect in appearance as on the day on which they were produced. There is the beginning of the carbon process. On the 29th of May, 1839, Mr. Mungo Ponten made a communication to the Royal Scottish Society of Arts to the effect that bichromate of potash applied to paper in solution accepted a photographic image which could not be removed by water, the portions protected from the light being readily washed away, There is a step in advance. In January of the last-mentioned year M. Daguerre in France, and Mr. Fox Talbot in England, had each made public their independent discoveries of the daguerreotype and the talbotype. Such facts as these deserve to be mentioned, not only for the immediate purpose I have in view—namely, to show the inadequacy of a list of patents as a measure of the life and progress of the photographic art—but also for the purpose of reminding photographers of what they owe to their art. It is becoming too much the fashion now to have patents and secret processes in photography. Every new invention, however trifling, is being protected by a patent. The great discoverers who rendered photography practicable gave it to the world free; a crowd of small followers on the strength of small inventions try in their own small interests to make the art a monopoly. A splendid path has been generously thrown open to them by large-minded men; they come forward in the narrowest spirit to claim certain ruts in this broad road for their own. Here are certain trams which this man and that have laid down upon the road, and no one but themselves shall have a right to travel upon these trams. They forget that photography is itself free to them by the grace of their predecessors.

Judging by the manner in which the prizes have been distributed, the jurors attach less importance to the successful practice of photography according to known methods than to the discovery of new developments and applications of the art. They have not given their chief prizes to the men who can produce the best portraits or the best landscapes, but to those who can render such portraits and landscapes permanent. M. Lafon de Camersac, of the Rue de la Paix, has received one of the three gold medals which the jury have awarded; but the business which he pursues is not that of taking photographs, it is that of transferring photographs to enamel. An ordinary photograph is apt to fade, and being upon paper it is easily destroyed; but send this photograph to M. Lafon de Camersac, and by a process which is not quite clear, for he keeps it a secret, he will transfer it with the most perfect accuracy to enamel; he will pass it through the fire, and he will return the picture to you vitrified. He has been working at this process of vitrification since 1851, and year by year since then has made such steady progress and met with such success that now he boasts of having furnished the public with no less than 15,000 enamels. These indestructible enamels can be made of any size. You may have them small enough to be set in a ring, and you may have them large enough to hang in a picture-frame on your walls. They do not cost much, and they are executed with rare taste and fidelity. The result is most valuable, for there is no other method of rendering photographic pictures indestructible that approaches this in the fidelity with which it reproduces all the attributes of the photograph to be preserved, and in the assurance of safety which it affords. M. Lafon de Camersac, as the discoverer of the process, and as its most indefatigable and successful worker, has accordingly been honoured with one of the highest prizes which the jurors had it in their power to bestow. Other chief prizes have been awarded to other methods of rendering photographic impressions permanent. And now we come to what is called the carbon process, or carbon printing. Is it possible to print a photograph on paper so that it shall be as permanent as the impression of a steel engraving in printer's ink? Whatever we may come to hereafter, it is generally accepted at present that if a photographic print is to rival ordinary prints in permanence, this can only be by reproducing it in an ink which, like printer's ink, has carbon for its base. So there are a great number of ingenious processes for transferring to gradations of carbon the gra-

dations of light and shado which wo see in photographs. The essential theory of these proecsses is suggested by the experiments of M. Niepce, announced in 1827, and of Mr. Mungo Ponten, announced in 1839. There are substances, solublo in water, which beeome insoluble when snbjected to the agoney of light. If a photographie image be transferred to the surface of such a substance, the light passing through tho light parts of the negative and not through the dark will so act upon the surface that parts of it will wash away, and parts not. The surface wheu washed will bo raised or depressed according to the quautity of light which at different points has acted npon it; and the depressions thus contrived will accept a film of carbon, which in its varions gradations of thickness will more or less accurately represeut the lights and shadows of the photograph. The French have had great success in the producetion of their carbon prints, M. Garnier and M. Jessié du Motay being deemed worthy of gold medals. Most of tho Freneh carbon prints are described as prodneed by the process of Poitevin, who in 1855 sueceeded in turning to aceount the diseovery of Mr. Mungo Ponten. He combined carbon or any other pigment in a fine state of division with gelatine, starch, or gum, applied it over the surfaee of his paper, dried it, submitted it to the aetion of light under a photographic negative, and so first produced what is now usually ealled a carbon print. Many speeimens are exhibited of this form of picture; some are of great beanty, and all pretend to the permanence which belongs to ordinary engraving. The ehief English exhibitors of earbon printing are Mr. Woodbury, of London, Mr. Swan, of Newcastle, and Mr. Ponneey, of Dorchester. Among these, as a discoverer, Mr. Pouuecy stands first in point of time. His first announcements belong to the year 1858—that is, three years after Poitevin's first success. He is evidently on the right path, and he deserves some credit as oue of the earliest to understand the importanee of carbon printing. But a comparison of his results with those of other exhibitors iu the same line is uot satisfaetory. His prints are rather coarse in appearance; in the producetion of them a solvent is used whieh is expensive enough to interfere seriously with the commercial value of the proeess, and the specimens whieh are exhibited in Paris seemed to be varnished to seeure protectiou. Mr. Swan, of Newcastle, eomes after Mr. Pouncey in point of time—his diseovery dates from 1864; but he appears to have carried his process of carbon printing to a high degree of perfection, and he shows some excellent results of it in landscapes and portraits. Mr. Swan's process has been admirably worked by Mr. Nelson Cherrill, who exhibits so ne very fine work in landscape, priuted after this manner; and it always speaks well for a process when others are able to use it successfully, following the prescriptions of the originator. The latest proecss of carbon printing which has been invented in England is that of Mr. Walter Woodbury. It is wonderfully simple, and the results are full of promise. A picture is transferred to a thin sheet of gelatine; water washes away those parts of the gelatine on which the light has not acted; and wo have a relieved surfaee which perfeetly represents the light and shadow of the pieture. By hydraulie pressnre the gradations of relief on the gelatine are transferred to soft metal, and the subsequeut results—the impressions, whieh are of much softness and beauty—are produeed by mechanical means so simple that hundreds snd thousands of them eau be obtained in a few hours. If it is neeessary to produee numerous illustrations for a book in an incredibly short spaee of time, there are few proeesses which for beauty and rapidity of result can dare a comparison with that of Mr. Woodbury.

INFLUENCE OF VARIOUS ORGANIC AND INORGANIC BODIES UPON GERMINATION AND VEGETATION.*

BY M. CAREY LEA, PHILADELPHIA.

