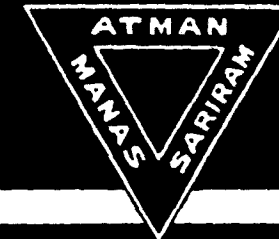


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VYAYAM

A Quarterly Journal of Physical Education.



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NOVEMBER, 1938

Health Education Number

Saidapet Health Project

Malaria

Physical Education the Best Health Insurance

Health for the Having

VYAYAM

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Editorial

HEALTH EDUCATION AS A COMPLEMENT OF PHYSICAL EDUCATION

In this issue of Vyayam particular attention is given to articles on the promotion of health and of health education. We believe that health is essential for success and happiness in any and every aspect of life, and we believe that physical education not supported by proper health education cannot possibly accomplish the best results.

We think of health as that quality of behaviour which enables one to "live best and serve most." It is a quality not only of physical behaviour, but of mental, social, and moral behaviour as well. It is therefore a quality and a habit required in every aspect of life if we are to live wholesomely and abundantly.

By health education we mean every experience which makes for healthful living. As ordinarily co-ordinated with physical education we divide it into three parts, (a) Health Service, (b) Health Supervision, (c) Health Instruction.

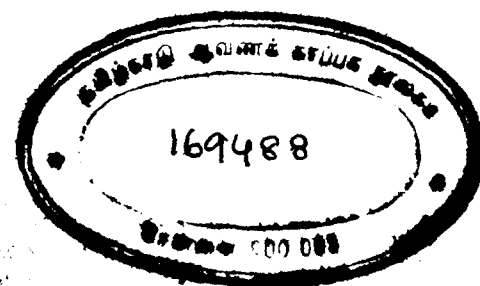
Health Service consists of medical and physical examinations with the necessary follow-up and remedial work; of preventive vaccinations and inoculations; of first-aid; and of all protective, preventive and corrective measures. It discovers the facts on which constructive health and physical education are based.

Health Supervision has to do with ensuring a healthful environment in which to live and work and study and play. The sort of an environment in which one lives determines to a large extent one's habits of living. It seems essential therefore to ensure a healthful environment to engender good health habits.

Health Instruction is the actual teaching of positive health and of providing the experiences which may develop health habits. Merely absorbing knowledge from a hygiene text book is not health instruction. But helping students to apply in their every day lives the facts found in text books and elsewhere is a form of health instruction that may bear fruit.

It is the hope of Vyayam that every educational institution in India may in the near future so organize its programme that there will be a prominent place for a well co-ordinated combination of Health Education and Physical Education.

H.C.B.



PHYSICAL EDUCATION THE BEST HEALTH INSURANCE

The talk given by the Honourable The Minister for Health, Madras, Dr. T. S. S. Rajan, quoted later in this issue, is an indication of a growing appreciation in India of the real value and importance of Physical Education. Further evidence is given by the various proposals and attempts of several provinces to establish training colleges or institutes for the preparation of their own teachers of physical education. Several Universities have recently discussed the addition of such courses to their curricula.

In general such a spirit is exceedingly encouraging and the present leaders in physical education, particularly Mr. Buck and the Madras Y.M.C.A. College of Physical Education, may feel happy that their work is bearing fruit and that other states desire to follow their example; and there are many reasons, such as language, customs, and even climate which may make provincial schools desirable.

There is however a note of warning and caution which should be sounded. To rush into the organization of such training centres under a flush of patriotic nationalism—even provincial enthusiasm—without having counted the cost, without knowing whether there is an actual need for the college, without determining whether a staff and a curriculum are available and whether extensive financial support will be permanently available, is to simply court disaster.

The majority of the provinces of India will not during the next twenty five years, be able to employ a sufficiently large number of trained physical education teachers to justify the settling up of a local training centre of their own. It is far better and more economical in those cases that their students be sent to some National All-India centre, such as the Y.M.C.A. College of Physical Education at Madras, where already a strong staff, curriculum, equipment and tradition have been established. The contact also with students of other provinces and lands will be all to the good.

India is apparently facing at this time the problem of diversifying its training through the establishment of numerous training centers or of concentrating on one, two or three such places and there building up strong, well staffed, well planned, well equipped, well supported Colleges. There is no intention or desire to control the type of training given. But certainly the multiplication of a group of small, half starved training centres cannot be helpful to the advancement of physical education in India. Far better will it be if the political powers can be led to see that the support and building up of a few strong institutions and the sending of their teachers to them for preparation and training is the wiser policy.

E. B.

THE NEW BOMBAY PHYSICAL TRAINING INSTITUTE.

It is a pleasure to extend a word of greeting and welcome to our sister institution at Bombay, which will probably be in operation when our readers receive this number of Vyayam.

For some years Bombay has felt the need of its own provincial training centre for its teachers of physical education. The number of their students, their expense in going to Madras where many have been trained in the past, their provincial needs and other factors, have emphasized the desirability of such an institution and assured its probable success.

Consequently a physical education committee recently agreed on a report recommending to Government the establishment of such an institution "on the lines of the Y.M.C.A. College of Physical Education at Madras" and "the employment, if possible of a graduate of that institution as Principal".

Accordingly the Bombay Physical Training Institute has been organized, and our Professor P. M. Joseph, B.Sc., B.P.E., Ed. M. was invited to accept the Principalship. This he did, on leave of absence for a year at least, joining duty there on October 1st and courses will be under way there shortly.

The College at Madras feels greatly complimented by this action and the choice of Mr. Joseph as the Bombay leader. It assures the hearty co-operation of the two institutions in the promotion of Health and Physical Education in India. The best wishes of all the Old Boys and the entire Y.M.C.A. College of Physical Education are extended to Principal Joseph and to the Bombay Institution—Salaam!

E. B.

The Y.M.C. A. College and the Community

By

MARIE M. BUCK, M.A.,

Specialist in Physical Education for Women, Madras Presidency.

A study of newspaper files provides, as a rule, an interesting picture of the changing opinions and habits of a community or of a country. To-day's newspapers from any town in India give much space to a subject of new and increasing interest. They report speeches upon health problems, resolutions intended to improve sanitation and prevent disease, as well as general information upon health matters.

This interest is new. Its value can scarcely be over-emphasized. But there is also a possible danger. Because disease itself is more evident than the conditions which cause it, attention and sympathy is apt to wear itself out in attempts to cure disease. There is then, neither time nor energy to attack unhealthy conditions which are the real cause.

Now that wide-spread interest has been developed in securing healthier life and longer life, all schools and colleges are faced with the problem of helping pupils and students to be healthier. Only doctors and nurses should deal with actual disease. But everyone should know enough about the proved causes of disease to protect their own health, and to enable them to live so they will not be a menace to their neighbours.

It may safely be said that much of the hygiene and health education so far given in our schools is of very little value, because it is chiefly instruction from books. There is little actual application to ordinary, every day living conditions. It is clear that a new approach must be made. We must evolve a new kind of health education that will help pupils and students to be clean, and instruct them how to keep their surroundings clean. This can usually be done most effectively by dealing with definite situations. Many educators are thinking about this problem, and experimenting in their own institutions upon new methods. It may be useful therefore to sketch the outline of a health improvement experiment with which Y.M.C.A. College students have co-operated for the past six years. The following excerpts from a report just published may be of interest.*

1. THE BASIS FOR THE STUDY.

"This preliminary health study of Saidapet is not offered as a survey which has discovered conditions, and emphasised or remedied them. It is published because the doctors and social service workers undertaking it are searching for a technique which may be useful here and elsewhere, in helping the residents to make better homes, and therefore a better town.

* Saidapet Health Project. G. S. Press, Madras.

Saidapet appears to be, in its religious, social and economic frame work, a typical small town in South India. The residents work hard for their living. There is a general air of friendliness and goodwill. Due to former municipal difficulties the rate of taxation is high. The sanitary and health level is low, though the difference may be only apparent, not real.

