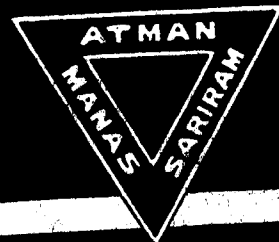


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A Quarterly Journal of Physical Education.



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AUGUST, 1940

The Health of Children

News and Views on Physical Education and Recreation

Progress in Physical Education in Madras Province

Extension work of the Y.M.C.A. College of

Physical Education

Efforts at Health Education



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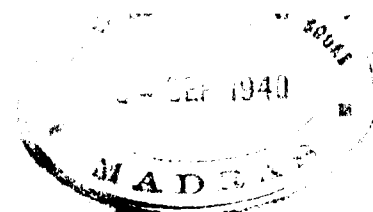
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Editorials

ANOTHER MILESTONE IN PHYSICAL EDUCATION

In this issue we publish the recent proceedings of the Director of Public Instruction requiring schools to keep and publish records of pupils' ability and progress in physical education activities. There are also some suggestions from the Advisor to Government on Physical Education to help in implementing the requirements. This all came about because of the feeling in many quarters that physical education should be made an examination subject. That worthy aim was not realized but the next best step was taken, that of keeping careful records of work attempted and accomplished in physical education. The value of this lies in the fact that schools will need to depart from a narrow ineffective programme of drill alone, or of some other one activity alone, and begin the development of a rational comprehensive programme of activities. This departure will be necessary to make it possible for pupils to participate in the variety of activities required to enable them to develop the variety of skills and habits which must be recorded opposite their names. It will call for more and better instruction in physical education, for more time for physical education, for more and better pupil guidance, and for more highly qualified leadership in the field of physical education. Schools will devote more real interest and attention to physical education, pupils will have more of an incentive to participate, to improve, to develop pride in body, health, and physical proficiency. It is meant to be an incentive, a stimulator to more rational and more constructive physical education. It should be welcomed wholeheartedly and put into operation with joy and zest. It should have happened years ago.

STATUS, SALARY SCALES, AND SERVICE LOAD OF PHYSICAL EDUCATION TEACHERS

Almost every day we receive letters from our trained, qualified physical education teachers from all over the country complaining that educational institutions load them down with all kinds of work except that of physical education. The common complaint is that they are not given an opportunity to develop an adequate constructive programme of physical education, that educational institutions are merely fulfilling the requirements by having a physical education teacher on the staff, but doing work other than physical education. If this complaint can be sustained we can easily understand why so many institutions have such ineffective programmes of physical education. In all institutions the physical education teacher must first be given full opportunity to develop an adequate and effective programme of physical education. When this first responsibility is honestly and constructively fulfilled he should not object to doing other work provided his number of working hours is as carefully safeguarded as is that of other teachers. For classroom teachers there is a carefully worked out teaching-load or service-load. The same should be applied to physical education teachers. It matters not

whether their work comes before, during, or after regular school hours. The number of hours of work per day per week should be on the same basis as that for class-room teachers. The physical education teacher should be given the same status and the same service load as any other teacher, but he should be permitted to give adequate time and attention to physical education and not be so burdened with other work that physical education has to be neglected.

In so far as salary scales are concerned many complaints made by physical education teachers are fully justified. Years ago when India was satisfied with illiterate drill masters a very low salary scale was established for them. But to-day we employ qualified, educated, intelligent physical education teachers. And although great progress has been made in quality of teachers and quality of work, there has been no improvement in salary scales. We implore educational institutions to consider this defect to be a serious one and to do the sporting thing of improving salary scales in proportion to the improved quality of physical education teachers.

News and Views on Physical Education and Recreation

By

C. A. ABRAHAM, B.A.

The World of Sport and the War

One of the immediate effects of the war has been the curtailment of all sporting activities in practically all parts of the world. The only parts of the world where the normal state of things continue are the American States, excluding Canada. The life of the nations has been completely upset. In England, the playing fields have been converted into aerodromes, farm lands or parade grounds; the big tournaments have all been cancelled or curtailed. Recreation is now the luxury of the very few. In France and other occupied countries the situation is worse. Instead of using the summer sunshine and the warm weather for pleasant, recreational and health-giving physical activities the nations are using this the best part of the year for mutual destruction. When the world will get back to normal no one can prophesy.

