

VEGETABLE DRUGS EMPLOYED BY AMERICAN PHYSICIANS.¹

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PART I—*Selection by Physicians Other than Eclectic.*

During the past year it became the pleasurable duty as well as opportunity of this writer, to make an historical study of both the beginnings and the records of the various vegetable remedies of the Pharmacopeia of the United States. This was issued as a 140 page Bulletin of the Lloyd Library, under the title, "History of the Vegetable Drugs of the Pharmacopeia of the United States."

Came then a question as to the relationship that existed between the various vegetable drugs official in the Pharmacopeia, as contrasted with vegetable reme-

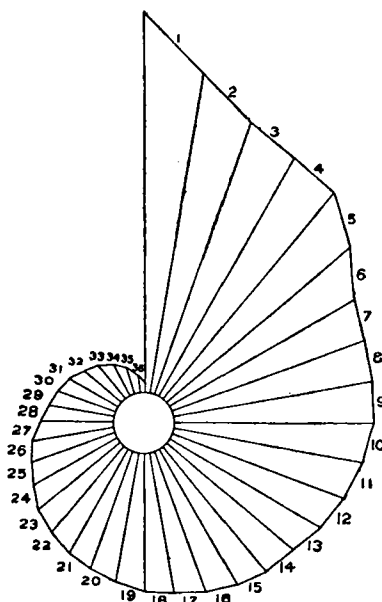


FIGURE - I

dies not thus recognized, and the extent to which remedies introduced by the Eclectic school of medicine, as well as those peculiar to the Eclectic practice, were employed by physicians of other schools. This led to the preparation of a list of drugs, embodying the principal remedies employed by the Eclectic school of medicine as well as those official. This was distributed to a number of physicians of *schools other than Eclectic*, all of whom were known to use vegetable remedies, and all of whom were graduates of colleges of recognized professional standing.

The reports received from these physicians were of exceeding interest, and furnished exceptional opportunity for comparative study of the remedies employed. The summary made from these reports is as follows, the accompanying diagram graphically illustrating the same, Fig. 1.

This diagram portrays in graphic form the comparative values of the remedies

¹The author expresses his thanks to the house of Lloyd Brothers for permission to summarize the first two reports from their researches, as well as for their financial contribution to the expensive general study (No. 3) herewith presented.

named by the physicians contributing to this report. This figure, as well as Figure II (p. 1231), and III (p. 1236), is the device of Everett I. Yowell, Ph. D., Assistant Professor of Astronomy in the University of Cincinnati. He describes the construction of the shell as follows:

"The graphical representation of data is made, usually, either by straight lines of length proportional to the several given quantities, or by surfaces similarly proportional. The rectangle and circle are of frequent use, but are not available where many quantities are to be represented, on account of the great number of separate figures. In a case like this, a circle, for instance, may be divided into a set of sectors to represent the quantities, by making the central angles proportional to the quantities. This method is objectionable, if there is much disparity in the size of the several quantities, as in the present case; for the circle would have to be of enormous size to represent clearly the smaller quantities. The objection may be met by making a new figure, based on the circle; the central angles of the sectors are equal, but the lengths of the radii vary. Such sectorial areas are represented by numbers whose *square roots* represent the radii, enabling us to use a set of numbers for radii, much smaller than the given set. The bounding areas are not now continuous; this is remedied by replacing each arc by an inclined line, through its middle point, so drawn that consecutive ones meet on the radius common to two sectors. Thus we form a conch (*shell*) that expands as it curls, each partition of which represents one of our quantities. The center has been cut out of the present illustration to avoid the confusion of the meeting radii; the original numbers were increased by the proper amount (one in this case) to allow for this.—EVERETT I. YOWELL, PH. D

TABLE NO. I.

(Selecting of remedies by physicians, none of whom were Eclectic.)

1. Echinacea was named by 148 physicians.
2. Aconite was named by 108 physicians.
3. Macrotys (Cimicifuga) was named by 96 physicians.
4. Bryonia was named by 91 physicians.
5. Gelsemium was named by 89 physicians.
6. Pulsatilla was named by 60 physicians.
7. Veratrum was named by 57 physicians.
8. Belladonna was named by 55 physicians.
9. Cactus was named by 54 physicians.
10. Apocynum and Chionanthus were each named by 51 physicians.
11. Thuja was named by 49 physicians.
12. Nux Vomica was named by 45 physicians.
13. Phytolacca was named by 39 physicians.
14. Digitalis was named by 37 physicians.
15. Hydrastis was named by 36 physicians.
16. Lobelia was named by 34 physicians.
17. Dioscorea was named by 30 physicians.
18. Ipecac was named by 28 physicians.
19. Rhus Tox was named by 27 physicians.
20. Baptisia was named by 25 physicians.
21. Collinsonia and Cratægus were each named by 23 physicians.
22. Asclepias was named by 21 physicians.
23. Apis was named by 19 physicians.
24. Passiflora was named by 17 physicians.
25. Cannabis, Viburnum and Hyoscyamus were each named by 14 physicians.
26. Iris was named by 13 physicians.
27. Caulophyllum and Staphisagria by 11 physicians.
28. Scutellaria, Podophyllum, Eryngium, Mangifera and Helonias were each named by 9 physicians.
29. Colchicum, Colocynth, Sticta and Jaborandi were each named by 8 physicians.
30. Sanguinaria, Ignatia, Berberis aq., Mitchella, Salix Nigra Aments and Strophanthus were each named by 7 physicians.
31. Chelidonium and Drosera were each named by 6 physicians.
32. Calendula, Ergot, Eupatorium, Grindelia, Matricaria and Tiger Lily were each named by 5 physicians.
33. Adonis, Aletris, Black Haw (*Viburnum prunifolium*), Cantharides, Cypripedium and Leptandra were each named by 4 physicians.
34. Aesculus, Arnica, Asthma weed (*Euphorbia pilulifera*), Avena, Cascara, Conium, Elaterium, Erigeron, Euphorbia, Euphrasia, Lycopus, Sambucus, Saw Palmetto, Solanum and Valerian were each named by 3 physicians.

