

strange proceeding for Americans to sanction officially a procedure so opposed to the spirit of scientific sincerity.

So far as our Pharmacopoeia is concerned, there is no ground whatever for seceding from the method of our National Museum, Bureaus of Plant and Animal Industry, Smithsonian and Carnegie Institutions, Department of Agriculture and other National bodies, and from the code employed in all the vast literature of the Federal Government. Indeed, to do so would be to frustrate the object for which the list of *excepta* was formed. That object was to further convenience by avoiding the necessity for making changes in current usage. To introduce changes in the names of the Pharmacopoeia to which we have become accustomed would certainly promote inconvenience, and such inconvenience would not have the justification of being incurred in the interest of principle.

POPULAR NAMES OF CRUDE DRUGS.*

BY ARNO VIEHOEYER.

It is not the intention to discuss the merit of popular names for crude drugs. No one familiar with the subject will deny the need for a common name, in addition to or substitution for a scientific name, which is often necessarily highly technical and too involved to be readily understood or remembered in common trade.

The purpose of this note is simply to advocate greater care in the use of common names. Where the product is already well known, even by a name which is obviously unsatisfactory, the desirability for another, though proper name, might not be so apparent. In cases, however, where new products are introduced, it is essential that some thought be given to the proper common, as well as scientific, name. A name may already be attached to the product, given to it by some one qualified or not qualified. Discrimination must therefore be used in the choice, and great care in the creation of a name, if no suitable trade name is available.

The common drug names used by the trade and adopted in the Pharmacopoeia and National Formulary probably represent sufficient examples for the very varied bases underlying the selection of common drug names. Further examples may readily be found in pharmaceutical dispensatories and in books on floras¹ and on common names.^{2,3} The general subject of common plant names is interestingly discussed in recent articles in *Science*⁴ and elsewhere.⁵

* Read before Scientific Section, A. Ph. A., City of Washington meeting, 1920.

¹ Britton and Brown, "Illustrated Flora of the Northern States and Canada," Vol. I, II, III (1913).

² Lyons, A. B., "Plant Names Scientific and Popular," 1907.

³ Zimmer, George Frederick, "A Popular Dictionary of Botanical Names and Terms," 1913; Miller, William, "A Dictionary of English Names of Plants," 1884; Schelle, Solomon, *Wörterbuch der Botanischen Kuntsprache*, 1886.

⁴ Adams, J., "The Popular Names of North American Plants," *Science*, 45, 114-115, 1917; Bigelow, M. A., "Popular Names of Plants," *Science*, 46, 16-17, 1917.

⁵ Chase, Agnes, "Some Causes of Confusion in Plant Names," *Journal of Forestry*, 159-162, 1919.

VARIED BASES OF COMMON NAMES OF CRUDE DRUGS.

Some are identical with the scientific name, as far as either the genus or the species name is concerned. Adoption of genus name: Acacia (*Acacia senegal* Willd.), arnica (*Arnica montana* L.), cannabis (*Cannabis sativa* L.), colchicum (*Colchicum autumnale* L.), lobelia (*Lobelia inflata* L.), lycopodium (*Lycopodium clavatum* L.), strophanthus (*Strophanthus kombe* Oliver); and of species name: condurango (*Marsdenia condurango* Nichols), stramonium (*Datura stramonium* L.).

Some represent modifications of either the genus name: aconite (*Aconitum napellus* L.), valerian (*Valeriana officinalis* L.); or species name: asafoetida (*Ferula asafoetida* (Bunge) Regel), chamomile (*Matricaria chamomilla* L.), cubeb (*Piper cubeba* L. f.).

Others represent more marked changes of the scientific name: with regard to the genus, fennel (*Foeniculum vulgare* Miller), licorice (*Glycyrrhiza glabra* L.), pepper (*Piper nigrum* L.); with regard to the species: scammony (*Convolvulus scammonia* L.); or with regard to both genus and species: caraway (*Carum carvi* L.), peppermint (*Mentha piperita* Smith).

It is conceded in this discussion that some of the scientific names have been derived from the common native or collector's names, as in the case of ipecac, which served as a basis for both the scientific and trade name, while, with regard to collector's names, the reverse is true.

