Teaching the History & Social Aspects of Pharmacy

Issue #9 **Autumn 2005**

Welcome to the ninth issue of *Teaching the History and Social Aspects of Pharmacy*. This newsletter is issued twice a year in an electronic format and distributed via email by Greg Higby, Executive Director of the American Institute of the History of Pharmacy (ghigby@mhub.facstaff.wisc.edu). The Newsletter also is posted on AIHP's website (www.aihp.org).

In this issue, Josephine Babiarz describes one of her learner-centered course materials that involves students in exploring alternative therapies as presented in cyberspace. The sixth of Anne Marie Lane's ongoing column on *Remedies from Rare Books* presents the second of her two-part review of sources of Native American Materia Medica..

The next (10th) issue of the Newsletter will be my last as editor. If any reader is interested in assuming the editorship of the Newsletter, please contact me or Greg Higby. Please also note my new email address. Thank you.

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Next Issue

The next issue of *Teaching the History and Social Aspects of Pharmacy* will be published during Spring of 2006. The **deadline** for submitting articles, announcements, and materials for that issue is **March 15, 2006**. Please submit materials electronically in **Word** to: Mike Montagne at mmontagne@mcphs.edu (Mass. College of Pharmacy & HS, 179 Longwood Ave., Boston MA 02115, USA; phone: 617-732-2995). Thank you for your participation.

Course Materials

Not By Textbooks Alone – A Project for Pharmaceutical Law and Regulation

Josephine C. Babiarz, JD

Looking for a "learner-centered" project for students that involves research, organization of information, and culminates in a guideline for pharmacists dealing with therapies in cyberspace? Read on – this Project is a start in that direction.

The Project originated in an undergraduate elective course, "Pharmaceutical Law and Regulation" – aka the "FDA course" at the Massachusetts College of Pharmacy and Health Sciences. The framework can easily be adapted for courses in Drug Literature or Alternative Medicines. This article will describe the project, its goals, requirements and grading criteria.

The goal of the project is to enable students to provide counseling that a pharmacist can use in answering patients' questions on incorporating so-called "alternative" therapies into a traditionally-based treatment regimen. As pre-requisites to this assignment, a student must be familiar with regulatory status and have a general understanding of the therapeutic approval process and some basic understanding of product labeling. Students must also be skilled in Internet research. This counseling skill is useful for pharmacists, and also pharmaceutical marking majors and non-traditional health care providers.

The project has three phases. The first emphasizes "traditional" therapies that have been approved using the FDA clinical trial process, whether drug, biologic or device. The second phase focuses on the "pay-pal" alternative therapies, which may include OTC, dietary supplements, "herbaceuticals" or other substances, none of which have rigorous safety and effectiveness testing but often tout results that are "clinically tested". The final phase requires the student to assimilate and rank all the information collected, determine which items are contra-indicated, and create a guideline for the dispensing pharmacist to use when confronted with the question "Can I take this, too?".

The project can be done individually or in groups. I assign it after we have covered basic FDA functions, including the clinical testing phases of a New Drug Application, and FDA restrictions on advertising. Students ideally will be familiar with the FDA web-site (www.fda.gov); since that web site uses Google® as its search engine, finding the regulatory status of a certain drug (generic or brand name) and its indications is straight forward. Secondary library resources will detail the "off-label" uses of therapeutics, and these have a role in the project as well. For further class participation, I have done a quick refresher on the library databases that detail traditional or accepted treatments for certain diseases.

Phases 1 and 2 require submission of a paper, with detailed bibliography and references. In lieu of a paper, Phase 3 can be orally presented as a 15-20 slide powerpoint report. If students work in groups, class sizes of up to 60 students can be accommodated. The project period can run from 6 to 8 weeks, but actual use of class time is minimal until the presentations.

There is additional structure to this project because the illnesses are pre-selected. The basic criterion is the illnesses have some traditional treatments and a plethora of "self-help" initiatives, preferably with "pay-pal" check-outs in their websites. The past year's group included high cholesterol, diabetes, colon cancer, Alzheimer's Disease, HIV/AIDS and osteoarthritis.