In conducting our survey we have kept these questions in mind:—

(i) The Government Dispensary in Saidapet is a busy place. Nearby in Madras are the famous hospitals of the Presidency. Yet people use them only in emergencies. The dispensary is clean, yet up to its walls crowds the bazaar, insanitary, uninfluenced and unchanged. What can be done to carry the influence of the dispensary beyond its walls? How may fear of hospitals be overcome?

(ii) A vigorous campaign is yearly carried on by the municipality against cholera, small-pox and enteric fever. Co-operation is indifferent; hence the epidemics are controlled, not eradicated. What can be done to arouse interest in preventive measures?

(iii) Leprosy is a fairly common affliction in Saidapet. Is the incidence higher than elsewhere, or would similar surveys reveal similar conditions? Heretofore the control method has been isolation. To isolate the large number of wage earners concerned in Saidapet would be an economic catastrophe even if funds were available to make it possible. Can Saidapet be used as a research laboratory for the study of leprosy, in the situation in which it arises?

(iv) Filariasis is very common in Saidapet. The cause is known, but at present the cure is not known. Is it possible to use Saidapet as a laboratory for research which will bring the knowledge required?

(v) Can constructive use be made of the handicaps under which Saidapet struggles? Health measures undertaken to date, though sound, have not aroused interest or the co-operation of the public. But everyone in Saidapet is interested in the control and cure of leprosy. This is clear from the keen interest shown and the co-operation given in the first house to house survey conducted by the Saidapet Skin and Leprosy Relief Association, now the Saidapet Health Association. This interest and co-operation grows steadily.

(vi) One final question may be formulated, in the light of the foregoing:—Is it possible to use the concern for leprosy as a lever to lift the health level of the entire community? The measures necessary to control it will benefit everyone, and will, if adopted, make Saidapet a cleaner and a healthier town in which to live. But to achieve success all sides of community life must be approached, with emphasis upon all the healthy aspects, and an attempt to change all the unhealthy details."

..... "The early history of Saidapet can only be conjectured. The ancient ford across the Adyar River testifies, by the width of its stones, to past importance. As the road from Madras through Saidapet is still the only route

to the South, one may only guess at the age of the ford, and of the village, now called Saidapet, that grew upon the river bank at either side of it.

There are many stories about Saidapet, some only legends, others based upon actual fact. When Clive came to the scattered villages now known as Madras he is said to have given one of his first orders for fine Madras cloth to weavers in the 'pettah of Sayeed.' Weaving and dying are still done to-day in the streets and homes of Saidapet exactly as they were done then.

There must have been an era of great prosperity for the citizens of Saidapet; as there are many streets of well built houses. Their size, and their beautiful heavily carved doors are indications of prosperity. Johannes Road, now commonly called Jones Road, leads past the temple and its great tank, to Johannes Gardens. Of its once fine grove of mango trees only a few now stand. Of the house, only the foundation remains.

It is important to understand the town of Saidapet, as in many ways it presents a typical problem. Its occupations of weaving, dyeing, pottery, jutka making, dhobying and the bazaar are basic. The religious and social structure appear to be typical. The municipal administrative problems are average. Incidence of leprosy and filariasis may not be typical. But probably every community has one or two major health situations. A study of Saidapet and of its problems may be of use therefore in deciding upon techniques to be used elsewhere.

Saidapet has been caught up into the struggle of trying to fit old economic habits into a new pattern. Its personal, group and religious life still runs on in the groove it has known for centuries, while its economic life is attacked upon all sides by modern methods with which it must compete, or which it must adopt. This unwished for struggle and change is important to the nearly thirty thousand residents of Saidapet. Their community life has been altered so abruptly that it is difficult to realise what of the old should, if possible, be saved and what discarded.

Hand loom weaving, hand dyeing, pottery making and jutka making and repairing, goldsmithy and dhobying have been the major occupations. Hand loom weaving and dyeing cannot successfully compete against imported English and Japanese cloth. The potters must now meet the price and durability of cheap imported enamel and aluminium.

The motor bus and suburban electric train service have so damaged the jutka makers' income, that they presented a petition requesting Government to limit the bus traffic from Madras to the South.

The spread of elementary education for girls has tended to postpone the age of marriage and altered the fashion for every heavy jewellery. The large importations of rolled gold and cheap imitation jewellery have also seriously damaged the goldsmiths' income. "

SAIDAPET HEALTH ASSOCIATION

"The Saidapet Health Association was organised in July 1933 under the name of the Saidapet Skin and Leprosy Relief Association. There had been several attempts at voluntary health and child welfare organisations in Saidapet, but none had proved permanent. The success of the campaign against leprosy organised by Mrs. A. H. Todd in the Salem District indicated a possible new approach. Accordingly the Saidapet Skin and Leprosy Relief Association was formed, with the purpose of discovering the extent of leprosy in Saidapet, in order that steps to control it might be taken.

As opinions regarding the incidence varied from 5 to 30 cases, it was decided that the only sound method to ascertain actual conditions would be a house to house survey. No information regarding a similar survey elsewhere could be secured. Besides, general public opinion agreed that it would be impossible to visit each house in turn, as only bad feeling would result from such a procedure. There seemed, however, to be no other way by which even approximately accurate information could be secured.

Accordingly, on September 4, 1933, the survey was, with much trepidation, begun. It was continued daily except on Sundays and Christmas Day, until January 26, 1934. Of the 3,000 houses visited only five refused admittance to the survey party. This party consisted of two groups. The Propaganda party (men and women) went first, explained the purpose of the survey, collected the women and girls in the courtyard or back room, and the men at the front of the house. The Medical party came second and did the actual examinations. The party consisted of two doctors, a man and a woman, and social workers who did the recording. On at least one day a week the Municipal Health Officer assisted, thus giving us two medical parties which greatly expedited progress. In fact, but for the constant co-operation and encouragement given by the officials of the Municipality and by the Department of Public Health through the Medical Health Officer and his staff, the survey could not have been completed. The help which the Director of Public Health, Lieut.-Col. Ganapthy, I.M.S., has through his Department so readily given on all occasions is an example of the value of co-operation between Government, Municipality and a voluntary social service agency.

The survey was successful in recording cases and securing public interest and sympathy. About 500 cases were registered, and it was realised that a very high percentage had not been examined, as the daily route of the survey party was well-known.

Early in the work, funds had been raised to meet the salary of a medical officer, specially trained in leprosy, and office expenses. The survey completed, the next step to be undertaken was remedial measures.

The Saidapet Skin and Leprosy Relief Association changed its name to the more optimistic Saidapet Health Association, and our medical officer was

permitted to assist at the Skin Clinic attached to the Government Dispensary, Saidapet. He endeavoured to keep in touch with all registered cases and to persuade them to attend the Clinic for treatment. This was difficult, as a visit to the Clinic required time, the injection had unpleasant after effects, and great patience was required to continue the treatment for months or years, as is usually necessary.

But treatment of registered cases, was only part of the problem. If disease of any sort is to be controlled, the entire family must be reached. This can best be done through the women and children. As the second and most important part of the Saidapet Health Association's work a Health Centre was established with a resident nurse and a health visitor. An area for their work was marked out, and an effort was made to reach every home in it.

In all of its work the Saidapet Health Association from that time on has had the ready co-operation and invaluable financial support of the Red Cross Society, Madras Provincial Branch. Without such help the work could hardly have been begun, nor could it have been expanded.

