

# COMMITTEE REPORTS

## REPORT ON THE NATIONAL FORMULARY.

BY E. N. GATHERCOAL, *Chairman.*

The following tabulation indicates the outstanding differences in content between N. F. V and N. F. VI and the changes that were made as N. F. VI evolved:

Comparison of N. F. V and N. F. VI as Regards:

	No. of Items in Each Class.			N. F. V Items Not Ad- mit- ted to N. F. VI.	New Admis- sions to N. F. VI.	Occurrences per 10,000 Prescriptions.			
	N. F. I.	N. F. V.	N. F. VI.			Total N. F. V.	Total N. F. VI.	Loss.	Gain.
Plant Drugs	0	142	110	58	26	9.65	16.76	0.81	7.92
Animal Drugs	0	5	10	1	6	0.00	94.90	0.00	94.90
Chemicals	0	67	95	18	46	120.62	896.71	8.22	784.31
<b>Total Simples</b>	<b>0</b>	<b>214</b>	<b>215</b>	<b>77</b>	<b>78</b>	<b>130.27</b>	<b>1008.37</b>	<b>9.03</b>	<b>887.13</b>
Elixirs	86	66	54	21	7 + 2*	743.15	905.55	3.45	165.85
Liquors	41	37	32	17	12	128.19	225.97	2.02	99.80
Spirits	12	11	10	1	0	42.40	42.40	0.00	0.00
Syrups	35	38	25	21	8	159.06	251.45	0.81	93.20
Waters	3	2	5	0	3	12.46	16.96	0.00	4.50
<b>Total Solution Preparations</b>	<b>177</b>	<b>154</b>	<b>126</b>	<b>60</b>	<b>30 + 2*</b>	<b>1085.26</b>	<b>1442.33</b>	<b>6.28</b>	<b>363.35</b>
Extracts	2	14	14	7	7	28.30	90.02	2.38	64.10
Fluidextracts	52	105	72	44	11	36.28	57.31	1.47	22.50
Fluidglycerates	0	6	1	5	0	0.00	0.00	0.00	0.00
Infusions	2	4	3	2	1	5.40	14.20	0.00	8.80
Oleoresins	0	1	3	0	2	0.00	0.58	0.00	0.58
Resins	0	0	2	0	2	0.00	0.08	0.00	0.08
Tinctures	33	56	47	18	9	100.59	134.66	4.23	38.30
Vinegars	1	1	0	1	0	0.00	0.00	0.00	0.00
Wines	12	0	0	0	0	0.00	0.00	0.00	0.00
<b>Total Extractive Preparations</b>	<b>102</b>	<b>187</b>	<b>142</b>	<b>77</b>	<b>32</b>	<b>170.57</b>	<b>296.85</b>	<b>8.08</b>	<b>134.36</b>
Oleosaccharates	1	1	1	0	0	3.80	3.80	0.00	0.00
Pills	22	24	13	14	3	2.93	5.60	0.48	3.15
Powders	15	13	7	8	2	17.88	20.50	0.08	2.70
Salts	10	10	10	0	0	2.43	2.43	0.00	0.00
Tablets	0	8	48	5	45	10.44	565.52	1.28	556.36
Troches	0	2	1	1	0	0.00	0.00	0.00	0.00
<b>Total Solid Preparations for Internal Use</b>	<b>48</b>	<b>58</b>	<b>80</b>	<b>28</b>	<b>50</b>	<b>37.48</b>	<b>597.85</b>	<b>1.84</b>	<b>562.21</b>
Cerates	1	3	2	1	0	1.18	1.10	0.08	0.00
Collodions	4	3	2	1	0	0.08	0.08	0.00	0.00
Dressings	0	1	1	0	0	0.00	0.00	0.00	0.00
Glycerogelatins	0	5	1	4	0	0.00	0.00	0.00	0.00
Liniments	8	10	9	2	1	7.03	7.45	0.08	0.50
Lotions	4	7	6	2	1	54.93	56.20	0.33	1.60
Mulls	0	5	0	5	0	0.00	0.00	0.00	0.00
Oleates	4	2	0	2	0	0.00	0.00	0.00	0.00
Pastes	0	8	8	4	4	28.40	28.73	0.00	0.33
Petroxolins	0	18	3	15	0	1.34	1.18	0.16	0.00
Plasters	3	2	1	2	1	0.08	0.70	0.08	0.70
Ointments	5	19	21	3	4 + 1*	14.34	36.04	0.00	21.70
<b>Total Preparations for External Use</b>	<b>29</b>	<b>83</b>	<b>54</b>	<b>41</b>	<b>11 + 1*</b>	<b>107.38</b>	<b>131.48</b>	<b>0.73</b>	<b>24.83</b>