Student feed-back was generally positive; the majority appreciated this opportunity to explore the Internet and understand the patient's point of view in making decisions about what drugs to buy. Most students had no prior experience in organizing and assimilating this information. I did include a brief class overview, prior to Phase 2, which demonstrated how one determined the "bias" of a particular site, and how to qualify the information found on biased websites. Predictably, students lacking research skills struggled, but with the assistance of the MCPHS' librarians, were able to succeed in the end.

The project hand-out and instructions, along with grading criteria, follow. I appreciate hearing any feed-back from users!

Pharmaceutical/Internet Project
(Student Hand-out)

PHASE I:	**OUTLINE OF SOURCES:**	**Week 1**
(30% of Grade)	**FIRST PROJECT DUE:**	**Week 3**
PHASE II:	**OUTLINE OF SOURCES:**	**Week 3.5**
(30% of Grade)	**SECOND PROJECT DUE:**	**Week 5**
PHASE III:	**COUNSELLING PLAN:**	**Week 6 – 7**
(40% of Grade)		

Project may be done individually or in teams of up to four students. You must notify me by the time of the submission of the sources if you are working in a group. Work submitted from a group should reflect an equal work-load among participants. If an individual does not equally participate on a team, a lower grade for that individual may result. For a team submission, each student must have a copy, and the copies shall all be identical for each team member. One notebook is submitted for grading. All work is to be handed in at the beginning of class. A minimum of 25 Points will be deducted for late work/incomplete work.

Grading Criteria:

PHASE #1:

The purpose of this phase is to research the "official", traditionally approved sources of information on the causes and treatments of certain diseases, emphasizing the FDA-approved treatment plan (whether drug, device, prescription or OTC, etc) and discuss the risks/benefits, expected effectiveness, and contraindications of each of the treatment options.

Students are to choose one disease from the following list: high cholesterol, diabetes, colon cancer, Alzheimer's Disease, HIV/AIDS or osteoarthritis. Each project will cover **10** sources of information. These sources can be hard copy

periodicals from the library, available via the electronic database, or over the internet. The source breakdown: 2 will be sources of treatment – i.e. what is the standard of diagnosis and care; 1 will include information from FDA on the side effects/contraindications. The remaining 7 add scholarly, professional reports and information. You may use **ONLY 1** newspaper article. The project also will check any warning letters/MAUDE (FDA's database of Manufacturer's Adverse/Unexpected Device Events) reports/recalls of the medical product; you may not find any applicable reports, but you must demonstrate that you looked for them.

The phase includes printouts of the information, or the first page of the hard copy cited. All citations have to be in a format recognized in the library database.

The phase includes a 2,500-word summary of the nature of the disease and the traditionally recognized treatments for it, with a discussion of their risks and benefits. You are required to submit a word count done by the word-processor to show you have complied with this requirement.

GRADING:

Completeness	10 Points
Criteria:	Did you include the 10 sources of the appropriate type? Did you document your FDA warnings/MAUDE/Dear Health Professionals search? What search engines or resources were used?
Organization:	5 Points
Criteria:	Is the information organized in a logical way? Can a reader find the references?
Evidence of Comprehension:	30 Points
Criteria:	Will a reader understand the nature of the disease and the traditionally recognized treatments? What is the FDA-status of the recommended treatment? Is it off-label? What are the known risks? The likely benefits? What has the student/group concluded is the best treatment, and why? What are the advantages/disadvantages to this recommendation?

PHASE #2:

The purpose of this phase is to research the alternative, "un-official", non-traditional "cures" or "treatments" for the condition you examined before. Using at least **3** separate search engines find **5** so-called "alternative" treatments for the condition you wrote about in Project 1. You must demonstrate your search engines and the results you obtained.

For each of these 5 alternative treatments, you are to examine the promotion or advertisement, and discuss whether or not there are scientific claims, whether or not the product is tested or validated, what is the authority that has "approved" the product, if any, and what is the nature and extent of any health claims made. You are also to determine if the FDA has sent out any Warning Letters or taken any other regulatory action on the products. This includes whether or not the FDA has sent out any "Dear Health Professional" of each of the treatment options.