With the launching of the King George V Silver Jubilee Fund an appeal was made by the Saidapet Health Association for funds to set up a five year experiment with a children's leprosy clinic. This scheme was quickly absorbed into the much more comprehensive and valuable scheme proposed by Dr. R. G. Cochrane, Medical Officer, Lady Willingdon Leper Settlement, Chingleput. With the approval of his scheme and the opening of the Silver Jubilee Children's Clinic, Saidapet, the scope and responsibilities of the Saidapet Health Association have greatly increased. A second Health Centre is now being established, which has five in-patient beds. The staff includes a resident nurse, and a visiting lady doctor. The medical Officer specially trained in leprosy is now on the staff of the Silver Jubilee Children's Clinic, and the Saidapet Health Association concentrates upon maternity and child welfare only. There are two Health Visitors. One is chiefly concerned with the Silver Jubilee Children's Clinic. In the morning she assists with its house to house re-survey and with daily clinic. In the after noon she does home visiting in one half of the area. The second Health Visitor concentrates upon midwifery work for all of the area, and home visiting for the other half of the area. Both pay special attention to homes in which cases of leprosy are registered. Daily records are available in the common office, and there is close Co-ordination of the work. It is intended that the Health Visitors will be able to visit every home in the area each fortnight. Gradually, it is hoped, a basic standard for food, clothing, sanitation, education and health may be worked out, for the various types of families in Saidapet. Slowly therefore, the Saidapet Health Association, a purely voluntary organisation, continues its experimental health measures. Its belief is that improvement in living conditions must begin with wives and mothers in the home: that habits are most

easily established during childhood and that therefore our most fruitful work will be accomplished with children. Methods are subject to change, but working in close co-operation with the residents of Saidapet, the Municipality and the Public Health Department, the Saidapet Health Association is hopeful of realising its aim, 'Saidapet to be the cleanest, healthiest town in South India by 1950'."

A GLIMPSE OF LIFE IN SAIDAPET.

"The tables which accompany the report tell a story that is most revealing in the insight which it gives of life as it is lived on two typical Saidapet streets. The facts were obtained and compiled by the students of the Y.M.C.A. College of Physical Education by means of a house to house survey. Because the technique of the survey was absolutely new to the students and because the observations were confined to but two streets, no attempt is made to present here generalisations and conclusions which may be said to apply to the entire community. At the same time the material contained in the tables gives the broad outlines of living conditions in Saidapet and shows the most fruitful lines of investigations for subsequent studies.

The average family does not occupy a house by itself, but shares a dwelling with one or more other families. Seven families totalling thirty or thirty five people is not an unusual number to occupy a single dwelling, according to the tables. With such a practice as common as the survey suggests, the resulting overcrowding of houses is a potent barrier in the achievement of higher standards of public health. It means that each family has but one room in which to eat, sleep and live. Very often food must also be prepared in that same room, for it is only the exceptional family that has a separate kitchen. Even where a house is reported as having a separate kitchen, it is generally accessible to all the families occupying the house.

Another objectionable feature of such overcrowding is the inadequate amount of light and air obtainable because of the relatively small number of doors and windows. Frequently a room will be found providing accommodation for an entire family and the only opening will be a door, and that without access to direct sunlight. One reason that more windows and ventilators are not found is because the houses were not built to provide living accommodation for so many people. The houses on the whole are of substantial construction, showing some evidence of greater prosperity in former days. Sometimes very flimsy, thatched sheds have been added to otherwise solid houses in order to provide space for more people. Such is likely to be the case where the house is occupied by weavers, for it is customary to have all the weaving operations carried on in the place where the weavers live. Consequently looms take up the space that might otherwise be devoted to more commodious living quarters. In order to accommodate as many looms as possible little or no thought is given to the working comforts of the weavers, who must sit back to back, as they fly the shuttle to and fro across the loom.

Although no specific study was made of mobility there was sufficient incidental information to suggest a rather frequent change of dwelling on the part of many of the families. Most of them, as it will be seen from the table, are renters, and are not loath to move whenever better accommodation is obtainable or the conditions of their work suggest the advisability of a change."

EARNING A LIVING.

"The struggle to earn a living in Saidapet is an unremitting one. For most people it involves long hours at hard toil in return for an income that is usually not more than Rs. 15 a month. Out of this must be paid the expenses of rent, food and clothing and the other incidental items which are necessary to maintain life. But probably what contributes most to the universal burden of family debts is the high cost of marriage and funeral ceremonies. Because of custom and an intense reluctance to diverge from the necessity of keeping up with one's neighbours, splurge spending has free rein on such occasions and as a result the family debt becomes a life long millstone. The system of interest rates is such that it is seldom possible to pay off the capital involved. The amounts listed under these heads in the tables give some idea of the implications of the social traditions which impose them. The problem is a social as well as an economic one and must be approached from both those angles if any measure of relief is to be effected.

It is quite obvious from a perusal of the tables that the occupation of the father is usually followed by the son. This is especially true among the weavers. Some variation may be observed among those families of a higher economic status but even then it is within the same broad field, as for instance, government service. It would appear that education which depends on the economic standing of the family is the only channel through which a change of occupation to a more profitable level is possible from one generation to the next. In occupations like weaving, little change can be anticipated, for children become an economic asset at a most tender age, as a matter of fact just as soon as they can spin, which is before the customary school-going age, and the opportunity for an education is lost.

One very significant feature of the present survey was the information uncovered relative to the organization of the weaving industry. From the standpoint of location this may be described as a home industry. The commission agent provides those weavers who work for him with housing accommodation, looms and yarn. In return for these considerations, the individual weaver agrees to sell all his cloth to the agent. At the end of each period, the agent deducts from the value of the cloth turned over to him by the weaver, house rent, the cost of the yarn used and a rental for the loom on which it was woven. As a result of these deduction the weaver obtains very little actual cash and he becomes to all intents and purposes the indentured servant of the agent. Once he is caught up within the vicious circle he cannot break loose from it without throwing away his chance of employment. Because the

weaver has never had the opportunity to attend school, he is not able to compute the excessive share which the agent retains. He only knows that unless he works night and day when there is work to be done, he will not be able to purchase even his meagre food supplies. Small wonder that he has no civic consciousness; he is conscious only of the ever pressing necessity to work. Health, sanitation, recreation, even life itself, have no meaning for him. His thoughts seldom, if ever, get beyond the fear of not securing enough work to guarantee the revision of his primary needs of food and shelter."

"This co-operative effort with the Saidapet Helath Association has proceeded slowly, as it was necessary to fit all work done by Y.M.C.A. College students into an already crowded time-table. All of the survey work has been experimental, as nothing like it had been done previously. The technique is still faulty, but slowly a method is being evolved by which, it is hoped, students may, as a part of their education, study the conditions under which they are actually living, as well as the conditions in the town or village surrounding their school or college."

It is a waste of time and the beginning of a bad habit to discover a faulty condition, and then do nothing about it. The next step therefore is to make a study of remedial measures that the community may itself begin and carry on. This is, slowly, being done in Saidapet. Progress is not swift. The casual observer would be able to note little change. But change there is, and for the better. It will be more evident in years to come. At present, the chief value of six years work has been the re-discovery of the truth that if we hope for change in any situation, we must discover the thing in which the majority are interested, and work from that. In Saidapet the chief health interest is not in enteric, dysentery, cholera etc., etc., but in leprosy. All of our health work began therefore with leprosy, using fear of it as a lever to lift the health level of the entire population. While a clinic has been established which offers all recognized remedial measures, the *chief emphasis* of all the work is a study of the conditions that cause the disease. In this survey all the details of life in Saidapet must be considered. Much has been done that cannot be described here—nutrition surveys, play centres etc., for the details of which there is no space. From this work it is hoped that eventually a more simple and satisfactory understanding of the principles of healthful living may be evolved for our students and that Saidapet will because of our study be a healthier and a happier place in which to live.

Malaria *

By

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Malaria is important, especially in the tropics and particularly in India, where according to the Malaria Institute, the disease kills more than one million people every year. Moreover, there are 100,000,000 attacks of malaria among Indian people each twelve months.

Although the typical symptoms (which are fever, shaking chill, and profuse perspiration, coming at regular intervals), are dramatic to the individual sufferer, yet the disease is not often spectacular in a community. With only a single death in every one or two hundred cases, malaria does not arouse such fears as cholera, which may quickly kill 40 in a hundred cases. But the damage to the welfare of India due to malaria very likely far exceeds that caused by more dreaded epidemics.