This sudden world upheaval has made one or two things quite clear. Physical activities certainly make stronger and healthier bodies. To make an A-1 nation the development of the physique is all-important. One may not agree with the aim of such physical development—for military purposes, but one cannot deny that the methods employed have produced remarkable results.

Perhaps, an even more important conclusion is about the inadequacy of the mere physical development to make the world a better place to live in. Think of all the talk about the sportsmanship, international good feeling and other similar fine sentiments which were freely used in connection with world competitions. What have they achieved? The World Olympics certainly produced a great many fine physical specimens with remarkable abilities; but did they stop international jealousies and suspicions? It is a sad state the world is in now. The lesson we might learn is that activities and competitions and world records are in themselves of no ultimate value. What we want is physical health plus some other things which make life worth living. Physical training is not enough; what we need is physical training plus something. We might call it physical education, physical training supervised by intelligent and understanding leadership which goes beyond the mere training of the physique.

With this terrible war on there is little by way of sports news. The nations have given their thoughts to war; the newspapers have limited space for the Sporting Column. Hence, for a time, at any rate, we shall have only scanty news of what goes on in the world of sport.

CRICKET

The Marylebone Cricket Club

The august M.C.C. is following precedent this wartime. As in 1915, their committee have decided to invite their President to remain in office. He has consented.

The President is Sir Stanley Christopherson, who succeeded Earl Baldwin in 1939. He played in England v. Australia in 1884. His County is Kent. Sir Stanley was also a great hockey player, and captained England in 1897-98 and 1898-99.

An important wartime regulation is that, having regard to the membership of the club falling below the limit of 7,000 in consequence of the War, the committee have decided to recommend at their annual general body meeting that they be authorised to elect, if necessary, each year until hostilities cease, over and above the 300 sanctioned in normal times.

What with the universal six penny gate at Lord's, lack of Test match revenue, and the demands of the Red Cross Fund, there will probably be an adverse balance on the next financial year. However, the M.C.C. can afford it.

The Board of Control for Cricket in India.

A meeting of the Board of Control for Cricket in India was held in Calcutta on the 20th April 1940, with Dr. P. Subbaroyan, President, in the chair.

The President announced that he had been in communication with Mr. Frank Terrant, the well-known Middlesex and Australian cricketer, with a view to bringing out an Australian side to India.

The Board authorised the President to inform Mr. Terrant to abandon the idea as the financial terms put forward by him were too heavy. The President was authorised to explore further avenues to bring out an Australian team which was to include first class active cricketers.

The draft rules of the Board, as revised and drafted by Messrs Pattabhiraman and Sell, were considered and adopted with minor alterations. The meeting unanimously passed a resolution to register the Board of Control for Cricket in India under the Societies' Registration Act XXI of 1860.

The reports of the Umpires' Sub-Committee and the report of the Sub-Committee on professionalism were adopted.

A letter from Ceylon was considered and the Board decided that if Ceylon toured India or played a few matches all expenses should be borne by them and a percentage of the gate money be divided. The same terms would apply to an Indian side if it visited Ceylon.

Famous Indian Cricketer Dead.

Mr. L. Amar Singh, the Indian Test cricketer died on 21st May at his residence, "Cricketer's Cottage," Jamnagar, of pneumonia. Mr. Amar Singh was 30 years old.

Amar Singh was born on December 4, 1910. He was a fast medium bowler of exceptional ability, a useful batsman and a lightning fieldsman. He visited England with the Indian Cricket team in 1932 and was the most successful bowler with 111 wickets; he scored two centuries. His outstanding display on this tour was in the Test match at Lord's when, in India's second innings, he scored 51, helping Lal Singh to add 74 runs for the 9th wicket in 40 minutes.

When the Indian team visited England in 1936, Amar Singh, who was at that time a member of the Colone Club in the Lancashire Cricket League, was released by that Club to play for India in the three Test matches. On that tour he bowled with considerable intellectual application to capture 6 wickets for 35 runs in the first innings at Lord's. Playing in seven matches he was second in the list of bowling averages, capturing 26 wickets for 611 runs at an average of 23.50.

An aggressive batsman, he had scored several centuries in representative matches including the Ranji Trophy. In 1934, he scored a century in 22 minutes in a tournament at Rajkot, which is a world's record.

He had played regularly in the Bombay Quadrangular and Pentangular and was a great standby to the Hindus.

