

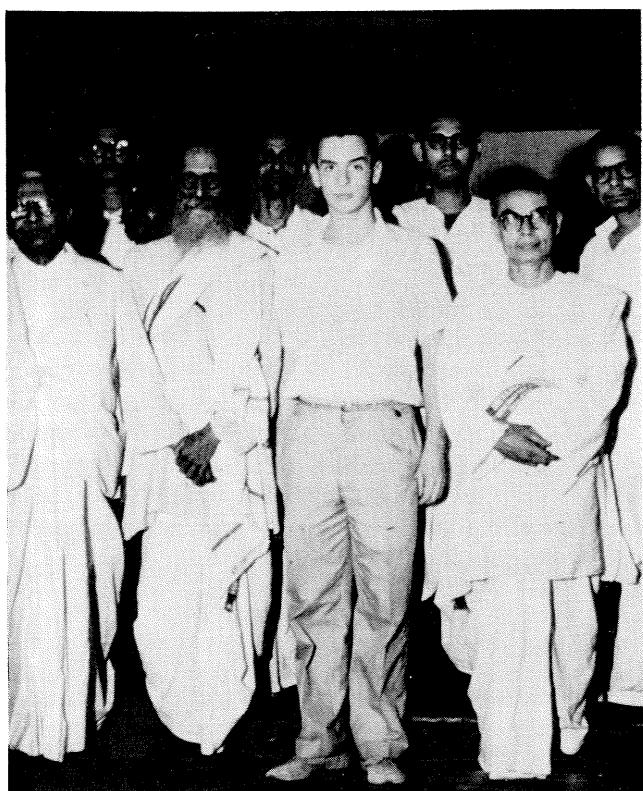
An American Student in India

A Caltech senior probes into a 4,000-year-old Indian medical science

by Thomas M. Jovin

It was my good fortune to be able to spend last summer in India as one of the two winners of the Caltech Junior Travel Prize. The project I presented to the Scholarship Committee concerned the study of indigenous medicines in India.

Why India? First of all, India is not only a fascinating place, but it happens to lie conveniently on the other side of the world. So what I was after was a plane ticket all the way around the world — or, in contemporary terms, I wanted to orbit our little



Tom Jovin and the staff of Shyamadas Vaidyashastrapith Hospital in Calcutta. On Jovin's right is Karaji Sri B. Tarkatirtha, a leading practitioner of Indian medicine. On Jovin's left, Kaviraj Vijayakali Bhattacharyya, professor of Indian medicine.

planet while it could still be done reasonably near ground level.

By reason of this choice I was able to visit Japan, Taiwan, the Philippines, Hong Kong, South Vietnam, Laos, Thailand, India, and Pakistan — and, briefly, some spots in Europe on my way back to the U.S.

My interest in Far Eastern medicines did not come by pure chance. I happen to belong to the elite club of premedical students at Caltech. (We are four, in all.) Actually, my knowledge in this field, prior to my departure, was negligible. It was with some surprise then that I encountered in Taiwan the vast practice of a medical system based upon thousands of years of empirical fact. And as I attempted to avoid skepticism and maintain an open mind, an endless succession of shocks threatened the scientific dogma carefully acquired on the Caltech campus.

For example, I would have said that sticking pins into people is nonsensical child's play. Yet there is documentary proof that the practice of acupuncture offers positive treatment for many nervous disorders unassailable by Western medicine. My theme, therefore, will be to indicate that the concept of medical science held in the Western world may well be found lacking in many important and basic respects.

As I went through Vietnam and Laos, I became increasingly aware of a vastly different social and educational context in which "medicine" is practiced among half the world's population. When one considers that, in Laos, there is *one* native citizen qualified to practice according to usual standards — and he is the Minister of Health — it isn't too difficult to imagine why malaria, filariasis, and other parasitic diseases are endemic, and why infant mortality can be well over 60 percent.

In a typical village of Vietnam, one may find a whole hierarchy of "medical" practitioners — with the Western doctor at the bottom of the heap, if he exists at all. For, when in need, the people traditionally turn to the village sorcerer and/or witch doctor, in order

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to exorcise the evil spirits from the body and home. Or they may consult the Chinese herb doctor. Or, if one is around, they may seek aid from an Indian physician. But the Western doctor with the needle can be of little help, the natives point out, because he has built his hospital on sacred ground — and pointing in the direction from whence come the evil spirits. So, it would seem that the problem of public health is primarily one of social education in the rudiments of sanitation and clean living.