Malaria is debilitating and it weakens bodies and minds of its victims by producing anemia. A man with chronic malaria is only half alive. He cannot do a proper day's work, he cannot think straight, he is dispirited and easily discouraged. He accepts his unhappy lot as the will of fate, as *Kismet*. So far as I can determine, no nation ever became outstanding in power while handicapped, as your country is, by malaria. To my mind the future status of India largely depends on what it chooses to do about this insidious disease, which attacks a third of its people yearly, destroying ambition and the will to achieve greatness.

Surprisingly little has been done in the past to control malaria in India although its scientists have been responsible for notable and fundamental research into the nature and cause of the disease. But there have recently been signs of aroused interest in malaria prophylaxis.

Malaria is an insect-born disease. That is to say, one does not contract malaria by eating unclean food, or drinking contaminated water, or breathing infected air, or by contact with a diseased person, but only through the bite of an insect. There are over 500,000 named species of insects, yet one must not be unduly alarmed about this fact because, happily, malaria is only carried by mosquitoes. However, there are 1,500 different species of mosquitoes. Here again man is lucky for of all genera of mosquitoes only

*Lecture to students of Y.M.C.A. College of Physical Education, Saidapet, Madras, October 21, 1938.

the *Anopheles* is able to transmit human malaria. In the *Anopheles* genus there are about 180 species and in India about 50. To control even 50 species of *Anopheles* would be a hopeless task. It is fortunate therefore that only a few *Anopheles* can carry malaria; only about six species in India. Coming to Madras Presidency there are only two species which are dangerous in this respect. So we can forget the 500,000 species of insects and focus our attention on the relatively few species of *Anopheles* which are so constituted that they can propagate malaria.

All mosquitoes can be separated roughly into two groups, anophelines and culicines. *Culex* mosquitoes are not vectors of malaria but they can infect with filariasis. The elephantiasis one sees in Saidapet is a manifestation of filariasis brought by *Culex* mosquitoes.

Mosquitoes breed only in water, never in trees or damp grass or any other place than in water. The females lay a hundred or two eggs at a time. Some species choose stagnant water, some salt water, some fresh water, some running water. Some species prefer to breed in wells, some in pools, some in tanks, some in rice fields, some in streams. Some prefer the city, some the country, some must have altitude, some prefer the plains. The point is that mosquitoes are of many species and divergent habits. It has sometimes been wrongly stated that mosquitoes breed only in stagnant water. This is far from the whole truth. But they all breed in water and only in water. The tiny almost microscopic eggs hatch in a day or two and mosquito larvae or "wriggle tails" are born. These larvae swim about in the water but they breathe air through tubes situated at their tail ends. Anopheline larvae feed at the surface of water, with their bodies lying parallel to it. A *Culex* larva feeds beneath the surface, head hanging down and body at an acute angle. It is easy to tell one kind from the other by this characteristic attitude.

After about a week each larva becomes a comma-shaped pupa which is active in the water but which has no mouth and does not eat. Pupae require air but the breathing tubes are now at the head end. In a day or two the outer skin of a pupa splits open and out crawls a mosquito which dries its wings and flies away to find a meal. Female mosquitoes are equipped with efficient drilling apparatus and they crave blood for their food. Males have no drilling equipment and whether they crave it or not, they cannot obtain blood. So they live on nectar and plant juices.

Female mosquitoes vary in their blood meal preferences. Some will only take cow blood, some feed on man, some on either man or cow as occasion offers. Rabbit blood is attractive to some. Many species rarely bite man and are therefore not dangerous. Mosquitoes feed every two or three nights, laying eggs the other nights. They live probably for about a month in the tropics but longer in cooler climates. *Anopheles* mosquitoes appear to have a flight range not much over a half a mile in the tropics but can fly considerably farther in temperate zones.

To understand how mosquitoes carry malaria it must be realized that this disease is due to microscopic animals, called malarial parasites, which live in the blood. These unwelcome inhabitants reside inside red blood cells, feeding on them until they are completely annihilated. When the red cells break apart the parasite, which has grown fat, divides into several parts, most of which enter other red cells to grow robust and themselves divide as they destroy the cells. Of course, some parasites are captured and killed by white blood cells and other defensive forces of the human body. But enough parasites escape to destroy many red cells and thus to cause the debilitating anemia mentioned above.

The malaria parasite, although it appears to have a comfortable time at man's expense, is nevertheless in a prison from which it cannot by its own efforts escape. It cannot leave the body by way of lungs or mouth or in any waste product. It is locked in the blood stream. It is helpless until aided by its allies which are mosquitoes. When a mosquito bites a man in whose blood there are malaria organisms some of these parasites are taken into the gut of the insect. If the mosquito is of the right species the parasites are not digested but are able to develop on the gut wall. After a week or so they divide and the young forms go to the salivary glands of the mosquito. The next time this insect bites a man it injects some saliva containing parasites and so the man receives infection and becomes another victim of malaria. Of course, the whole story is much more complicated than here told but this is essentially what happens.

There are drugs like quinine and atabrine which will attack the parasites and so cure the disease. They are not always successful. Moreover, these drugs are still too expensive for the average ryot. A great deal remains to be done to insure proper treatment for the great numbers of sufferers in this country. It is best, of course, to have advice of physician when attempting to treat malaria.

Malaria control is a relatively easy matter in any place where there is money to provide drainage or to pay for oil or other poisons which can be spread on water to kill mosquito larvae. Many communities which are now malarious could be rid of their affliction if they were willing to pay the cost, which is often much less than they now pay doctors and priests for attempts to cure their fevers. In Madras there is a Malaria Officer to give advice to any community which is willing to help itself get rid of malaria. In small rural villages, where money is scarce, it is a more difficult matter to control the disease and many studies and experiments are in progress to find cheap ways of dealing with rural malaria.

Man himself in some places has made matters worse by creating favourable breeding places for malaria-carrying mosquitoes. Borrow-pits, casuarina wells, waste irrigation water, ill-kept drains and field channels, certain types of wells, and other places could be mentioned.

Finally, the individual who must visit malarious places can do a good deal to protect himself from malaria by three measures. Firstly, he can use a bed-net or so-called mosquito-curtain. Since malaria-carrying mosquitoes bite chiefly at night these nets give a good deal of help in preventing malaria. Secondly, he can use some such mosquito repellent as citronella oil, rubbing it on back of hands and neck to keep off mosquitoes as he sits unprotected in the early evening. Finally, some form of mosquito boots to protect the ankles may be useful. A sheet of newspaper under the socks will do as well as boots. By preventing bites of mosquitoes we can prevent malaria infection.

Extracts from Articles on Malaria

MALARIA STILL KILLS!

By

RUTH CAMPBELL,
Hygeia, July 1938.

ABSTRACTED BY ELMER BERRY, Ed. D.

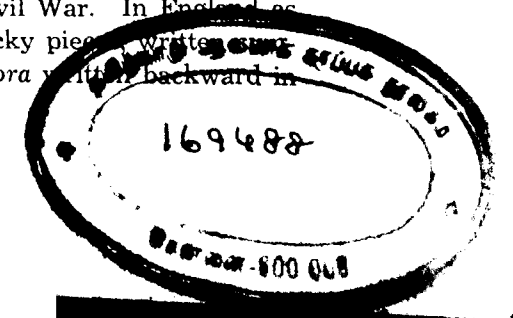
Malaria though regarded as an "uninteresting" disease still heads the list of diseases in most of the English Colonies. In India more than a million people die of it yearly. But it is not confined by any means to the tropics.

J. A. Le Prince, senior health officer of the United States Public Health Service estimates ten thousand deaths as its toll in the United States in 1936 as contrasted with 23 deaths from small-pox, 3325 from typhoid and 3620 from diptheria. For each death, 500 suffered—a total of five million cases. (Engineering News Record, September 17, 1936) Frequently in the southern states from 40 to 60 per cent of the people suffer from malaria, and outbreaks have been known when 90 per cent of the local population were ill with it.