35. Achillea, Amygdalus, Ampelopsis, Aralia, Capsella, Catalpa, Coca, Dulcamara, Eucalyptus, Euonymus, Gravel Root (*Eupatorium purpureum*), Hamamelis, Pinus Can., Senecio, Stillingia and Xanthoxylum, were each named by 2 physicians.
36. Chelone glabra, Cinnamon, Convallaria, Anthemis, Cubeba, Equisetum, Fragrant Sumach (*Eupatorium aromaticum*), Fucus, Gentian, Gossypium, Hydrangea, Lupulin, Matico, Melilotus, Oenanthe crocata, Oxydendron, Piper Methysticum, Plantago, Polymnia, Prunus, Quercus, Rheum, Senna, Serpentaria and Taraxacum were each named by 1 physician.
37. None of the following were named by any physician:

Actæe alba,	Gaultheria,	Polygonum,
Agrimonia,	Guaicum,	Prunella,
Ailanthus,	Guarana,	Ptelea,
Alnus,	Helleborus,	Rhamnus Calif.,
Ambrosia,	Hepatica,	Rubus,
American Hemp	Horse Chestnut,	Rumex,
(Can. sat.),	Humulus,	Sarracenia,
Barosma,	Inula,	Senega,
Boletus,	Jacaranda,	Spikenard,
Cactus Flowers,	Jalap,	Spotted Spurge,
Ceanothus,	Juglans,	Stigmata Maydis,
Chimaphila,	Kalmia,	Stramonium,
Cinchona,	Kamala,	Swamp Milkweed,
Cnicus,	Lappa,	Trifolium,
Coffea,	Lycopodium,	Triticum,
Columbo,	Marrubium,	Urtica,
Cornus,	Myrica,	Ustilago,
Corydalis,	Nepeta,	Verbascum,
Damiana,	Panax,	White Snakeroot,
Epigæa,	Penthorum,	Xanthium Spinosum,
Epilobium,	Physostigma,	Yerba Santa,
Frasera,	Polemonium,	Zingiber.
Fraxinus,	Polystrichum,	
Galium,	Polygonatum,	

Comments on Table No. I.

The diagram accompanying (Fig. 1) presents at a glance the comparative importance, in their estimation, of the remedies named by the physicians taking part in this discussion. Scattered throughout the list are to be found drugs both official and non-official, in unexpected positions. For example, Echinacea, a non-official drug, heads the list, being named by 148 physicians, whilst in section 36, out of 25 drugs named by only one physician, 14 are official. This last class embraces the old standards Prunus, Rhubarb, Senna, Serpentaria, Cubeba, Gentian, Cinnamon and Taraxacum. In like manner, in the thirty-fifth section (next to the last) Coca appears in company with such seemingly unimportant drugs as Gravel Root (*Eupatorium purpureum*) and Lycopus.

These facts lead one to ponder over the mighty problem that confronts Pharmacopœial Revision Committees, whose aim it is to serve the professions of medicine and pharmacy in the selecting of the remedial agents that shall be added to or discarded from the Pharmacopœia. In this connection it is evident, from other considerations than the data embraced in this one summary, that many drugs need be considered from several angles. For example, Cinnamon (No. 35) is very important, for it is not only used enormously in culinary directions, but yields a popular oil, which is also a flavor of merit. Oil of Cubebs is also largely employed as a substitute for the drug itself. Cocaine is enormously used by physicians who do not use Coca as a whole, whilst special preparations, such as the bitterless tincture of Cascara, are favorite forms of the thus much employed *Rhamnus purshiana*. Enormous amounts of Senna, Buchu, Gentian and other

old favorites, are employed by makers of popular medicines, even though now comparatively neglected by prescribing physicians. Drugs such as *Epilobium*, *Nepeta* and *Triticum* are very properly preferred in decoction and infusion. Such remedies as these must, therefore, be considered by reason of their respective merits and special uses.

It is, however, a fact that many drugs, once supreme, are now obsolete, excepting as lingering relics of Pharmacopœial inheritance. Indeed, some cumberers of the Pharmacopœia have been professionally neglected, almost from the traditional European past, whilst many remedies much used at the present date are conspicuous by reason of their absence from the Pharmacopœia.