The following experiments were made to determine how far the germination of seeds, and subsequeut vegetation of the plants, would be controlled or influenced by the action of acid, alkaline and neutral bodies in solution in the water with which the seeds were moistened. It will be seen that the action of the strongest of our acids is insufficient to prevent germination when sufficiently dilute. And that the same may be said with respect to some of our most powerful oxidising and reducing agents.

The experiments were made by tying pieces of very thin muslin over glass vessels filled so full that the muslin dipped into the liquid. Grains of wheat were placed on this muslin, an equal number (20 perfect grains) on each. The capacity of the glasses was in every case 12½ ounces, and the water was replaced as fast as it evaporated. There was added respectively to each as follows:—

No. 1. 1 drop sulphuric acid.
2. 2 drops nitric acid.
3. 3 „ hydrochloric acid.
4. 5 grs. bicarbonate of potash.
5. 5 „ dry carbonate of soda.
6. 10 drops of rather weak liquid ammonia.
7. 5 grs. bromide of ammonium.
8. A pair of zinc and copper plates connected above the surface by a wire, and plunged in plain water.
9. Same, acidulated 3 drops hydrochloric acid.
10. Plain water for comparison.
11. 5 grs. sulphite of soda.
12. „ „ chlorate of potassa.

The results were as follows. At the end of
48 *hours*—Germinatiou evident in all. Most advanced, 4, 10, 11; medium, 2; least, 1, 3, 5, 6, 7, 8, 9, 12.
3 *days*—Most advanced, 4, 10, 11; medium, 5, 7, 8, 9, 12; least, 1, 2, 3, 6.
4 *days*—Most advanced, 4, 10, 11; medium, 5, 7, 12; less, 2, 6, 8, 9; least, 1, 3.
5 *days*—Most advaneed, 4, 10, 11; medium, 5, 6, 7, 8, 12; less, 1, 9; least, 2, 2.
6 *days*—Most advanced, 4, 10, 11; a little less, 5, 6, 7, 8; much behind, 1, 2, 3, 9.

Some curious deductions are to be drawn from these results.

Nitric acid did not at first very strongly affect the growth less than seven other substances, then eventually its influence beeame mueh more felt.

Bicarbonate of potash was the least injurious of all the substances tried, next came *sulphite of soda*, and next *carbonate of soda*.

No saline or other substance included, acted in any way as a stimulant, the product of the plain water as an average was fully up to any of the rest, though, as will hereafter be seen, the largest plant was formed in another vessel.

In the observations just made, I have endeavoured to show the daily course of action. In the following table I have summed up the total effects at the end of seven days, when experiment was discontinued.

Total results at the end of seven days.

	Proportion of substance in 100 of water.	No. of seeds that germinated out of 20.	Average height of young plants.	Total amount of vegetation.	Proportional amount of vegetation, taking that in plain water as 100.
1	SO_3, 0·016	18	·3	5·4	16·8
2	NO_5, 0·033	14	·2	2·8	8·7
3	HCl, 0·005	3	·3	·9	2·8
4	KO $2CO_2$, 0·083	16	2·	32·	100·
5	NaO CO_2, 0·083.....	14	1·5	21·	66·6
6	Ammonia	13	1·5	19·5	60·9
7	NH_4 Br, 0·083	11	1·4	15·4	48·1
8	Zn and Cu plates.....	16	1·3	20·8	65·0
9	Same with 5 drops HCl.	8	·4	3·2	10·
10	Plain water	16	2·	32·	100·
11	NaO SO_2, 0·083.....	12	2·	24·	75·
12	KO ClO_5, 0·083.....	13	·5	6·5	20·3

This table shows:

That an oxidising agent, chlorate of potash (12), is not more injurious than a reducing one; sulphite of soda (11), to germination, but after germination it kept down vegetation one-fourth.

* *American Journal of Science and Art.*

That free acids are much more injurious than alkalies, especially hydrochloric acid (3).

That the presence of an electric pair did not check germination, but reduced vegetation by one-third.

That the presence of free sulphuric acid had no injurious influence upon germination, actually a larger proportion of seeds started than with pure water, whereas with hydrochloric acid only three seeds germinated out of twenty. But sulphuric acid reduced vegetation to one-sixth, hydrochloric to 2·8 per cent.

With bicarbonate of potash, precisely the same number germinated as with plain water, and attained precisely the same height.

In (9) the HCl acted less energetically than in (3), doubtless because it was rapidly taken up by the zinc.

Plants in the sulphite of soda attained the same height as those in plain water. But the number germinating was one-fourth less.

A second set of trials was made, in which a number of other substances were experimented upon, and at the same time sulphuric acid was added in much smaller quantity, and sulphite of soda in much larger. Capacity of the vessel as before, 12½ oz.

No. 1. Plain water.
2. Cane sugar, 30 grains.
3. Gum, 30 grains.
4. Glycerine, 1 fluid drachm.
5. Sulphuric acid, ¼ drop.
6. Citric acid, 5 grains.
7. Sulphite of soda, 20 grains.
8. Permanganate of potash, 2 grains.
9. Nitrate of ammonia, 20 grains.

The object of this series was to include in the experiments certain organic substances such as the three first on the list, a vegetable acid, and some salts whose influence might be active and characteristic.

At the end of thirteen days, during which the weather was very cold (Dec. 10 to Dec. 23), the following was the condition of affairs.

Nos. 2 and 4 (cane sugar and glycerine) were as far advanced as the plain water (No. 1), but no further. These substances, therefore, had not stimulated either germination or early vegetation in the wheat seeds.

In 3 (gum solution) fewer seeds germinated than in either of the foregoing, but the most advanced plants were *fully one-half higher* than any in 1, 2, or 4.

Nos. 7 and 9 (sulphite of soda and nitrate of ammonia) were somewhat in advance of those in plain water, but not very much.

In 6 (citric acid) a large number germinated, and appeared healthy, but they did not obtain one-fourth the height of those in No. 1, and what was very remarkable, they *formed no roots at all.*

In 5 (sulphuric acid) the plants were more advanced than in the citric acid, and had healthy roots extending down into the liquid.

In 8 (permanganate of potash) the condition of affairs most resembled that in the citric acid. In both, the seeds had germinated and produced healthy looking plants an inch in height. But *no roots whatever* had been formed in either case.

Some of the above sets of seeds were allowed to vegetate for a month, and developed curious results.

