Viewing these diagrams no one would suppose that carbonate of lime was used, for there is no notice taken of the carbonic acid, or is the mucilage, which forms part of the lemon juice, at all mentioned.

Then follows an incorrect list of the saturating power of citric acid with the different alkalis, which I shall arrange along side of the true proportions:—

We are told that “half an ounce of fresh lemon juice is equivalent to 16.88 grs. of crystallized citric acid, and, therefore, neutralizes

Carb. of soda	32.0 grs.	should be	34.7
Sesquicarb. do.	18.4	—	20.0
Carb. of potash	15.5	—	20.1
Bicarb. of potash	22.4	—	24.3
Sesquicarb. am.	13.0	—	14.2
Bicarb. ditto	17.5	—	19.0”

The crystallized citric acid of commerce contains only one equivalent and a third of water, instead of two, as stated by Dr. S., therefore its equivalent number is 70 instead of 76.

DILUTE HYDROCYANIC ACID.—The Doctor has inserted an incorrect diagram, taken from Dr. Reid’s “Chemistry,” showing the changes which take place when ferrocyanide of potassium is distilled with sulphuric acid.

When using Dr. Ure’s method of analyzing hydrocyanic acid, by binocide of mercury, it is not prussiate of mercury that is formed, consisting of 2 equiv. of prussic acid to one of base, but 2 of cyanogen to 1 of mercury, forming a bicianuret of mercury.

NITRIC ACID.—Here, again, the decomposition and diagram are wrong, for nitric acid of the Pharmacopœia is a sesquihydrate, not a bihydrate.

COMPOUND POWDER OF ANTIMONY.—In the observations on this compound we are told that “antimony combines with oxygen in three different proportions:—1 equivalent of antimony, with 1 of oxygen, forming the oxide; 1 of antimony, with $1\frac{1}{2}$ of oxygen, forming antimonious acid; and 1 of antimony, with 2 of oxygen, forming antimonie acid.” Now, not one of these proportions is right, for the oxide, or protoxide, is a sesquioxide, composed of 1 equivalent antimony, and $1\frac{1}{2}$ equivalent oxygen; antimonious acid, 1 metal and 2 oxygen; and antimonie acid, 1 metal and $2\frac{1}{2}$ oxygen, yet in the notes, under “Sesquisulphuret of antimony,” the Doctor tells us that the white substance thrown down, on the addition of water to the chloride, is the sesquioxide combined with some chloride of the metal. Surely he does not mean to say that antimonious acid is precipitated by water, and yet it would appear so, taking his own composition of the different oxides.

SOLUTION OF ARSENITE OF POTASS.—If Dr. S. mean that the quantity of carbonate of potash is not in sufficient quantity to form a neutral arsenite, he is quite right, but he

has forgotten that the carbonate of potash contains an equivalent and a half of water, so that the whole of his calculations are wrong. I will here remind Dr. S. that the equivalent of arsenious acid is 50 and not 54, so that 80 parts of arsenious acid will require 133.6 of carbonate of potash of the Pharmacopœia, instead of 103.7.

CHLORIDE OF LIME.—Properties. “A dry white powder, smelling faintly of chlorine, strong taste, *probably* soluble in water, the solution containing both chlorine and lime,” the undissolved portion being hydrate of lime, which still retains some chlorine, so that it is not certain whether chloride of lime dissolves in water or not; but the solution most undoubtedly contains both chlorine and lime.

CHLORIDE OF LEAD is not composed of hydrochloric acid and lead, nor does it crystallize in *circular* anhydrous crystals.

TARTRATE OF POTASS.—Here, also, Dr. Spillan has taken no notice of the water in the carbonate of potash, for 36 of bitartrate of potash will saturate 15.95 of carbonate, instead of 12.7, as stated by Dr. S., so that the quantity of carbonate ordered by the College, viz., 16, is not “considerably in excess.”

Occasionally symbols are introduced, and generally, I believe, they are tolerably correct. We have, however, carbonate of soda

represented by the following:—($\ddot{S} + \ddot{N} a$) + 10 H. This is a problem which I must leave my readers to solve for themselves, for I fear that I have already intruded far beyond the limits allowed; certainly much further than I intended; but were I to point out all the errors which I have noticed in the work I should be compelled to draw too largely on the patience of all.

THE NEW PHARMACOPŒIA.

THE DECOCTIONS, &c. — SARSAPARILLA.

To the Editor of THE LANCET.