	No. of Items in Each Class.			N. F. V Items Not Admitted to N. F. VI.	New Admissions to N. F. VI.	Occurrences per 10,000 Prescriptions.			
	N. F. I.	N. F. V.	N. F. VI.			Total N. F. V.	Total N. F. VI.	Loss.	Gain.
Acids	2	2	2	0	0	6.00	6.00	0.00	0.00
Ampuls	0	8	29	0	21	1.41	2.07	0.00	0.66
Confections	0	2	0	2	0	0.66	0.00	0.66	0.00
Emulsions	11	6	4	3	1	3.54	3.46	0.16	0.08
Gargles	0	1	1	1	1	0.00	0.00	0.00	0.00
Gelati (Jellies)	1	0	1	0	1	0.00	5.90	0.00	5.90
Glycerites	7	5	6	1	2	0.41	0.66	0.00	0.25
Mels	0	2	1	1	0	0.08	0.08	0.00	0.00
Mixtures	19	13	4	7 + 2*	0	75.33	71.25	4.08	0.00
Mucilages	3	2	1	1	0	0.08	0.08	0.00	0.00
Nebulæ (Sprays)	0	5	4	3	2	0.08	80.88	0.00	80.80
Oils (Preparations)	3	6	4	2	0	0.70	0.00	0.70	0.00
Species (Teas)	3	3	0	3	0	0.08	0.00	0.08	0.00
Suppositories	0	1	1	0	0	0.40	0.40	0.00	0.00
Other Miscellaneous	27	27	14	15 + 1*	3	34.04	58.96	0.08	25.00
<b>Total Miscellaneous Preparations</b>	<b>76</b>	<b>83</b>	<b>73</b>	<b>39 + 3*</b>	<b>31</b>	<b>122.81</b>	<b>229.74</b>	<b>5.76</b>	<b>112.69</b>
<b>Total Preparations</b>	<b>435</b>	<b>565</b>	<b>474</b>	<b>244 + 3*</b>	<b>153 + 3*</b>	<b>1523.50</b>	<b>2698.25</b>	<b>22.69</b>	<b>1197.44</b>
<b>Total Monographs</b>	<b>435</b>	<b>779</b>	<b>689</b>	<b>322 + 3*</b>	<b>232 + 3*</b>	<b>1653.77</b>	<b>3706.62</b>	<b>31.72</b>	<b>2084.57</b>

\* Titles have been changed so that the items are in other groups, but these are not new preparations.

Occurrences in Prescriptions.

	U. S. P. VI, 1886.	U. S. P. X, N. F. V, 1931.	U. S. P. XI, N. F. VI, 1936.*
U. S. P. Items	88.2%	65.19%	63%
N. F. Items	...	7.92%	17%
Official Items	88.2%	73.11%	80%
Unofficial Items	9.2%	10.84%	4%
Proprietary Items	2.6%	16.05%	16%
	100.0%	100.00%	100%

\* Based on the 1931 prescription ingredient survey, but only approximate figures.

There are a large number of items in N. F. V that do not appear in N. F. VI. "Deletions" always bring criticism and that has been especially notable in connection with the Pharmacopœia, yet the pharmacopœial "deletions" during the last revision were only about 125. The National Formulary "deletions" were more than 300. More than 40 per cent of the total monographs in N. F. V were not included in N. F. VI.

The National Formulary Revision Committee established a definite foundation based upon "extent of use" and formulated certain rules for admission and "deletion." When the 779 monographs of N. F. V were brought under these rules, the loss was very great. This great loss occurred despite the fact that many items that are "pharmaceutical necessities," *i. e.*, items that enter into medicinal preparations, but in themselves may not be prescribed, were retained in N. F. VI. This group includes solvents, sweetening, coloring and flavoring agents, many "crude" drugs, some chemicals, etc.

On the other hand, these new rules encouraged admission of many new items. The totals in the tabulation indicate that N. F. V has 779 monographs, and N. F. VI, 689 monographs; 322 N. F. V monographs are not found in N. F. VI but 232 new monographs have been admitted to N. F. VI.

In the tabulation you will note columns for N. F. I, N. F. V and N. F. VI with the number of items of each class of medicinal agents.

Of plant drugs in N. F. I there are none; in N. F. V there are 142 and in N. F. VI, 110. Those "deleted" from N. F. V total 58 and the new admissions to N. F. VI are 26.

Of animal drugs in N. F. I there are none; in N. F. V there are 5 and in N. F. VI, 10. One is "deleted" and 6 new items are added.

