

MODERN MEDICINE MEN.<sup>(1)</sup>

BY ARNO VIEHOEVER.

Life becomes more interesting and a real adventure with the increasing knowledge of the intricate nature of living processes. Rather than remaining as mere passengers within our bodies, in the journey thru life, we should become the Engineers.

Surely there is now a justification for militancy in advancing the scientific regulation of life; if need be thru medicine or special foods, freeing us from a crippled mind and body, from dreaded disease, premature debility, untimely death.

Who would question this, should but remember the ravages of fever, without quinine or its derivatives, pain without morphine, heart disease without digitalis, constipation without cascara, and the host of ailments, called "deficiencies;" which may now be overcome by the treatment with vitamins from plants, or the hormones from animal bodies or, most recently, from the laboratories (temples) of creative workers.

Even the great surgeon Dr. Mayo, from his famous clinic in Rochester, U. S. A., proclaimed: the scalpel was the tool of the last century; the coming century belongs to the test tube of the biochemist.

Both the medicine man and the medical man have more strings to their bow than ever before. However, the "quack" is still with us and for every "cure all" vendor we would seem to need a modern medicine man, to bring us closer to the Utopia of perfect and lasting health—thru scientific nutrition and medication.

I first encountered a quaint old medicine man in a small Pennsylvania mining town. From the stage of his tent-show this queer fellow, draped in the costume of an American Indian Miracle Doctor, offered his mysterious concoctions for the treatment of all conceivable ailments. He was aided in attracting a gullible crowd by a native Indian beauty, now dancing to the tune of a hidden drum, then handing out the bottled vigor and glamorous health for a knock-down

---

(1) Reprinted from "Vidyasastra," 4th year, No. 2, July B. E. 2482.

price. Next I came across the vendor of "genuine" snake oil, made from the most poisonous snakes, sold as a sure cure for all pain of hip, limb or liver. If desired it was applied to the shoes of the onlookers to demonstrate its unexpected penetrating powers into all tissues. As a curious coincidence the very poison of the cobra, when given in minute doses, has now been found to have morphine-like properties in relieving pain, apparently without the habit forming properties.

In my wanderings thru the Blue Mountains of Virginia, "the original source of supply" of drugs in America, I met an amusing colored medicine man, who knew his drugs—even when wrapped in burlap-bags. He recognized them by their rattle. In European woods I met drug-wise women, who traded their knowledge of strange healing herbs for a better living, and finally I found in various continents untrained medicine men, selling their "stuff" in so called pine board patent medicine shops with claims that even excelled the old-time Lydia-Pinkham variety of medication. I have yet to meet the wonder man of the jungle, him, who knows, I hope, the secrets of nature, of the herbs that heal, the seeds that soothe, the roots that rout the devil out of disease,

Modern Medicine Men, in contrast to the quacks, endeavour to elevate the healing medicine from the hokum of quackery, the jungle of mystery medicine, the dungeon of the supernatural. Truth, we trust, shall not only make us free, but keep or make us well. The superstition of the past must therefore give way to the new wisdom gained by the intelligent use of the best tools of modern medicine. These tools which, we hope, will be ever kept sharp in the strife for control of well being, the protection or restoration of health are:—

1. exploration. 2. evaluation. 3. exploitation of foods and medicines.

#### *1. Exploration of Foods and Medicines.*

Thailand, happily, appears from writings of collectors, naturalists, biologists, as a favorable proofing ground, producing an abundance of native life, plant and animal; on whose saps and secretions, tissues or organs we depend for some of our most important foods or medicinal resources.

Interpretative critical surveys thruout the length and breadth of this land, contact with the local practitioners or missionaries and medicine men of native communities and tribes, and combing the jungle itself, should help to disclose sources for old and new treasures of food and medicine.