SIR:—After the very able exposure in your Journal of the errors and defects of the new Pharmacopœia, it may seem unnecessary to say much more on the subject. I have, indeed, in certain journals, seen some rather frivolous objections brought against this work of “collective wisdom;” but it appears to me, that the changes in names and measures, and the multiplication of synonyms is very confusing, and serves no useful purpose, but tends unnecessarily to bewilder the memory. Some complain that more of the new alkaloid remedies are not added; but they do not consider that the medicines from which these are prepared are, for the most part, preferable to their isolated elements,—far more manageable, safe, and salutary in their

action. The greatest defect, I think, is in the continued omission of many of the more valuable indigenous remedies; for many are the plants of this country which are neglected by the faculty, although possessing incomparably greater value than various of the foreign drugs, besides the advantage of being fresh and genuine. The changes to which I allude are severely complained of by practical men,—by the chemist and druggist. This affords the strongest proof of their inexpediency. It seems extraordinary, after the various improvements in pharmacy, that the old *destructive* methods of forming extracts should still be continued by the College; and equally strange that the old *cookery* plan, with respect to decoctions, should be perpetuated. Sarsaparilla is directed to be boiled for six hours, which common sense and experience teach us is an effectual way to render the medicine inert and useless. This has been practically proved, in a paper published in the *Medico-Botanical Society's Transactions*, and in *THE LANCET*, and confirmed by able chemists on the Continent. Amongst the latter, the subject has given rise to some discussion, as appears from a recent paper by M. Lecanu, who begins thus:—"Following the example of some pharmacologists who, unfortunately, have not been imitated so often as they should have been, M. Soubeirau has lately made many valuable experiments on several of our pharmaceutical preparations, more especially on those of aconite, sarsaparilla, and rhai-tany. It must be confessed, that the results which have been deduced from the analyses of these substances have been occasionally denied. Thus, M. Caventon is of opinion, that the experiments of Dr. Hancock, and some other foreign chemists, do not so incontrovertibly prove the destructibility, or at least the speedy alteration, of the active principle of sarsaparilla by *heat*, that we should abandon the use of the syrup prepared by long decoction. But whatever weight may be attached to these objections, the researches to which they apply must still appear of incontestible utility to all; and M. Lecanu remarks, that, in the present state of organic chemistry, there is danger in trusting to the data which it furnishes, to the rejection of processes which may one day originate ulterior discoveries; and that every labour must be regarded as beneficial which tends to make a wise application of the data of analysis."—*Renshaw's Med. and Surg. Journal*, May 30th, 1835.

"In boiling good sarsaparilla," says Dr. Hancock, in a communication to *THE LANCET*, in 1829, "a strong effluvium is exhaled, in which, no doubt, a part of the active principle resides; and, besides, long coction oxidizes a portion of the extractive, and renders it unsoluble." It is there stated, too, that the active properties of sarsaparilla are not confined to the bark of the root, as some

have asserted, but that they likewise exist in the parenchyma or pith, and that water alone is not a sufficient solvent of the active principles. This appears to be proved by the method required for obtaining its alkaloid; and which, when prepared, is found to be imperfectly soluble in water, without the addition of an acid or alcohol. According to Dr. Hancock's experience, the genuine sarsaparilla is, when duly prepared, a powerful and efficacious medicine; but a great proportion of the roots brought to this country, he says, are *spurious*; and the genuine sarsa is in a great measure spoiled by the long coction ordered by the Colleges. The more medicinal kinds, he states, may be known by their peculiar, nauseous, and subacid flavour, which is the only certain and ready test we have of the value of this root; this flavour is most remarkable in that of the Rio Negro, the *smilax syphilitica*. Dr. H. found the active principle of the latter but partially soluble in a watery menstruum, for which reason he adds a small quantity of sulphuric acid and alcohol to render it perfectly so. The doctor states, likewise, that these additions are equally useful for obtaining the active principles in the infusion of cinchona, and many other vegetable remedies which, formed in this manner, are rendered more efficient and salutary (especially if administered warm) than by any other method whatsoever. All the essential properties of the plant are thus evolved in a light and convenient form. The excessively laboured processes now in vogue for extracting an alkaloid, at the expense of all the other principles, he considers, and with reason I conceive, to be excessively absurd, wasteful, and irrational. (*Vide Quarterly Journal of Science*, 1830.)

By M. Palotti, and other chemists, three or four alkaloids have been noticed, as the active principles of sarsaparilla, namely *smilacine*, *paraline*, and *salseparine*, but M. Poggiale reduces them to one only. He says that they are all decomposed in the same manner by heat, and he finds that the *pith* as well as the *bark*, contains salseparine. It results from his experiments, that the active principle is very imperfectly taken up by water, but readily soluble in alcohol acids, and æther, and that, when dissolved it is very bitter and nauseous. (*Vide Journal de Pharmacie*, Oct., & *Phil. Mag.* Dec. 1834. This, by the way, might serve to show, that sarsaparilla is not, as some modern writer (Duncan, Brande, and others) have asserted a *merely mucilaginous inert substance*!