I arrived in Calcutta, West Bengal, India, on July 26, during a spell of monsoon weather. I had contacts and used them extensively, for my purpose was to assimilate and understand Indian life and society in general during my stay. Dr. Roy, the chief minister of West Bengal, accused me of insanity when I approached him with my desire to study *Ayurvedic* (Indian) medicine, but he did put me on to one of the top men in the field, Karaji Sri B. Tarkatirtha. From that moment, until the end of my visit to India, I was treated like royalty by these men, precisely because the overwhelming majority of Western observers completely deprecate and dismiss *Ayurveda* as so much hogwash.

The science of life

Ayurveda is the name of one of the original Vedic compositions, dating back 4000 years in the Hindu civilization. It is a Sanskrit word meaning "the science of life," and hence the system of *Ayurveda* refers to the composite body of theory and practice dealing with the human being and his corporeal existence. The important thing to realize from the outset, then, is that *Ayurveda* as a medical science is based upon philosophical principles and forms an integral part of Indian culture.

The basic assumption of the Hindu religion is that man consists of three elements — the body, the mind, and the soul (*Atma*). The first two are temporal in nature and are the subjects of *Ayurvedic* science; the latter is eternal and universal and represents the ultimate concern of the true Hindu.

The Tri-Dosa theory

The divergence between *Ayurvedic* and Western medicine occurs at the stage of proposing a theory of health, disease, and treatment. The idea of triplexity in Hindu thought is very common. So it is not surprising that the entire basis for the *Ayurvedic* system is what is called the *Tri-Dosa* theory. Its basic proposition is that the body is composed of three elements which in Sanskrit are termed *Vaya*, *Pitta*, and *Kapha*. Phrasing it simply, *Ayurveda* defines a condition of health as an equilibrium existing between these three principles or dosas — and disease is merely the disturbance of this essential equilibrium.

The great block impeding a scientific exposition of this postulate lies in the fact that the three dosas possess a character which is at once abstract and concrete. They are simultaneously forces and materials, causes and effects, the sources from which evolve all body tissues and physiological functions. The basic problem, then, is one of semantics, for Western science does not possess the vocabulary for dealing with these subtle concepts.

Yet it must be recognized that *Ayurvedic* medicine possesses, in addition to its lucid axiomatic basis, a great body of empirical observation and formulation developed over a period of many centuries.

Indian pathology and diagnosis

This radical view of the human organism must be evaluated in terms of its application and effectiveness. *Ayurveda* clearly defines the principles of pathology and diagnosis. Since disease must always follow a disturbance of the dosic equilibrium, then treatment merely involves the restoration of the balance. So, where the Western doctor might approach an infection with the point of view that the causative germ must be eliminated, the *Ayurvedic* physician would define the nature of the dosic imbalance, treat it, and thereby make it impossible for the invading organism to flourish. He is inclined to avoid antibiotics and to employ tonics and medications of a restorative nature. In short, the infection and the germ are, in *Ayurvedic* eyes, more symptomatic than causative — a theory that accounts very nicely for the paradox, in Western science, of why certain bacilli inhabit the body tissues normally, yet may suddenly become pathogenic.

Diagnosing according to the dosic concept is a difficult matter. One interesting and highly refined practice is that of "reading the pulse." An *Ayurvedic* physician with long experience can presumably detect all the factors of the disease by merely sensing the nuances of the pulse.

Psychosomatic medicine

Also of great significance is the approach to the mental-physical relationship. *Ayurvedic* science is highly psychosomatic in that no distinction is made between purely physical and purely mental processes. This view is reflected in the manner of treatment, which is always very individualistic. For, in order to analyze the dosic condition and prescribe a course of treatment for the specific patient, certain specific points must be carefully considered: constitution, age, condition of the tissues, general body tone, muscular strength, metabolic rate, home environment, climate, likes and dislikes in food and living.