Have not the races of man, obviously independently from each other, developed their own food and medicine supplies, and discovered among other things the peculiar stimulating qualities of caffeine, (i. e. the substance, which we find produced by nature in Chinese tea, African coffee, South American maté, and Indian Cassina; or the death dealing arrow poisons, containing strychnine or strychnine-like substances. Both products are extensively used and caffeine is now added to Coca Cola—"for the pause that refreshes." Caffeine is fairly safe here and in tea as only the amount present in a pound of tea, consumed at one sitting, would be fatal. Strychnine, once used to stimulate all body functions, has been overrated in medicinal benefits, but it is widely used in pills (even periodically swallowed for increased pick up and extreme muscle exertions by bicycle riders in marathon races). As a sure poison strychnine is widely used for the extermination of pests.

"Ye should know them by their fruits (flowers and seeds)" is an all important requirement to bring to full utilization the value of plant surveys, as the one of 10,000 species reported by the capable English botanist Dr. Kerr or those laboring in the Government Department of Thailand on the development of its natural resources.

Of great aid in the recognition of identity will be field tests; botanical, chemical and physiological on a macro- and micro scale. Cooperative Work is already under way at the Department of Science (under the inspiring leadership of the Director-General Dr. Toa Labanukrom) to develop these tests, (not unlikely the well known soil tests) in order to assure the nature, identity and extent of supplies of actual and potential nutrients or medicinal drugs, thus to make the present collections, gathered anywhere, much more useful as depositories of type material.

## 2. *Evaluation of Foods and Medicines.*

This exploration, including also a survey of animal drugs, is followed by their evaluation, a quantitative measure of quality and nutritional or medicinal efficiency. Nature ever varies and creates no two things alike and of the like composition. We must therefore record all diagnostic characters in order to guarantee the utility and quantitative worthwhileness, both chemical and physiological, of the foods and medicines selected.

This surely includes the assurance of adequate handling, collecting, drying, shipping, storage, so that the inherent qualities may be retained and stabilized in the foods, drugs or their preparations.

Methods for the chemical and biological standardization will have to be applied and many new ones developed. This work too is under way in various laboratories of the world. The guinea-pig, as a test animal, has in part been replaced by rats, mice, birds and other animals.

It has been our privilege to introduce into the study of foods, vitamins and medicines transparent and translucent animals, both with and without a vertebral spine. An apparatus "Stethographone" has also been designed to test the result on certain organs of all warm-blooded vertebrates or so called higher animals.

The most remarkable transparent representative "*Daphnia magna*," probably also to be found in Thailand, has completed the trip from America and apparently is becoming used to the higher temperature here. When we can visualize the workings of the internal mechanisms of life, we can interpret the intimate effects to causes and even deduct the causes themselves. We can learn to overcome the handicaps.

We have also recently undertaken studies of the gall bladder and caused its evacuation in the telescope fish upon the injection of minute amounts of a hormone called cholecystokinine. Other effects of drugs and salts on the heart, blood stream and food canal were also noted—without surgery and injury to the fish. The dosage could be controlled with the use of a stomach tube or an injection capillary tube. Fortunately a very transparent fish has been supplied me by the Bureau of Fisheries.

With adequate tools and such methods as are available or still to be developed as required, we can demonstrate factors influencing long life: the insufficiency of milk as the only food, the crime of feeding polished, devitaminized cereals, the harm of excess which is just as bad as deficiency.

Excessive smoking, drinking, eating and excessively hard work, after the crest of life is reached, is a demonstration of poor judgment, a bugle call to the creator, to get us sooner than he had intended.

### 3. *Exploitation of New Foods and Medicines.*

The exploration and evaluation must be followed by exploitation or economic utilization. The modern medicine men should here show their resourcefulness and capabilities as Biological Engineers. They should direct the collection from the suitable location, at the suitable time, and, if need be, develop the supplies, like the agriculturalist and forester does, thru breeding. Has not the quinine content in cinchona, after unbelievable blunders, been raised from 1/2% to 12% by creative work; has not the sugar content in beets been raised so that it could compete with cane sugar; has not the pyrethrine content been raised in insectflowers, and that of rotenone been increased in derris roots; has not the nicotine content in the tobacco plant been raised or lowered as desired, and the lowly lupine been bred poison-free to serve both as an soil-enriching crop on poor soil, as well as a suitable nutritious feed?