His complete bowling analysis for the Tests against Lord Tennyson's team that toured India were:

First Test: 4 for 69 and 1 for 49.

Second Test: 2 for 45 and 2 for 57.

Third Test: 4 for 65 and 4 for 76.

Fourth Test: 5 for 38 and 6 for 58.

Fifth Test: 5 for 47 and 4 for 95.

At the close of the Madras Test in 1938, Lord Tennyson paid a tribute to Amar Singh, saying that he considered Amar Singh next only to O'Reilly. This is no mean praise and Amar Singh richly deserved it.

Dr. Subbaroyan, President of the Board of Control, on hearing of his death, said: "I was deeply grieved to read of the death of Amar Singh, our Test bowler. Mr. Jardine, who toured India with the M.C.C. team as its captain, described Amar Singh as the best medium-paced bowler in the world. With his short run and his body action he was able to get a great deal of pace off the pitch and very often reminded one of Tate, the English bowler.

"He was a lion-hearted cricketer and was a very useful hitter when the occasion demanded it. He has been taken away very young and Indian Cricket is all the poorer for it. I had hoped Amar Singh had many years of international cricket before him and in the Indian team his place will be hard to fill."

Sir Pelham Warner, in a letter to the Secretary of the Board of Control in India, writes:—

"I write on behalf of the Committee of the M.C.C. to express our deep sympathy on the loss which Indian cricket has sustained in the death of Amar Singh. He was a great cricketer and an outstanding personality on the cricket field whether in batting, bowling or fielding.

"I should like at the same time to be allowed to express my personal sympathy. In my opinion, Amar Singh was so fine an all-round cricketer that were a world eleven being chosen among modern cricketers, he would have had to be very seriously considered for a place.

"I have the most vivid memories of his splendid batting, bowling and fielding in the Test matches both in 1932 and in 1936."

M. A. Noble Dead

M. A. Noble, the former Australian Test captain, died on June 22. He was 67 years old. In his death the game has lost one of the greatest of all cricketers. "Monty", as he was familiarly known among his friends, was a brilliant all-rounder but it was his leadership that won for him undying fame.

During his career Noble collected 37 centuries, including four in succession during the two Australian seasons 1898-1900, in the Sheffield Shield matches. He made four visits to England (1899, 1902, 1905 & 1909) and led the tourists in the last mentioned year.

After retiring from the game, Noble became one of the foremost writers on the game and a stern critic. He was the author of the book "Fight for the Ashes."

Jack Hobbs pays him a great tribute and says, "I regard M. A. Noble as the greatest of all the captains."

P. F. Warner, in his "Book of Cricket", refers to Noble thus: "Noble always gave of his best when things were going against his side, and determination was a distinct feature of his cricket. Noble was a splendid sportman, as true as steel, a generous winner and generous loser."

Don Bradman

A message from Adelaide dated 28th June said that Don Bradman has enlisted in the Air Force and is now waiting to be called up as an air crew member.

It may be remembered that most of the famous English cricketers have also joined the Air Force, including Hammond.

FOOTBALL

Chinese Footballers' Visit

Negotiations between the Western India Football Association and the Chinese Football Association resulted in the decision to arrange a tour for the Chinese team in India in July. The team was formed and it even came as far as Burma where it played a series of matches. Then it was announced that the Indian tour had to be given up as there were difficulties about granting the team their visas. It is hoped that when the present political tension is eased and when nations get back to normal times such friendly exchange of visits would become again possible.

Invitation from Natal

The All-India Football Association had received an invitation from Natal to send an Indian team to tour South Africa. The invitation has little chance of being accepted, one of the reasons advanced being the alleged strained feelings in the Union over the colour bar question.

Inter-Provincial Tournament.

There is a proposal now to conduct an Inter-Provincial tournament in Football, same as for Cricket, Hockey and Tennis.

New Ground for Mysore Association

Henceforth, the Mysore Football Association will be conducting their football tournaments on their new ground situated at the Doddakere, opposite to the East Gate of the Mysore Palace.

It is learnt, that Sir Mirza Ismail, the Dewan of Mysore, will formally declare open the new ground during the second week of August.

The opening ceremony will be marked by an exhibition match between the Bangalore Muslims, who recently won the All-India Tournament at Mysore, and the All-Mysore Football XI.

TENNIS

As may be expected, there will be no Davis Cup and no Wimbledon Championships this year. There is no likelihood of reviving them until hostilities cease.