Of chemicals in N. F. I there are none; in N. F. V there are 67 and in N. F. VI, 95. Those "deleted" total 18 and the new admissions, 46.

The pharmaceutical preparations in this tabulation present much of interest. We find some kinds of preparations, such as oleates, teas and wines that were used at the time of N. F. I, but that have entirely disappeared from N. F. VI. Other new groups, however, such as ampuls, tablets and sprays, appear prominently in N. F. VI, but were almost unknown at the time of N. F. I.

The preparations are arranged in groups, such as the Solution Preparations, Extractive Preparations, Preparations for External Use, etc. A study of the number of monographs in each of these groups in N. F. V as compared with N. F. VI will show that N. F. VI contains less in every instance, except the group of Solid Preparations for Internal Use; here the addition of 45 new tablet monographs brings about a marked increase. Corresponding conditions prevail in most of the individual kinds of preparations. For instance, we note that the elixirs drop from 66 in N. F. V to 54 in N. F. VI; the fluidextracts, from 105 to 72; the tinctures, from 56 to 47; the pills, from 24 to 13. The individual kinds that show marked increase in number are the tablets, from 8 to 48; the ointments, from 19 to 21; and the ampuls, from 8 to 29.

In the remaining columns of the tabulation are found the occurrences per 10,000 prescriptions. The loss by deletions and the gain by new admission are also set forth.

A glance at the first line indicates that the plant drugs may be used in preparations, but as such, they are used but slightly in prescriptions. However, despite the fact that there are 32 less monographs in this group, N. F. VI shows an increase in prescription usage over N. F. V of 82 per cent.

In the animal drugs, the addition of the powdered desiccated glandular products increases the occurrences from nothing to 94.90. In the chemical group the gain in occurrences is 784.31, or 650 per cent over N. F. V.

The next group, the solution preparations: elixirs, liquors, spirits, syrups and waters, shows a total gain of 363 occurrences for each 10,000 prescriptions, or 33 per cent over N. F. V. In the extractive preparations, the gain is also great, namely, 79 per cent above N. F. V.

In the next group of solid preparations, including oleosaccharates, pills, powders, salts, etc., notice the tablets, which show a gain of 556 points. The total gain of this group over N. F. V is 1613 per cent.

If you will turn to the final totals, you will find that whereas the total number of monographs has been reduced from 779 in N. F. V to 689 in N. F. VI a loss of 90, yet the total number of occurrences per 10,000 prescriptions has increased from 1653 to 3706, with a total gain of 2084.57 points or 225 per cent of N. F. V.

That is what we set out to accomplish. We wanted to get in those non-U. S. P. items that were used in prescriptions and thus reduce the great number of non-proprietary unofficals that were prescribed.

In the very last tabulation, under "Occurrences in Prescriptions," you will find there were no N. F. items in 1886. Of the total occurrences in prescriptions in 1886, 88.2 per cent were U. S. P. items, while proprietary items occurred only to the extent of 2.6 per cent. In 1931, the combined U. S. P. and N. F. occurrences constituted 73.11 per cent of the total, but occurrences of proprietary items had increased to 16 per cent. U. S. P. XI and N. F. VI—based, it is true, upon an approximation, and based on the 1931 prescription ingredient survey—show U. S. P. occurrences of approximately 63 per cent, N. F. occurrences of approximately 17 per cent, and unofficial occurrences reduced from 11 per cent to 4 per cent of the total. By including in N. F. VI the unofficial items that are quite extensively used in prescriptions, we have increased the usage of prescription items of an official character from 73 to 80 per cent.

The U. S. P. furnishes the great majority of the official occurrences in prescriptions, yet it is also true that the N. F. quite markedly helps out.

The gain from 7.92 per cent in N. F. V to 17 per cent in N. F. VI is nine points. Approximately 250 million prescriptions are compounded annually in this country. The average

number of items per prescription is slightly under three. Nine per cent of 750 million prescription occurrences is 67,500,000 occurrences. This represents the difference between N. F. V and N. F. VI.

We have taken the used unofficial items and have made them official, and thus have changed the picture.

You are already familiar with the changes in the arrangement of the book; it is no longer divided into Parts I, II and III, but the monographs are all arranged alphabetically. The historical section and the introduction, formerly found at the front of the book, are now found at the back, which appears to be a marked improvement. After the short preface come the general statements, followed by the monographs. So we start out with the monographs, as it were, at the very beginning of the book.