Among the striking surprises of Table No. I is the great proportion of official drugs that are scarcely noticed at all, as shown by the fact, already stated, that

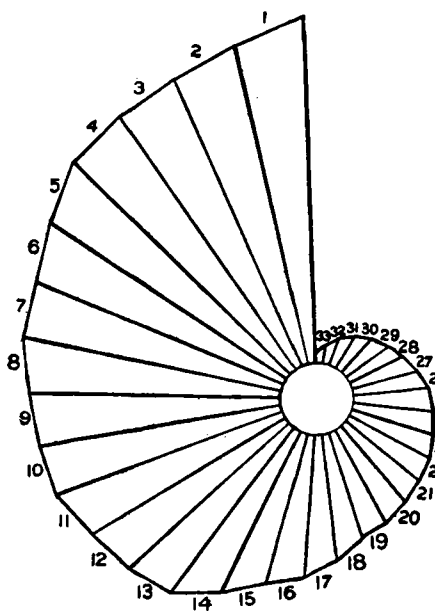


FIGURE II

out of twenty-five well-known drugs in the last class (No. 36) fourteen were official. Not less interesting, in this connection, is the fact that out of seventy drugs entirely ignored by every physician (No. 37) eighteen are yet official in the Pharmacopœia, some of them being very ancient Pharmacopœial stand-bys. A few of the causes for this condition have been mentioned, and others are recorded in *Part Three* of this paper.

PART II.—*Selection of Remedies by Eclectic Physicians.*

Since the opinion of no Eclectic physician was voiced in Table No. I, and since in the practice of Eclectic physicians many plant preparations and botanical drugs unrecognized in the U. S. P. have, for many decades, predominated, arose now the question as to how physicians of the Eclectic school of medicine would report

upon the same list of remedies. This led to the distribution among a like number of Eclectic physicians of the list that had previously been sent to physicians of other schools, with the request that the remedies be by them marked, in the order of their importance and use. The reports received from these Eclectic physicians were of increasing interest, especially when contrasted with those previously received from physicians of other schools, and as regards the similarity of the selection, there being a marked resemblance between the two classes, as shown by the following extract from the summing up made by us at that time:

“For the graphic illustration showing the relative importance of the vegetable remedies as used by physicians of the Eclectic school, see the accompanying diagram. (Fig. No. II.)³ The table following shows in a striking manner the comparative importance of each drug, as named by the physicians of the Eclectic school, and also by physicians of schools other than Eclectic.”

TABLE NO. II.

Rank as named by Eclectic physicians			Rank in Table No. I, by physicians other than Eclectic.
1	Gelsemium	named by 105 Eclectic physicians	5
2	Aconite	named by 96 Eclectic physicians	2
3	Bryonia	named by 91 Eclectic physicians	4
4	Macrotys	named by 90 Eclectic physicians	3
5	Echinacea	named by 86 Eclectic physicians	1
6	Belladonna	named by 69 Eclectic physicians	8
7	Veratrum	named by 68 Eclectic physicians	7
8	Nux Vomica	named by 66 Eclectic physicians	12
9	Phytolacca	named by 59 Eclectic physicians	13
10	Lobelia	named by 58 Eclectic physicians	16
11	Pulsatilla	named by 57 Eclectic physicians	7
12	Cactus	named by 49 Eclectic physicians	9
13	Ipecac	named by 47 Eclectic physicians	18
14	{ Apocynum	named by 41 Eclectic physicians	10
	{ Chionanthus	named by 41 Eclectic physicians	10
15	Rhus Tox.	named by 29 Eclectic physicians	19
16	Dioscorea	named by 25 Eclectic physicians	17
17	Hydrastis	named by 23 Eclectic physicians	15
18	Podophyllum	named by 16 Eclectic physicians	28
19	Asclepias	named by 15 Eclectic physicians	22
20	{ Collinsonia	named by 14 Eclectic physicians	21
	{ Thuja	named by 14 Eclectic physicians	11
21	Apis	named by 13 Eclectic physicians	23
22	Ergot	named by 12 Eclectic physicians	32
23	Passiflora	named by 11 Eclectic physicians	24
24	{ Baptisia	named by 10 Eclectic physicians	20
	{ Virburnum (opulus)	named by 10 Eclectic physicians	33
	{ Digitalis	named by 10 Eclectic physicians	14
25	Cratægus	named by 9 Eclectic physicians	21
26	Jaborandi	named by 8 Eclectic physicians	29
27	{ Avena	named by 7 Eclectic physicians	34
	{ Colocynth	named by 7 Eclectic physicians	29
	{ Eryngium	named by 7 Eclectic physicians	28
	{ Sanguinaria	named by 7 Eclectic physicians	30
28	Black Haw	named by 6 Eclectic physicians	33

³For explanation of diagram, see page 1229.

TABLE No. II.—Continued.