There will, however, be a Wimbledon meeting. Plans are in hand for two days of lawn tennis on the No. 1 Court, in favour of the Red Cross Funds. This will mean that well-known British and other stars will be able to appear if they are able to obtain leave, since the sport of lawn tennis, both professional and amateur, is represented in all three services.

J. Borotra.

M. Ybarnegaray, Minister of Youth and Family, in the Petain Government of France, has decided on suppression of sport as a profession. He will appoint Jean Borotra, the famous tennis player, as Director of Sport.

TRACK & FIELD

Spiros Louis Dead

An Athens message dated 26th March said: Spiros Louis, winner of the First Olympic Marathon race in Athens in 1896, died at the age of 72.

Indian Team for Ceylon

The Indian Olympic Association has decided to accept the invitation of the Ceylon Amateur Athletic Association to send a track and field team to Ceylon in October this year.

The Ceylon Association has proposed the meeting of the best athletes of India and Ceylon. There will be 13 or 14 events and India will send her best men, winners of the different events at the last Olympic Games at Bombay. A Sub-Committee consisting of Messrs N. Ahmed (Bengal), S. K. Mukherjee (Bombay) and Mon-ul-Huq, Honorary Secretary, will settle all details of the tour, choosing the team, etc. The officials of the tour will be chosen by the President.

World Records

It is amazing how the records, or rather the standards, in the various events continue to improve. Often one is led to think that the peak of human achievement is already attained and that no more new records could be made. However, the records are being broken and we seem still far away from the highest limit. Unfortunately, the war has put a stop to all athletic meetings and even after the war is over it will be many years before the youth can come to the world standards. Meanwhile, the Americans are forging ahead.

Pole Vault

Cornelius Warmerdam of San Francisco had the distinction of breaking the world record for Pole Vault twice in the same year. The official record for Pole Vault is 14ft. 11ins. jointly held by the Californians, Bill Sefton and Earle Meadows.

On 15th April, Cornelius Warmerdam set up a world record by clearing 15 ft., at Berkley, California. On June 30, he did one better and cleared 15 ft. 1½ inches at San Francisco (California) in the National Amateur Athletic Union Track and Field Championships.

Low Hurdles.

Fred Woolcott broke the world records for 220 yards hurdles with 22.5 seconds, and 200 metres hurdles with 22.3 seconds beating Owens's time of 22.6 seconds in each event, at Princeton (New Jersey, U.S.A.).

A new record for the Hammer Throw for India.

At the twelfth meeting of the Inter-Railway Athletic Tournament held at New Delhi in March, K. W. Perrett of the Eastern Bengal Railway created a new India record in the Hammer Throw, the distance being 135 ft. 8½ inches, which is exactly five feet better than the All-India record recently created at Bombay.

ROWING

Boat Club for the Annamalai University.

The Annamalai University is shortly to have a Boat Club and students and members of the Club can row along a beautiful bean-shaped canal, which is about ten furlongs in circumference, with a width of about eighty feet. Water will be obtained from the meandering Khan Saheb Channel on the north and it is expected that an average depth of eight feet will be maintained all through the year.

The whole canal encloses a vast area of more or less even ground, which the University hopes to raise and utilise as a special cricket-oval. The boat house itself lies contiguous to the present cricket field and fits in with the plan of buildings in the University.

"EPICENE GAMES."

The following is taken from the Administration Report of the Madras Public Service Commission for 1938-39:—

"First-class B.As. and M.As. were poor in physique and personality. Many of these believed that excellence in epicene games like badminton, volleyball and basketball were tests of physical endurance and equipment."

If pronouncements like this were made by unimportant persons or bodies they may, perhaps, be left entirely alone. But, the Madras Public Service Commission is not an unimportant body; it is a most important body on whose judgment the future of hundreds of young men depend. Unfortunately, some of these important bodies have a habit of passing judgement without knowledge of the facts. To call a game like basketball epicene is, to put it mildly, evidence of a lack of knowledge. The implication is that these games are "soft" games and that it is not to one's credit to say that he is proficient in them. It is hard to find a game these days that is not played by both men and women alike. Hockey, Cricket, Soccer, Swimming, etc., are all practised by both sexes. It may be interesting to note that the so-called manly games like hockey are played exclusively by women in some countries. If some of our Olympic Hockey players were to appear before similar Commissions in such countries their claim to manliness would have little chance! It would be a good thing if Members of the Commission could witness a good game of basketball.

