OUR NATIVE MATERIA MEDICA.

AN ESSAY

TO WHICH WAS AWARDED

THE PRIZE OF THE BOYLSTON MEDICAL SOCIETY IN 1864.

BY FRANCIS MINOT WELD.

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By FRANCIS MINOT WELD.

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Shortly after the close of our last war with England, Dr. Jacob Bigelow issued a series of volumes on the Native Medicinal Plants of the United States: a work written with so great care and thoroughness, and illustrated with such accuracy and beauty, as to be still our classic manual in this branch of medical literature. In the preface to this work, the author alludes to the effect of the blockade of our ports by the British, in cutting off supplies of drugs. He therefore strongly urges an examination of all our native plants, so as to render ourselves, as far as possible, independent of foreign productions.

During the last two years, a much more stringent blockade than the one just alluded to has been enforced on the ports of a large section of our country; bringing about such an inconvenient scarcity of certain drugs as to cause more strenuous efforts to be made to secure these precious articles, than to obtain even the most necessary materials of war.

Let us suppose New England, instead of the Southern States, to be at war with the rest of the Union, and hemmed in and blockaded by land and sea. What substitutes could her rocks and sands, chilled by frost and snow, furnish for the rich drugs of the tropics, ripened under an equatorial sun?

Let us examine the condition of our Materia Medica: see which of the drugs in common use are of domestic production, and how many others might be introduced into cultivation, or otherwise supplied; learn precisely the number and value of those which cannot possibly be furnished from our own resources; and, lastly, find whether among native products hitherto neglected, we may not discover substitutes, partial or complete, for some of the foreign drugs.

The general plan pursued in the present paper is this. Taking the classification and list of medicinal agents adopted in Stillé's work on Materia Medica, the latest available authority, the principal

sources of our present supply will be stated in connection with each drug separately. The words native and naturalized are used with reference to the New England States. Where Stillé has omitted to speak of drugs mentioned with approval by other writers of authority, particularly Dr. Bigelow, they will be annexed to the list. Next, taking each class of drugs separately, our resources and more important deficiencies in that class will be very briefly discussed, with whatever remarks the subject may suggest. Finally will come a concise summary of the results arrived at.

The principal authorities consulted are—The United States Dispensatory (1858), Stillé's and Wood's works on Materia Medica, Dr. Bigelow's Medical Botany, various State Geological Reports.

Class I.—Lenitives.

Mucilaginous.	
Acacia,	Africa.
Althæa,	Naturalized from Europe.
Cetraria,	Europe—also native.
Chondrus,	" " "
Linum,	Native.
Salep,	Levant.
Sassafras medulla,	Native—good subs. for acacia.
Sesamum,	India.
Tragacantha,	Asia Minor.
Ulmus,	Native.
Amylum,	"
Ginseng,	" —much like glycyrrhiza.
Amylaceous.	
Avenæ farina,	Native.
Hordeum,	" [Arum triphyllum.
Maranta,	W. Indies—might be made from
Oryza,	Southern States.
Sago,	East Indies.
Tapioca,	West Indies.
Fatty and Oleaginous.	
Adeps,	Native.
Amygdala,	Barbary.
Cetaceum,	Marine.
Glycerina,	Home manufacture.
Ol. Olivæ, Ol. Amygd., Ol. Cacao,	Imported.
Sevum,	Native.
Gelatinous.	
Gelatina,	Native.
Icthyocolla,	Imported—also made here.
Collodium,	Cotton from South.

Saccharine.

Glycyrrhiza,	Europe.
Mel,	Native.
Saccharum,	" from maple.

Class II.—Astringents.

Mineral.

Alumen,	Imported—can be made here.
Bismuthi subnit.,	Bismuth is found at Monroe, Ct.
Plumbum,	Lead ores in N. H., and Hampden Co., Mass.
Zinci acetas,	Germany. A carbonate of iron and zinc exists in New Hampshire and at Worcester, Mass.
" carb. præcipit.	

Vegetable.