Those plants which grew in the vessels containing solutions of cane sugar, gum, and glycerine, respectively, grew as fast and flourished as well as those in plain water, but it could scarcely be said that, at the end of the month, they presented any superiority.

But whilst the roots of the plants in plain water, in gum and in glycerine, reached to the very bottom of the vessel, becoming four to five inches long, those in the cane sugar did not exceed an inch in length, just dropping below the surface of the water, which had become lowered by spontaneous evaporation; and this although the plants were as high as in the others just mentioned, viz., six to eight inches, and as numerous and healthy in every respect. This would seem to indicate that they received their nutriment in a more concentrated form, if it were not that these plants, though equally large and healthy as those in plain water, exhibited no superiority over them.

THE TEACHING OF CHEMISTRY IN SCHOOLS.

Mr. W. H. Walenn, F.C.S., one of the compilers of "Abridgments of Specifications for the Commissioners of Patents," and author of an admirable little elementary work on Practical Chemistry,* has sent us the answers given to questions put by the Select Committee of the House of Lords on the Public Schools Bill, in 1865. As the question of the advisability of adding chemisty to the ordinary branches of general education, has lately been discussed by the British Association and scientific journalists, we lay these answers before our readers:—

Dr. W. A. Miller, F.R.S., Professor of Chemistry in King's College, London, amongst the branches of physical science to be taught in public schools, recommends "*Chemistry* of the non-metallic elements; the atmosphere; combustion; respiration; water; general nature of acids; bases and salts." In imparting the instruction, Dr. Miller states that, "The object to be kept in view is not to make accomplished students in physical science, or even to induce the pupils to follow it, but to ensure a knowledge, *exact as far as it goes*, of the elementary principles of some of the most important branches of science. . . . . The instruction will be best imparted by lectures, with experimental illustrations and diagrams, with frequent oral and written examinations during the course."

Professor Tyndall, F.R.S., says, "The first principles of chemistry ought also to be taught in our public schools. . . . . In all possible cases the close questioning of the pupils ought to go hand-in-hand with the performance of the experiments. Such questioning compels attention, keeps the mind alert, and enables the teacher to extract its full value and significance from every fact. This method I think preferable to that of formal lectures. The instruction thus imparted would be valuable, not only as conveying information of great importance, or as enabling its recipients to interpret natural phenomena, but also and mainly as a means of intellectual discipline, of exercising and strengthening all the faculties of the mind."

Professor Huxley, LL.D., F.R.S., amongst other observations, makes the following:—"On the whole, therefore, I am strongly in favour of confining instruction in science for disciplinal purposes to elementary physics (with incidental chemistry) and botany, with the addition of the outlines of human physiology. A boy well grounded in the rudiments of these sciences would find none of the methods and very few of the conceptions of the others absolutely strange."

Dr. Sharpey, LL.D., F.R.S., gives his opinion as to the branches of physical science in which instruction should be given in our public schools, as follows:—"It appears to me that instruction in physical science in our public schools should be confined to those branches in which the knowledge imparted can, so far as it extends, be rendered exact and solid. The elements of natural philosophy and of inorganic chemistry are well adapted to this end, provided that instruction be carried on mainly by practical lessons, at which the pupils take part themselves in the experiments, and are permitted to handle and work with apparatus."

At the meeting of the British Association, at Birmingham, in 1865, Dr. W. A. Miller, the President of the Chemical Section, in his address, spoke as follows:—"It is not to be supposed that, because science is to form a part of the education of every gentleman, therefore it will constitute the pursuit of his mature years. . . What is needed is, that he possess sufficient knowledge of its principles to qualify him to appreciate the advances which science is making, and to enable him to contribute intelligently towards its progress. It is certain that, if science is to form a useful portion of the education of a boy, it must be undertaken with the determination to deal with it as a matter of study: the same pains must be taken to ascertain that each boy understands the principle, for example, of the air-pump, or the meaning of the thermometric scale, as that he comprehends a rule in syntax or the analysis of a sentence. To do this, however, the instruction given must not be limited to a dry lecture on the principles of some branch of science once a week. These principles must be logically unfolded, and illustrated, when necessary by experiments, and the structure of machines and apparatus explained by suitable dia-

* "Little Experiments for Little Chemists." Allman. 1s. 6d.

grams; the boys must be taught to take notes of each lecture; and the ground covered must be made secure by following up the lectures with frequent examinations, both oral and written. These are as necessary to the successful study of a science, as the writing of exercises, or the practice of construing is to the accurate study of a language. Science is not merely to supply her facts; she is to be employed to develop the powers of the mind, and to discipline them for action. Hence it is of far more importance to instil principles, and to cultivate precision in observation, in thought, and in description, than it is to load memory with mere facts, however valuable. In short, the system of *cramming* is to be eschewed, while the formation of habits, of comparing, reasoning, and judging is to be encouraged in every way."

NOTES AND QUERIES

Scarlet Ink.—Dr. A., in the *Chemical News*, gives the following formula:—Take garancin of best quality one ounce, digest with liquor ammoniæ one ounce, add one pint of cold distilled water, triturate together in a mortar, filter, and dissolve in the solution half an ounce of gum arabic; or take pure carmine twenty grains, liquor ammoniæ three fluid ounces, dissolve, then add eighteen grains of powdered gum.

Proof Spirit.—*F. W.*—According to Mr. Drinkwater's accurate determinations the specific gravity of absolute alcohol at 60° F. is 0·79381, and the composition of proof-spirit—

Alcohol by weight	49·24
Water by weight	50·76
	100·00

The specific gravity of proof spirit at 60° F. is ·91984.

Copying Ink.—*"Bradford."*—Mr. Watts, in his "Dictionary of Chemistry," states that the following preparation is much recommended:—4 pts. by weight of logwood extract are dissolved in a mixture of 60 pts. vinegar, and 70 pts. water; and 3 pts. copperas, 2 pts. alum, 2 pts. gum-arabic, and 4 pts. sugar are then added.

Locock's Lotion for the Hair.—*J. H.* (Leamington) inquires as to the best mode of making this hair-wash. We know of no formula besides that given in "Cooley's Cyclopædia of Receipts," which is as follows:—Expressed oil of mace 1 oz., liquified at a gentle heat with olive oil, ½ oz.; and when cold formed into an emulsion with rose water, ½ pint, spirit of rosemary 2½ fl. oz.; stronger liquor of ammonia 1½ fl. dr. Perhaps some of our readers can supply other formulæ.