IN LIGHTER VEIN

The following editorial comments of *The Hindu* may be found to be of some interest:—

Eat More Soap—(27th June).

An apple a day may or may not keep the doctor away, but a cake (of soap) a day or at appropriate intervals would appear to keep the 'flu away. Two scientists of New York University have been experimenting with soap, influenza and mice. For, as far as diseases are concerned men and mice are pretty much in the same pickle. So our American scientists set about their business of fighting 'flu with suds. Like modern witch-doctors they made a brew from the minced lungs of 'flu-infected mice, which was potent enough to kill healthy mice even if diluted a million times. But when the lethal liquid was mixed with equal amounts of soap, allowed to stand for ninety minutes and injected into scores of normal rodents, none of them went down with 'flu; nay, they laughed at large doses of the straight virus. It now only remains for the experiment to be tried on the human. The scientists in question have not been able to do so; but surely there is enough spirit of adventure and service left in this world to induce some to blaze a new trail via the soap. At any rate you need not feel such a martyr the next time you swallow a mouthful of soap suds in the barber's chair.

Cobras and Curative Art. (11th July).

The Cobras of Bhopal may still go down in the history of the curative art. That is, if a claim made by the State Conservator of Forests is proved to be well-founded. For some time now, it appears, regular round-ups of these deadly reptiles has been going on. The purpose is to bury them in sugar-cane fields. Crops raised on this "manure" have earned a reputation as a specific for tuberculosis. The State Conservator, who first cultivated this "tuberculosis" cane (as it has been named), is stated to

claim that reports received by him from reliable sources in and outside Bhopal have proved the efficacy of this particular type of sugar-cane in the "most chronic and obstinate cases of tuberculosis." The "treatment" is as simple as the remedy itself and consists in the patient chewing a tiny piece of the cane every morning for some time. Considering the known fact that tuberculosis is a disease whose ravages have been as heavy as its treatment has been difficult, the cobra-manured cane might sound too simple to be convincing. But the beneficent properties of the cobra venom have already been tried with success in the case of a rare but troublesome malady. While it would be unwise to raise false hopes, it would be equally foolish to dismiss claims merely because they appear "too good to be true." At any rate, they are worth investigation by medical science. If God fulfils Himself in many ways it is the business of science to reveal some of the mysteries of creation and discover the reason for the existence of things which at first appear to be purposeless accretions. The greater the success of science in this direction the less wanton will appear our habit of destroying apparent superfluities like the cobra and the vermiform appendix.

Play and Exercise for Children

Play and exercise are almost synonymous in early childhood, and they help to build up the physical, mental and moral health of the child. The desire to play is a normal and natural impulse. Play is an important and serious matter in a child's life. It is a God-given instinct and should not be stifled or misdirected. The little toddler should play out-of-doors as much as possible, for sunshine and out-door air are the child's best allies. City children are to be pitied because so many of them have only the street for their available playground.

Children require exercise to make the muscles hard and strong and to keep the blood in healthy circulation. It makes the child breathe faster and more deeply so that more air reaches the lungs and more oxygen is furnished the blood. It increases the appetite and aids digestion. It causes sweating, which cleanses the pores of the skin. Weak children, with proper care and exercise, can be developed into strong and healthy children, as the case of the late Theodore Roosevelt proves. He was a weak, sickly asthmatic youngster, not physically able to take part in the games and activities of other children. But he followed strictly the rules of health, took moderate and systematic exercise, and lived much in the open air. As a result by the time he reached early manhood his physical strength and endurance was equaled by few. Strong children require exercise to remain strong and get better control of their muscles. Weak children require exercise to increase their strength.

Children of the pre-school period are not especially interested in group games. They play together on the sandpile and enjoy toys, but as a rule they cannot manage a game by themselves. They can, however, be taught simple games under the leadership of an adult—supervised play.

For these young children low swings, see-saws, and boxes, sliding boards, etc., will provide much healthful exercise. Vehicles, such as velocipedes or the kiddie car, will afford them much pleasure. A little run-about will tramp many a mile pushing a doll carriage or a toy wagon.

The kindergarten system of Froebel and the Montessori method are applicable to children of this age. Educational experiments in play schools and nursery schools are now carried on most successfully among children of this toddler age. At this age there should be little or no restraint but full freedom of motion and plenty of rest. The natural play movements, such as running, leaping, climbing and skipping, should be encouraged.