Acid. tannicum,	Obtainable from native products.
" gallicum,	Tannic acid.
Catechu,	India.
Galla,	Mediterranean—there are native specimens, probably useful.
Geranium,	Native.
Hæmatoxylon,	Central America.
Kino,	Africa.
Krameria,	Peru.
Quercus alba and tinctoria,	Native.
Rosa Gallica,	Cultivated.
Rubus villosus—R. trivialis,	Native.

Class III.—Irritants.

Mineral.

Acidum acet., Acetum,	Native.
" nitricum,	From nit. of potash or nit. of soda, both usually imported.
Chlorinium and aq. chlor.,	From native sources.
Calx chlor. and ac. mur.,	Require sulphuric acid for their manufacture.
Ac. sulphuricum—its compounds and preparations,	Usually made from combustion of sulphur; may be made in abundance from native sulphate of iron.
Liq. ammoniæ	From native products.
Potassa and preparations,	" " "
Sodæ Carbonas,	Made artificially with aid of sulphuric acid.
" boras,	Europe, India, &c.
Calx, &c.,	Native.
Argenti nitras,	" ores.
Cupri sulphas,	" "

Zinci chloridum,	Native ores.
Antimonii terchlor.,	Antimony in Maine and N. H.
Vegetable Irritants.	
Sinapis,	Cultivated.
Capsicum,	"
Pix abietis,	Native.
Mezereon,	Somewhat cultivated.
Pyrethrum,	Cultivated.
Sabina,	Native.
Ol. monard. punct.,	Middle States. Could be cultivated here.
Clematis Virginica,	Native.
Arum triphyllum,	"
Ranunculus bulbosus,	"
Animal Irritants.	
Cantharis vesicatoria,	Vicinity of Mediterranean.
" vittata,	Southern States.
" atrata-marginata,	Native.

CLASS IV.—TONICS.

Specifics.	
Ferrum,	Native.
Cinchona,	South America.
Salix,	Native.
Cornus Florida,	"
Prunus Virginiana,	"
Simple Bitter Tonics.	
Colomba,	Africa.
Gentiana,	Europe.
Quassia,	West Indies.
Simaruba,	" "
Sabbattia,	Middle and Southern States.
Centaurium,	Europe.
Chiretta,	India.
Coptis,	Native.
Xanthorrhiza,	Southern and Western States.
Menyanthes trif.—Aletris farinosa, Polygama polyg.	Native.
Stimulant Tonics.	
Anthemis—Eupatorium,	Cultivated.
Angustura—Cascarilla,	West Indies.
Marrubium,	Naturalized from Europe.
Contrayerva,	Central America.
Calamus—Angelica,	Native.
Aurantii Cortex,	West Indies and Mediterranean.
Wintera,	South America.
Millefolium,	Cultivated by Shakers and others.

Tonic and Aromatic Stimulants.

Anisum, Carum, Fœniculum, Lavandula, Melissa, Mentha piperita and viridis, Origanum, Ros marinus, Ruta, Salvia and Thymus,	Are common garden herbs.
Asarum, Gaultheria, Hedeoma, Sambucus,	Native.
Ol. cajuputi,	Moluccas.
Cinnamomum,	Ceylon.
Cassia—Piper,	Java.
Canella—Pimenta,	West Indies.
Caryophyllus—Myristica,	Moluccas.
Cardamomum,	India.
Coriander,	Europe.
Cyminum,	Egypt.
Monarda,	Vide Ol. monardæ.
Zinziber,	W. Indies, Africa, S. America.

CLASS V.—GENERAL STIMULANTS.

Heat and Electricity.

Vinum,	Native—from grape, currant, &c.
Alcohol,	Native.
Ol. terebinth.—Creasotum,	"
Ammoniæ carb.,	"
Arnica,	Northern Europe.
Toxicodendron,	Native.

CLASS VI.—CEREBRO-SPINAL STIMULANTS.

Narcotics.

Opium,	Asia—may be produced here.
Lactucarium,	Cultivated.
Hyoscyamus,	Naturalized.
Belladonna,	Native.
Stramonium,	"
Humulus,	Cultivated.
Cannabis Indica,	India.
" sativa,	Native.