The phase also includes a 2,500-word summary of the different "treatments", the "benefits" of the product, an analysis of any bias found in the web sites, and also a review of any testing or scientific data included in the web site. You are also to describe any risks identified by the web site. You are required to submit a word count done by the word-processor to show you have complied with this requirement. Attach printouts of the information, or the first page of the hard copy cited. All citations have to be in a format recognized in the library database.

GRADING:

Completeness	10 points
Criteria:	Did you include the 5 sources of the appropriate type? Did you include the 3 search engines? Did you document your FDA search?
Organization:	5 Points
Criteria:	Is the information organized in a logical way?
Evidence of Comprehension:	15 points
Criteria:	Will a reader understand the basis for the advertised treatment? How are the risks/benefits described in the advertisements? Can you determine if there are any side-effects to these products? Any risks?

Does the advertisement contain any misleading information?
Does the advertisement reference any human research results?
Can you verify any of these results?

PHASE #3:

The purpose of this project is to reconcile the information from Phases 1 and 2 into information that can be used by the pharmacist in counseling patients. You are to summarize all the information you gathered on your chosen illness topic, and then select the most effective therapeutic, as determined by valid clinical trials, along with other, OTC or alternative products that are proven to be relatively safe. Rank each of the therapeutics; both FDA-approved and non-approved, you researched. Determine any complications/side effects with these combinations and prepare a warning statement for them.

This phase includes a 2,500-guideline report for a pharmacist/prescriber to follow when a patient wants to incorporate or substitute alternative therapies into a traditionally based disease treatment regimen. Explain both the positive and negatives, the risks and benefits of each, and advise the health care provider how to address the patient. You are required to submit a word count done by the word-processor to show you have complied with this requirement.

GRADING:

Completeness	10 points
Criteria:	Did you properly include the most common "traditional" medications? Are any of these medications off-label? Did you include a variety of web-based products?
Organization:	5 Points
Criteria:	Is the information organized in a logical way?
Evidence of Comprehension:	25 points
Criteria:	Did you assess the risks and benefits of combining these products? Did you identify any contraindications of likely combinations of these products? Did you identify any gaps in the scientific evidence?

Did you identify any problem with manufacturing or labeling standards with these products?
Did you provide guidance for the pharmacist counseling a patient?

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Special Column

REMEDIES FROM RARE BOOKS VI

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NATIVE AMERICAN *MATERIA MEDICA*, PART 2

See the Spring 2005 issue of the Newsletter for the first half of this column.

EARLY NINETEENTH-CENTURY ACCOUNTS:

Manners and Customs of Several Indian Tribes Located West of the Mississippi: Including some account of the soil, climate, and vegetable productions, and the Indian materia medica: To which is prefixed the history of the author's life during a residence of several years among them, by John D. Hunter
(Philadelphia: printed and published for the author by J. Maxwell), 1823

John Dunn Hunter[i] was taken captive in the late eighteenth century as a very young child (he had no memories of his original family or where he was from), and lived until he was about 19 or 20 among the Kickapoo, Osage, and Kansas Indians. During this time and later, he traveled throughout the Midwest on hunting and fur-trapping expeditions. In the *materia medica* chapter of his book, therefore, he was also able to include personal knowledge about medicinal plants used by the Chippewa, Pawnee, Shawnee, Quapaw (Arkansas), Sauk, and Fox Indians.

In the part of his book about diseases and treatment of the sick (within Chapter XIV, pp.350-362), he informed us that since most of these men died in battle, they rarely reached an advanced age.[ii] He also said (p.350) that the men were more susceptible to acute problems (such as fevers and bowel complaints) than the women because of exposure, fatigue, and an "intemperate indulgence of the appetite at times." Those men who did live to become old tended to be afflicted with asthma and rheumatism. Although

a variety of remedies were used for traditional ailments, newly introduced diseases such as syphilis and smallpox caused bafflement as to their treatment. He also noted (p.352) that all the old men and women knew how to manage their health concerns, and that women were "permitted to prescribe for their own peculiar diseases."