There are still other common names for crude drugs which have no apparent connection with the scientific name, and these may be identical with the native name, such as pipsisewa (*Chimaphila umbellata* (L.) Nutt.), wahoo (*Euonymus atropurpureus* Jacq.), squaw-root (*Conopholis americana* (L. f.) Wallr., or *Caulophyllum thalictroides* (L.) M.), kava-kava (*Piper methysticum* Forst.). Or they may be based wholly or partly on geographical origin, the terms designating the valley, hill, town, or shipping port, country or hemisphere where the particular drug originated: Peruvian bark, the common name for cinchona, originating in the mountainous regions of Peru, Bolivia, and Columbia; jalap, first found near the Mexican town of Jalappa, a name now serving for the product obtained from *Exogonium purga* (Wend.) Benth. Lily-of-the-valley, as the common name for *Convallaria majalis* L., may also be mentioned here.

Common names may have been derived from physical characters, either of the drug itself or of conspicuous parts of the drug plant, as in the case of Shepherd's purse (*Bursa Bursapastoris* (L.) Brit.), referring to the purse-like shape of the pods and the rattling of the seeds; white lady's slipper (*Cypripedium candidum* Willd.), referring to the form of the flower; bladderwrack (*Fucus vesiculosus* L.); star grass (*Aletris farinosa* L.); calabar bean (*Physostigma venenosum* Balf.); nutmeg (*Myristica fragrans* Houtt.); nutgalls (*Quercus lusitanica* Lam.); and the different snake-roots, discussed later on. Conspicuous characters produced by certain chemical compounds present may determine the name: taste, bitter-sweet (*Solanum dulcamara* L.), bitter apple (*Citrullus colocynthis* (L.) Schrad.), bitter-wood (*Quassia amara* L., *Picrasma excelsa* Swz.) Planch.; smell, muskroot (*Ferula sumbul* Hook. f.); or color, bloodroot (*Sanguinaria canadensis* L.), pink root (*Spigelia marylandica* L.), golden-seal or yellow root (*Hydrastis canadensis* L.), marygold (*Aletrida officinalis* L.), and blue flag (*Iris versicolor* L.), referring to the color of the flowers. Or the names may be derived from certain physiological characters:

Deadly nightshade (*Atropa belladonna* L.), cramp bark (*Viburnum opulus* L.), purging cassia (*Cathartocarpus fistula* (L.) Pers.), scurvy grass (*Cochlearia officinalis* L.), wormseed (*Artemisia pauciflora* (Ledeb.) Weber) wormwood (*Artemisia absinthium* L.).

Names also may be used that can have no definite meaning to the general trade. A product came to our attention labeled "Golden Gate Seed." The importer, who imported the product as a mustard substitute through San Francisco, evidently wanted to keep the origin and nature of the product secret, having already a market for it. Another product, offered as "Spluegen mustard," proved to be an Indian oil seed, traded by a Swiss firm with headquarters in Spluegen, Switzerland, and a branch in India.

Concerning the meaning of other terms, such as *Matico*, we are still in doubt, since the literature does not give us a satisfactory explanation of the origin. It has also been the practice in such cases, where the name used was evidently not correct, to prefix the words "so-called," but such a procedure is no solution of the difficulties.

The name "Yellow Root" for *Hydrastis* has often caused the collection of other yellow roots by inexperienced collectors. The name "Unicorn Root" (*Aletris farinosa* L.) and "False Unicorn Root" (*Chamaelirium luteum* (L.) A. Gray) for the roots of plants not very closely related, has also caused confusion and adulteration, certainly not always intentional. Numerous instances probably are known to men in the trade where the use of the name "Snake Root" in connection with drugs caused misunderstanding and mistakes. It is true that the term is often further defined, mainly by geographical terms, as Virginia snakeroot (*Aristolochia serpentaria* L.), Texas snakeroot (*Aristolochia reticulata* Nutt.), senega snakeroot or Southern senega snakeroot (*Polygala senega* L.), Canada snakeroot (*Asarum canadense* L.), Samson's snakeroot (*Dasystephana saponaria* (L.) Small), or (*Psoralea pedunculata* (Mill.) Vail.), black snakeroot (*Aristolochia serpentaria* (L.) or *Cimicifuga racemosa* (L.) Nutt.). Nevertheless, the term "snakeroot" is very indefinite and should be dropped in favor of the more definite terms already available.

The trade term "Ipecac" appears to be a well selected common name; it is an abbreviation of the species name *ipecacuanha* (*Cephaelis ipecacuanha*) (Brot.) A. Rich., (*Rubiaceae*), meaning a creeping plant causing vomiting. Unfortunately, it also has been misused in applying it to other drugs which were not official. Such cases are that of "White or Wild Ipecac" (*Euphorbia ipecacuanha* L.), a domestic plant belonging to the *Euphorbiaceae*, and the one of another "White Ipecac" (*Ionidium ipecacuanha* Vent.), indigenous to Brazil, being devoid of any alkaloid and belonging to still another family, namely, the *Violaceae*.