A careful detailed description of the disease is unnecessary for this abstract. The disease is capable of endless variations; but certain basic facts are relatively simple. First, a parasite that feeds on the red blood corpuscles, will obviously cause serious anemia and bring about a state of general ill health and malnutrition. Second, one attack does not result in immunity; rather it predisposes to another. Although a certain "Tolerance" for the disease appears to develop in a community yet in epidemics any may succumb. Third, those whose general health has been undermined by malaria are especially susceptible to other diseases. Fourth, the effects of malaria are mental as well as physical. The resultant anaemia makes concentration difficult. There is a relation between chronic malaria, feeble mindedness and "poor whites".

The nation's loss in mental vigor and ambition due to malaria cannot be evaluated. But careful calculations based on estimates of Dr. Le Prince and A. W. Fuch ("Economic Losses from Malaria") indicate a loss for the United States of nearly 100 million dollars yearly, not including deductions from earnings and general loss of earning power due to physical and mental enfeeblement of chronic sufferers.

Many strange remedies have been advocated. The Barbarians outside the gates of Imperial Rome leaped into the Tiber. This "remedy" was still advocated in the United States as late as the Civil War. In England as late as 1896 confidence was still placed in charms, lucky pieces, written spells, bols, verses and words, especially the word *abracadabra* written backward in



the form of a triangle. Live spider's worn in a bag tied round the neck or swallowed wrapped in paste as a bitter pill were highly esteemed.

The Nineteenth Century however also saw the development and increased use of a really effective remedy, cinchona bark, from which quinine the present standard remedy is extracted. Discovered in Peru about 1649 it was soon introduced into Europe, used by a quack to cure Louis XIV and its fame was spread by Mme de Sévigné and others. Variations in quality, adulterations, exorbitant prices and medical ignorance, retarded its general acceptance. With no vaccination possible the drug going into the blood stream is the most efficient agent known for preventing the development of the parasite.

Nineteenth Century doctors and scientists also searched earnestly for the cause of the disease. The French physician Lavarán first recognized the parasite in 1880. Dr. Patrick Manson, English specialist in tropical diseases, thought that the mosquito might be responsible for its transference. He suggested the idea to Ronald Ross, young English Army doctor, whose imagination was fired. He set to work in 1895 to find the parasite in a mosquito. After two years search he finally found, August 1897, a female *Anopheles* mosquito which had recently fed on the blood of a malarious person with the parasite in the walls of her stomach. By 1899, Ross had been able to trace the whole history of the parasite in man and in the mosquito. The practical task that remained, and still remains after 40 years, is to prevent the parasite from completing its life cycle. This can be done in two ways—by eliminating the human sources of infection and by eliminating the mosquito carrier.

Efforts to accomplish the former and immunize the population of malarious districts by administration of quinine have generally proved unsuccessful. Limited funds and the contrariness of human nature are responsible. Not enough people will take enough quinine for a long enough time. Furthermore quinine may protect the individual but not kill all the parasites in the blood thus leaving the individual still a potential source of infection.

Consequently malaria must be controlled by eradication of the *Anopheles* mosquito. Which means that the problem is up to the entomologist and the engineer—particularly the latter since mosquitos are really vulnerable only in the larval and pupal stages which they spend in water. Water is the key to the situation and the civil sanitary engineer is a technical expert on the handling of water.

Much progress in the war on the mosquito has been made. It was successfully opened at Panama by Surgeon General William C. Gorgas. His experience was promptly applied in various localities in Britain's Colonial empire. In spite of a big major malaria belt of fourteen states nothing was done in the United States until 1913. Then Henry Rose Carter conducted with conspicuous success the first campaign in the United States for the control of

malaria. A permanent programme of investigation was initiated by the Public Health Service in 1914, and by 1919 demonstration work had been done both by the Health Service and by the Rockefeller Foundation. California has conducted such work for twenty years. Alabama, Virginia, New Jersey, Delaware, New Mexico, Illinois and others are engaged. Federal drainage projects under the Malarial Investigations Section of the United States Public Health Service employed 4000 men in 1934-35, installing 16000 miles of drainage ditches. New York city has carried on a great battle. The work of the Tennessee Valley Authority and its studies of the whole problem, the prevalence of the disease, the life habits of the particular mosquito concerned, the effect of vegetation in water, raising and lowering levels, use of fish for consuming larvae, paris green as an insecticide—all these and others are the type of problems to which it has contributed.

But Malaria still kills! Obviously there is great need still for educational work. Social customs and economic relationships must be considered. The poorest sections are most malaria ridden. They cannot finance their own salvation upon which the salvation of all depends. Is there to be local, state or federal aid? Would industries in malarial sections find malarial control cheap insurance against malarial loss and therefore sound economy?

In the meantime malaria spreads! The Greeks and Romans were ignorant. We have no such excuse.

E.B.

WILL WE WIPE OUT MALARIA ?

By

PAUL DE KRIUF

Country Gentleman, June, 1938

and

Reader's Digest, August, 1938

ABSTRACTED BY ELMER BERRY, Ed. D.

This article is an extremely interesting popular presentation of the discovery of atabrine as a cure for malaria and an account of its experimental application to several sections of the South in the U.S.A.

It presents the theory of attacking the mosquito-to-man-man-to-mosquito chain and wiping out malaria by curing men of the disease and preventing them giving it to mosquitoes as against the apparently, thus far, impossible attempt to wipe out the mosquito.

Exceedingly interesting information is given as to malaria in the South of the U.S.A., as to experimental work in the discovery and preparation of atabrine and as to atabrine experiments by Seckinger and Winchester in Calhoun and Glynn Counties, Georgia, where apparently amazing results in stamping out and controlling malaria were accomplished. The success was so astounding that confirmation must be demanded before 100% successes can be accorded. Meanwhile the article is highly recommended for reading as indicating another and hopeful method of attacking the entire problem.

E.B.

A Rice Grinder for Health

By

S. RANGASWAMY.

District Health Officer, Cocanada.

A FEW OBSERVATIONS ON RICE AS OUR STAPLE DIET.

Rice is an important staple food for a large part of the population of our country and particularly of this Presidency. There are a good number of varieties in rice. More investigation is needed to find out the subtler differences in their composition. This much can be asserted that the shorter crops are poorer in nourishing values than those that take the standard time for growth and maturity. So also can it be said that the crops grown in upland soil with the help of tanks or rains and proper manure are more nourishing than similar ones grown in the delta where, in addition, the land is taxed to yield more than one crop for a year. As years roll on and land yields crop after crop without receiving adequate manure to enrich the land the crops become poorer. With the increased facilities for growing this so-called superior crop more people are taking to this staple diet and entirely to it alone. The result is apparent that this delicate foodstuff is also making the consumers delicate as is apparent from a comparison with the physique of the people living on the cereals like ragi, cholam or wheat. Also the reduced longevity of life and increased prevalence of deficiency diseases prove the same fact.

This food-stuff is further subject to milling to make it into rice which process affects the usefulness of the articles deleteriously in at least three ways, namely.

1. It removes the bran which carries along with it the aleurone layer containing minerals, fat, glycerophosphates etc., completely.

2. The rice embryo is a very delicate substance attached to the side and at one end. This is destroyed and removed in its entirety. It can be asserted that all the vitamin value is present in this part of the grain only. What looks like an eclipse at the end of each rice grain, milled or even pounded, is the part occupied by the vital embryo.

3. Rice is easily the prey of fungus-like growths which can be observed from any sample of rice preserved for any short length of time especially in wet weather and moist places. The milled rice is more easily susceptible to this change. The difference is observed as patches in stored rice which becomes patent when thrown in glycerine or even water and observed by a lens.

It is quite possible that milling merely reduces the nutrient and biological value while storage makes it even poisonous. Anyway there are two aspects that not only is the food stuff rendered poor in its nourishing capacity

but it is also responsible under certain condition for producing diseases. Beri-beri is one such. It is widely prevalent and is on the increase.