Antispasmodics.

Assafœtida,	Persia, &c.
Dracontium—Valeriana,	Native—cultivated.
Succinum,	Found at Nantucket and M. Vineyard.
Castoreum,	Russia and Canada.
Moschus,	Russia and China.
Camphora,	China.
Æther sulphuricus,	
Æther chloric fort.,	Native.
Æther nitricus,	"

Chloroform,	Native.
Cuprum ammoniatum,	"
Zinci oxid. and Valerianas,	"

CLASS VII.—SPINANTS. (Tetanica.)

Spinants in General.

Nux vomica—Strychnia,	Ceylon, &c.
Faba St. Ignatii,	Philippines.
Toxicodendron,	Vide Gen. Stimulants. Native.
Ergota,	" Emmenagogues. "
Sodæ boras,	" Irritants. Europe.

CLASS VIII.—GENERAL SEDATIVES.

Cold.

Acidum hydrocyanicum dil.,	Native.
Potassii cyanidum,	"

CLASS IX.—ARTERIAL SEDATIVES.

Digitalis,	Europe. Cultivated here.
Veratrum viride,	Native.

CLASS X.—NERVOUS SEDATIVES.

Aconitum,	Cultivated here for ornament.
Conium,	Native or naturalized.
Cicuta,	Native.
Cerii oxalas,	Sweden.
Cocculus,	Malabar.
Lobelia,	Native.
Tabacum,	Cultivated in Conn. and Mass.
Veratrum album,	Europe. Little used. [veratria.
" sabadilla,	Mexico. Used in manufacture of

CLASS XI.—EVACUANTS.

Errhines.

Asarum Europæum,	Europe.
Helenium autumnale,	Native.

Emetics.

Zinci sulphas,	From native zinc.
Antimonii et potassæ tartras,	Antimony, native in small quantities.
Ipecacuanha,	South America.
Alumen,	Vide Astringents. Native.
Cupri sulph.—Sinapis,	" Irritants. "
Scilla,	" Expectorants. Europe.
Tabacum—Lobelia,	" Nerv. Sedatives. Native.
Gillenia,	Native.
Hydrargyri sulphas flavus,	Vide Alteratives. California.
Phytolacca decandra, Sanguinaria, Iris versicolor, Apocynum, Dirca palustris, Erythronium Americanum,	Are all native.

Cathartics.

Sulphur lotum,	From volcanic regions.
Magnesia—M. carb. and sulph.,	From native sources.
Sodæ sulphas,	In various manufactures.
Potassæ tartras and bitartras,	France.
Sodæ et potassæ tartras,	From pot. bitart. and sod. carb.
Oleum olivæ—Manna,	Southern Europe.
Cassia fistula—Tamarindus,	India. Cassia also in W. Indies.
Oleum ricini,	Cultivated in Ohio, and occasionally in New England.
Senna,	Egypt.
Cassia Marilandica,	Native. About equal to senna.
Rheum,	Turkey, &c. Native quality poor.
Juglans,	Native. Good subs. for rheum.
Colocynthis,	Asia Minor.
Jalapa,	Mexico.
Scammonium,	Syria.
Gambogia,	Ceylon, &c.
Aloes,	Cape of Good Hope, India, &c.
Oleum tiglii,	India.
Helleborus,	Europe.
Podophyllum,	Native. Like jalap.
Triosteum,	" Not abundant.
Oleum terebinthinæ,	Vide Stimulants. Native.
Elaterium,	Produced in Eng.; can be here.

Expectorants.

Senega,	Native in West. N. Eng. (Gray.)
Cimicifuga,	Native. Of doubtful value.
Allium,	Cultivated.
Ammoniacum,	Persia.
Myrrha,	Africa.
Balsam Peruv.—Tolut.,	Central and South America.
Benzoinum,	Sumatra.
Pix liquida,	Native.
Copaiba,	Vide Diuretics. S. America and [W. Indies.
Scilla,	Europe.
Terebinthinæ—Ammoniæ carb.,	Vide Gen. Stim. Native.
Ammoniæ murias,	" Alteratives. "
Ipecacuanha,	" Emetics. South America.
Sulphur,	" Cathartics. Italy, &c.
Assafœtida,	" Antispasmodics. Persia.
Asclepias tuberosa,	Native. Highly recommended by Drs. Bigelow & Chapman.