The changes in the monographs themselves are quite numerous. No formulas of the typical variety are found in the ampul, extract, fluidextract, oleoresin, resin and tablet monographs, a total of 168 out of 474 preparation monographs. General directions for manufacture are found in the general monographs (except for tablets) and specific directions in the individual monographs in each group. This avoids much duplication, yet provides for very complete and detailed directions in the general monographs.

Quite a considerable number of new assays have been added. The introduction of an assay in a preparation monograph just about spoils it, so far as the retail pharmacist is concerned. He almost invariably shies from making up any preparation that has to be assayed. However, the manufacture of pharmaceuticals on a large scale has become so extensive that very few retail pharmacists are concerned. Many pharmaceutical preparations need better standards, supported by tests and assay processes. In fact, the number of assays has so increased that we now present in N. F. VI a larger number of assays than are found in the U. S. P.

In the large new groups of tablets and ampuls, standards supported by assay processes are found in each monograph and this is one reason why the number of assay processes in N. F. VI is so remarkably increased. These assay processes have been extensively adopted from the work done by the Contact Committee, a joint committee from the American Drug Manufacturers' Association and the American Pharmaceutical Manufacturers' Association. It would have been impossible for the Revision Committee to have prepared these monographs if these assay processes had not been available and had not been approved, quite largely at least, by the U. S. Food and Drug Administration. The Contact Committee very kindly gave the National Formulary full liberty to use these assay processes and, with that big start, we were able to introduce these two new sections into the National Formulary.

A great deal of work has been done on elixirs. Several of them have been assayed that were not assayed in N. F. V, and others have received very careful study from a number of stand-points.

The new vehicles represent a most interesting portion of N. F. VI. Dr. Bernard Fantus became deeply interested in the study of vehicles for medicaments, and he, with his collaborators, produced a number of new ones and improved some of the old ones. Their use in prescriptions should be encouraged.

One improved vehicle is syrup of licorice, a very old preparation, and yet one that frequently is not so pleasant. The N. F. V preparation had rather a bitter taste and an acidity that was not nice. We found the addition of oil of anise, a little fennel oil and a bit of benzaldehyde has improved the preparation so that the former rather bitter and acid taste has been entirely masked.

Another remarkable improvement is in syrup of cinnamon, formerly made by extracting cinnamon bark and now made with oil of cinnamon. The oil is dissolved in the syrup and a little coloring added. The taste is much improved and there is no tannin present, hence it can be used with iron salts.

Then there is a great improvement in syrup of raspberry. This preparation has a rather high prescription usage, but around Chicago, at least, the pharmacists have been in the habit of getting their syrup of raspberry from the soda fountain. The method of preparation in N. F. V nearly always resulted in a "vinegar" of raspberry, and the syrup was far from being a pleasant preparation. By adding benzoic acid (1 in 1000), fermentation is prevented during the period when the crushed fruit is standing in a warm room to accomplish depectinization. Never use

sodium benzoate, because that gives an acrid taste, but benzoic acid gives no taste. If properly made, crushed raspberries make a syrup that is very fine.

The same thing is true with syrup of cherry. The cherry stones are crushed with the cherry pulp, one-tenth per cent of benzoic acid is added as a preserving agent and the mixture is allowed to stand for about twenty-four hours, during which time the pectin is all lost by enzymatic action. The strained and filtered juice is made up with sugar into a syrup which has a fine flavor. It has a number of advantages over syrup of wild cherry, particularly its freedom from tannin, although it will be a long time before it replaces syrup of wild cherry, which is certainly an old stand-by.

Iso-alcoholic elixir is another item of interest. It has been advocated by Dr. Fantus for twenty years. It is simply the preparation of two aromatic or simple elixirs, one strongly alcoholic, and one almost aqueous, but the elixirs have been so prepared that they will mix clearly in any proportion. The mixture of the two elixirs is to be of the alcoholic strength that is most suitable for the prescription, so as to prevent precipitation or insure complete solution.

---

#### REPORT OF THE COMMITTEE TO STUDY COURSES IN THE HISTORY OF PHARMACY.

In this first report of the Committee to Study Courses in the History of Pharmacy it should be stated that we are finding our way slowly.

It is the duty of this Committee to study the history of pharmacy courses, as they are now being offered, giving attention to their scope, time and content. A perusal of the catalogs discourages one from applying any such measuring sticks, very exactly at least, to our history of pharmacy courses.

Professor Loyd E. Harris, of this Committee, performed the duties of the Committee with respect to the courses as described in the school catalogs. His report is summarized as follows:

##### Summary.

- Number of school catalogs studied—44
- Number of schools giving required courses in History of Pharmacy—23
- Number of schools giving elective courses in History of Pharmacy—4
- Number of schools offering History of Pharmacy as a part of another course—2
- Number of catalogs of those studied not offering history of pharmacy courses—15
- The time in the curriculum that the courses are offered is indicated in the following table.