Varnish for Paper.—*J. H.*—The simplest preparation is that known as "Crystal Varnish," which is formed by agitating Canada balsam, thinned by the application of a gentle heat, with an equal quantity of good turpentine until they are thoroughly incorporated, and allowing the mixture to stand for a few days in a warm place. Parrish, in his "Practical Pharmacy" recommends the following process for Varnishing Labels on Bottles. The label is to be stuck upon the bottle by means of mucilage of tragacanth or other convenient paste, and smoothed by laying a piece of paper upon it and pressing it uniformly with the thumb. When it has become dry it is to be sized by painting over it a thin coating of clear mucilage of gum-arabic. This coating should extend a very little beyond the edges of the label. When it has become dry again it should be varnished with spirit varnish. (The latter cannot be advantageously prepared on a small scale, but the crystal varnish might, we should think, be substituted for it.) This double coating of gum and varnish improves the appearance of the label, and at the same time renders it durable and impervious to moisture.

Liquor Bismuthi.—Mr. Schacht, of Clifton, has called attention to the fact that his well-known preparation Liquor Bismuthi (Schacht) differs considerably from the Liq. Bismuthi et Ammoniæ Citratis of the B. P. In the Pharmacopœia process, the nitric acid to the extent of about 2 oz. in each pint is left in the preparation, and all the soluble impurities notoriously prevalent in metallic bismuth (such as arsenic, copper, antimony, etc.) are retained. In the original preparation (Schacht's) these are said to be carefully removed. In addition, therefore, to the constituents of Liq. Bismuthi (Schacht), namely, bismuth oxide, citric acid, and ammonia; the Pharmacopœia preparation will contain nitric acid, (certainly), arsenic and copper, (almost invariably) and antimony, etc. (frequently).

M. C. S.; *E. B. V.*; *A Subscriber.*—We will endeavour to obtain the information required, and communicate with you by post. The C. and D. for March, 1865, is still in stock.

J. A. W.—Dr. Attfield's book is intended to supply this want. See preliminary notice in the present number.

Communications from Albert E. Ebert and J. H. Holton have been received with much pleasure.

CORRESPONDENCE

OUR JOURNAL.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Sir.—As a constant reader of, and occasional contributor to the Chemist and Druggist, may I be allowed to ask your motive for altering the original form of publication? The question is, simply whether you consider your journal as a literary organ, or a mere trade circular. In the latter case you cannot be blamed for adopting the newspaper form, but I speak for those amongst us who like to bind and preserve our volumes for after reference. Personally, I should like the Journal to supplant the Newspaper, and I deplore the present inconvenient shape.

Ever yours, Joseph Ince.

26, St. George's-place, Hyde Park Corner, S.W.
Sept. 18, 1867.

TRADE REPORT.

Although money continues so plentiful, and at low rates of discount, there has been little or no improvement in the market for chemicals, the business carried on being chiefly for actual wants. On the whole trade is sound, and there is every prospect of an early improvement in trade generally. The sales in Tartaric Acid have continued small at 13½d. for English, and 13d. to 13¼d. for foreign. Oxalic is again lower, but rather more business done at 8¼d. A larger business has been done in Citric Acid at 1s. 10½d., and now the price is firm at 1s. 11d. Iodine is steady at about 9¼d. Quinine is lower, small sales of French made at 4s. 3d., and English at 4s. 9d. to 4s. 10d. Bichromate remains quiet at 5d. Prussiate of Potass is lower, and very small sales at 12½d. to 12¾d. Sal-Acetos is rather cheaper, but last transactions were at 10¾d. A fair business has been done in Chlorate of Potass at 12d. Cream of Tartar is dull, and few sales at 82s. for first quality. More doing in Sal Ammoniac at 33s. 6d. to 35s. 6d. Sulphate of Copper is in moderate demand at 25s. to 26s. Bleaching Powder is quiet at 14s. Large sales have been made in Flour of Brimstone at 13s. 6d. to 14s., but is now quieter. Roll is steady at 10s. to 10s. 6d. Soda Crystals are lower, and only small sales; the last prices paid were 95s. to 97s. 6d. A good business done in Ash at 2¼d. to 2⅜d. up to 2⅝d. for the best. Caustic Soda is quiet at 16s. 6d. to 17s. 6d., and 70 deg. at 23s. to 24s. Bicarbonate is quiet at 11s. 6d. No change in Alum. A large trade has been done in Sulphate of Ammonia at 13s. 6d., at which price there are now few sellers. Refined Saltpetre is steady at 23s. 6d. to 24s. for the best English. Linseed Oil has improved, and is now steady at 39s. to 39s. 3d. here, and 37s. 6d. in Hull. Rape is also dearer. Brown 39s. to 39s. 6d. spot and month, and large sales made

first four months at 41s. 6d. Extensive sales made in Petroleum, and the price has risen to 1s. 7d. on the spot, and 1s. 8d. forward. Several cargoes to arrive have been sold at 1s. 7¾d. The last price in Pennsylvania was 36 cents. for p. w. Only small sales made in Turpentine, at 28s. for French and 29s. for American. Rosin is steady at 8s. for common American up to 16s. 6d. to 17s. for fine.

At the late Drug sales business was rather more extensive and generally, prices were pretty steady. Some parcels of good and fine pale Castor Oil sold at 6¾d. to 7¼d., and Baker's Crystal ditto (New York) at 7¼d. to 7¾d. New Newfoundland Cod Liver sold at 5s. to 6s.; Norwegian 3s. 9d. to 7s. Citronelle has sold at 3d. to 3¼d. Lemongrass 7¼d. to 7¾d. A few lots of Oil of Aniseed sold at 12s. 3d. to 12s. 4½d., being rather dearer. Oil of Cassia is dull at 6s. 9d. China Rhubarb is rather easier, in some cases 3d. per lb.; good flat sold at 5s. to 5s. 9d.; middling, 3s. 3d. to 3s. 5d.; ordinary, 2s. 4d.; and ordinary to fair round, 1s. 6d. to 3s. 6d. Barks are without change. East India Gums are rather dearer. Turkey Blue Galls are better and scarce; Japan are rather easier. Cape Aloes are without change, but Barbadoes are again rather lower. Jamaica Beeswax is 10s. dearer, and more in demand; other sorts are also firmer. Cubebs are 3s. to 4s. cheaper. Balsam Capivi is steady. Cocculus Indicus is 2s. dearer. Turkey Opium steady, good and fine 15s. 6d. to 16s. Ipecacuanha is cheaper; good sold at 7s. 6d. Jalap steady. Turmeric rather easier. Some parcels of Bombay and Tinnivelly Senna sold at late rates. Cochineal is 1d. to 2d. lower. Safflower is better; some fine sold at £8 10s. to £9. Logwood is quiet, but Red Sanders is dearer; 112s. 6d. to 115s. paid. Saltpetre is steady. Gambier is easier, common selling at 17s. 3d. to 17s. 6d. In other goods there is no change worth reporting.