In Chapter XV, "Observations on the *Materia Medica* of the Indians" (pp.368-395), Hunter included the activities of regular bathing and sweating, noting that Shes-Ka-Ne-Shu, meaning "Washing in the river," was a good preventative against diseases. The sweating activities were called Nes-Ni-Ne-Shu-Ka-Ah, meaning, appropriately enough, "The salt water runs." He discussed almost sixty substances in alphabetical order according to their English names (if he knew them), but also gave the Indian words with their translations. These are of great interest because of the literally descriptive nature of the oral tradition--by which knowledge of the remedies would have been more easily passed down through the generations.

Very brief summaries of Hunter's more thorough descriptions will be listed here (with the exception of those relating to children, which may be incorporated into a later "Remedies from Rare Books" column on that general subject):

Anise root = Tut-Te-See-Hau = "It expels the wind:" good for removing flatulency.

Ashes = He-Ne-Pis-Ka = "Fire gone out:" mixed with water for sourness in the stomach. Also, tobacco ashes mixed with **mountain laurel** were applied to ulcers.

Astringent root = Hon-Kos-Kao-Ga-Sha = "It stops the blood flowing out:" the powdered root was used to stop bleeding from wounds. Also used as an external wash for female complaints. It was also carried during travel because a half teaspoonful in cold water stopped the common affliction on long, hurried marches of the spitting of blood.

Bear's fright = Was-Saw-Bape-Sha = "It scares bears away:" a violent carthartic.

Bear's oil = Was-Saw-Ba-He-Ja = "The fat of the bear:" when mixed with **gall of the earth, yellow root, prickly ash, black root** and other plants, was an unction for cutaneous diseases. It was also drunk very hot steeped with **wild licorice** roots for colds, asthma and pleurisy. To prevent bites of "musketoes," it was mixed with **buckeye** leaves and rubbed over the skin.[iii]

Beaver root = Sha-Ba-Wa-Nem-Bra = "Beavers eat it:" high reputation as a tonic.

Black locust = E-Hau-Wah = "It makes sick:" a powerful emetic.

Black root = Has-Hak-A-Da-Ton-Ga = "Strong soldier:" a drastic cathartic. Sometimes taken as an abortive.

Buckeye = Tar-Ton-Ga-On-Ba = "Eye ball of the buck:" a remedy for diarrhea.

Chee-za hau = Chee-Za-Hau = "It seems to fill the belly:" diuretic properties. An infusion of this white flowering vine was made into a tea and given in repeated large doses as a valuable remedy for dropsy.

Columbian root = Kow-O-La-E-Ko = "Physic for horses:" combined with **wild cherry** and **snake root** for intermittent fever, debility, stomach sickness, and female diseases. (Hunter did not mention how it might have been used for horses.)

Cooling plant = Ne-Wa-Sha-Ne-Wa-Sha = "Cold as ice:" the bruised leaves applied to inflammations gave immediate relief.

Deer's tongue = Tar-Me-A = "Like the deer's tongue:" prized in breast complaints, in

decoction and powder.

Devil's bit or Gall of the earth = Sho-Ma-Cas-Sa-Es-Sa-Rah = "It kills wolves:" the pounded roots were used to extract foreign bodies from wounds. Also used in the treatment of ulcers, and (p.376) for "keeping open issues, the importance of which in particular constitutional habits, the Indians very well understand."

Dew-berry root = O-Ga-She-Ga = "Running on the ground:" cold infusion for bowel complaints, but not a very active remedy.

Dittany = Mas-Tin-Jay = "Rabbit:" a sudorific highly esteemed in coughs, colds, and febrile diseases, given as a hot infusion with the patient covered up warm.

Dog wood = Shen-Don-Shu-Gah = "Bitter red berry:" valued mostly as a poultice for sores, but the bark also used for low-grade fevers and prostration of strength.

Emetic bean = E-Haw-Waw = "It pukes:" two or three of the small red beans would be chewed. Also used as an abortive. (Also taken in small doses before going to war because of its intoxicating properties.)

Flax weed = Wesh-Ke-Nah = "It relieves hard breathing:" roots, stalk, and leaves given warm as a decoction for asthmas and coughs. Hunter tells us (p.377) that "The Indians sometimes while traveling, or when just returned from long and fatiguing journeys, are seized with the asthma, but are certain to obtain prompt and decided relief from this remedy. I believe it almost uniformly excites a perspiration, on the appearance of which the patient becomes easy."