College Year.	Semester Distribution of the Courses			Totals.
	First Semester.	Second Semester.	Both Semesters.	
Freshman	6	2	1	9
Sophomore	1	2	1	4
Junior	2	1	2	5
Senior	2	3	0	5
Graduate course	..	..	2	2
Totals	11	8	6	25

A summary of the hours of credits permitted in the history of pharmacy courses is as follows:

Credits.	Number of Schools.
One hour	6
Two hours	18
Three hours	2
Four hours	1

Such summaries as these should have included all of our schools but it is not an easy task for one person to get all of the catalogs in his possession at a time convenient to make such a study.

This number of catalogs is, however, a good cross section of our schools and this survey is significant. Almost one-third of our schools give no regular time to the study of the history of pharmacy. Those offering the course seem to have agreed that two semester credits is the proper time to devote to the subject. We shall not debate the problem except to say that history of pharmacy courses are obviously not in first rate standing with our curriculum builders. It deserves, we believe, to fare much better in the future than it has in the past.

#### CREATING INTEREST IN PHARMACY HISTORY.

In addition to presenting facts, as to our present courses, in the history of pharmacy, the Committee has assumed that it is to encourage and stimulate more and better work in this phase of our instruction.

By action of the Council of the AMERICAN PHARMACEUTICAL ASSOCIATION a standing committee on historical pharmacy was established in 1903 (PROC. A. PH. A., 51, 531). This committee was soon made into a Section on Historical Pharmacy. This section has held regular sessions at the annual meetings of the ASSOCIATION.

During these years about 500 papers have been presented covering at least 50 topics of pharmaceutical interest. Only a small number of these papers have ever been published. Very few of us have ever been exposed to the papers and discussions of this Section. We are not, therefore, stimulated in any large way to carry away ideas, pertaining to this field, to be made use of in the class room.

Of the fifty topics just mentioned, four-fifths of them are mentioned less than ten times.

Of the 500 papers about half of them are devoted to ten subjects. Those mentioned most frequently are biography, state associations, schools, drug plants, drug stores, manufacturing plants, laws and subjects of general pharmaceutical interest. These might suggest subjects of interest to be studied and upon which much valuable material is available.

#### AIDS TO INTEREST.

In an effort to be helpful the Committee is submitting a list of selected references upon the history of pharmacy, prepared by Prof. Edward J. Ireland, who is a member of the Committee and well qualified to compile such a list.

#### TEXTS ON THE HISTORY OF PHARMACY.

In recent years, much criticism has been offered concerning the methods and subject material employed in the teaching of the course in History of Pharmacy. The reason for some of the criticism is due to the fact that the methods of instruction in this subject are the least standardized of any of the curricular studies. Much more of the criticism is offered because many of the teachers have been negligent in keeping informed on the latest publications upon this subject. They have been satisfied to give assignments from one or two prominent treatises, and feel that these assignments fulfil the subject material required in the course.

Edward Kremers<sup>1</sup> has stated that there are not any treatises which have been written that may be truly styled a history of pharmacy. The truth of this statement becomes more apparent year after year as we witness the increasing number of books which have been published disclosing more source material on the subject of the history of pharmacy.

The committee feels that a greater interest would be manifested both by the teacher and the student if a larger number of treatises were available. In order to acquaint those who would wish to know more concerning the available literature, the following list has been compiled. It is, by no means, a complete list of all the books on the subject. It will be noted that the list is divided into the different languages to facilitate selection.

#### ENGLISH TEXTS (14).

"Chronicles of Pharmacy" by A. C. Wooton, Macmillan & Co., 1910. A very fine two-volume reference work, well illustrated. *Chemist and Druggist*, 33 Essex St., Strand, London, W. C. 2, England. \$2.50.

---

<sup>1</sup> Kremers, E., Wisconsin Pharmaceutical Experiment Station, Form 38.

"Four Thousand Years of Pharmacy" by Charles H. LaWall, J. B. Lippincott Co., 1927. Illustrated.

"Pictorial History of Ancient Pharmacy." Translated by Wm. Netter from Hermann Peters' "Aus pharmazeutischer Vorzeit," 1889. The book is out of print but copies are still available.

"Historical Sketch of the Progress of Pharmacy in Great Britain" by Jacob Bell and Theophilus Redwood, 1880, London. 415 pp. This book relates only sketches of English Pharmacy. The first part was written by Mr. Jacob Bell in 1842 as an introduction to the *Pharmaceutical Journal*. May be purchased in England.