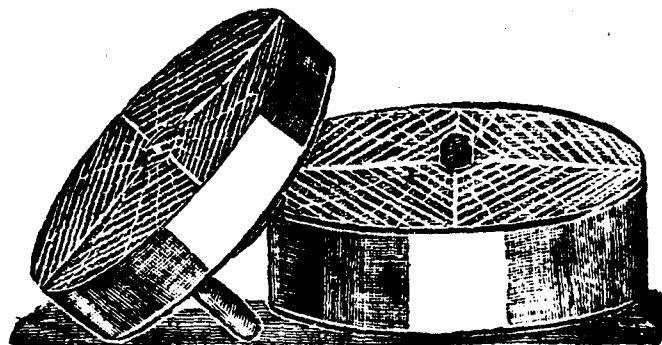
That this devitalised staple food is responsible for the present degeneration is the view held not only by scientists who are on special research in this branch of work but also by any experienced man of the older generation. After all it is the diet that makes the man. A weakened constitution easily yields to the ravages of other diseases like hookworm, malaria, consumption etc. The high infantile mortality as also the maternal mortality are not a little due to the deterioration in the national dietry. The attention of the public has at last been rightly focussed on this all important subject though nothing is yet being done to remedy the evil. The number of rice mills are alarmingly on the increase. The smaller mills with lower horse power are becoming more popular and every village is getting the disadvantage of at least one and sometimes more of these. Unemployment and the fact that the engineering companies are allowing these mills on instalment payment system is encouraging several persons to open more and more of these mills. Legislation and prohibition of these is absolutely indicated to prevent this whole national deterioration and racial suicide.

But until then :—It is an often repeated complaint that even in villages and more so in towns that particular type of labour cannot be had for pounding rice. Even these workers resort to mills. When there is more than one mill in a village the rates are competitive ; one mill tries to kill the other, so that the temptation to resort to mills is indeed too great for ordinary persons to withstand.

It has been observed above that pounding also is not the best form of preserving the delicate embryo in the rice grain and that some better process than even pounding is essential to make the rice complete in vitamen and nourishment contents.

A WOODEN GRINDER

A wooden grinder (see illustration) has been introduced which in its simplicity, cheapness and most of all efficiency is not surpassed by any other



method now in vogue. This is made of well seasoned babul or tamarind wood and is in two halves just like the stone grinder. The opposing-surfaces are

radially grooved and reduce the paddy to rice in the most satisfactory manner. Each block of the grinder is not less than 12 to 14 inches in diameter and 6 to 8 inches in height. The upper half rests on a pivot and friction between the two opposing surface is produced only when paddy is put in. These grinders can easily be made by any village artisan if a model is shown to him and he can also regroove the opposing surfaces which is rendered necessary after dehusking, say 10 or 12 bags of paddy. This grinder can easily make one bag of paddy into rice in 8 hours by one person. It is a leisure hour occupation for the house wife to provide the amount necessary, say, for a week for the family and the affording people can get it done by employing any person on daily wages. These grinders are available in many places in this district now and can be had through this office at prices of not more than three or four rupees for each grinder. The making of Grinders is a useful village industry.

Rational diet reform is alike necessary for the poor and rich. This is the foundation on which to build up any national reconstruction reform.

ANALYTICAL TABLE OF COMPONENT PARTS IN RICE OF VARIOUS KINDS AS DETERMINED BY THE NUTRITIONAL RESEARCH INSTITUTE, COONOR.

	Rice prepared in wooden Grinder.	Rice, Home pounded	Rice Milled.
Protein.	7.24	6.79	6.70
Fat.	2.33	1.42	0.73
Ash.	1.34	1.14	0.83
Carbohydrate.	75.04	76.19	77.34
Calcium (Ca) %	0.007	0.007	0.005
Phosphorus (p) %	0.231	0.209	0.158
Iron. (Fe) %	4.55	3.57	2.88 (?)
Caloric value.	350.1	344.7	342.7
Moisture.	14.05	14.46	14.40
Vitamin.	+ + + +	+	Nil.

It is also established that all the vitamin content is only in the embryo which is present only in the grinder rice.

Health for the Having

BY

WILLIAM R. P. EMERSON, M.D.

(Reproduced from the Readers Digest, May 1938, by C. C. Abraham)

"The most baffling fact about us human beings is our contemptuous and systematic disregard for health. In theory, a healthy body is our most prized possession; actually, we abuse our bodies as though they were laggard pack-animals. The marvels of modern medicine have so fixed our attention on the possibility of curing disease that we tend to neglect the positive value of maintaining health.

"To promote buoyant health we need only observe a few simple rules. And let us remember that it is often lack of system and persistence, rather than lack of knowledge which makes us forego the splendid dividends of feeling at our best. My recommendations are utterly commonplace; yet for all their familiarity they are still the summation of all that the wisest physician knows about health.

"With only moderate fidelity to four easy rules, new funds of energy can be released, most cases of indigestion banished, blood pressure reduced, and the major part of all sickness prevented. I have seen this happen in hundreds of cases where chronic fatigue, malnutrition and nervous irritability were threatening the very existence of an individual.

"If there ever was a golden cure-all, here it is: Fresh Air and Sunlight; Proper Food and Eating Habits; Regular Exercise; Adequate Rest. Despites all the marvels of medical science there are no other approaches to health. At the risk of being dull, I propose now to din into your ears the best that has been thought and said on these life-giving subjects.

1. "*Fresh Air and Sunlight*: Most living things degenerate rapidly without these twin necessities. When your energy is depleted and your muscles have lost their tone, pills and tonics are not the remedy. What you need is persistent exposure to fresh air and sunlight. But many will say, "Tell us, how can we city dwellers enjoy these prized commodities?" For instance, a clerk recently wrote me "My desk is situated some distance from the windows. At night I ride home on the bus just in time to see the last rays of the setting sun. What can I do about this hopeless situation?"

"Instead of indulging in self-pity this man could plan his day as follows: let him rise earlier, walk at least part way to work, and get half an hour in the clear morning air. Instead of lounging indoors during his lunch hour, he could walk or sit in the open sunlight for 20 minutes. At night he could walk the pleasantest part of his way home, and get to bed by 10-30 p.m. instead

of playing cards until midnight. Thus he could get air, sunlight and exercise on working days, and keep his week-ends free for life in the open.

2. "*Proper Food and Correct Eating Habits*: The science of dietetics has progressed enormously in the past 15 years, but our eating habits grow steadily worse. We habitually overeat, gorging ourselves especially with starch and sugar. Fast eating has become a national bad habit; 70 percent eat with nervous rapidity, like stamping machines performing a rush order. Inevitably, we pay for our speed-at-table with a long list of digestive ailments, ranging from sour stomach to intestinal ulcers. Simply by halving the speed of eating, we could more than halve our sufferings from indigestion. All the sodium bicarbonate in the country cannot undo the digestive damage caused by unchewed food, feverishly washed down with various drinks.

"There is no such thing as a universal diet, ideal for all, but there is an ideal way of approaching food. I almost believe that one could eat all kinds of food if he consumed them leisurely, sparingly, avoiding noise and confusion during mealtimes. Under no circumstances should you eat while you are angry or excited. If necessary, eat alone; do not try to carry on a brilliant conversation or business conference over a heavy lunch; this combination is responsible for many digestive ills. Surround yourself with a wide halo of relaxation, and your food will be transformed into efficient fuel on which the life-flame will burn contentedly.

"Above all, never eat when you are overtired. Food lies undigested in the tired stomach, producing needless gastric complications. To avoid these, make it a firm rule to rest for half an hour before the evening meal. Lie down on a bed, in a room with windows open. Clothing should be removed, or loosened; the face turned away from the light. In this manner, maximum nervous and physical rest may be obtained even though we do not sleep. Irritability and fatigue disappear, we are well-tempered, refreshed and prepared to spend the evening like human beings.