29	{ Caulophyllumnamed by	5 Eclectic physicians....	27
	{ Irisnamed by	5 Eclectic physicians....	26
	{ Stillingianamed by	5 Eclectic physicians....	35
	{ Tiger Lily.....named by	5 Eclectic physicians....	32
30	{ Berberisnamed by	4 Eclectic physicians....	30
	{ Cannabisnamed by	4 Eclectic physicians....	25
	{ Heloniasnamed by	4 Eclectic physicians....	28
	{ Droseranamed by	4 Eclectic physicians....	31
	{ Matricarianamed by	4 Eclectic physicians....	32
	{ Senecionamed by	4 Eclectic physicians....	35
31	{ Convallarianamed by	3 Eclectic physicians....	36
	{ Fragrant Sumach....named by	3 Eclectic physicians....	36
	{ Gossypiumnamed by	3 Eclectic physicians....	36
	{ Hydrangeanamed by	3 Eclectic physicians....	36
	{ Mangiferanamed by	3 Eclectic physicians....	28
	{ Rumexnamed by	3 Eclectic physicians....	(unnamed)
	{ Salix Nigra.....named by	3 Eclectic physicians....	30
	{ Scutellarianamed by	3 Eclectic physicians....	28
	{ Strophanthusnamed by	3 Eclectic physicians....	30
	{ Xanthoxylumnamed by	3 Eclectic physicians....	35
32	{ Agrimonianamed by	2 Eclectic physicians....	(unnamed)
	{ Aletris.....named by	2 Eclectic physicians....	33
	{ Cascaranamed by	2 Eclectic physicians....	34
	{ Chelidoniumnamed by	2 Eclectic physicians....	31
	{ Cinnamonnamed by	2 Eclectic physicians....	36
	{ Euphrasianamed by	2 Eclectic physicians....	34
	{ Gravel Root.....named by	2 Eclectic physicians....	35
	{ Grindelianamed by	2 Eclectic physicians....	32
	{ Ignatianamed by	2 Eclectic physicians....	30
	{ Leptandranamed by	2 Eclectic physicians....	33
	{ Plantagonamed by	2 Eclectic physicians....	33
	{ Triticumnamed by	2 Eclectic physicians....	(unnamed)
33	{ Ailanthusnamed by	1 Eclectic physician....	(unnamed)
	{ Amygdalusnamed by	1 Eclectic physician....	35
	{ Anthemisnamed by	1 Eclectic physician....	36
	{ Calendulanamed by	1 Eclectic physician....	32
	{ Capsellanamed by	1 Eclectic physician....	35
	{ Chimaphilanamed by	1 Eclectic physician....	(unnamed)
	{ Colchicumnamed by	1 Eclectic physician....	29
	{ Cypripediumnamed by	1 Eclectic physician....	33
	{ Epigæanamed by	1 Eclectic physician....	(unnamed)
	{ Equisetumnamed by	1 Eclectic physician....	36
	{ Fucalypstusnamed by	1 Eclectic physician....	35
	{ Euonymusnamed by	1 Eclectic physician....	35
	{ Euphorbianamed by	1 Eclectic physician....	34
	{ Fucusnamed by	1 Eclectic physician....	36
	{ Gentiannamed by	1 Eclectic physician....	36
	{ Geraniumnamed by	1 Eclectic physician....	(unnamed)
	{ Hammelisnamed by	1 Eclectic physician....	35
	{ Inulanamed by	1 Eclectic physician....	(unnamed)
	{ Marrubiumnamed by	1 Eclectic physician....	(unnamed)
	{ Melilotusnamed by	1 Eclectic physician....	36
	{ Oenanthenamed by	1 Eclectic physician....	36
	{ Oxydendronnamed by	1 Eclectic physician....	36
	{ Panax.....named by	1 Eclectic physician....	(unnamed)
	{ Physostigmanamed by	1 Eclectic physician....	(unnamed)
	{ Polymnianamed by	1 Eclectic physician....	36
	{ Ptelianamed by	1 Eclectic physician....	(unnamed)
	{ Rhamnus Cal.....named by	1 Eclectic physician....	(unnamed)
{ Staphisagrianamed by	1 Eclectic physician....	27	
{ Stictanamed by	1 Eclectic physician....	29	
{ Stramoniumnamed by	1 Eclectic physician....	(unnamed)	
{ Taraxacumnamed by	1 Eclectic physician....	36	
{ Zingibernamed by	1 Eclectic physician....	(unnamed)	

Comments on Table No. II.

Comparison of the list of remedies as employed by Eclectic physicians, with the selection made by physicians of schools other than Eclectic.

Comparing the remedies selected by physicians of the Eclectic school with those presented in Table No. I, compiled from reports of physicians of schools other than Eclectic, we find as a rule a striking similarity in the remedies selected. The main remedies, as given in the first part of each list (compare the ranking numbers, given in the first and last columns of Table No. II) are substantially the same, and the remedies named in one list are, as a rule, included in the other, although the *position* varies somewhat. Aconite stands second in each list, while Bryonia and Macrotys change places, each being third in one list and fourth in the other. Gelsemium and Echinacea also change places in the two lists, Gelsemium heading the list of remedies named by the Eclectic physicians, and holding fifth place in the list of physicians other than Eclectic. Exactly the reverse is true of Echinacea, which *heads the list* of remedies named by physicians other than Eclectic, while it stands fifth in rank as named by Eclectic physicians. This fact is especially interesting when we consider that Echinacea was introduced to the profession by Eclectic physicians, was long employed and highly valued by them alone, and is still, by the general profession, credited as being an "Eclectic remedy." In other directions, marked deviations occur. For example, Podophyllum, which stands eighteenth in the Eclectic list, falls to 28 in the list of physicians other than Eclectic, while *Digitalis*, No. 24 in the Eclectic list, ranks as No. 14 in the other list. The low rank given to *Digitalis* by Eclectic physicians is probably due to the fact that the Eclectic school of medicine has made exceptional studies of more kindly remedies for heart control than the energetic *Digitalis*. Among the features that will be surprisingly interesting is the fact that *Hydrastis* stands No. 17 in the Eclectic list, and No. 15 in the companion list, although *Hydrastis* has for seventy-five years been a recognized "Eclectic remedy."

Remarkable and very interesting comparisons between these two lists may be made in many directions. For example, *Pulsatilla*, a drug introduced by the Homeopathic profession, and next popular in the Eclectic school, stands No. 11 in the Eclectic list and No. 7 in that of physicians of schools other than Eclectic. *Cactus*, another presumably Eclectic favorite, stands No. 12 in the Eclectic list and No. 9 in the companion list. However, comparative studies such as these can be made by whoever is interested in this direction, and no doubt many will examine the two lists here given with much interest.