"History of the Society of Apothecaries" by C. R. B. Barrett, London, 1905. A very detailed history of the Society of Apothecaries from 1617 to 1780. Copies of this book may be procured through Henry Kimpton, Medical Bookseller, 263 High Holborn, London, W. C. 1, at about five dollars.

"The First Century of the Philadelphia College of Pharmacy, 1821-1921" by Joseph W. England, 1922. 728 pp. \$5.00.

"The College of Pharmacy of the City of New York—A History" by Curt P. Wimmer, 1929, New York. 346 pp. \$5.00.

"Early History of Pharmacy of America" by Otto Raubenheimer, published in *Medical Life Magazine*, Feb. 1926, Vol. 33, No. 2. 21 pages. The Froben Press, 12 Mount Morris Park, New York City. Much of the same material may be found in the January issue of the *Druggists Circular*, 1907. In the same number of *Medical Life*, which is known as the Pharmacy number, we find that Mr. Lascoff has written on the Later History of Pharmacy in America.

"Half a Hundred Years of Development," *Druggists Circular*, Vol. 51, 1907. Pages 1-194. The *Druggists Circular* celebrated their golden jubilee in 1907 and dedicated the January number of their journal to the history of pharmacy.

"Plough Court"—The story of a Notable Pharmacy published by Allen & Hanburys Ltd. This book gives an interesting history of the old Plough Court Pharmacy. It is illustrated and well documented. Copies may be obtained from Allen & Hanburys Ltd., Bethnal Green, London, E. 2, England. Price is \$3.00.

"Reference Handbook of Medical Sciences," Vol. VI, page 580 (1903). An article by Charles Rice in this volume should prove of much value to those who are interested in the history of pharmacy from the point of view of pharmacopœial revision.

"Bibliographical Guide for the Students of the History of Pharmacy" by Edward Kremers, 1916.

"The Mystery and Art of the Apothecary" by C. J. S. Thompson, 1929. Bodley Head Press, London, England.

"Fighting Disease with Drugs" by John C. Krantz, 1931. Published by Williams & Wilkins. 227 pp. \$2.00.

#### GERMAN TEXTS (20).

"Geschichte Der Pharmacie" by H. Schelenz. Berlin, 1904. "This standard treatise . . . of 935 pages is in some respects the most comprehensive treatise on the subject. Its index of 26,000 primes renders it of great value as a reference book on innumerable subjects pertaining to pharmacy. However, as the author himself points out, it should be regarded as 'an attempt at a history' rather than a history itself."

"Geschichte Der Apotheker" by Hermann Ludwig, 1858. Jena. 1122 pp. Ludwig's book contains the most extensive biographical data on the most outstanding pharmacists of Europe, during six centuries of pharmacy. It was the only translation of Phillippe's *Histoire des Apothicaires* ever made.

"Grundzuege Der Geschichte Der Pharmacie," by Carl Frederking. Göttingen, 1874. 303 pp. "This volume . . . of 303 pages by the Riga (Russia) apothecary was apparently inspired by the desire to counteract the influence manifested by the treatise of Phillippe, a physician, who apparently took great pleasure in casting ridicule on pharmacy in many of its phases. The author evidently sought the best antidote against such baneful influences in the biographies of men who had served pharmacy or at least emanated from the calling. Hence one-half of the volume is devoted to short biographical notices. The attempt at a general survey is best indicated by the reference to the table of contents."

"Aus Pharmazeutischer Vorzeit" by Hermann Peters, 1910. 2 vols., Vol. I, 305 pp. Vol. II, 287 pages. "The two volumes of essays, while not a general history of pharmacy, nevertheless should be mentioned here because they are replete with general information." These two volumes have been recently reprinted by the Gesellschaft für Geschichte der Pharmacie, and may be purchased by addressing Mr. Arthur Nemayer, Mittenwald (Bayern), Germany. Price \$1.75.

"Geschichte Der Pharmazie" by Julius Berendes, 1898. Although planned on an elaborate scale and supplied with illustrations, yet only one fascicle ever appeared.

"Das Apothekenwesen" by Julius Berendes. "This title is chosen by the author to indicate that the text has reference to the historical development of Pharmacy in Germany. As an introduction he discusses much more briefly than in his 'Die Pharmacie bei den alten Kulturvoelkern,' the development of pharmacy during antiquity and the middle ages."

"Die Pharmacie bei den alten Kulturvoelkern" by Julius Berendes, 1892, 2 vols. These two volumes constitute the largest of his writings on the history of pharmacy. However, the subject material relates only to pharmacy of antiquity.