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.*

	1867.		1867.		1866.		1866.	
	s. d.		s. d.		s. d.		s. d.	
ARGOL, Cape, per cwt.	62 6	..	75 0		70 0	..	82 6	
French	48 0	..	70 0		56 0	..	76 0	
Oporto, red	26 0	..	28 0		30 0	..	32 0	
Sicily	50 0	..	55 0		67 6	..	70 0	
Naples, white	60 0	..	70 0		66 0	..	71 0	
Florence, white	75 0	..	80 0		85 0	..	90 0	
red	65 0	..	70 0		77 0	..	80 0	
Bologna, white	78 0	..	80 0		87 0	..	90 0	
ARROWROOT..(duty 4½ per cwt.)								
Bermuda..per lb.	1 0	..	1 6		1 0	..	1 4	
St. Vincent	0 2¾	..	0 5½		0 3½	..	0 5½	
Jamaica	0 2½	..	0 3½		0 3	..	0 4½	
Other West India	0 0	..	0 0		0 2½	..	0 3½	
Brazil	0 0	..	0 0		0 2½	..	0 3	
East India	0 2	..	0 3		0 2½	..	0 4	
Natal	0 3	..	0 7½		0 3½	..	0 7½	
Sierra Leone	0 4	..	0 4½		0 3½	..	0 4	
ASHES....per cwt.								
Pot, Canada, 1st sort	33 6	..	0 0		35 0	..	36 0	
Pearl, ditto, 1st sort	40 0	..	0 0		46 0	..	0 0	
BRIMSTONE,								
rough....per ton	135 0	..	0 0		130 0	..	0 0	
roll	200 0	..	210 0		195 0	..	205 0	
flour	280 0	..	290 0		245 0	..	260 0	
CHEMICALS,								
Acid—Acetic, per lb.	0 4	..	0 0		0 4	..	0 0	
Citric	1 10	..	1 10½		1 11	..	2 0	
Nitric	0 5	..	0 5½		0 5	..	0 5½	
Oxalic	0 8½	..	0 0		0 11	..	0 11½	
Sulphuric	0 0¾	..	0 1		0 0¾	..	0 1	
Tartaric crystal	1 1½	..	0 0		1 3½	..	1 4	
powdered	1 2½	..	0 0		1 4½	..	1 5	
Alum ....per ton	150 0	..	155 0		150 0	..	155 0	
powder	170 0	..	0 0		160 0	..	170 0	
Ammonia, Carbonate, per lb.	0 5	..	0 5½		0 5½	..	0 5½	
Sulphate ....per ton	240 0	..	250 0		220 0	..	245 0	
Antimony, ore	0 0	..	220 0		180 0	..	200 0	
crude ....per cwt	23 0	..	24 0		24 0	..	25 0	
regulus	42 0	..	45 0		34 0	..	0 0	
French star	45 0	..	0 0		34 0	..	0 0	
Arsenic, lump	16 0	..	16 6		15 0	..	0 0	
powder	7 6	..	7 9		6 6	..	7 0	
Bleaching powder	14 0	..	0 0		15 0	..	0 0	
Borax, East India refined	0 0	..	0 0		0 0	..	0 0	
British	65 0	..	67 6		65 0	..	0 0	
Calomel ....per lb.	2 5	..	0 0		2 5	..	0 0	
Camphor, refined	1 10½	..	0 0		1 6½	..	0 0	
Copperas, green ....per ton	55 0	..	60 0		52 6	..	55 0	
Corrosive Sublimate, per lb.	1 11	..	0 0		1 11	..	0 0	
Green Emerald	0 0	..	0 0		0 0	..	0 0	
Brunswick ....per cwt.	0 0	..	0 0		0 0	..	0 0	
CHEMICALS.	1867. s. d.		1867. s. d.		1866. s. d.		1866. s. d.	
Iodine, dry ....per oz.	0 9½	..	0 9½		0 9½	..	0 9½	
Magnesia, Carbon....per cwt.	42 6	..	0 0		42 6	..	45 0	
Calcined....per lb.	1 6	..	1 8		1 6	..	1 8	
Minium, red ....per cwt.	21 6	..	22 0		22 0	..	23 6	
orange	33 6	..	0 0		32 6	..	0 0	
Potash, Bichromate..per lb.	0 5	..	0 0		0 5½	..	0 5½	
Chlorate	1 0	..	1 0½		1 1	..	1 1½	
Hydriodate..per lb.	12 0	..	0 0		0 0	..	0 0	
Prussiate....per lb.	1 0½	..	1 1		1 0½	..	1 1	
red	1 9½	..	1 10		1 9½	..	1 10	
Precipitate, red .... per lb.	2 5	..	2 6		0 0	..	2 6	
white	0 0	..	2 5		2 5	..	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-Aeetos ....per lb.	0 10¾	..	0 0		1 1	..	1 1½	
Sal-Ammoniac ....per cwt.								
British	33 6	..	35 6		35 6	..	37 6	
Salts, Epsom	8 6	..	8 9		8 6	..	9 6	
Glauber	5 6	..	6 0		5 0	..	6 0	
Soda, Ash....per deg.	0 2¾	..	0 2¾		0 2½	..	0 3½	
Bicarbonate..per cwt.	14 6	..	15 6		17 6	..	18 6	
Crystals ....per ton	95 0	..	100 0		0 0	..	120 0	
Sugar Lead, white per cwt.	37 6	..	38 0		28 0	..	0 0	
brown	28 0	..	29 6		27 0	..	0 0	