Ayurveda is lacking in one major respect; it does not possess the preciseness and reliability which the

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scientific method can provide. Due to 200 years of foreign rule and cultural suppression, Ayurveda has suffered and declined, to the point where it faces extinction unless drastic steps are taken. The most important of the projected remedies for this situation are a reintroduction of research in Ayurveda, the promotion of education in Ayurvedic and related (*Unani, Siddha*) systems, and the introduction of useful Western concepts into the theory of Ayurveda.

Indian versus American medicine

Great controversy rages in India over the relative merits of Indian and Western medicine. The governmental hierarchy is increasingly in favor of supporting the modern Western system, but the bulk of the population, living in villages, comes in contact only with the indigenous practice. Since a vital factor in India is governmental support of educational and research institutions, opposing camps are desperately fighting for the upper hand in this issue. As a result, colleges and hospitals exist for training in purely Western medicine, pure Ayurveda, or a combination of the two. The problems of semantic and conceptual integration which this arrangement has created are incredible.

In 1931, Sir Mohamed Usman Sahib Bahadur, chairman of an investigatory committee appointed by the Government of Madras, reported:

"It seems to us that the first and foremost problem that we have to address ourselves to is how we can make the Indian systems of medicine rapidly self-sufficient and efficient; for, unless and until this is done, the problem of bringing adequate medical relief within the easy reach of our masses, especially in the rural areas, will not become satisfactorily solved. Moreover, the establishment of institutions of Indian systems will, under these circumstances, remain a proposition of only limited applicability, because it would involve the maintenance of a double set of institutions — one (the Indian, to look after our medical ailments, and the other (the European) to minister to our surgical needs — an arrangement as uneconomical as it is unsatisfactory. Some such arrangement may, however, become inevitable in the transitional stage, but this period should be as short as possible.

New medical centers

We therefore consider that the most urgent and immediate concern for the State is to establish and promote by State aid, State-recognition ,and such other means, the establishment of suitable centres of medical education and the devising of a suitable scheme of studies of Indian Medicine calculated to make those trained under it equal to the task of ministering not only to our medical needs as at pres-

ent, but to surgical ailments as well. Every scheme of study of Indian Medicine, whether Ayurveda, Siddha, or Unani, should make adequate provision not only for the efficient training in subjects appropriate to itself, but also for the teaching of the essentials of whatever is valuable in Western Medicine.

Consistent with this view, we would like to see the future practitioners of India, no matter to what denomination they belong — Ayurveda, Siddha, Unani, European Medicine, or any other — being so schooled and trained as to be able to bring to bear on the problems of health and ill-health not only the expert knowledge of their own systems, but as far as practicable, the best that is in other systems also."

Joining two theories

At the same time, considerable progress is being made in the direction of demonstrating the worth of Indian treatments according to accepted research and analytical methods. For instance, at the Government Institute for Research in Indian Medicine at Jamnagar, Bombay, expert Ayurvedic practitioners are reviewing test cases of polio, cancer, skin diseases, diabetes, and other important ailments. Their techniques of diagnosis and treatments are in strict accordance with Ayurvedic principles. Concurrently, Western doctors diagnose and evaluate the same patients, utilizing scientific techniques and equipment. The two points of view are discussed at the completion of the case histories.

Summing up

In an article on "Traditional Vietnamese Medicine," Dr. Dang Trong, director of Public Health Services in South Vietnam, sums up the central impression I received as an outcome of my study:

" . . . You may see that each medicine has its point of view, its angle from which it is viewed, its specialty in which it deals masterly. The part of Eastern medicine is to complement the views of the Western medicine, to widen its horizon in certain aspects, unexplored until now, to give it food for thought, to reveal its inexhaustible mine of long and dependable experience. Even if the principles of this medicine are wrong or incomplete, they are always of some use to the West. Just as the waves, these synthetic views of the East will come, whether one may will it or not, and break against the too-analytical walls of the Western spirit, and oblige it to revise one day perhaps, its conception about man. And the day when we will be able to interpret completely this old medicine and make it join, over the span of the centuries, the most modern treatment to the oldest experiences, on that day, the world may achieve a vast synthesis which unites in one single science the East to the West for the greatest benefit of mankind."