

This process is somewhat complex and troublesome, and requires knowledge and skill; and, worse than all, requires that a stock of weak percolate of different densities be carried from one making to the next for each fluid extract. But, as it appears to be absolutely the only means of accomplishing the end well and properly, there is no choice between it and those means which give results too imperfect for the present state of pharmacy.

This process of repercolation has been described in previous papers, but it may be useful here to offer a table of examples, carried out to an exaggerated extent, to exhibit its scope and capacity; and yellow cinchona, dandelion, and senna are selected for illustration. All these drugs were taken in the very fine powders as met with in the markets. One Pharmacopœia portion of 7680 grains of each was taken for each percolation, and three percolations of each drug were made. The percolate from the first portion of each was taken to moisten and percolate the second, and the percolate from the second portion of each was taken to moisten and percolate the third.

The menstruum used for yellow cinchona was a mixture of one part, by weight, of glycerin, and three parts, by weight, of stronger alcohol. That used for the senna was diluted alcohol, and that used for the dandelion was a mixture of equal weights of stronger alcohol and water. The yellow cinchona and dandelion were each moistened with 8 f̄s, of menstruum and percolate, and the senna with 9 f̄s. All the moistened powders were passed through a sieve before packing, and were packed and managed alike, each pint as it came from one funnel being poured on top of the other.

It will be seen by reference to the first table that it is estimated that the Pharmacopœia may get in yellow cinchona 55 per cent. of the extract from the bark, or 866 grains in the two pints. By the last cinchona column of the table of repercolations, it will be seen that if the first four pints from the third portion be mixed together, each pint of the mixture will contain almost as much extract of cinchona as the official two pints, and the whole four pints will make, by adding the next four pints of the column, eight pints, having nearly the strength of the official preparation, and this from three portions of powder.

If the fluid extract of cinchona be changed in the new Pharmacopœia to double the present official strength, and the standard for percolation be unchanged, then this column would yield about 2½ pints of double the present official strength. But if the standard be increased so that the preparation shall contain 80 per cent. of the extract, or 1244 instead of 866 grains, then the first pint of the column is not strong enough, and another portion must be percolated with the percolate from the third portion. This portion may be larger or smaller than the others in proportion to the wants of the operator, and will yield accordingly, the larger portions being more economical.

In the case of dandelion (should not the Pharmacopœia change the English name to taraxacum?) the Pharmacopœia is estimated to get 86 per cent. or 3222 grains of the extract in its pint. This would make the first two pints of the last dandelion column nearly official. But if the standard be reduced to the 80 per cent. uniformity, or 2993 grains instead of 3222 to the pint, the column would yield nearly 2½ pints of that strength.

In the case of senna, the Pharmacopœia, as estimated, may get 78 per cent. or 1972 grains of the extract in its prescribed pint of fluid extract. The last senna column of the table would yield about 2½ pints of this strength. But if the standard be increased to 80 per cent., or 2032 grains of extract to the pint, the column would yield just 2 pints of this strength.

Of course the weaker percolates of these final columns of this table yield proportionately more when applied to other fresh portions of powder, but in some instances at least, if not in all, repercolation cannot be carried on indefinitely, because of the weak percolate becoming overloaded with extract—the 20 per cent. which is rejected and goes on accumulating—which is assumed here to be medicinally feeble. After a year or two of active practice, it becomes necessary to recover the alcohol from the weaker of the weak percolates, only carrying on the stronger ones. In no case need each separate portion of the residuary weak percolate be kept separate from one making to the next, but the different strengths may be grouped together so as to preserve the whole in three or four bottles for each substance.

From the above considerations it would follow that a fluid extract representing a drug minim for grain, might be defined or described as a solution containing 80 per cent. of the extract of that drug, which is soluble in a given prescribed menstruum. And fluid extract of senna, for example, would be powdered senna repercolated with diluted alcohol until equal volumes of the menstruum and percolate weighed at the same temperature, differ to the extent of 14.5 per cent. = 988 grains to the pint.

