THE DEPARTMENT OF THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY

C. B. JORDAN—CHAIRMAN OF EXECUTIVE COMMITTEE, A. A. C. P., EDITOR OF THIS DEPARTMENT.

"The following list of drugs prepared by the Committee on Materia Medica of the Joint Conference of Boards and Colleges of District No. 2 is sure to be of great interest to members of state boards of pharmacy and to teachers of materia medica. Whether or not the boards of pharmacy accept this list, the Committee deserves our thanks and appreciation for the great amount of work they have done in preparing it. Your Editor, not being a teacher of materia medica, probably has no right to criticize the work of this Committee. However, it does seem to me that the rating (55%) given to vegetable and animal drugs is high. Should not students know something of the method of obtaining many of the drugs, such as oil of bitter almond, acacia, oil of turpentine, etc.? And should students not also have an understanding of the meaning of such terms as oleoresin, balsam, fixed oil, alkaloid, etc.? Perhaps the Committee intends that this should all be included under 'Official Definition of the Drug' but it is not so stated.

"Every teacher of materia medica is urged to give this list his careful consideration, and every state board of pharmacy should also study it. Perhaps out of this movement may come the selection of a list that will be satisfactory to all state boards of pharmacy."—C. B. JORDAN, *Editor*.

SCOPE OF EXAMINATION IN MATERIA MEDICA AND LIST OF DRUGS.

RECOMMENDED BY THE COMMITTEE ON MATERIA MEDICA AND APPROVED BY THE CONFERENCE OF STATE BOARDS AND COLLEGES OF N. A. B. P., DISTRICT NO. 2, AS A LIST TO WHICH STATE BOARD QUESTIONS IN MATERIA MEDICA SHOULD BE RESTRICTED.

The joint meeting of the Members of State Boards of Pharmacy and Delegates of the Faculties of Colleges of Pharmacy of District No. 2 have adopted a code delimiting the scope of the State Board examination in Materia Medica, together with a list of drugs to which the State Board exmination is to be limited. This list is not intended to restrict in any way the subjects or drugs which the teacher of Materia Medica may desire to discuss with his classes but is for the guidance of the State Boards of Licensure.

Three State Boards have already formally accepted these recommendations and have agreed to limit their examinations in Materia Medica to the drugs recommended on the list. It is obviously desirable that there be some general recognition of what the candidate for pharmaceutical licensure should be expected to know. In the hope that this list may be adopted by other states, or at least furnish a basis for a discussion looking toward the adoption of a national agreement, the Conference of District No. 2 has authorized the publication of the material herewith presented. The Committee on Materia Medica responsible for this outline consisted of the following: G. A. Bunting, William Mansfield and J. M. Woodside, representing the State Boards; C. W. Ballard, J. R. Minehart (since deceased) and H. C. Wood, Jr., representing the colleges.

1. GENERAL SCOPE OF THE EXAMINATION.

The examination in Materia Medica should cover the following topics:

1. Nomenclature (including Latin and English official titles and commonly used synonyms).
2. Official definitions (including botanic or zoölogic origin).
3. Appearance and physical properties. Under "appearance," as applied to vegetable drugs, is meant especially macroscopic appearance.

4. Dosage of drug and its important preparations.
5. Therapeutic action or uses.
6. Names of important active principles.
7. Methods of storing drugs subject to deterioration on keeping.
8. Definitions of common medical terms, such as those defining drug action, or the names of common diseases.
9. The symptoms and treatment of the more common poisonings.

It is suggested that the relative frequency of questions on these topics might be divided about as follows:

Nomenclature	15%	Miscellaneous	5%
Official definitions	15%		100%
Appearance, etc.	5%		
Dosage	25%	Organic chemicals	20%
Active principles	5%	Inorganic chemicals	15%
Therapeutic action	10%	Vegetable and animal drugs	55%
Medical terms	10%	Serums and glandulars	10%
Toxicology	10%		100%

LIST OF DRUGS.

Acacia
Acetanilidum
Acetonum
Acetphenetidinum
Acidum Aceticum
  Acetylsalicylicum
  Acetyltannicum
  Benzoicum
  Boricum
  Bromauricum
  Citricum
  Hydriodicum
  Hydrochloricum
  Hydrocyanicum Dil.[1]
  Hypophosphorosum
  Nitricum
  Oleicum
  Phosphoricum
  Salicylicum
  Stearicum
  Sulphuricum
  Tannicum
  Tartaricum
Aconitum
Acriflavine[1]
Adeps
  Lanæ
Aether
Aether Aceticus
Aethylis Aminobenzoas
  Chaulmoogras
  Chloridum
  Nitris
Aethylmorphinæ Hydrochloridum
Agar
Alcohol
Allium
Aloe
Althæa
Alumen
Alumini Chloridum
Alumini Sulphas
Amidopyrina
Ammonii Bromidum
  Carbonas
  Chloridum
  Hydroxidum
  Hypophosphis
  Iodidum[1]
  Salicylas
  Valeras
Amylis Nitris
Amylum
Anethol
Anisum
Antimonii et Potassii Tartras
Antimonii Oxidum
Antipyrina
Apocynum
Apomorphinæ Hydrochloridum
Aralia
Argenti Nitras
Argento-Proteinum
Arnica
Antitoxinum Diphthericum
Antitoxinum Tetanicum
Arseni Iodidum
Arseni Trioxidum
Arsphenamina
Asafœtida
Aspidium
Balsamum Peruvianum
Barbitalum
Barbitalum Solubile
Barii Sulphas
Belladonna
Benzoinum
Betanaphthol
Bismuthi Subcarbonas
  Subgallas
  Subnitras
  Subsalicylas
Bitumen Sulphonatum
Bryonia
Buchu
Caffeina
Caffeina Citrata
Calamina Præparata
Calcii Bromidum
  Carbonas Præcipitatus
  Creosotas[1] (Calcreose)
  Glycerophosphas
  Hypophosphis
  Iodobehenas
  Lactas
  Lactophosphas
  Phosphas Præcipitatus
Calumba
Calx
Calx Chlorinata
Camphora
Camphora Monobromata[1]