Strange to say, these improvements have scarcely been noticed, except by a very few judicious persons, and by foreigners. Some indeed, of the most eminent pharmaceutical chemists on the Continent have taken advantage of them, and borne testimony to their merits. It is to be lamented that these deficiencies should still be tolerated, and

hus serve as an excuse (as they do, in some measure,) for the empirical introduction of certain preparations, such as the above-named infusion of sarsaparilla, the liquor opii sedativus, the tinctura lobelia, and some others.

Unfortunately, such improvements are debarred from general use in this country by the very powers which ought to be foremost in investigating and also adopting the best methods, in all that pertains to the preparation of medicinal compounds. But I have heard it said, (and by one of the Fellows,) that it would be "derogatory to the dignity of the College, to notice the business of pharmacy!" It is truly absurd to authorise such a corporate body expressly to superintend and direct in a matter so momentous to the public health.

It is lamentable that, whilst foreigners take advantage of our discoveries or inventions, we, by the domination of ignorance, are debarred the same, and that only empirics should reap the advantages of freedom in this respect, for the chemist and druggist are compelled to follow the directions laid down in the *Codex Pharmacœuticum*. I am, Sir, your obedient servant,

C. MACKENZIE.

34, Star-street, Edgeware-road,
Feb. 21, 1837.

OBSTACLES TO, AND DELAY IN, THE ADOPTION OF THE NEW PHARMACOPŒIA.

To the Editor of THE LANCET.

SIR:—In a former number of THE LANCET, I mentioned a few of the inconsistencies and inconvenient alterations which exist in the new Pharmacopœia: I now beg to call your attention again to the subject, for the purpose of clearing up, if possible, the misunderstanding which prevails with respect to the adoption of that work. We are, in fact, in a worse predicament now than before the new publication appeared, for so many medical men denounce it altogether, and refuse to be guided by its directions, that compounders of medicine are at a loss to know how to ascertain the intentions of prescribers. With regard to some preparations, the names or compositions of which have been altered, the consequences are likely to be prejudicial to patients.

Judging from the prescriptions which I have seen during the last month, I should imagine that not one prescription in twenty is written with reference to the new Pharmacopœia. The old names are generally used, and those which have now a double meaning in such cases, appear (from the dose, or from other circumstances,) to be used with their former significations. In

some cases, however, the new terms are employed, and an inference, which is opposite to the above, may be drawn from the dose prescribed. For instance:—If two or three times the ordinary dose of hydrocyanic acid be ordered, we may presume that the new kind is intended, that being of about a third the strength of Scheele's acid. But if, in the same prescription, the old nomenclature be employed, the quantity becomes a matter of uncertainty. It is true, that by adhering to the recognized Pharmacopœia the druggist is fulfilling his duty, according to the strict letter of the law, and is therefore screened from blame; but those who take a proper interest in the subject are not satisfied with a subterfuge of this kind. It is their duty, as well as their desire, to fulfil the *intention* of prescribers, and in all cases of doubt to apply for an explanation. If a druggist be told, by a medical man, to prepare a prescription, or prescriptions, by the old formulæ, he cannot do otherwise than comply; and if common sense direct him to the conclusion that this was intended, he is equally bound to act accordingly.

During the present state of uncertainty on the subject, it would tend to remove doubt, and ensure accuracy, for medical men to indicate, by the letters "P. N.," when they wish the new formulæ to be adopted. However the druggists may regret the inconvenience to which they are needlessly subjected by some of the alterations in the Pharmacopœia, there is no disposition on their part to thwart the intentions or dispute the authority of the College; but in consequence of the dissatisfaction which the work has given to the profession generally, they are in doubt respecting the propriety of immediately taking that course which they would otherwise have adopted without hesitation. The anxiety which they naturally feel to avoid mistakes, makes them particularly anxious to have a clear understanding on the subject.

That a judicious and *practically* improved Pharmacopœia would have been gladly adopted, is proved by the eagerness with which the appearance of the present work was anticipated, and the rapidity with which the edition has been sold; and no one can feel more anxious than myself to co-operate with others who are connected with the retail trade, in adopting and promoting a true reform on a subject of so much importance.

The points to which I have alluded are principally such as naturally occur to a person engaged in the manipulation of prescriptions, though they might probably escape the notice of those who merely prescribe. It is to be regretted that the effort to form a national Pharmacopœia was not successful, and I trust that before long the obstacles to that proceeding will be overcome. Much might be said on the advantage of uniting the three volumes, but it would be digress-