Green-twig = Sin-Des-Nes-Ni = "It grows by the water:" a warm infusion at night excited perspiration that was considered valuable in asthma and colds. The roots were used for anthelmintic purposes to destroy intestinal worms, and the inner bark was used as a febrifuge and sudorific.

Hazel nut = Shem-Ba = "Giddiness:" bark poultices as external applications for ulcers and tumours.

Indian Balsam = Mos-Char-Ne-Wat-Char = "It causes heat and cold:" Also known as **"Cough root,"** Hunter said this was one of the most valuable Indian remedies, and that physicians who had settled on their frontiers introduced it among their curatives. It was given in substance or infusion for consumptions, colds, asthmas, and coughs.

Indian Physic = Sku-Te-Na-Ja = "It makes sick:" emetic and sudorific virtues employed in bowel complaints and fevers.

Indian turnip = E-Haw-Sho-Ga = "Bite the mouth:" in decoction with **spikenard** and **wild liquorice** for coughs and intermittent fevers; in substance with **snake root** and **wild cherry tree bark.**

Iron oxide = Shen-Da-Saw-Ba = "Black dye:" mixed with cold water as a vermifuge to expel worms. Also, a favorite remedy for dropsy, boiled with **sour-wood tree** leaves and **wild cherry bark**, and given as a cold draught several times a day. In his earlier section on the disease of dropsy (p.401), Hunter additionally included **sumac** roots and leaves, and also **black haw** (hawthorne) as ingredients in this recipe.

May Apple = Che-Sa-Ne-Pe-Sha = "It pains the bowels:" the powdered root was given as a cathartic; also an antidote for poison.

Milk-weed = Ne-Pe-Sha = "Bad luck to touch it:" the roots were used in decoction for dysentery, dropsy, and asthma. Also used as an emetic.

Moss = Pa-Us-Ka = "Like hair:" moss from the **shellbark walnut tree** bark was used in warm infusion for catarrhs and asthmas, with the patients wrapped in blankets or buffalo skins.

Mountain Birch = Ne-Lash-Kee (the name of the tree): a decoction of the inner bark was used in colds, coughs, and pulmonary diseases.

Mountain tea = Mos-Char = "Warming:" in great repute as a sudorific and as an anodyne to soothe the pain of breast complaints, fevers, catarrhs, and coughs.

Oak = Wah-Ton-Ga (the name of the tree): several varieties of Oak trees were used as a wash for ulcers in bowel complaints. In the earlier section on diseases (p.402), Hunter remarked that he frequently knew of Indians curing diarrhea by chewing the inner bark of the **burr oak**.

Paint root, blue = A-Shem-Bra = "To make sleep:" sometimes given in very minute doses as an opiate.

Pipsisseway = Ne-Was-Char-La-Go-Ne = "Good for colds or cough:" an anodyne and sudorific, especially in diseases of the breast and colds.

Prickly Ash = Han-To-La (name of the tree): Hunter said that this was one of the most valuable remedies the Indians possessed for rheumatism. The inner bark taken in substance, and the roots boiled to a strong decoction and drunk several times a day as a sudorific were common internal remedies. The inner bark seethed in **bear's grease** was applied externally as an embrocation to rub on sores. He added that the settlers as well as the Indians used it as a poultice or powder applied to ulcers.

Puccoon = **Shu-Jee-Hu = "Red dye:"**[iv] it was held in esteem for the treatment of several diseases; the dry powdered root was used as an escharotic; and it was taken in the same manner as **prickly ash** for rheumatism.

Rushes = Ne-Bra-Ta-Hea = "To make drink:" the root was a powerful diuretic given in decoction, and a common remedy in dropsies, menstrual and syphilitic diseases.