Diaphoretics.

Liquor ammoniæ acetatis,	Native.
Potassæ citras—Citric acid,	From the Mediterranean, &c.

Spiritus ætheris nitrosus,	Native.
Pulv. ipecac. et opii,	Vide Ipecac. and Opium.
Guaiacum,	West Indies.
Sassafras—Solidago,	Native.
Serpentaria,	Middle and Western States.
Xanthoxylum Americanum,	Native. Much like Mezereum and Guaiacum.
Ammoniæ carbonas,	Vide Gen. Stim. Native.
Potassæ nitras,	" Diuretics. "
Antimonii et potassæ tart.,	" Emetics. So. America.
Sarsaparilla,	" Alteratives. Europe, &c.
Mezereum,	" Irritants. Cult. a little.
Diuretics.	
Potassæ nitras,	Native.
" acetas,	"
Ammoniæ phosphas,	"
Armoracia—Carota—Uva ursi,	"
Scoporius—Petroselinum,	Cultivated.
Taraxacum—Juniperus,	Naturalized.
Propylamin,	Native.
Scilla,	Vicinity of Mediterranean.
Buchu,	Cape of Good Hope.
Copaiba,	West Indies and So. America.
Cubeba,	Java, &c.
Colchicum,	Europe. Somewhat cultivated here.
Potassæ bitartras,	Vide Cathartics. Ac. tart. imported.
Sodæ boras	Vide Irritants. Italy, &c.
Spiritus ætheris nitrosi—Liquor ammoniæ acetatis,	" Diaphoretics. Native.
Dulcamara,	" Narcotics. Native.
Ol. terebinthinæ,	" Stimulants. "
Emmenagogues.	
Ergota,	Native.
Rubia tinctorum,	Southern Europe.
Sabina—Cantharis,	Vide Irritants. Native.
Juniperus,	" Diuretics. "
Sodæ boras,	" Irritants. Europe.
Ferrum,	" Specific Tonics. Native.
Millefolium—Ruta,	" Stimulants. Cultivated.
Tanacetum,	" Anthelmintics. Native.
Guaiacum,	" Diaphoretics. W. Indies.
Aloes,	" Cathartics. So. Africa.
Helleborus niger,	" " Europe.
Anthelmintics.	
Mucuna,	East and West Indies.
Stanni pulvis—Tanacetum,	Native.

Filix mas,	Native probably.
Chenopodium—Spigelia,	Southern States.
Santonici semen,	Persia.
Granatum,	So. Europe and Africa. Some-[what cultivated.
Absinthium,	Naturalized.
Azedarach,	Asia. Southern States.
Bayera (kousso),	Abyssinia.
Cucurbita pepo,	Cultivated everywhere.
Kameela,	India.
Saoria,	Abyssinia.
Zatze,	Africa.
Oleum terebinthinæ,	Vide Gen. Stimulants. Native.

CLASS XII.—ALTERATIVES.

Hydrargyrum,	California, &c.
Arsenicum,	Native.
Iodinum,	Sea-weeds and Saratoga Springs.
Oleum Morrhuæ,	Along the coast of New England.
Potassæ chloras,	By passing chlorine through a solution of potassæ carbonas.
Ammoniæ murias,	Native.
Sarsaparilla,	From Mexico and So. America.
Chlorinium,	Vide Irritants. Native.
Colchicum,	" Diuretics. "
Dulcamara,	" Sedatives. "
Guaiacum,	" Diaphoretics. W. Indies.
Mezereum,	" Irritants. Cultivated.