Sulphate Quinine....per oz.								
British, in bottle	4 9	..	4 10		5 0	..	0 0	
Foreign	4 3	..	4 4		4 3	..	0 0	
Sulphate Zinc....per cwt.	0 0	..	0 0		0 0	..	0 0	
Verdigris....per lb.	0 11	..	1 0		0 11	..	1 0	
Vermilion, English	2 9	..	3 4		2 9	..	3 0	
China	2 6	..	2 8		3 0	..	3 6	
Vitriol, blue or Rom. per ct.	25 0	..	26 0		26 0	..	27 6	
COCHINEAL, per lb.								
Honduras, black	3 3	..	4 4		3 0	..	4 0	
silver	2 6	..	3 10		2 6	..	3 9	
Mexican, black	3 3	..	3 7		3 4	..	3 7	
silver	3 0	..	3 3		3 4	..	3 5	
Lima	0 0	..	0 0		0 0	..	0 0	
Teneriffe, black	3 3	..	4 0		3 4	..	4 3	
silver	3 1	..	3 7		3 3	..	3 5	
DRUGS,								
Aloes, Hepatic ....per cwt.	80 0	..	180 0		100 0	..	180 0	
Socotrine	180 0	..	290 0		140 0	..	290 0	
Cape, good	30 0	..	32 0		36 0	..	40 0	
inferior	17 0	..	20 0		20 0	..	35 0	
Barbadoes	80 0	..	280 0		52 0	..	260 0	
Ambergris, grey ....per oz.	35 0	..	40 0		30 0	..	35 0	
Angelica Root ....per cwt.	0 0	..	0 0		0 0	..	0 0	
Aniseed, China star	0 0	..	120 0		75 0	..	78 0	
German, &c.	30 0	..	42 0		25 0	..	40 0	
Balsam, ani da ....per lb.	1 4	..	1 5		1 8	..	0 0	
Capivi	1 6	..	1 7		1 8	..	0 0	
Peru	6 9	..	7 0		5 6	..	0 0	
Tolu	2 2	..	2 3		3 0	..	3 3	
Bark, Cascarilla....per cwt.	16 0	..	28 0		18 0	..	29 0	
Peru, crown & grey per lb.	1 4	..	2 0		1 2	..	2 3	
Calisaya, flat	2 6	..	2 9		1 6	..	2 9	
quill	2 2	..	2 6		1 10	..	2 4	
Carthagena	0 10	..	1 4		1 0	..	1 6	
Pitayo	0 9	..	1 8		0 9	..	2 0	
Red	2 6	..	12 0		2 6	..	13 0	
Bay Berries....per cwt.	0 0	..	0 0		0 0	..	0 0	
Bucca Leaves....per lb.	0 2½	..	0 9		0 4	..	0 10	
Camomile Flowers	35 0	..	90 0		40 0	..	120 0	
Camphor, China	140 0	..	0 0		120 0	..	122 6	
Canella alba	22 0	..	27 0		50 0	..	55 0	
Cantharides ....per lb.	2 4	..	0 0		2 6	..	2 7	
Cardamoms, Malabar, good	6 6	..	7 6		5 8	..	6 3	
inferior	4 3	..	6 0		3 6	..	5 0	
Madras	4 3	..	5 9		3 0	..	5 2	
Ceylon	2 6	..	2 9		3 0	..	3 9	
Cassia Fistula....per cwt.	29 0	..	32 0		18 0	..	35 0	
Castor Oil, 1st pale ..per lb.	0 6½	..	0 7½		0 7	..	0 7½	
2nd	0 6	..	0 6½		0 6¾	..	0 7	
inferior and dark	0 5½	..	0 6		0 6½	..	0 6¾	
Bombay, in casks	0 5½	..	0 0		0 6	..	0 6½	
Castorum	1 0	..	20 0		1 0	..	20 0	
China Root ....per cwt.	28 0	..	30 0		20 0	..	40 0	
Cocculus Indicus	28 0	..	30 0		26 0	..	30 0	
Cod Liver Oil ....per gal.	4 0	..	6 6		4 6	..	9 0	
Colocynth, apple ....per lb.	0 7	..	0 11		0 7½	..	1 0	
Colombo Root ....per cwt.	25 0	..	50 0		90 0	..	100 0	
Cream Tartar								
French	82 0	..	82 6		82 6	..	85 0	
Venetian	0 0	..	0 0		87 6	..	0 0	
grey	72 6	..	75 0		80 0	..	82 6	
brown	70 6	..	72 6		80 0	..	0 0	
Croton Seed	80 6	..	105 0		250 0	..	260 0	
Cubebs	47 0	..	50 0		72 6	..	80 6	
Cummin Seed	17 0	..	20 0		17 0	..	23 0	
Dragon's blood reed	200 0		220 0		300 0	..	400 0	
lump	85 0	..	280 0		105 0	..	280 0	
Galangal Root	13 0	..	14 0		10 6	..	12 6	
Gentian Root	16 0	..	0 0		17 0	..	18 0	
Guinea Grains .... per cwt.	53 0	..	56 0		62 0	..	68 0	
Honey, Narbonne	50 0	..	70 0		50 0	..	70 0	
Cuba	26 0	..	41 0		26 0	..	40 0	
Jamaica	23 0	..	55 0		25 0	..	55 0	
Ipecacuanha ....per lb.	7 6	..	0 0		10 0	..	11 6	
Isinglass, Brazil	2 0	..	3 10		2 2	..	5 4	
East India	1 10	..	4 2		1 6	..	4 0	
West India	3 8	..	3 11		3 7	..	4 2	
Russian	9 6	..	19 6		7 6	..	11 0	
Jalap	0 9	..	5 0		0 9	..	5 6	