The two studies, a brief resumé of which is here given, indicate that the practicing physicians of America now freely employ any remedial agent that appeals to them as being useful, regardless of either its origin, or the school affiliations of its introducers. Remedies introduced by the Eclectic profession during its seventy-five years' existence are now found in all the Pharmacopœias of the world, and are as freely employed by physicians of other schools as by Eclectics. Indeed, as shown by a comparison of the two lists herein presented, many old-time Pharmacopœial drugs have been abandoned by their former friends, and replaced by the newer Eclectic discoveries. As examples of such we would mention *Rumex*, *Triticum* and *Zingiber*, that were completely ignored by physicians of schools other than Eclectic, although these drugs have had Pharmacopœial records for all

time, and still hold a place among the official remedies named in the Pharmacopœia of 1900.

PART III.

Came finally a more cosmopolitan question, namely, whether *either* of the lists herein presented was fairly representative of the consumption of vegetable remedies by the entire body of general practitioners of the American medical profession. Having become thus involved in the study of this problem, the writer concluded that the question could be fairly answered only through the summarizing of reports from many thousands of physicians, scattered over the entire United States, and embracing all vegetable drugs of any importance whatever. Accordingly, a new list was made of vegetable drugs, embracing all those official in the Pharmacopœia, all the Eclectic vegetable drugs, and in addition the principal members of the Homeopathic materia medica, thus covering all the vegetable drugs employed to any extent by physicians in America, regardless of school or professional affiliation. Under cover of letter postage, and carrying each a return stamped (letter postage) envelope addressed to the writer of this paper, this list was sent to 30,000 physicians, located in every section of the United States, with a request reading as follows:

This page carries the names of all the vegetable drugs of the Pharmacopœia of the United States, 1900 edition, together with those used in the practice of physicians generally.

Place a double cross (xx) before remedies of great value in your practice. Example: xx *Aconite*.

Place a *single* cross (x) before all remedies *less* important. Example: x *Aesculus*.

Cross off all remedies *not used at all* in your practice. Example: ~~Achillea~~.

In choosing the physicians to whom this list was sent pains were taken to establish that each should be one whose college of graduation was known, and every physician contributing to the report filled out a blank giving both his college of graduation and the date of his graduation, but no other reference whatever was made to professional affiliations. At the time the summarizing of these reports was made more than 10,000 reports from practicing physicians had been received, to which it may be added that the reports subsequently received (too late to be officially recorded) are seemingly in accordance with those previously received and summarized.

In selecting the names of physicians to whom the list was sent an attempt was made to choose, as far as possible, only those engaged in the general practice of medicine, and directions were given that the list be compiled from the Medical Directory in such a manner as to include only a moderate number of physicians from each city. It was hoped that in this manner the general *country* practitioner might be prevented from being hopelessly outclassed by the large number of *specialists* in cities, who might not properly be included in a list of "practicing physicians."

The reports from this final list of drugs are of exceeding interest, as taken in connection with those previously mentioned. They are graphically presented in Fig. No. III, the drugs included being named in Table No. III.*

Owing to the large number of reports summarized in this diagram, and the

*For explanation of the diagram, see page 1229.

many drugs represented therein (more than two hundred in number), as well as to the fact that many of these were nearly identical in rank, it was impossible to make the divisions of the wheel represent *single* drugs. They were therefore divided by Professor Yowell into *groups*, or *classes*, beginning with the drug most

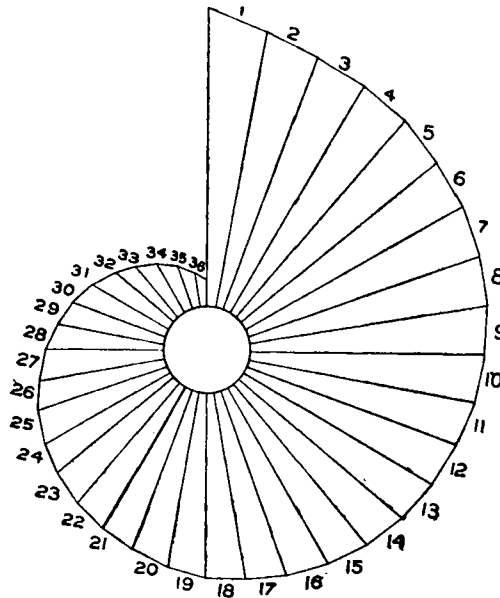


FIGURE - III

frequently named, the difference between these groups being greater than the difference between the successive members of a group.

TABLE No. III.

(The asterisk before a drug indicates that it is official in the 1900 edition of the U. S. P.)

1	Cactus, (Flowers and Stem).....	mentioned by 6239 physicians
2	{ *Hydrastis	mentioned by 5634 physicians
	{ *Aconite	mentioned by 5618 physicians
	{ *Gelsemium	mentioned by 5540 physicians
	{ *Ipecac	mentioned by 5501 physicians
3	{ *Digitalis	mentioned by 5436 physicians
	{ *Ergot	mentioned by 5402 physicians
	{ *Belladonna	mentioned by 5343 physicians
4	{ *Nux Vomica.....	mentioned by 5246 physicians
	{ *Hyoscyamus	mentioned by 5229 physicians
5	{ Echinacea	mentioned by 5065 physicians
	{ *Viburnum prunifolium, (<i>Black Haw</i>)	mentioned by 4996 physicians
	{ *Valerian	mentioned by 4956 physicians
	{ *Podophyllum	mentioned by 4949 physicians
6	{ Thuja	mentioned by 4915 physicians
	{ *Opium	mentioned by 4915 physicians
	{ *Rhamnus purshiana, (<i>Cascara</i>).....	mentioned by 4870 physicians
	{ Bryonia	mentioned by 4853 physicians
	{ *Colchicum	mentioned by 4808 physicians
7	{ *Capsicum	mentioned by 4710 physicians
	{ *Lobelia	mentioned by 4596 physicians

TABLE No. III—Continued.