The class of Lenitives is abundantly represented in our native materia medica. Whether we desire diluents, emollients, or demulcents, we have a large variety to select from. Perhaps a good substitute for gums Arabic and tragacanth might be found in the so-called British gum, or roasted starch. Collodion, too, would be missed by many, but other vegetable fibres, as fibrilia, might prove equal to cotton for its manufacture. It would seem, at first thought, that olive oil had become almost a necessity; but we may become better satisfied with our own productions, on learning that a large proportion of what we import, under the name of Florence oil, Bordeaux oil, &c., has been previously exported from Boston or New York under the more humble designation of lard oil. It is probable that, under the pressure of necessity, we could perform the processes of clarification nearly as well as the French.

In the list of Astringents we find but few which we are not in the habit of importing, for commercial reasons. Of the mineral astringents, in particular, we have hitherto drawn but a small portion of our supply from native sources. Yet, if commerce were impeded, we see that an adequate supply of every one of them is to be found in New England. The leading vegetable astringent, tannic acid, we

usually manufacture from imported nutgalls. It can probably be made, however, at a somewhat increased expense, from oak bark or native galls. Catechu, kino and krameria differ from any indigenous astringent, in containing a form of tannic acid, which is not convertible into gallic acid. Whether this is an important or advantageous difference, is yet to be learned. The majority of the important mineral astringents require for their manufacture sulphuric acid, which, in this country, is usually made from sulphur by a process of combustion. Free sulphur is of rare occurrence in New England. A single locality, at Hinsdale, Mass., is the only spot Prof. Hitchcock can refer to where it is found, even in small quantities. The original process for the manufacture of sulphuric acid, which is said to be still carried on in some parts of Germany, was by the dry distillation of sulphate of iron, whence its popular name, oil of vitriol. Fortunately, sulphate of iron, and the sulphide, from which the salt can be made, occur abundantly in New England. A large deposit of both exists near Worcester, Mass.

The Mineral Irritants we could supply, with hardly an important exception. All the Vegetable Irritants in common use are also either native or easily cultivated. Dr. Harris states that in certain localities of Massachusetts several species of the cantharis abound, whose vesicating powers are hardly inferior to the Spanish fly. If special attention were paid to their food, habits, &c., we could, no doubt, soon obtain an ample supply.

Of the Specific Tonics all are native, with the single, but important exception of cinchona. This it is quite hopeless to attempt to cultivate, and its active principles we cannot, as yet, expect to imitate. In forming our idea of the real value of this drug in New England practice, it must not be forgotten that this region is almost entirely free from diseases of malarial origin. The specific properties of quinia are therefore very rarely called for here, except in cases of disease contracted further South or West, or in foreign countries. For such cases we have good substitutes for quinia in the alkaloids of cornus Florida and salix. We administer quinia, in the vast majority of cases, however, simply as a tonic; and in this use, as in the other, its value is very great. But, since we possess many native tonics, such as prunus virginiana, of decided efficacy, it seems just to rank quinia as a convenient rather than an essential constituent of our New England Pharmacopœia.

Of the Simple Bitter Tonics in common use not one is native. Quassia, gentian and colombo are at present cheaper and perhaps more convenient than coptis and the other native bitters mentioned by Dr. Bigelow. It is improbable, however, that, therapeutically, the imported drugs are at all superior. Of the Stimulant Tonics our native supply is bountiful.

A prominent position in the class of Tonic and Aromatic Stimulants is held by the group of spices, which are nearly all imported

from the tropics. Capsicum we cultivate, and for ginger we can use asarum, our wild ginger. The other spices may fairly be considered pharmaceutical luxuries. The majority of the rest of the class are only too abundant; supplying, as they do, the materials for the here teas with which our rural population are so much inclined to drench themselves on the slightest provocation.

We possess all of the articles on the list of General Stimulants, except arnica. This is used mostly as a vulnerary, a little, if at all, as an internal remedy. Though convenient and useful, we can dispense with it without serious disadvantage.