"Grundriss der Geschichte der deutschen Pharmacie" by Phil. A. Adlung and Georg. Urdang. Berlin, 1935. 647 pp. This treatise is of more recent date. It is a general history of pharmacy in Germany, and is sponsored by the Gesellschaft für Geschichte der Pharmacie in Germany. The book may also be secured from Julius Springer, publisher. Teachers interested in purchasing any of the books relating to the pharmacy of Germany would do well to write to Mr. Arthur Nemayer, Mittenwald, Bayern, Germany.

"Beiträge zur Geschichte der Pharmacie" by B. Reber, 1898, 54 pp. This small treatise is a reprint from the *Pharmaceutical Post*, a German pharmaceutical journal which devoted much space to the history of pharmacy.

"Wesen und Bedeutung der Geschichte der Pharmacie" by Georg Urdang and published through Julius Springer. Berlin, 1927. This small book consisting of 41 pages discusses the importance of the history of pharmacy. It may be secured directly from the Society for the History of Pharmacy in Germany. (See previous reference for address.)

"Versuch einer Geschichte der Apothekenwesens, 1792," 60 pp. Is another reprint of the "Gesellschaft für Geschichte der Pharmacie," which might be easily obtained by writing to the German society. In reviewing the German literature in the history of pharmacy it will be noted that there have been a large number of books written concerning the history of the apothecaries in the larger cities in Germany. These usually cover several hundred years of historical data, and may prove very valuable after one has consulted one of the more general texts on the history of Germany. Time will not permit even a short review of them, but the following list giving titles, date of publication, number of pages, etc., should be helpful in further acquainting the teacher with texts on German pharmaceutical history.

"Geschichte der Wiener Apotheken" by Josef Noggler and Leopold Hochberger, 1919, 2 vols.

"Münchens älteste Apotheke," published by Otto Harrassowitz. Leipzig, 1927, 60 pp.

"Die Apothekenreformbewegung" by Ernst Urban, 1929, 156 pp.

"Die Kölner Apotheken von der ältesten Zeit bis zum Ende der reichstädtischen Verfassung," 1918, illust., 159 pp.

"Beiträge zur Geschichte der Annaberger Löwenapotheke," by Harms Spreckel and Richard Bretschneider, 1930, 126 pp.

"Zur Entwicklungsgeschichte der Apothekenreform" by Dr. Springfield, 1896. Leipzig, 84 pp.

"Geschichte der Apotheke und Apotheken in alten Soest" by Gerd Hinrich Behlman, 1929, 230 pp.

"Geschichte der Hamburger Apotheken Historische-Biographische Skizze von Jahre 1265 bis auf die neueste Zeit," 1888, 112 pp.

"Eine Deutsche Apotheke des 16 Jahrhunderts" by Richard Meissner, 1908, 397 pp.

Many of the above books may be obtained through the Gesellschaft für Geschichte der Pharmacie, while the remaining numbers can be purchased through German book dealers who will send their catalogs upon request.

A large amount of illustrated material which could be used in teaching the course might



be secured by purchasing the *Illustrierter Apotheker Kalender* annually at \$1.00 each. These calendars have cuts on each page portraying important men and events in European pharmaceutical history.

FRENCH (16).

Information concerning the history of pharmacy in France may be obtained by corresponding with *La Société d'Histoire de la Pharmacie* in Paris. The address is 6, passage Verdeau, Paris 9.

This society has issued the "*Bulletin de la Société d'Histoire de la Pharmacie*" since 1913 with a few interruptions during the World War. After the war it was resumed under the title *Revue D'Histoire de la Pharmacie*. Although it is written in French, teachers who subscribe for this little review of French pharmacy will not be disappointed.

FRENCH TEXTS (16).

"Histoire de la Pharmacie, Moyen age, Temps Moderne" by André-Pontier. Paris, 1900, Octave, Doin, Editeur. 729 pp. "Although by far the largest part of the volume is devoted to the history of French pharmacy, the work possibly contains a sufficient amount of other material to give it a place among the general literature."

"Histoire des Apothicaires" by A. Phillippe, 1853. "This, the first attempt at a general history of pharmacy, is the product of leisure moments of a physician. His principal endeavor was to assemble the scattered fragments to a united whole."