8	Pulsatilla	mentioned by 4564 physicians
	*Apocynum	mentioned by 4548 physicians
	*Gentiana	mentioned by 4516 physicians
	*Sabal, (<i>Saw Palmetto</i>).....	mentioned by 4481 physicians
	*Veratrum, (<i>V. viride</i>).....	mentioned by 4480 physicians
	*Hamamelis	mentioned by 4454 physicians
9	*Phytolacca	mentioned by 4420 physicians
	*Viburnum, (<i>V. opulus</i>).....	mentioned by 4377 physicians
	*Cimicifuga, (<i>Macrotys</i>).....	mentioned by 4352 physicians
	Collinsonia	mentioned by 4282 physicians
10	*Cannabis Indica.....	mentioned by 4239 physicians
	Passiflora	mentioned by 4162 physicians
	Chionanthus	mentioned by 4154 physicians
	*Arnica	mentioned by 4123 physicians
11	*Strophanthus	mentioned by 4077 physicians
	*Cinchona	mentioned by 4033 physicians
	*Sanguinaria	mentioned by 3955 physicians
12	Caulophyllum	mentioned by 3920 physicians
	*Cinnamon	mentioned by 3913 physicians
	Rhus Tox.....	mentioned by 3858 physicians
	*Colocynth	mentioned by 3814 physicians
	Gaultheria (<i>Oil of Gaultheria is official</i>)	mentioned by 3794 physicians
13	Dioscorea	mentioned by 3775 physicians
	Baptisia	mentioned by 3753 physicians
	Asclepias	mentioned by 3747 physicians
	*Eriodictyon, (<i>Yerba Santa</i>).....	mentioned by 3650 physicians
14	*Eucalyptus	mentioned by 3623 physicians
	Elaterium, (<i>Elaterinum is official</i>)..	mentioned by 3579 physicians
15	Iris	mentioned by 3474 physicians
	*Mentha piperita.....	mentioned by 3464 physicians
	*Stillingia	mentioned by 3451 physicians
	*Senna	mentioned by 3441 physicians
	*Leptandra	mentioned by 3434 physicians
	*Carbo Ligni, (<i>Wood Charcoal</i>).....	mentioned by 3390 physicians
	Helonias	mentioned by 3345 physicians
*Pilocarpus, (<i>Jaborandi</i>).....	mentioned by 3340 physicians	
16	*Grindelia	mentioned by 3288 physicians
	*Gossypium	mentioned by 3236 physicians
	*Stramonium	mentioned by 3233 physicians
	Aletris	mentioned by 3224 physicians
	Hydrangea	mentioned by 3151 physicians
17	*Glycyrrhiza	mentioned by 3079 physicians
	*Cubeba	mentioned by 2978 physicians
	*Guaiacum	mentioned by 2966 physicians
18	*Taraxacum	mentioned by 2902 physicians
	*Santonica	mentioned by 2894 physicians
19	*Calendula	mentioned by 2761 physicians
	Crataegus	mentioned by 2747 physicians
	*Jalap	mentioned by 2739 physicians
	*Rheum	mentioned by 2726 physicians
	*Triticum	mentioned by 2717 physicians
	Damiana	mentioned by 2676 physicians
20	*Berberis	mentioned by 2607 physicians
	*Physostigma	mentioned by 2599 physicians
	*Sarsaparilla	mentioned by 2596 physicians
	*Xanthoxylum	mentioned by 2565 physicians
	Trifolium	mentioned by 2553 physicians
	Drosera	mentioned by 2515 physicians
	*Quassia	mentioned by 2495 physicians
Rhus aromatica, (<i>Fragrant Sumach</i>)	mentioned by 2488 physicians	
	Avena	mentioned by 2467 physicians

TABLE No. III—Continued.