DRUGS—*continued.*	1867.		1867.		1866.		1866.	
	s. d.		s. d.		s. d.		s. d.	
Juniper Berries ....per cwt.	0 6	..	10 0		8 6	..	10 0	
German and French ..	0 0	..	10 0		9 0	..	10 0	
Italian	0 0	..	10 0		9 0	..	10 0	
Lemon Juice .....per deg.	0 0¾	..	0 0⅞		0 0¾	..	0 0⅞	
Liquorice .....per cwt.		..						
Spanish	65 0	..	70 0		65 0	..	75 0	
Italian	50 0	..	60 0		50 0	..	70 0	
Manna, flaky	3 9	..	4 0		4 6	..	5 0	
small	1 0	..	1 6		1 10	..	2 0	
Musk .....per oz.	15 0	..	32 0		18 0	..	33 6	
Nux Vomica	13 6	..	15 0		9 0	..	11 0	
Opium, Turkey	15 0	..	17 0		17 6	..	19 6	
Egyptian	3 6	..	7 0		3 6	..	7 0	
Orris Root .....per cwt.	30 0	..	42 0		33 0	..	37 0	
Pink Root ..... per lb.	0 10	..	0 11		3 6	..	4 0	
Quassia (bitter wood) per ton	130 0	..	135 0		90 0	..	120 0	
Rhatany Root .....per lb.	0 7	..	1 0		0 4	..	1 0	
Rhubarb, China, round	2 6	..	9 6		2 6	..	10 0	
flat	2 0	..	7 6		2 0	..	7 6	
Dutch, trimmed ..	9 0	..	12 0		9 0	..	10 0	
Russian	9 0	..	10 0		0 0	..	16 0	
Saffron, Spanish	36 0	..	39 0		32 0	..	36 0	
Salep..... per cwt.	125 0	..	130 0		120 0	..	130 0	
Sarsaparilla, Lima	1 0	..	1 4		1 0	..	1 4	
Para	0 11	..	1 1		0 11	..	1 1	
Honduras	0 10	..	1 5		0 10	..	1 6	
Jamaica	1 0	..	2 1		1 0	..	2 2	
Sassafras .....per cwt.	8 0	..	9 0		9 0	..	0 0	
Scammony, virgin ..per lb.	30 0	..	38 0		30 0	..	44 0	
second	11 0	..	23 0		12 0	..	23 0	
Senoka Root	1 6	..	1 7		2 4	..	2 6	
Senna, Calcutta	0 0	..	0 0		0 0	..	0 0	
Bombay	0 2½	..	0 4½		0 3	..	0 5	
Tinnovelly	0 1¾	..	0 9		0 4	..	0 10	
Alexandria	0 5	..	0 10		0 3	..	0 9	
Snake Root	2 4	..	2 6		7 3	..	0 0	
Spermaceti, refined	1 6	..	0 0		0 0	..	1 2	
Squills	0 2	..	0 3½		0 2	..	0 3½	
Tamarinds, E. India, per cwt.	25 0	..	29 6		32 0	..	36 0	
West India	16 0	..	28 0		12 0	..	22 0	
Terra Japonica—								
Gambier ....per cwt.	17 3	..	24 0		22 6	..	32 0	
Cutch	20 0	..	35 0		26 0	..	32 0	
Valerian Root, English	20 0	..	20 0		20 0	..	20 0	
Vanilla, Mexican.....per lb.	4 0	..	16 0		5 0	..	14 0	
Wormseed.....per cwt.	5 6	..	6 0		5 6	..	6 0	
GUM—Ammoniac, drop, per cwt.	200 0	..	240 0		120 0	..	170 0	
lump	100 0	..	165 0		40 0	..	85 0	
Animi, fine pale 210 0	..	230 0		210 0	..	270 0		
bold amber.....190 0	..	200 0		190 0	..	220 0		
medium	160 0	..	180 0		100 0	..	180 0	
small and dark	100 0	..	150 0		100 0	..	150 0	
ordinary dark	70 0	..	105 0		40 0	..	97 0	
Arabic, E. I., fine pale picked	86 0	..	88 0		115 0	..	120 0	
unsorted, good to fine	73 0	..	80 0		95 0	..	105 0	
red and mixed	55 0	..	68 0		85 0	..	90 0	
siftings	35 0	..	45 0		45 0	..	50 0	
Turkey, picked, good to fine	190 0	..	220 0		170 0	..	220 0	
second and inferior.	85 0	..	160 0		95 0	..	160 0	
in sorts	70 0	..	90 0		46 0	..	70 0	
Gedda.....	49 0	..	50 0		61 0	..	66 0	
Barbary, white	70 0	..	75 0		95 0	..	100 0	
brown	86 0	..	90 0		85 0	..	90 0	
Australian.....	55 0	..	63 0		55 0	..	67 0	
Assafœtida, fair to good	57 0	..	90 0		35 0	..	95 0	
Benjamin, 1st quality	360 0	..	700 0		350 0	..	400 0	
2nd „	240 0	..	350 0		210 0	..	300 0	
3rd „	50 0	..	240 0		50 0	..	240 0	
Copal, Angola, red	60 0	..	70 0		70 0	..	80 0	
pale	0 0	..	0 0		85 0	..	90 0	
Benguela	60 0	..	70 0		60 0	..	80 0	
Sierra Leone .. per lb.	0 4½	..	0 11½		0 4	..	0 11½	
Manilla..... per cwt.	26 0	..	45 0		25 0	..	48 0	
Dammar, pale .....per cwt.	65 0	..	75 0		52 6	..	61 0	
Galbanum.....	240 0	..	280 0		200 0	..	210 0	
Gamboge, picked, pipe.....	760 0	..	800 0		400 0	..	460 0	
in sorts	600 0	..	700 0		280 0	..	400 0	
Guaiacum.....per lb.	0 9	..	2 6		0 7	..	1 8	
Kino ..... per cwt.	170 0	..	200 0		300 0	..	380 0	
Kowrie	30 0	..	75 0		27 0	..	75 0	
Mastic, picked ..... per lb.	5 0	..	6 0		10 0	..	11 0	
Myrrh, gd. ana fine, per cwt.	150 0	..	180 0		150 0	..	180 0	
sorts.....	80 0	..	140 0		80 0	..	140 0	
Olibanum, pale drop	77 6	..	85 0		69 0	..	75 0	
amber and yellow	67 6	..	75 0		59 0	..	68 0	
mixed and dark..	24 0	..	40 0		20 0	..	46 0	
Senegal	90 0	..	95 0		100 0	..	115 0	
Sandrac	80 0	..	90 0		80 0	..	100 0	
Tragacanth, leaf	220 0	..	320 0		200 0	..	280 0	
in sorts	30 0	..	200 0		70 0	..	180 0	
OILS.....per tun	£ s.		£ s.		£ s.		£ s.	
Seal	36 10	..	40 0		47 0	..	0 0	
Sperm, body.....	110 0	..	0 0		130 0	..	0 0	
Cod	38 0	..	0 0		49 10	..	0 0	
Whale, Greenland	0 0	..	0 0		0 0	..	0 0	
South Sea, pale.....	38 10	..	39 0		42 0	..	45 0	
East India Fish.....	35 0	..	0 0		35 0	..	0 0	
Olive, Galipoli ..... per ton	70 0	..	0 0		58 0	..	0 0	
	s. d.		s. d.		s. d.		s. d.	
Florence, half-chest ..	0 0	..	0 0		0 0	..	0 0	
Cocoanut, Cochin ..per cwt.	56 0	..	57 0		58 6	..	59 6	
Ceylon	51 0	..	52 0		48 6	..	49 0	
Sydney	45 0	..	50 6		43 0	..	49 0	
Ground Nut an Gin								
Bombay.....	50 0	..	0 0		53 0	..	0 0	