(To be continued.)

## REVISION OF THE CHEMICAL NOMENCLATURE OF THE PHARMACOPŒIA.

By J. ATTFIELD, Ph. D.

The names of Pharmacopœial chemicals should fulfil certain functions or possess definite qualities, positive or negative, namely,—

1. The name should, as far as possible and practicable, indicate composition. This Lavoisierian principle is, as I have already shown, one of necessity as well as expediency.

2. One name should be associated with only one substance; but the converse I would by no means urge, namely, that one substance should be known by only one name, synonyms being useful both from a theoretical and a practical point of view.

3. A name, even if fallen out of use, should not be transferred to a substance having properties different from the original substance.

4. The name of an official chemical substance, that is, a name officially recognised in national pharmacopœias, should possess the minimum of instability. This quality is most important. Verbal changes almost of any kind are unpopular; changes in chemical nomenclature have done much to retard the progress of chemistry amongst the people; but changes

in the names of pharmacopœial chemicals are objectionable in the interest of medical practitioners, their patients, and pharmacists.

The free employment of Latin and Greek numerals in a chemical name was strongly advocated by the late Professor Miller. But though highly useful in general chemical literature for indicating details of composition, the principle is too dependent on hypothesis respecting atomic values and weights, and too susceptible of disturbance caused by new discoveries to possess the element of permanence; hence it must be avoided in pharmaceutical chemistry.

5. A pharmacopœial name should admit of being either easily spoken or written, both in the full and in the contracted form, in modern languages and in Latin.

6. When close resemblance between two salts is indicated by identity in all but one of the syllables of their names, that syllable should be at the commencement of the names and not at the end, where it would be liable to be omitted by a prescriber. Indeed, such variations are often indicated with most usefulness by a separate word altogether, confusion and even mischief being thereby avoided. Thus, for calomel and corrosive sublimate the names *subchloride of mercury* and *perchloride of mercury* are greatly to be preferred to *mercurous chloride* and *mercuric chloride*; for a physician, in writing a prescription, should contract the former to *hydr. subchlor.* and *hydr. perchlor.*, which are still sufficiently distinctive, while the others would both be liable to be contracted to *hyd. chlor.*, and a patient perhaps be killed by corrosive sublimate instead of cured by calomel. So *green iodide of mercury* and *red iodide of mercury* are better than *mercurous iodide* and *mercuric iodide*, or *green sulphate of iron* and *persulphate of iron* to *ferrous sulphate* and *ferric sulphate*; any greater precision that may be desired being given by chemical formulae.

7. A name should not be changed for mere purpose of euphony, real or fancied; thus, chlorhydric for hydrochloric.

8. Names of pharmacopœial chemicals should be consistent with each other.

9. The chemical names employed in pharmacy should be consistent with those used in other branches of applied chemistry, and with the language of scientific chemistry and general chemical literature. I say consistent, certainly not identical. For I believe the time has come when, by making a few slight alterations in the terminations of a few of our chemical names, we shall have a system of pharmacopœial nomenclature which, while perfectly harmonious with, is quite independent of scientific chemical nomenclature, and which therefore contains greater elements of permanence than any yet adopted. These alterations, be it noted, are in the terminations of the names only; hence the contracted names almost universally used by physicians and pharmacists would in no way be interfered with,—an argument which, if somewhat left-handed, must be admitted to be one of great strength.

### THE PROPOSED NAMES.

The following is a table of names of all the chemical substances in the British Pharmacopœia. Column I. contains the official names; Column II. the names now suggested for employment in pharmacy, medicine, and the next edition of the British Pharmacopœia; Column III. the unitary nomenclature of modern chemistry.

\* Extract from a paper read before the Pharmaceutical Society of Great Britain, April, 5th 1871, and reported in the *Chemist and Druggist*, April, 15th.