	*Scutellaria	mentioned by 2444 physicians
	Ignatia	mentioned by 2433 physicians
	*Scilla	mentioned by 2410 physicians
21	Erigeron, (<i>Oil of Erigeron</i> is Official)	mentioned by 2388 physicians
	*Coca	mentioned by 2387 physicians
	Adonis	mentioned by 2386 physicians
	*Conium	mentioned by 2379 physicians
	Eupatorium purpureum, (<i>Gravel Root</i>)	mentioned by 2352 physicians
	*Uva Ursi	mentioned by 2329 physicians
22	{ Coffea, (<i>Caffeine</i> is official)	mentioned by 2300 physicians
	*Lycopodium	mentioned by 2279 physicians
	*Convallaria	mentioned by 2262 physicians
	*Zingiber	mentioned by 2258 physicians
	*Geranium	mentioned by 2228 physicians
	*Senega	mentioned by 2201 physicians
23	{ *Staphisagria	mentioned by 2145 physicians
	Chelidonium	mentioned by 2128 physicians
	*Euonymus	mentioned by 2086 physicians
	Eryngium	mentioned by 2076 physicians
	Pinus canadensis	mentioned by 2066 physicians
	*Cypripedium	mentioned by 2062 physicians
	*Lupulin	mentioned by 2052 physicians
	*Calumba	mentioned by 2052 physicians
	*Sassafras	mentioned by 2042 physicians
	*Eupatorium, (<i>E. perfoliatum</i>)	mentioned by 2031 physicians
	*Serpentaria	mentioned by 2019 physicians
24	{ Rumex	mentioned by 1992 physicians
	Euphorbia pilulifera, (<i>Asthma Weed</i>)	mentioned by 1978 physicians
	Mitchella	mentioned by 1952 physicians
	Salix Nigra Aments	mentioned by 1950 physicians
	Aesculus hippocastanum, (<i>Horse Chestnut</i>)	mentioned by 1924 physicians
	Aesculus, (<i>Aes. glabra</i>)	mentioned by 1894 physicians
25	{ *Sumbul	mentioned by 1850 physicians
	Sticta	mentioned by 1825 physicians
	Helleborus	mentioned by 1742 physicians
26	{ Juglans	mentioned by 1700 physicians
	Senecio	mentioned by 1692 physicians
	*Aspidium	mentioned by 1681 physicians
	*Humulus	mentioned by 1654 physicians
	*Spigelia	mentioned by 1654 physicians
	Amygdalus	mentioned by 1596 physicians
27	{ *Caryophyllus	mentioned by 1528 physicians
	Lilium tigrinum, (<i>Tiger Lily</i>)	mentioned by 1506 physicians
	*Zea, (<i>Stigmata Maydis</i>)	mentioned by 1504 physicians
	*Cardamomum	mentioned by 1478 physicians
	*Prunus	mentioned by 1426 physicians
	*Chimaphila	mentioned by 1422 physicians
	Piper methysticum	mentioned by 1409 physicians
	Dulcamara	mentioned by 1389 physicians
28	{ *Mentha viridis	mentioned by 1345 physicians
	*Buchu, (<i>Barosma</i>)	mentioned by 1316 physicians
	Euphrasia	mentioned by 1293 physicians
	Euphorbia, (<i>E. corollata</i>)	mentioned by 1280 physicians
	Lycopus	mentioned by 1268 physicians
	*Aurantii Am. Cort.	mentioned by 1263 physicians
	*Lactucarium	mentioned by 1219 physicians
29	{ *Hæmatoxylon	mentioned by 1201 physicians
	Sambucus	mentioned by 1145 physicians
	*Anisum	mentioned by 1110 physicians
	*Scoparius	mentioned by 1102 physicians
	*Matricaria	mentioned by 1096 physicians
	Hepatica	mentioned by 1077 physicians

TABLE No. III—Continued.

30	Corydalis	mentioned by	1040 physicians
	*Lappa	mentioned by	1000 physicians
	Mangifera	mentioned by	999 physicians
	*Quercus	mentioned by	992 physicians
	Plantago	mentioned by	986 physicians
	Rhamnus calif.	mentioned by	952 physicians
	*Galla	mentioned by	951 physicians
	*Guarana	mentioned by	940 physicians
	Solanum	mentioned by	928 physicians
31	Aralia racemosa, (<i>Spikenard</i>)	mentioned by	888 physicians
	*Rhus glabra	mentioned by	859 physicians
	Verbascum	mentioned by	850 physicians
	*Anthemis	mentioned by	844 physicians
	Capsella	mentioned by	844 physicians
	*Krameria	mentioned by	825 physicians
	Oxydendron	mentioned by	813 physicians
	Urtica	mentioned by	810 physicians
	Oenanthe crocata	mentioned by	806 physicians
	Ailanthus	mentioned by	802 physicians
	Ustilago	mentioned by	802 physicians
	Alnus	mentioned by	800 physicians
	Myrica	mentioned by	795 physicians
	Kalmia	mentioned by	790 physicians
	Melilotus	mentioned by	779 physicians
	*Pepo	mentioned by	778 physicians
	*Sabina	mentioned by	777 physicians
Polymnia	mentioned by	775 physicians	
Equisetum	mentioned by	772 physicians	
*Calamus	mentioned by	757 physicians	
32	*Aralia spinosa, (<i>Aralia</i>)	mentioned by	725 physicians
	Achillea	mentioned by	717 physicians
	*Cassia fistula	mentioned by	715 physicians
	Cornus	mentioned by	713 physicians
	*Marrubium	mentioned by	706 physicians
	Agrimonia	mentioned by	684 physicians
	Fucus	mentioned by	633 physicians
	*Prunum	mentioned by	626 physicians
	Ambrosia	mentioned by	625 physicians
	Epilobium	mentioned by	621 physicians
Fraxinus	mentioned by	621 physicians	
33	Egipæa	mentioned by	609 physicians
	*Granatum	mentioned by	599 physicians
	*Pareira	mentioned by	595 physicians
	*Multum	mentioned by	592 physicians
	*Hedeoma	mentioned by	592 physicians
	Eupatorium aromaticum, (<i>White Snakeroot</i>)	mentioned by	582 physicians
	*Myristica	mentioned by	581 physicians
	*Pimenta	mentioned by	531 physicians
	Boletus	mentioned by	530 physicians
	*Mezereum	mentioned by	528 physicians
	*Fœniculum	mentioned by	520 physicians
	*Matico	mentioned by	518 physicians
	*Rubus	mentioned by	513 physicians
	Kamala	mentioned by	499 physicians
	*Coriandrum	mentioned by	495 physicians
Galium	mentioned by	493 physicians	
Polygonum	mentioned by	492 physicians	
Asclepias incarnata, (<i>Swamp Milkweed</i>)	mentioned by	488 physicians	