[1] Not official in either the U. S. P. or N. F.

Cannabis
Cantharis
Capsicum
Carbo Animalis Purificatus
Carbo Ligni
Carbonei Tetrachloridum
Carbromalum
Cardamomi Semen
Carum
Caryophyllus
Cascara Sagrada
Cataria
Cera Alba
Cera Flava
Cerevisia Fermentum
Cerii Oxalas[1]
Cetaceum
Chloralis Hydras
Chloramina
Chloroformum
Chondrus
Chrysarobinum
Cimicifuga
Cinchona
Cinchonidinæ Sulphas
Cinchoninæ Sulphas
Cinchophenum
Cinnamomum
Cocainæ Hydrochloridum
Coccus
Codeina
Colchicum
Colocynthis
Conium
Copaiba
Coriandrum
Cotarninæ Chloridum
Coumarinum
Creosoti Carbonas
Creosotum
Cresol
Creta Præparata
Crocus
Cubeba
Cupri Sulphas

Delphinium
Dextrinum Album
Dextrosum
Dichloramina
Digitalis

Elaterinum
Emetinæ Hydrochloridum
Ephedrina[1]
Epinephrina
Ergota
Eriodictyon
Eucalyptol
Eucalyptus
Eugenol
Eupatorium
Euresol[1]
Extractum Carnis

Fel Bovis
Ferri Carbonas Saccharatus
Chloridum
et Ammonii Citras
Glycerophosphas
Hydroxidum
Hypophosphis
Lactas
Phosphas Solubilis
Pyrophosphas
Sulphas
Tersulphas
Ferrum
Ferrum Peptonatum
Ferrum Reductum
Formaldehydum

Galla
Gelatinum
Gelsemium
Gentiana
Geranium
Glucosum
Glusidum
Glusidum Solubile
Glycerinum
Glycerylis Nitras
Glycyrrhiza
Gossypium Purificatum
Granatum
Guaiacol
Guaiacois Carbonas
Guaiacum
Guarana

Hexylresorcinol[1]
Homatropinæ Hydrobromidum
Hydrargyri Chloridum Corrosivum
Chloridum Mite
Iodidum Flavum
Iodidum Rubrum
Oxidum Flavum
Oxidum Rubrum
Salicylas
Hydrargyrum Ammoniatum
Hydrastis
Hydrogen Dioxide
Hyoscyamus
Hyoscyaminæ Hydrobromidum

Insulin[1]
Iodoformum
Iodum
Ipecacuanha
Ipomœa

Jalapa
Juniperus

Kaolinum
Krameria

Lactosum
Limonis Cortex
Lobelia
Linum
Lithii Bromidum
Citras
Lupulinum
Lycopodium

Magnesii Carbonas
Chloridum
Citras
Oxidum
Sulphas
Maltum
Malvæ Folia
Mangani Citras
Glycerophosphas
Hypophosphis
Manna
Matricaria
Mel
Mentha Piperita
Mercurochrome[1]
Metaphen[1]
Methenamina
Methylis Salicylas
Morphina and Salts
Myristica
Myrrha

Neoarsphenamina
Neocinchophenum[1]
Nitrogenii Monoxidum
Nux Vomica

Oleum Aethereum
Amygdalæ Amaræ
Amygdalæ Expressum
Anisi
Aurantii
Bergamottæ
Betulæ Empyreumaticum
Cadmium
Cari
Caryophylli
Chaulmoogræ
Chenopodii
Cinnamomi

Coriandri
Eucalypti
Fœniculi
Gossypii Seminis
Juniperi
Lavandulæ
Limonis
Lini
Menthæ Piperitæ
Morrhuæ
Myristicæ
Olivæ
Picis Rectificatum
Pini Pumilionis
Ricini
Rosmarini
Santali
Sassafras
Sinapis Volatile
Terebinthinæ
Theobromatis
Thymi
Tiglii
Opium
Orthocresol
Oxygenium
Oxyliodide[1]