The terms "caraway" and "peppermint" may be considered as strikingly good combinations for trade terms.

A few rules may perhaps be stated in a suggestive way, which might prove of value in the consideration of a suitable trade term.

RULES SUGGESTED FOR SELECTING COMMON NAMES.

1. The name should preferably be derived from the scientific name, representing an abbreviation, modification or translation of the meaning of the Latin scientific name.

2. No name should be chosen which is already used for a plant or plant product distinctly different in certain respects. This rule should especially be followed in cases where these products are derived from plants not very closely related, belonging, for instance, to different genera or families.
3. Preferably the name should indicate or suggest the specific characters of the product.
4. The statement of the country of origin is often useful, although the importance has decreased with extent of cultivation.
5. The selection of a term adaptable to international use appears advisable.
6. The name should be rather short, easy to spell and remember.

DISCUSSION OF NEW TERMS.

Steps have been taken to put some of these suggestions into practice, notably in the case of Brazilian Jalap (*Piptostegia pisonis* Mart.), which has recently been imported during the shortage of the normal supplies of jalap and scammony. It is felt that this name is inadequate, if not directly misleading. Holmes¹ apparently used it first in literature, referring to it as one of the most common jalaps of Brazil. Since then the name has been used by a few other scientists, who were evidently fully aware that it was not one of the jalaps. While it belongs to the same family, *Convolvulaceae*, and probably contains a saponin, as other physiologically active plants of this family, the plant from which it is derived is *Piptostegia pisonis* Mart., while jalap, as is well known, is derived from *Exogonium purga* (Wend). Lind. The resins (alcohol extract) are evidently different in composition. We have tentatively adopted the name "Piptostegia Root,"² pending further study of the plant, which Farwell³ suggests might be classified as *Operculina macrocarpum* (L.) Urban.

The name "Jalap," as has been pointed out, originated with the town Jalappa, in Mexico. The name "Mexican Scammony" has also been used recently in connection with a drug obtained from Mexico, collected near Orizaba, and derived from *Ipomoea orizabensis* (Pell.) Ledanois. It yields a resin, jalapin, though in different proportions than that occurring in scammony. This latter, however, is derived from a different plant, *Convolvulus scammonia* L., and therefore the name "Mexican Scammony Root" for *Ipomoea orizabensis* cannot be considered satisfactory.⁴ Why not call it Orizaba Root, or even Orizap, a name suggesting a certain similarity to jalap? The Orizaba root and its resinous extract are without doubt of value and can afford to have their own name.

Like other *Borraginaceae*, the drug obtained from *Macrotomia cephalotes*, D. C., so-called "Syrian Alkanet," is known to contain coloring principles similar to those occurring in Alkanet, which, however, belongs to another genus, *Alkanna tinctoria* (L.) Tausch.⁵ There are forty species of *Alkanna* growing in the Mediterranean region. The name "Syrian" is therefore no definite distinction, aside

¹ Holmes, "Brazilian Jalap," *Pharm. J.*, 95, 671, 1915.

² Alsberg, C. L., Viehoveer, A., Ewing, C. O., "Some Effects of the War upon Crude Drug Importations," *J. A. Ph. A.*, 8, 467, 1919.

³ Farwell, Oliver Atkins, "Brazilian Jalap and Some Allied Drugs," *J. A. Ph. A.*, 7, 852-5, 1918.

⁴ *Service and Regulatory Announcement. Chemistry*, 24, January 9, 1920, Item 309.

⁵ Ewing, C. O., Clevenger, J. F., "So-Called Syrian Alkanet, *Macrotomia cephalotes*, D. C.," *J. A. Ph. A.*, 7, 591-594, 1918.

from the fact that *Macrotomia* is a different genus. The name "Macrotomia Root" is tentatively suggested. "Macrotanet" would represent a coined name suggesting similarity to Alkanet.

Digitalis thapsi L. was imported during the war, and the Name "Spanish Digitalis" has been tentatively adopted,¹ since the drug came from Spain, where it is said to be indigenous. *Digitalis purpurea* L., however, is also grown in Spain, and the name is therefore not fully satisfactory. A name like "Digithapsis" would be more definite. As is well known, the adoption of the name "Digitalis" by the Pharmacopoeia for the official drug is restrictive and necessitates the modification of names for non-official *Digitalis* species.