"Histoire de la Pharmacie A Travers les Ages" by L. Reutter de Rosemont, 1931, Vol. I, 596 pp., Vol. II, 670 pp. This two-volume work is perhaps the best general history of French pharmacy that has been published. While the first volume deals chiefly with the period of antiquity to the XVI century, the second volume contains a great amount of historical data dealing with the 17th, 18th and 19th centuries. Copies of this history may be purchased from J. Peyronnet & Cie, Ed., 7 Rue de Valais, Paris, France.

"La Pharmacie en Bas-Poitou" by Yvonne Michon, 1925, 190 pp.

"Les Maitres Apothicaires de Nancy au Dix-Septieme Siecle" by Emile Monal, 1917, 230 pp. This history may still be obtained from Berger-Levrault, 5 Rue des Beaux Arts, Paris, France.

"Les Apothicaires de Vitry-Le-François" by Jean Martin, 1932, 196 pp. This biographical history was published by "La Société d'Histoire de la Pharmacie," and should still be available.

"Histoire de la Pharmacie au Dunkerque de 1631 à L'an XI (1803)" by Edmond Leclair, 1927, 125 pp. Copies of this history are still available through Paul Michel, 23 Rue de la Marine, Paris, France.

"Documents sur les Apothicaires et Epiciers Lillois avant 1586" by Edmond Leclair, 1901, 27 pp.

"Contribution a L'Histoire de la Pharmacie en Normandie" by Andre Liot, 1912, 88 pp.

"Histoire de la Pharmacie à Avignon du XII Siecle à la Revolution" by Henri Granel, 1905, 87 pp.

"Les Apothicaires Parisiens au Seizième Siècle" by Emile Rivière, 1914, 55 pp.

"La Pharmacie la Rochelle avant 1803" by Maurice Soenen, 1910, 225 pp.

"La Pharmacie Centrale de France" by Charles Sellier, 1903, 265 pp.

"Centenaire de l'École Supérieure de Pharmacie de Paris, 1803-1903" compiled by the Faculty, 1903, 393 pp.

"L'Art Pharmaceutique A Travers les Ages" by F. Sternon, 1933. A copy of this book may be purchased from Librairie de l'Academie de Médecine, 120 Boulevard Saint-Germain, Paris VI.

"La Pharmacie dans ses rapports avec les Institutions d'Assistance à Paris et dans des principales Villes de France" by J. E. Pagnien, 1907, 259 pp.

LOYD E. HARRIS, EDWARD J. IRELAND, CHAS. O. LEE, *Chairman*.

REPORT OF THE COMMITTEE FOR THE COLLECTION OF INFORMATION  
PERTAINING TO PROFESSIONAL PHARMACY.\*

The Committee for the Collection of Information Pertaining to Professional Pharmacy has not been as active during the year 1935-1936 as it was during the year 1934-1935. This was due in part to several reasons among which were (1) The necessary funds were not available to carry on extensive work. (2) As there was a new revision of both the United States Pharmacopœia and the National Formulary, a great many changes were being made and it was thought best that time be given to allow things to adjust themselves before continuing the work of collecting information by the committee.

As a result the committee has contented itself during the past year by making a special effort to enlist the many hospital pharmacists in this country to join the AMERICAN PHARMACEUTICAL ASSOCIATION and to encourage them to conduct dignified, scientific laboratories offering every assistance in the way of consultation, research, etc.

\* Submitted by Ragnar Almin, Ralph W. Clark, Elmer L. Hammond, J. Solon Mordell, Emery T. Motley, M. T. Rowe, E. T. Stuhr, Ralph E. Terry and Marvin J. Andrews, *Chairman*.



Photograph of part of a display of preparations from A. Ph. A. Recipe Book II, prepared by Chairman J. Leon Lascoff.

GERMANY HALTS ENROLLMENT IN  
DENTAL COLLEGES.

Pending adoption of new educational standards and having in mind the present large number of dentists in Germany a temporary prohibition has been instituted against further enrollment in dental colleges in that country, according to a report from Consul Sydney B. Redecker, Frankfort-on-Main, made public by the Commerce Department's Chemical Division.

Authorities are said to feel that the rapid increase in practitioners coupled with widespread dental illness throughout the country suggests that Standards of education in the profession have not been sufficiently rigid and that

the situation requires more careful selection of students and higher standards of skill, the report states.

The number of dentists and dental technicians practicing in Germany has increased rapidly during the past quarter century. In 1909 the country had a total of only 2667 dentists and 8546 dental technicians; by 1934, the number had grown to 11,247 and 20,000, respectively, it was stated.

The temporary ban against new admissions to dental colleges does not include students training to be dental technicians, the Consul reported.—From U. S. DEPARTMENT OF COMMERCE, BUREAU OF FOREIGN AND DOMESTIC COMMERCE, November 19, 1936.