3. "*Regular Exercise*:—No horror artist could adequately portray the flabby degeneracy—muscular and organic—that has attacked the modern man and his mate. I once saw a middle-aged woman on the operating table; to reach her appendix the surgeon had to cut through pendulous layers of yellow goose-like fat, approximately four inches thick! One-third of this human creature was sheer grease—impeding circulation, laying a frightful burden on heart and liver. No operation could ever make that woman healthy; no cathartics could possibly relieve her constipation. What is needed is a rational system of exercise which will call into function the degenerated muscles and organs of their inert, comfort-smothered bodies. The vaunted comfort that science has given us in modern life must be counteracted by a conscious physical effort on our part. Mortality increases one per cent for every pound of overweight, which is usually the result of excessive eating and insufficient exercise.

"To prolong life and tone up our atrophied muscles and organs, we must take a workout of some kinds three times a week, followed by a hot bath and rest period. Games, walks, outdoor chores such as gardening, carpentry, or even mowing the lawn, should be indulged in regularly. If these are not possible, a simple routine of setting-up exercises should be followed. Naturally, a commonsense attitude must be adopted toward exercise; excess is as bad here as elsewhere. But it is safe to say that optimum health cannot be enjoyed by any person of any age unless regular exercise is taken.

4. **"Adequate Rest:** By this I mean two things: sufficient sleep and occasional let downs in tension. At the end of a day our bodies are like depleted electric batteries drained of every spark of surplus energy. This fatigue attacks us not only physically, but in the higher centers of judgment, initiative, and personality. Every creative and professional person knows that when fatigue appears in the later afternoon judgment is not to be trusted, decisions are dangerous to make. Workmen know that their skill is impaired, that accidents are likelier to occur around four p.m.

"A noted neurologist remarked. "Avoid fatigue as you would avoid the Devil." In our strenuous living how can this be done? A rest period of even five or ten minutes before the midday meal is a lifesaver in our high-pressure living. A vigorous friend of mine tells me that he frequently lies flat on the floor. Do anything to break that tension, which files away at our nerves like a rasp.

"Social demands often make it difficult to get to bed early, but the not-to-be-dodged fact is this: no one can enjoy good health who grinds away at business all day, then throws himself with redoubled (and often forced) energy into social diversions that keep him up half the night. How in the name of common sense can a person play cards still two in the morning and then expect to feel "healthy" the next day? What pills can restore that squandered energy? Patients come into my office complaining of that "Stale sunken feeling." They are indeed sunken—into a pit of fatigue from which only eight hours of regular nightly sleep can ever rescue them.

"Change and diversion make for both mental and physical well-being, but excess becomes dissipation. There is a limit to our energy and we may become as stale in our living as the athlete in his training. Therefore the regularity of eight hours of sleep should not too often be broken.

"Happily, however, it is never too late to put one's feet on the road to health. We need only remove from our lives the cruel pressures of wrong habits, and the native resiliency of health will reassert itself. The primary job is to obliterate the faulty habits. Check over your daily program; observe where the errors occur. Then if you systematically and persistently set about eradicating them, meanwhile emphasizing the essentials of proper living, you will indeed be an exception if you are not blessed with a marked and permanent improvement in health."

Physical Education the Best Health Insurance*

BY

THE HON. DR. T. S. S. RAJAN,
Minister for Public Health, Madras.

The importance of the correlation of the mind to the body in any system of physical education was emphasised by the Hon. Dr. T. S. S. Rajan, Minister for Public Health in the course of his inaugural address to the Students' Association of the Y.M.C.A. College of Physical Education, last evening, Mr. H. C. Buck presiding.

Mr. Buck welcomed the Minister to the College and said that they of the College of Physical Education and the Minister for Public Health had very much in common. They had realised that much of their physical education would count for nothing until the general level of health of the country was improved.

Mr. P. M. Joseph introduced the students of the College to the Minister and said that the College attracted people from different parts of India and from abroad. They had also people belonging to various religions. They aimed at developing a sense of brotherhood and the College was therefore not only giving training in physical education but also was a centre where a spirit of all-India unity was being promoted in a real and practical manner.

The Hon. Dr. T. S. S. Rajan said that the problem of health, as was being embodied in the education given to them, was a matter of prime importance to every one of them. He was one of those who believed, Dr. Rajan continued, that the spirit, the mind and all those fundamental things which were not physically perceptible perhaps formed the basis on which the whole human life was based. Correlation of the mind to the body was the secret of all physical education. He could not persuade himself to believe that the full results of physical education could ever be attained, if mind as a factor was ignored. According to Vedanta philosophy, mind was also matter and if physical development was only of the body and not of the mind, it would be incomplete. Raja Yoga was based on this principle and a man who practised it developed more than ordinary human powers. He would be physically a giant and mentally alert.

LAWS OF HEALTH

When God thought it was necessary that men should come into this world, Dr. Rajan proceeded, He could not have invented disease so that they should suffer from it. God was the God of love and truth. The speaker had

Address to the Students at the Y.M.C.A. College of Physical Education, August 23, 1938 and reported by "The Hindu," Wednesday August 28, 1938.

no room in his heart for a God who would punish him. When men violated the rules of God, they suffered from disease. The fault was their own and not God's. Violation of natural laws of health was an offence against God. Disease was the result of wrong life led by people individually or collectively. Medical men should be there to give health and not for curing disease. Doctors should be paid to ensure health. They in India had lost consciousness of all loss of health and also lost consciousness of sanitary life. Therefore it had become necessary to devise a conduct of life and healthy existence so that they could ward off diseases and at the same time ensure healthy existence, which simply meant happy life. As a Minister for Health it was with despair that he looked on at the ravages caused by diseases which could and ought to be prevented. Other countries had been able to ward off many diseases by adopting sanitary methods of life, good food and well-conditioned life. What was needed in India to-day was a national health policy. The enormous death rate was a serious blot on their national life. The average life of a citizen in India was only half of what it was in progressive countries of the West. A national health policy must take note of this fact and an endeavour should be made to make them live a longer and more purposive life, which would add to the sum-total of general happiness in the world. In the interest of general well-being, India could not be excluded from the picture in modern times. Quick communications had brought countries of the world nearer to one another. India was on the route of international air transport and the danger of yellow fever spreading to India had been realised. If that disease took root in India, it was bound to take an enormous toll of life. In the interest of the well-being of the human race, it had necessarily become the duty of all nations to protect themselves against diseases. They, in this country, should take note of the very many diseases prevalent in the country and should have the charity not to distribute them to other people. It should also be the endeavour of every one of them to prevent diseases.

SLEEP AND DIET

As he had said, Dr. Rajan continued, ill-health was produced by men's own fault. Physical education must be a health insurance of the highest sort. Physical training, therefore, should be coupled with an ideal nutritional diet. He would suggest to them to adopt the Punjab diet and to maintain a record of its effects. That would prove very valuable to those interest in health matters. In the scheme of health education, they should not forget the place of sleep. Good dreamless sleep indicated good health. They could also maintain a record of the amount of restful sleep each had and the exercise or exercises which helped to give a sleep.

Dr. Rajan said that the students of the College should be the standard bearers of health in this country. Every one of them had a mission to perform. They had to give to the people of the country who were in need of health, what they had obtained from the College. The condition in their villages was

bad. Starvation was the lot of their villagers. Even more troublesome than that was the lack of mental hilarity. They were an unhappy lot leading a hum-drum life. He would ask them to go to the villages, give the young men there, the type of sports natural to them and make them laugh and run about for an hour or two every day. This would be a great service they would be rendering to the country. Such a form of national activity in villages was necessary as a part and parcel of their national regeneration.