We already furnish our own supplies of the greater number of the drugs classed by Stillé as Narcotics. It unfortunately happens that one of the two exceptions, opium, is really indispensable; the other, cannabis Indica, we can do without; for, though undoubtedly possessing valuable therapeutical powers, it is, as yet, comparatively little known and used in the profession. The plant producing the officinal extract grows readily in many countries, and differs little, botanically, from cannabis sativa, the source of our hemp. The peculiar resinous substance, in which reside the properties of the drug, is not found in the plant, when growing outside of certain limited regions in Asia. So we may dismiss the hope of adding this to the list of our native productions. But opium we can produce, without doubt. Our supplies of the leaves, flowers and capsules of the poppy are of home growth and good quality. It is well known that several attempts to cultivate the plant for opium have succeeded very well in England—one of the experiments proving quite lucrative. There is no apparent reason why the same success should not be attained in our Southern New England States. Certainly the present would seem to be a favorable time for making the experiment, while opium commands so high a price.

From the group of Antispasmodics would be taken assafœtida and camphor, which are extensively used, particularly in domestic practice. There seem to be no native drugs at all adapted to fill their places, though quite a long list would still remain to us.

In the next class, that of Spinants, our native supplies are very deficient. In fact, ergot and toxicodendron seem to be our only resources in this department of therapeutics.

Of the important family of Sedatives, general, arterial and nervous, there is hardly a single member which we need to seek beyond the boundaries of New England. The few exceptions appear absolutely insignificant in comparison with those we possess.

Of Errhines our supply is abundant, though the variety is not great. Besides those mentioned in the list, sanguinaria, a widely-diffused native plant, is much used.

Ipecac is the only really important Emetic, with which we cannot supply ourselves, at least, to a considerable extent. At the same time it is so extensively used, that a substitute should be found, if possible.

This we have in our native poke, phytolacca decandra, of which Dr. Bigelow writes as follows:—"In its medicinal properties the root approaches nearer to ipecacuanha, than any other American vegetable I have hitherto examined. From abundant experience, the result of many trials made in dispensary practice, I am satisfied that, when properly prepared, it operates in the same doses, and with the same certainty, as the South American emetic." Dr. George Hayward also reported quite favorably of the drug, after considerable experience. Prof. Clarke, however, regards phytolacca as uncertain in its action, and prefers gillenia, which also resembles ipecac closely. With the two we should be well supplied. The other native vegetable emetics are of decidedly less value. Tartar emetic is noted in the list as being of native origin. This statement needs considerable qualification, for ores of antimony have, as yet, been found in small quantities in New England, the principal deposits being at Carmel, Me., and Cornish, N. H. Even granting that these sources are sufficient for at least a temporary supply of the metallic base, we meet with another difficulty in the fact that tartaric acid is not yet produced in New England, owing to the sweet character of our native wines. The Catawba wines of Ohio are much more tart, and give quite a copious deposit of the crude bi-tartrate of potassa. Perhaps if the same grapes were sufficiently cultivated here, the character of our native wines might alter. Under existing circumstances we should have to use the antimonial in some other form, for instance, the teroxide.

The use of Cathartic medicines is so extensive in this part of the country, that the words purge and physic have become popularly synonymous. Perhaps the diminution of the supply of the more active drugs of this class, such as a blockade of our ports would cause, might really prove a benefit. Senna, rhubarb, colocynth, jalap, scammony, gamboge, aloes and Croton oil would all be cut off. But not a few would be left, which are already well known; while for senna we should have cassia marylandica; for rhubarb, juglans, called by Prof. Clarke the American rhubarb; and for jalap, podophyllin.

Owing probably to the prevalence of pulmonary complaints in this climate, the list of Expectorants has been swelled to a needless, and perhaps troublesome length. A judicious curtailment of the Materia Medica might be of advantage in this, as in many other classes of remedies. Unfortunately the pruning proposed in this essay, cuts away some of the most important branches. Copaiba, the balsams, and squill, would be selected as the first to be retained in an abridged Pharmacopœia, and yet they are all of foreign production. It will be seen under "Diuretics," that a possibility exists of introducing the culture of squill. At the worst, we have senega, and one other agent of decided value, though less used by the profession, viz., asclepias tuberosa, of whose efficacy Dr. Bigelow speaks in the highest terms.

Of native Diaphoretics our supply is almost endless. A number of the herbs classed as aromatics are largely and successfully used in domestic practice to produce diaphoresis. With the profession, the most frequent prescription for this purpose is probably Dover's powder. For the ipecac in this compound, phytolacca has been occasionally substituted with good success. Gillenia might also be used.