Sap pine = Kee-Chi-He-Ja-Ka = "Gift of the Great Spirit:" held in high esteem because it would arrest inflammation, relieve pain, reduce swelling, and aid in healing. It was administered internally (in doses of a teaspoon full several times a day) for the treatment of gonorrhoea, breast complaints, and coughs. Externally, it was used for rheumatism, and also was spread on thin membranes or skins to be laid over languid ulcers or frosted members. Hunter said (p.386): "The Chippewas, Sau-kies, and Fox Indians place so much confidence in this medicine that they seldom travel without it."

Sassafras = Shi-Kee (name of the tree): bruised leaves were prized as poultices, and the pith steeped in cold water was a wash for sore eyes.

Seneca Snake root = Ag-Ga-Shu = "Short crooks:" cold infusions were used in fever remission and in pulmonary diseases. Also given warm, combined with other drugs, to promote sweating or mucus discharge. Esteemed highly in female complaints.

Slippery Elm = Hon-Kos-Kao-Ga-Sha = "It won't go down:" inner bark used as a demulcent in bowel complaints and colds. Also spread over swellings and ulcers as an emollient or cataplasm. The bark, beaten to a pulp, was the usual remedy for extracting a thorn or a ball.

Snake Bite = Sa-Wah-Ja-Ra = "Cure for bite of snake:" the whole was made into an infusion and given warm to those bitten by rattlesnakes. (This was frequently combined with someone sucking out the poison--taking care to wash the mouth frequently with water and to chew **tobacco**--but excision and cauterization were more commonly practiced.)

Sour Wood = Pin-Ne-Se-Ga = "Astringent taste:" leaves were an ingredient in a dropsy remedy (listed here under "**Iron oxide**).

Spikenard = Tu-Tus-Se-Ga-O-Ga-She = "To expel wind:" to expel wind from the stomach, stop coughs, and relieve breast pain.

Starflower = Me-Ka-A = "The flowers resemble the stars:" the leaves and flowers were infused to produce a sweat in acute diseases.

Sumac = Kin-Ne-Ne-Kah (Hunter said this was an arbitrary name): an ingredient in a dropsy remedy (listed here under "**Iron Oxide**).

Tobacco = No-Ne-Aw = "Tobacco:" the leaves were used several ways. As a decoction, mixed with **water oak** chips (serving as a discutient to disperse morbid matter), they were laid warm over local inflammations and kept continually moist. As an embrocation to cutaneous diseases, the leaves were steeped in **bear's grease**; and, for ulcers of long standing, dried leaves were applied.

Turkey pea = Soo-Ke-He-Ah = "Young turkies' feed:" given in substance and as a tea to destroy worms.

Virginia Snake root = Pa-Us-Ka-Ton-Ga = "Like horse hairs:" a cold tonic was given for debility.

White plantain = Se-In-Ja-Shu = "A little squirrel's ear:" the bruised plant was used externally for inflamed parts; an infusion was given for colds, fevers, and coughs.

Wild Cucumber tree = Sha-Ga-Hingah = "Little fingers:" the fruit and bark were used in decoction as a vermifuge.

Wild Ginger = E-Haw-Nes-Ni = "Water comes in the mouth:" the women esteemed it as an emmenagogue. Sometimes used as an abortive. Also applied externally to recent wounds to prevent bleeding.

Yellow Root = Se-A-Hin-Ga = "From its extreme tenderness:" a tonic or stimulant; also used as a diuretic in a much-diluted warm infusion for dropsy, and the powdered root was used as an escharotic. An additional use was as a cold watery infusion for sore eyes. This was noted as a common problem in the fall when the dry leaves of the forests and prairie grass would catch fire and fill the air with smoke.

History, Manners, and Customs of the Indian Nations Who Once Inhabited Pennsylvania and the Neighbouring States, by the Rev. John Heckewelder, of Bethlehem, Pa., reprint of his 1819 book in the *Memoires of the Historical Society of Pennsylvania,* Vol.12 (Philadelphia: Historical Society of Pennsylvania), 1876

The Reverend John Heckewelder was a Moravian Church missionary to the Indians in the Ohio River Valley and Great Lakes area from 1762 to 1810, and this 1819 report was written for the Historical Society of Pennsylvania after he returned there.[v] He worked among the Lenape (Delaware) Indians and also those included within the "Six Nations." Chapter XXVIII, "Bodily constitution and diseases;" Chapter XXIX, "Remedies;" and