OILS—*continued.*	1867.		1867.		1866.		1866.	
	s. d.		s. d.		s. d.		s. d.	
Madras .....per cwt.	54 0	..	55 0		50 0	..	51 0	
Palm, fine	40 0	..	41 6		43 6	..	44 0	
Linseed	39 0	..	39 3		39 6	..	40 0	
Rapeseed, Engbsb, pale	40 0	..	40 6		43 0	..	0 0	
brown	39 0	..	0 0		40 6	..	0 0	
Foreign pale	41 0	..	0 0		44 0	..	44 6	
brown	38 6	..	39 0		42 6	..	0 0	
Lard	60 0	..	61 0		62 0	..	0 0	
Tallow	36 0	..	33 0		35 0	..	35 0	
Rock Crude ..... per ton	£11 10	..	0 0		£15 0	..	£ 0 0	
OILS, Essential—								
Almond, essential ....per lb.	35 0	..	0 0		40 0	..	0 0	
expressed	1 10	..	0 0		2 3	..	0 0	
Anisced	12 3	..	12 4½		9 2	..	9 3	
Bay .....per cwt.	80 0	..	90 0		80 0	..	20 0	
Bergamot .....per lb.	11 3	..	19 0		10 6	..	16 0	
Cajeputa, (in bond) ..per oz.	0 2	..	0 2½		0 2¾	..	0 3	
Caraway .....per lb.	5 0	..	6 6		5 0	..	6 6	
Cassia	6 0	..	6 0		7 6	..	0 0	
Cinnamon (in bond) ..per oz.	1 3	..	3 5		1 6	..	3 9	
Cinnamon Leaf	0 4	..	0 6		0 4	..	0 6	
Citronel	0 3	..	0 3¾		0 3¼	..	0 5½	
Clove	2 7	..	0 0		2 8	..	0 0	
Croton	1 2	..	1 6		1 2	..	1 6	
Juniper.....per lb.	1 6	..	1 9		1 9	..	2 0	
Lavender	2 9	..	3 0		2 0	..	3 3	
Lemon	5 0	..	8 0		5 0	..	7 0	
Lemongrass.....per oz.	0 5	..	0 7½		1 0	..	1 2	
Mace, ex.	0 6	..	0 7		0 1	..	0 2½	
Neroli	3 6	..	4 6		3 6	..	4 6	
Nutmeg	0 0	..	0 7		0 3	..	0 0	
Orange .....per lb.	5 0	..	7 6		5 0	..	7 6	
Otto of Roses .....per oz.	17 0	..	20 0		17 0	..	20 0	
Peppermint, per lb.								
American	21 0	..	21 6		15 6	..	16 0	
English	32 0	..	42 0		30 0	..	33 0	
Rhodium .....per oz.	0 0	..	0 0		0 0	..	0 0	
Rosemary .....per lb.	1 9	..	2 0		1 9	..	2 0	
Sassafras	3 0	..	3 6		3 0	..	3 6	
Spearmint	16 0	..	25 0		21 0	..	0 0	
Spike	0 0	..	0 0		0 0	..	0 0	
Thyme	2 0	..	4 0		1 8	..	2 0	
PITCH, British .....per cwt.	8 6	..	0 0		8 6	..	0 0	
Swedish	0 0	..	0 0		0 0	..	0 0	
SALTPETRE, per cwt.								
English, 6 per cent. or under	19 0	..	19 9		20 0	..	20 6	
over 6 per cent.....	18 3	..	18 9		19 6	..	20 0	
Madras	15 0	..	16 0		13 0	..	20 0	
Bombay.....	14 0	..	17 0		15 0	..	19 6	
British-refined	23 0	..	24 0		25 0	..	25 6	
Nitrate of soda.....	11 6	..	12 6		11 6	..	13 0	
SEED, Canary .....per qr.	56 0	..	60 0		52 0	..	64 0	
Caraway, English .. per cwt.	0 0	..	0 0		0 0	..	0 0	
Gorman, &c.....	40 0	..	44 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.....	64 0	..	0 0		62 0	..	63 0	
Calcutta	68 6	..	70 0		69 0	..	70 0	
Bombay	70 0	..	0 0		71 0	..	0 0	
Egyptian	0 0	..	0 0		0 0	..	0 0	
Mustard, brown....per bshl.	8 6	..	9 0		0 0	..	0 0	
white	7 0	..	9 0		20 0	..	35 0	
Poppy, East India....per qr.	62 0	..	0 0		57 6	..	0 0	
Rape, English	0 0	..	0 0		0 0	..	0 0	
Dantbo	59 0	..	60 0		0 0	..	0 0	
Calcutta fine.....	54 0	..	0 0		54 0	..	54 6	
Bombay	58 0	..	62 0		56 0	..	60 0	
Teel, Sesmy or Gngy.....	64 0	..	67 0		65 0	..	68 0	
Cotton .....per ton	200 0	..	210 0		160 0	..	170 0	
Ground Nut Kernels per ton	360 0	..	0 0		340 0	..	0 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	..	0 0		3 0	..	0 0	
Japan	0 0	..	0 0		0 0	..	0 0	
Sponge, Turkey, fine picked	12 0	..	14 0		14 0	..	18 0	
fair to good	5 0	..	11 0		6 0	..	12 0	
ordinary ..	2 0	..	4 0		1 6	..	4 0	
Bahama ..	0 8	..	1 9		0 8	..	2 6	
TURPENTINE, Rough, per ct.	0 0	..	0 0		10 0	..	0 0	
Spirits, French	28 0	..	0 0		37 0	..	38 0	
American, in casks	29 0	..	0 0		33 0	..	0 0	
WAX, Bees, English	180 0	..	190 0		180 0	..	185 0	
German	170 0	..	190 0		195 0	..	200 0	
American	150 0	..	170 0		185 0	..	190 0	
white fine	0 0	..	0 0		0 0	..	0 0	
Jamaica	165 0	..	170 0		160 0	..	170 0	
Gambia	170 0	..	175 0		175 0	..	190 0	
Mogadore	130 0	..	160 0		140 0	..	165 0	
East India.....	160 0	..	190 0		160 0	..	190 0	
ditto, bleached	165 0	..	215 0		190 0	..	220 0	
vegetable, Japan	54 0	..	95 0		51 0	..	88 0	
WOOD, DYE, per ton								
Fustic, Cuba.....	150 0	..	175 0		150 0	..	170 0	
Jamaica	150 0	..	155 0		100 0	..	105 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	82 0	..	85 0		90 0	..	95 0	
Jamaica ...	75 0	..	77 6		77 6	..	80 0	