AFTER PROHIBITION

The Madras Government having come to the conclusion that liquor was injurious to human life, had introduced prohibition in Salem. This would be extended to other districts also. To bring cheer to those who were habituated to derive pleasure from alcohol, they had introduced rural physical exercises, sports and games. They had brought into the picture policemen also because they had undergone a certain amount of physical training. They had made the policeman shed his imperial status and made him realise that he was a friend of the poor and that it was his duty to help honest citizens to be healthy and cheerful. So far they had been told that the experiment was a success. If it gave the much-wanted relief to village life, the experiment would follow the track of prohibition from district to district. The quicker the progress of prohibition the faster would be the progress of physical education. This facts he had emphasised because, he wanted to impress upon them that alcohol acted as poison to their system.

With a few remarks from the chair, the meeting terminated.

Old Boys Notes

BY

G. W. TRUTWEIN, B.A.

E. V. Karthigesan—1937-38—is now physical instructor in the Government Training College Jaffna. His enthusiasm for improvement exercises has its grip upon him still.

G. V. Narasimha Rao—1935-36—has been appointed as physical instructor at the Hindu College, Guntur. He has a bright vision of the possibilities of a physical training programme for his College and we wish his venture every success.

S. V. Ghurye—1935-36—is Director of Physical Education in the R.R. College Bombay. He is doing his bit for the noble cause and carrying out a very progressive programme coupled with extensive study.

Daljit Singh—1937-38—has our congratulations on his being appointed as Physical Director in the Sikh National College at Lahore. He has had much spade work to do to foster a right attitude toward physical education in the College, but the best is yet to be and we wish him good luck.

S. P. Bhut—1937-38—is entrusted with the compulsory physical training programme of the Samaldas College, Bhavnagar. He envisages the building up of a very effective scheme of physical education in and around his local centre. He has made a good start in the right spirit and we feel sure that he will make as firm a hit in his new work as he did many a time on the 'green' at Saidapet.

R. R. Gupta—1937-38—is at work as Physical Instructor in the Commercial High School, Delhi. His only grief is that he misses the compact playing fields at Saidapet.

D. J. Samuel—1936-37—of the Bishop Hiber High School, Puthur has given a great account of himself in the recent Ayyalur train disaster. His services have had the publicity they deserve from the leading newspapers and we do not need to relate the details of the brave assistance he gave at a time when trained helpers were so few and far between. His is an example which not only proves the worth of the practical first aid learned at the College but lends strength to the living worth of the months spent at Saidapet. It is on mention that D. J. Samuel is in the run for the K. I. H. More honour to him!

P. I. Joseph and S. M. Victor Chelliah—1937-38—are both in charge of the rural recreation experiment started last July by Mr. P. M. Joseph at Rasipuram in the Salem District. They are both very

busy in strengthening the beginning of a unique project as much as building up a new interest in games and recreation in villages which only know the gossip and rancous jocularity of the toddy shop and gambling den. It is hard work but their interest is in it and we wish them every luck in their efforts.

K. Y. Mangrulkar—1936-37—of the Spence Training College, Jubbalpore has had his share of hard times in the launching of a very promising scheme of physical education in his College. He has stimulated new enthusiasm for the value of physical training and games as a vital part of student life with particular reference to the coaching of beginners in 'Amateur clubs'—quite a novel useful experiment in fostering a scheme of physical education in Colleges where there are many physical illiterates. We follow his further development with keen interest and would wish him every success.

Hans Raj Ghai—1937-38—has begun his work as a Physical Educationist in the Arya High School, Ludhiana. After tiding over his initial difficulties he has on hand a very useful programme to meet to best advantage his peculiar situation. His is not easy going. But he can rest assured that the lack of facilities towards the best results, in a handicap which many another at the start has to overcome. It may be the luck of the swift. We wish him all of the best and shall follow his progress with interest.

K. N. Datta—1937-38 after a period of unsettlement has our congratulations in his new job of work as Physical Director in the Government College, Cambelpore, Punjab. He has every mind to better the past and we wish him continual strength of courage to make his dreams come true. All our good wishes are with him.

Notice—All Old Boys should notify the College promptly when out of work, when appointed to a new position, or when desiring to be considered for a new position.

It will greatly assist also if you will inform the College of positions that you may know to be open and if you would encourage such institutions to correspond with the College.

College News

BY

A. NARAYANASWAMY, B.Sc. (HONS.)

General: The first term of our College life ended very happily with a week's camping at Covelong. We had a very pleasant time there. Thanks to the untiring energy and able leadership of Mr. Mia. After the camp nearly half the student body had a very enjoyable visit to Mahabalipuram.

The students are by now fully in the swing and spirit of the College.

College health: There are fewer sprains, strains, dislocations, and other health break-downs this year; anti-typhoid inoculations were over in the beginning of the first term. Anti-hookworm campaign begins shortly! The second term has begun—as usual—very vigorously.

College Cricket: Our team, which was bidding very well for the Inter-collegiate championship this year, sustained an unthinkable defeat (by 3 runs only!) from the Pachaiyappas College team. Well! That is cricket! Better luck next time!

College Hockey: In this game our fortunes are balanced. We have lost as many matches as we have won! So no nerve shattering anxiety for the championship!

College Football: We have not tried our talents against any outside team yet. We 'believe' we have a good team.

Lectures: This year, the inaugural address of the Students' Association was delivered by the Hon'ble the Minister of Health, Dr. T. S. S. Rajan. Very recently Dr. Paul Russell gave an illuminating lecture on 'Malaria' at Massey Hall.

Feasts: "Deepavali" feast was celebrated with great zest and merriment by the Students. A grand dinner, fire-works and songs by several students comprised the programme. Many happy returns!

Mr. P. M. Joseph: Mr. Joseph left us in the end of the first term to assume his new responsibility as Principal of the Physical Training College, Bombay. We miss the genial presence of Mr. Joseph from amidst us. But it makes us happy to think that he serves the same cause in a bigger capacity in a sister province. We wish him success at every stage.

Mr. C. C. Abraham: Very recently we have heard from Mr. C. C. Abraham of his safe arrival at New York City and of his bewilderment at the stupendous buildings there. We wish him a happy stay and grand success at Springfield College.

Book Reviews

A PROGRAMME OF PHYSICAL EDUCATION FOR GIRLS' SCHOOL IN INDIA

BY

MRS. H. C. BUCK, M.A.,

Women Specialist in Physical Education to the Government of Madras.

Published by Humphrey Milford, Oxford University Press, Madras. 12" 376 pp. 1938 Rs. 3-12-0.

Physical Education for Girls' Schools in India is still very much in its infancy. A practical handbook indicating the principles upon which a programme could be built was greatly needed. This Mrs. Buck has provided.

After a general discussion of the principles of physical education for girls' schools and of the 'Instruction Period' and the 'Play Hour' each age group 5-7, 7-9, 9-11, 11-13, and 13-17 is taken up and carefully analyzed. Their characteristics in physical development and their skills in character development, in intellectual development, in emotional development and in social development are presented. Then the abilities in physical skills, social skills, civic skills, and character skills which the teacher should attempt to secure are outlined. The developments which may be expected are indicated and finally a carefully selected programme of activities, arranged in fortnightly periods, is given. This programme is planned not only for each age-group but also for small and large space schools.

The last half of the book describes the activities which have been included in the programme. Chapter VIII, covers games and races, classified according to the skills which they develop; Chapter IX, is devoted to story plays; Chapter X, relays; Chapter XI, rope skipping and Pandi; Chapter XII, breaks and dismissals; Chapter XIII, kindergarten rhythms.

Appendix I, gives the play equipment needed for a girls' school; Appendix II, indicates how to lay out games courts; Appendix III, gives the rules for games, particularly teniquoit, throwball, netball, and playgroundball; Appendix IV, gives hints on umpiring.

Teachers of physical education will find this book exceedingly helpful and regular teachers who must carry some physical education work will find it a storehouse of valuable material ready to hand for their use. Mrs. Buck has brought together material from many sources and classified it according to the age-group for which it is fitted with a statement of the reasons for this adaptation. It is thus, in effect, a psychological and sociological study of physical education activities in relation to Indian girls' age-groups.

E. B.