Chapter XXX, "Physicians and surgeons" contain very short, but informative, discussions of these topics. While Reverend Heckewelder does not give us specifics about individual substances in the detail that we found in Hunter's book, there are some relevant passages: for example, in the "Remedies" chapter (p.224):

> "The *Materia Medica* of the Indians consists of various roots and plants known to themselves, the properties of which they are not fond of disclosing to strangers. They make considerable use of the barks of trees, such as the **white and black oak**, the **white walnut**, of which they make pills, the **cherry, dogwood, maple, birch,** and several others. They prepare and compound these medicines in different ways, which they keep a profound secret…."

And, in the "Physicians and surgeons" chapter (pp.228-229):

> "Their science is entirely founded on observation, experience and the well tried efficacy of remedies. There are physicians of both sexes, who take considerable pains to acquire a correct knowledge of the properties and medical virtues of plants, roots and barks, for the benefit of their fellow-men. They are very careful to have at all times a full assortment of their medicines on hand, which they gather and collect at the proper seasons, sometimes fetching them from the distance of several days' journey from their homes, then they cure or dry them properly, tie them up in small bundles, and preserve them for use. It were to be wished that they were better skilled in the quantity of the medicines which they administer. But they are too apt, in general, to give excessive doses, on the mistaken principle that '*much* of a *good* thing must necessarily do *much good*.'
>
> Nevertheless, I must say, that their practice in general succeeds pretty well. I have myself been benefited and cured by taking their emetics and their medicines in fevers, and by being sweated after their manner while labouring under a stubborn rheumatism…The wives of Missionaries, in every instance in which they had to apply to the female physicians, for the cure of complaints peculiar to their sex, experienced good results from their abilities….I once for two days and two nights, suffered the most excruciating pain from a felon or whitlow on one of my fingers, which deprived me entirely of sleep. I had recourse to an Indian woman, who in less than half an hour relieved me entirely by the simple application of a poultice made of the root of **the common blue violet**.
>
> Not only their professional men and women, but every warrior is more or less acquainted with the healing properties of roots and plants, which is, in a manner, indispensable to them, as they are so often in danger of being wounded in their engagements with the enemy. Hence this branch of knowledge is carried to a great degree of perfection among them."

<u>EARLY TWENTIETH CENTURY:</u>

Useful Wild Plants of the United States and Canada, by Charles Francis Saunders (N.Y.: McBride & Co.), 1920

Author Charles Saunders said (on the second introductory page to this early twentieth-century book) that his information was derived from published accounts of travelers, as well as his own first hand observations "particularly in the West, where the Indian is not yet altogether out of his blanket, and where some practices still linger that antedate the white man's coming." More of his thoughts about the original inhabitants of the American West are found in Chapter IX, "Some medicinal wildings worth knowing" (excerpts taken from pp.195-202, and p.209). He believed (p.195) that: "Among a considerable portion of our population the Indians have enjoyed from very early times a reputation for special knowledge in the remedial properties of wild plants; but doubtless they have been credited much in excess of their deserts. Nevertheless, there are some of the aboriginal remedies worthy of respect."

Among the medicinal plants are several from the Pacific Coast area. **"Cascara sagrada" or "sacred bark"** (*Rhamnus Californica*) was so-named by eighteenth- century Franciscan missionaries after contact with Southern California Indians. Saunders described the bark soaked in hot water as one of the safest and best laxatives in the world (especially in cases of chronic constipation), and the bark soaked in cold water served as a good tonic. He went on to say that the gathering of this plant for the medical trade was a minor industry in the Pacific Northwest, and that there was considerable demand for it by European and American chemists.

Another plant that Saunders discussed is **"Yerba santa" or "holy herb"** (*Eriodictyon glutinosum*). He noted (p.198) that this one also "betrays its connection with the California Mission days, when the Padres not only instructed Indians but now and then learned something from them." A later name for it was "Consumptive's weed," because of its use as an expectorant and blood purifier in bronchial and respiratory ailments. A poultice for sores could also be made of its pounded leaves.