Names like Austrian, Greek and Spanish Sage; Chinese, Japanese, and Indian mustard, are names which we have adopted and used,² since the products are all true sages or mustards and have originated in these countries, where they are still rather exclusively grown. Tori, a name for an Indian oilseed, offered as mustard, was also adopted,³ though the modification to "torape," indicating the rape character rather than mustard, would probably be an improvement. The choice of "Chinese Colza" for a Chinese oilseed (*Brassica campestris chinoleifera* Viehoveer), also offered in trade as a mustard, was largely based on the above suggestions.⁴ It expresses the colza (*campestris*) character, intimating that it is an oil seed yielding colza oil, that it is not the common European colza, but of Chinese origin, and has, as such, distinctive qualities of its own.

CONCLUSION.

Our professional forefathers accepted the medicinal value of many drugs on hearsay, and often adopted the common name which the collectors back in the woods had given to it. They were usually satisfied with scientific names variously determined by systematists, working with dried specimens, or by botanically trained or botanically inclined travellers. There have come to us a great number of botanicals reported to be valuable for one disease or another, which have been given different common names in different localities, names too often not descriptive and not definite. We find instances where plants, evidently very closely related, have been classified in different genera, if not families, and *vice versa*, where plants have been thrown together, because characteristics observed by a superficial study suggested closer relationship than existed.

The task ahead is to utilize the broader training given to-day to botanists, chemists, pharmacologists, and especially also pharmacists, and bring about a further improvement of the science which has to do with the proper classification of our botanicals, based on floral characteristics, but preferably also on general morphological, anatomical, chemical and physiological characteristics as well. The common trade name then established on the basis of the scientific identifica-

¹ Viehoveer, A., "The Pharmacognosy Laboratory, Its Activities and Aims," J. A. PH. A., 8, 721.

² *Service and Regulatory Announcements. Chemistry*, 23, October 9, 1918, Item 277; *Chemistry*, 14, August 18, 1915, Item 136.

³ Alsberg, C. L., Viehoveer, A., and Ewing, C. O., "Some Effects of the War upon Crude Drug Importations," J. A. PH. A., 8, 469, 1919.

⁴ Viehoveer, A., "Chinese Colza—A Valuable New Oilseed," *Oil Paint and Drug Reporter*, September 8, 1919, p. 53.

tion and certain rules agreed upon should do away with so many loose terms which are still in common use, or are apt to become popular by misapplication, causing confusion, mistakes, and difficulties of varying consequences.

With the extension of trade throughout the world and the distinct probability that this country will remain, as during the war, one of the main collecting and distributing centers for these botanical products, it appears essential that careful attention be given to suitable and correct trade names. Let us profit from the experience of the past and work for and agree upon names which are not only simple and acceptable to the trade, but are more generally based upon scientific classification.

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OFFICIAL STANDARDS FOR BOTANICAL DRUGS.*

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Each revision of the Pharmacopoeia results in the deletion of a certain number of botanical drugs, but unfortunately these articles do not immediately pass into oblivion, in fact many of them survive commercially for several decades. Aside from the question of therapeutic value they are medicinal products for which there ought to be standards. The procedure of the last revision whereby many deleted drugs were transferred to Part II of the National Formulary is merely a temporary expedient. This practice, while of merit in that it furnishes official standards for articles not included in the Pharmacopoeia, cannot be continued indefinitely, else the Formulary will be in reality a second volume of the Pharmacopoeia and will rival the latter both in size and variety of contents. The National Formulary should be a formulary in fact as in title. It should supplement the Pharmacopoeia by establishing and standardizing formulae for the therapeutic agents listed therein. It should not be a book of standards for drugs of secondary importance. It is fitting that the American Pharmaceutical Association as an organization representing all ethical fields of pharmacy should bend its energies toward the compilation of a book for pharmacists. A National Formulary of this type would not be merely a book of formulae. It would necessarily include tests of identity, purity and assay processes where applicable to the preparations included. The many commercially important drugs and drug yielding products not included in either Pharmacopoeia or Formulary might be governed by official rulings similar in form to those published by the Bureau of Chemistry. This system of regulation possesses distinct advantages in that it is elastic and additions or changes may be made at any time. The present revision system amounts to legislation for ten-year periods and, while a certain degree of stability is essential, unforeseen events may warrant slight changes in the interim between revision periods. While the branding of a drug as "non-official" tacitly implies that it is of little importance, surely the consumers of these medicinal products are entitled to some measure of protection.

The numerous criticisms, comments and suggestions relative to the approaching revisions indicate a lively interest and tend to increase the value of the Pharma-

* Read before the Scientific Section, A. Ph. A., city of Washington meeting, 1920.