With experimental grounds available to the corps of medicine men this creative work can be much extended to include food, condimental and medicinal plants—and to apply much more freely the method of vegetative propagation, developed for digitalis, artemisia and other medicinal plants by the writer.

At the frontiers of science we are confronted

1) with a need for replacing habit-forming narcotics as opium, morphine and their derivatives, ganjah, nicotine and caffeine, with harmless stimulants and depressants,

2) with the need for better understanding of foods as nutrients,

3) with the need for the prevention of allergic troubles and

4) the cause of cancer,

5) with the need for the counter-action of toxins and poisons (methylsalicylate appears to be a sure death potion, altho sugar of lime solution seemed a promising precipitant and counteragent in preliminary results),

6) we need further encouragement for the partial or complete synthesis of natural healing substances or their replacement by superior chemical groupings,

7) we need more effective repellants, quicker knock down agents and more stable insecticides, purer enzymes, more understanding of the body's need for mineral salts, and suitable disinfectants, as harmless and yet as effective as those in our normal body fluids.

Perchance the results should not only benefit the dealers and exporters but the Thai farmer, whose income is now so restricted in certain districts. He might be further encouraged with all justification to turn to dryland agriculture so strongly recommended by experts who studied his problem. Work on Thai-pepper to assure its quality is well under way; other common condiments, enzymes, oils, and poison yielding plants are being studied with the cooperation of a willing, well trained group. We take courage in further possibilities, if we think of the broad economic development in just one crop: licorice, which has not only found its place in medicine, in teas and lozenges for the treatment of colds, but as a foaming extract for fire fighting, as a fiber board in wall construction.

#### OUTLOOK.

The welfare, like harnessed natural wealth, of a people is the product of intelligent planning, of leading and guiding in nutrition, sanitation and, if need be, medication,—all elevated to an ever higher plane by science.

Long, useful, healthy life is not just an accident but a consequence of continued care and the observance of the fundamental facts of life. Disease carriers, whether mosquitoes, fleas, rats, mangy dogs or infected man, must be prevented from spreading the misery of disease and plague thruout communities by an enlightened leadership and an understanding poeple. Never, with the Scientific Evidence on hand, was action more justified, success more certain!

90% of a population, at one time or another, suffer from clogging of their systems and subsequent absorption of toxic substances. Remedial agents, as harmless purges, offer a rational protection against trouble brought about by overeating, irregular habits and the general strain of modern life.

Premature hardening or arteriosclerosis, the clogging of the veins, will be prevented by our better understanding of the tissues, needs and uses of calcium; tuberculosis will be eliminated, not by surgery, but by finding the agents which fix the fatty acids, like phthioic acid, excreted by the bacilli, and causing tissue destruction. Cancer will be eliminated as we learn more of normal growth and interfering irritation.

Modern life, and particularly tropical life, sooner or later, needs the regulating and protective benefits out of the kitchen cupboard or the medicine chest of the modern medicine men; men, who now pray, like priests or hermits in their temple, for vision and inspiration, then toil in field, laboratory or clinic—side by side with others of their guild, including the practitioner, like Engineers of Life, for its mastery and for a healthier mankind.

#### Selected References.

- A. Viehoever and A. Koff: *The Chemistry of Life.* Am. J. Pharm. 109.  
Febr. No. 1937.
- A. Viehoever: *The Development of Daphnia Magna for the Evaluation of Active Substances.* Ibid. July No. 1937.
- A. Viehoever and J. Cohen, "Mechanism of Strychnine Active." Ibid. June  
No. 1937.
- N. Tischler and A. Viehoever.  
"A new Synthetic Insecticide" Soap. Febr. No. 1938.
- A. Viehoever and J. Cohen: *The Responses of Daphnia Magna to Vitamin E.*  
A. J. Pharm. 110 July No. 1938.
- A. Viehoever: *A new Method for Testing of Gall Bladder Evacuants* Ibid.  
May No. 1938.