Pancreatinum
Paraffinum
Paraffinum Chlorinatum
Paraldehydum
Pepsinum
Persio
Petrolatum
Petrolatum Album
Petrolatum Liquefactum
Phenobarbitalum
Phenobarbitalum Sodium[1]
Phenol
Phenolphthaleinum
Phenylis Salicylas
Phytolacca
Phosphorus
Physostigmina and Salts
Pilocarpinæ Hydrochloridum
Pinus Alba
Pituitarium
Pix Carbonis
Pix Pini
Plumbi Acetas
Monoxidum
Oleas
Podophyllum
Populi Gemmi
Potassa Sulphurata
Potassii Acetas
Bicarbonas
Bitartras
Bromidum
Carbonas
Chloras
Citras
Guaiacol Sulphonas[1]
Hydroxidum
Hypophosphis
Iodidum
Permanganas
et Sodii Tartras
Procaina
Prunus Virginiana
Pyrogallol
Pyroxylinum

Quassia
Quercus
Quillaia
Quinina and Salts
Quinidinæ Sulphas

Renninum
Resorcinol
Rheum
Rhus Glabra
Rubi Idæi Fructus

Salicinum
Sanguinaria
Santalum Rubrum
Santalum Album
Santoninum
Sapo
Sapo Mollis
Sarsaparilla
Sassafras
Scilla
Scoparius
Scopolaminæ Hydrobromidum
Senega
Senna
Serpentaria
Sevum
Sinapis Nigra
Sodii Acetas
Benzoas
Bicarbonas
Biphosphas
Boras
Bromidum
Cacodylas
Carbonas
Chloridum
Citras
Glycerophosphas
Hydroxidum
Hypophosphis
Indigotindisulphonas
Iodidum
Nitris
Perboras
Phosphas
Salicylas
Sulphas
Thiosulphas
Sparteinæ Sulphas[1]
Spiritus Frumenti
Spiritus Vini Vitis
Stillingia
Stramonium
Strontii Bromidum[1]
Salicylas
Strophanthus
Strophanthinum
Strychnina
Styrax
Sucrosum
Sulphonethylmethanum
Sulphur
Sumbul

Talcum
Taraxacum
Terebene
Terebinthina
Terpini Hydras
Terra Silicea Purificata
Theobromina
Theophyllina
Thymol
Thymolis Iodidum
Thymus
Thyroideum
Tolu
Tolysin[1]
Tragacantha
Trinitrophenol
Triticum

Ulmus
Uva Ursi

Vaccinum Vario'æ
Valeriana
Vanilla
Vanillinum
Veratrina
Veratrum Viride
Viosterol[1]

Yohimbine[1]

Zinci Oxidum
Phosphidum[1]
Stearas
Sulphas
Zingiber

When should our students begin to specialize is a question that will probably never be settled to the entire satisfaction of all teachers in colleges of pharmacy. The following discussion by Dr. George D. Beal is enlightening because it presents a similar problem from the standpoint of the employer of college graduates. His arguments and illustrations are convincing and his paper deserves careful study.—C. B. JORDAN, *Editor*.

CHEMICAL EDUCATION AND INDUSTRIAL RESEARCH.

BY GEORGE D. BEAL.[1]

In accepting the invitation to prepare a paper for the Chemistry Teachers' Conference, I did not realize at the time that my words were to be a formal opening to a symposium on Chemical Education and Industrial Research. However, at the Baltimore meeting of this section I had the privilege of speaking on the teaching of analytical chemistry, when I presented some ideas similar to those which I intend to advance to-day. My laboratory schedule did not meet with the approval of some who discussed that paper, so that I am glad to have this opportunity of restating my position, this time in connection with what some may regard as a higher plane of endeavor.

Thinking back over two years, I recall that our divergence of opinion came over the question of the content of a laboratory course in analytical chemistry. It has been my experience in teaching this subject that the ideal course, as in organic or physical chemistry, is one that is based upon typical operations and reactions, rather than one which empirically goes through a series of experiments chosen merely because they represent determinations that may be made by the student if he later chances to enter a control laboratory.

If every student upon entering college was so omniscient that he could accurately and adequately foretell his professional future, his curriculum might be arranged to fit his future needs. Think of the medley of courses we would then find described in our catalogs, and of the predicament of the instructor who was required to correlate the grades because of the requirements imposed by regulatory and licensing boards. Since we have not the gift of prophecy, and must for administrative purposes have some uniformity of requirement and performance, any curriculum and any course therein must be based upon that parable of the house that was builded upon a rock, which because of the strength of its foundation could not fall.

One of my early duties in the teaching profession was to give instruction in quantitative analysis to a large class of agricultural students. Many of them objected strenuously to spending their time on the determination of simple radicals such as chloride and sulphate in salt mixtures and the titration of samples of organic acids and soda ash. It would be so much better, they reasoned, to substitute samples of soil and fertilizer for these simple things and thus quickly obtain precious practical experience. It was only when they came close to the end of the semester and took up the more complete analysis of limestone and rock phosphates that they realized the effect of a lack of experience and technic.

As a result of their constant complaint I finally took my problem to the professor in charge of the work in soil fertility, for which my course was prerequisite.

[1] Assistant Director, Mellon Institute of Industrial Research.