In reference to what he called the "civilized drug" **Grindelia**, he credited (p.200) the California Indians with "discovering the remedial secret" of the *Grindelia robusta*, or gum-plant. They used a decoction of the leaves and flowering tops as a mild stomachic, to purify the blood, and to relieve throat and lung problems. He went on to say (p.200) that: "The Indian is also to be thanked for our knowledge of **Yerba Mansa (or more correctly, Yerba del Manso,** 'the herb of the tamed Indian'…" (*Anemopsis Californica*). Either tea or a poultice of wilted leaves could be used externally for cuts, sores, and bruises on people and animals. Also, the astringent, peppery dried root could be chewed raw for mucous membrane ailments, or made into a tea for blood purification.

The last plant that Saunders mentioned as used by Native Americans was the evergreen tree known alternatively as **California Laurel, California Bay, Pepperwood, and Oregon Myrtle** (*Umbrellularia Californica)*. The crushed leaves give off a pungent odor and were used to relieve headache, either by placing within the nostril, or made into a decoction and applied to the scalp. A decoction was also used as a disinfectant wash. Those with rheumatism would bathe in hot water into which the leaves had been immersed. Writing in 1920, Saunders gave the "recent" example of people on the Pacific

Coast boiling the leaves so the aromatic vapor would waft through their houses--in an effort to prevent the Spanish Influenza epidemic from striking them.

CONCLUSION:

In this brief selection of sources, we saw that some European-American inhabitants of North America--be they explorers, pioneers, missionaries, or historians--recorded Native American healing practices as important aspects to relate. What, and how much, they chose to relate may have depended to some degree on their own interest in the subject. It must also be stated that the subject of Native American *materia medica* is a very large one, and varies according to what particular plants, shrubs, trees, and other substances were available for use in different geographical parts of the country.

In books not discussed here, the authors more often wrote about the healing rituals, where the ceremonies surrounding sick people were described--but without mentioning the specific ingredients in the medications. These ceremonies were also usually dismissed condescendingly as medicine men (and women) practicing "witchcraft" with their rattles, charms, dances, and chants.

On starting this research, the hope was that more of the Native American-related books in the library contained specific information on *materia medica*. It seems, as the Reverend Heckewelder indicated in 1819, that information was not often freely shared with curious outsiders. Thus, it is probably the case that such insight is best gained from authors who actually spent time living with the Indians, such as "Hunter" who, although of Anglo-American background, grew up as an adopted insider with several different Indian "mothers," and therefore possessed first-hand knowledge. But, of course, the ideal would be finding accounts written by Native Americans themselves.

Announcements

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[i] Since he did not know what his birth name was, after going back into Anglo society he used his Indian name "Hunter" as a surname (given to him because of his early prowess in hunting), and added the John Dunn part in honor of a gentleman in Missouri who had treated him kindly.

[ii] This fact is significant when we think about how popular tobacco was traditionally with the Indians (in published accounts since the sixteenth-century, as previously noted in Part 1). Perhaps many of the men died in battle, or from other causes, before lung cancer had a chance to take its toll? Or, possibly the detrimental effects were lessened because the tobacco was sometimes mixed with, or supplanted by, other plant leaves or roots for smoking and chewing: like dittany, sassafras, angelica, and especially sumac (often mixed half and half with tobacco).

[iii] This custom may well have protected them from mosquito-borne illnesses.

[iv] This is surely the same plant that Captain John Smith referred to as "pocones" in his *Generall Historie,* and that Jonathan Carver called "bloodroot" in his *Travels…* (See Part 1 of this column for both of those). In Hunter's description, he said that "puccoon" was the "Sanguinaria" plant. Under that entry in the *New Century Dictionary* (1890) is the further information that it is the species *S.Canadensis*, and is called "bloodroot," as well as "red puccoon" and "red Indian paint."

[v] This work being cited contains different types of information than Reverend Heckewelder's book published in Philadelphia in 1820 (he died in 1823), and its more complete limited-edition version published in Cleveland by the Burrows Brothers Company in 1907: *A Narrative of the Mission of the United Brethren among the Delaware and Mohegan Indians, From its commencement in the year 1740 to the close of the year 1808*.