Although almost all of the class of Diuretics are, or may be, obtained from native sources, yet a few very important ones come from abroad. Squill is considered by many as the most useful diuretic and expectorant. On account of this double application, it would be very desirable to introduce its culture, should there be any prospect of our being cut off from foreign supplies. We raise considerable quantities of garlic, a native of the same countries as squill, and closely related to it botanically. *A priori*, therefore, we might expect some degree of success in the cultivation of the latter. Certainly it seems desirable that the trial should be made, as it would call for but a small expenditure of time, labor or money.

The necessary deprivation of copaiba and cubebs would be severely felt, both by physicians and patients, so extensive is their employment in gonorrhœa. We probably possess a drug of similar powers, viz., gelseminum. This has been much used in gonorrhœa in some parts of the country, and with remarkable success, judging from published reports of cases. It is a native of the Southern States, and probably would not thrive in our colder climate. There seems to be some doubt as to the success met with in the cultivation of colchicum in this climate. Stillé and Wood both state that small supplies of native production reach the market, but neither speaks in positive terms of the efficacy of the samples, as compared with that obtained from Europe.

Ergot, savin and tansy are probably the most important of the drugs, which have a special direct effect upon the uterus, and they are all native.

The list of Anthelmintics would be considerably reduced, but an ample supply would remain, including ol. terebinthinæ and cucurbita pepo.

All of the Alteratives, with one important exception, mercury, can be abundantly produced within our own borders. A blockade would materially interfere with our fisheries, but the fishing carried on directly off our coasts would furnish us with enough cod-liver oil to meet our requirements. In place of the fish oils, that from linseed has been largely experimented with at the West. At one time it was believed by some that the vegetable oil was as efficacious as the animal. I am unable to learn of any similar extensive trials in this vicinity. Fusel oil, or amylic alcohol, also, which we can produce in any quantity, is regarded in some quarters as equal, if not superior, to fish oil.

In this vicinity it is now seldom that we see single doses of mercurials prescribed—a course of mercury almost never, except in syphilis. Perhaps in time, it may be deprived of even its present claims as a specific in that disease, by the persevering attacks of Bennett of Edinburgh, and others. We have already seen its use here almost abandoned in iritis, as the result of Dr. Williams's researches. This is not the place, however, to discuss the therapeutic value of mercury. The simple fact remains that not a particle of it has thus far been found in New England.

Of all these classes, we find only one (Spinants) in which we are absolutely deficient; in scarcely another are we really poor.

But let us look at the subject from another stand-point. Dr. Jas. Jackson, in "Another Letter to Young Physicians," has given us the precious results of his extensive and careful research into the practical value of drugs. He specifies those on which he thinks he has most reason to rely. He gives first a list of six; viz., antimony, mercury, opium, cinchona, arsenic and iron. Of these, we have two in abundance: one in small quantities; one could be cultivated to the necessary extent; and the remaining two are and must continue to be imported. A supplementary list of twenty is then given, of which only four or five are necessarily supplied from abroad. Even of these, some might be replaced by native substitutes of almost identical properties. A more modern observer, Trousseau, omits antimony and arsenic from Dr. Jackson's list of six, and adds belladonna. Of the five thus selected, we could supply ourselves with three.

Theoretically, then, New England may be said to possess a Materia Medica sufficiently copious both in quantity and variety. There is little doubt that, with ten, or even five years of preparation, the treatment of disease might be, to the full, as efficient and successful as now, and yet not a drug should be brought from beyond the boundaries of the six New England States. One reservation must here be made with regard to mercury, whose specific properties in syphilis may be great, though stoutly denied by some; and from its loss might result more fearful ravages of that foul disease, than we are accustomed to see.

Moreover, in our patriotic pride in the resources of this part of our country, we must not forget that a sudden war with powerful neighbors would find us fearfully unprepared in very important particulars. Let it be our welcome duty, as medical men, to render our country and our state, as far as may be, independent even of the drugs of foreign nations.