34	*Frangula	mentioned by	479 physicians
	Actæa alba	mentioned by	474 physicians
	Ceanothus	mentioned by	470 physicians
	*Nepeta	mentioned by	455 physicians
	Ptelea	mentioned by	444 physicians
	Anemopsis	mentioned by	425 physicians
	*Salvia	mentioned by	420 physicians
	Inula	mentioned by	418 physicians
	Panax	mentioned by	408 physicians
	Euphorbia hypericifolia, (<i>Spotted Spurge</i>)	mentioned by	406 physicians
	Prunella	mentioned by	375 physicians
	Chelone	mentioned by	369 physicians
Polytrichum	mentioned by	366 physicians	
Jacaranda	mentioned by	364 physicians	
35	*Carum	mentioned by	348 physicians
	Catalpa	mentioned by	332 physicians
	Penthorum	mentioned by	331 physicians
	*Cusso	mentioned by	320 physicians
	Xanthium	mentioned by	316 physicians
	*Scopola	mentioned by	298 physicians
	*Chirata	mentioned by	267 physicians
*Quillaja	mentioned by	253 physicians	
36	Polygonatum	mentioned by	246 physicians
	Sarracenia	mentioned by	244 physicians
	Polemonium	mentioned by	221 physicians
	Frasera	mentioned by	213 physicians
	Cnicus	mentioned by	145 physicians

Comments on Table III.

Many surprises appear in Table III, none being greater to the writer than that which came in the name of the drug heading the list, which might rationally have been expected to occupy a position far down the line. Instead, this drug, in the opinion of Professor Yowell, who devised the diagram (see note page 1229), stands so far above the others as to form a class to itself.

Another surprise to the writer is, that the exclusively American drug, Hydrastis, precedes Aconite, a great favorite among physicians of all schools of medicine, that has for over a century enjoyed a world-wide reputation. Likewise, just how such a drug as Viburnum prunifolium comes to rank in Class 5, and to precede the world-known Podophyllum, of the same class, is inexplicable. The same remark might be made concerning many other drugs, in other classes.

It is of interest to note that Capsicum and Lobelia, two Thomsonian sheet anchors, form a class (No. 7) to themselves, which could not have occurred through their selection by Thomsonian physicians, these being few in proportion to the physicians of other schools.

It will be observed that while Pharmacopœial drugs dominate the first twenty-three classes, this is also true of Classes 33 and 35, while the last class (No. 36) is composed wholly of unofficial drugs. In this connection it should be stated that the printed list submitted to physicians⁵ had no mark to designate drugs as Pharmacopœial or otherwise, the name only of the drug appearing.

We must not overlook the fact previously mentioned (p. 1230) that many drugs seldom employed as simples (as Santonica) yield constituents that are freely em-

⁵This list accompanies our paper.

ployed in medicine under distinctive names, whilst others, seemingly little used, are employed largely in the form of unofficial pharmaceutical preparations of which these drugs form a part. This phase of the subject has, however, been already discussed.

In considering the subject broadly, the writer is led to the opinion that the majority of physicians are guided in their uses of remedies by their own judgment, based upon clinical observation and professional necessity. It is evident that physicians in actual practice generally prescribe as they see fit, regardless of whether a drug or a preparation is mentioned in the Pharmacopœia or has been recommended by their therapeutic instructors, or whether it be advocated or not by the leaders now in authoritative positions.

The writer will freely confess that a study such as this leads to distractive confusion and a shattering of ideals. It reminds him of an experience some years ago when, hoping to curtail the number of cathartic remedies that it was his duty to prepare for physicians, he ventured to send a list of the best known cathartics to a selected number of physicians who, by reason of their practice and positions, might be considered representative, with a request that they cross off from the list each cathartic that in their opinion could be excluded from the physician's armamentarium. To his surprise, the reports indicated not only the advisability of retaining the entire list, but the increasing of it by several additions.

Unquestionably, many physicians of prominence do not use remedies that with others are favorites, and vice versa. Possibly, also, the reports here summarized are dominated by physicians versed in the use of vegetable remedies, those neglecting them failing to reply. In passing it may be said that one physician crossed off every item but Opium, with the comment that no other remedy was necessary!

In it all the writer feels under many obligations to the many physicians who have collaborated with him in this work, and who, without exception, took great pains to be courteous, while many were even enthusiastic. Many hundreds of letters of great interest came to him in connection with this list, but these necessarily cannot be even commented on in these pages.

This paper may well close with the remark that, in the writer's opinion, the Pharmacopœial Committee is confronted, in drug selection, with a perplexing problem. Whatever may be their action, criticism is certain in some directions because of remedies *included*, whilst in other directions, certain of the remedies *excluded* will be made subjects of adverse comment. Drugs that with many physicians are favorites will surely be omitted from the 1910 revision of the U. S. P. whilst others little used by some practicing physicians will certainly be retained. Be this as it may, it is to be hoped that this study, with its many striking features, will lead those inclined to harsh criticism and strictures to a more liberal comprehension of the materia medica problem as a whole, and to a kindlier view, when the new edition of the Pharmacopœia appears, in case they feel that blunders of either omission or commission have been made. At any rate, in case this statistical study be placed on record, it will, as time goes by, be of interest to those desirous of commenting upon the drug records of the past.