A young child needs the companionship of other young children. It develops a sense of fair play and friendliness. Play should not be too rough or noisy. Restful games are desirable to tone down the natural high spirits and activity.

Some observers feel that the modern child does not know how to play profitably, and that healthy outdoor games are on the decline. Our modern modes of life and environment tend to make city children, at least, inactive and blase. The motion-picture theatres and other types of passive entertainment are taking the place of active and healthful outdoor sports and games. It is true that the craving for amusement and entertainment destroys the natural inclination for play.

There will be stormy days when the child will have to play indoors. A separate play room should be provided, if possible, or a corner of the living room arranged with low shelves where the toys can be kept. The child should be taught to gather up and put all toys to bed just before his own sleep time.

Toys should be simple, durable and washable, with no sharp corners or edges or detachable ornaments. The paint should not contain lead and should not peel off. Blocks, molding clay, paintbox, crayons, blackboard, blunt scissors, paste, etc., are all enjoyed in indoor play. Complicated mechanical toys are not suitable for the runabout age. It is a good plan to have some clean animal pet, such as a cat or dog, for the young child to play with, and to teach him to assume some responsibility for the care of his pet.

Play and exercise mean growth and education in the lives of young children. This period in their lives needs supervision but not restraint. Games provide exercise in an informal, spontaneous and pleasant manner. Exercise in the open air improves both the respiration and circulation and helps build up and strengthen the bones and muscles.

Parents should cultivate in their children a love for nature and the great out-of-doors, and encourage them in their sports and games. Thus will they come into confidential relations with their children and grow to be real pals and not merely parents.

Periodic Health Examinations for Children

It is said that in China the doctors are paid only when they keep their patients well. This method possesses distinct advantages in the protection of both personal and community health. Borden Veeder has defined preventive pediatrics as "knowledge which will enable a child to be well born, to come into the world strong and healthy, to thrive lustily and without halt during infancy, to be able physically and mentally to acquire a sound education, to acquire good habits of living and avoid bad ones, to avoid psychological abnormalities so that the child may adjust himself to his social environment, to pass through the difficult period of puberty and adolescence into a sound normal maturity, to prevent ill health through the maintenance of good health and to prevent by scientific measures so far as we are able the infectious diseases of childhood."

This can be accomplished only with aid and advice of a trained physician who has not only a knowledge of disease in children but also a knowledge of the child and his growth and development. Children should receive a thorough physical examination by such a physician at regular intervals. Slight defects, if discovered, can be remedied before serious and permanent injuries develop. Dentists have demonstrated the value of periodic examination of the teeth. The successful merchant takes stock or inventory at stated intervals to find just how his business stands; the bank requests our bank books at certain periods in order to balance our accounts and see that they are not overdrawn; automobile dealers urge their patrons to have regular inspections made of their automobiles as a matter of economy and good business. Our little toddler is just as much entitled to a physical inventory—a balance of his physical capacity—and to regular inspections of his delicate and complicated machinery.

Children should be taken to a doctor at least twice a year for a thorough examination. This means that the child should be stripped and gone over thoroughly by a competent physician. The examination should include, at least, hearing and vision tests, measurement of height and weight; examination of the teeth, nose, throat, heart, lungs, spine, posture, feet, urine, blood, nervous condition, mental and emotional state; and general tone. It should also include inquiry and advice concerning diet, exercise, sleep, and personal habits.

Mothers avail themselves of the advantages of the infant-welfare clinics and attend regularly, but when the child reaches the runabout age she is apt to lose interest in attending clinics. This 2-to-6 age used to be called "no man's land" because it was so sadly neglected. To-day, however, special pre-school clinics are available in most cities, and much more attention is being paid to this period. These health examinations in early childhood will lessen the need of many sickness examinations and surgical operations later in life.

Foods and Feedings for Children

The tiny toddler must eat. This is a simple matter during babyhood, when milk with a few additions satisfies his needs and appeases his appetite. As he grows older, nature demands a wider range of food elements to supply substances for body building and development.

Food must furnish the fuel necessary to keep the human engine running at the proper temperature, to replace losses from wear and tear, and to provide material not alone for new and worn parts but also for enlarging the machine. Besides, the human engine stores away fuel for a reserve supply to be used in case of sickness and emergencies.

It is difficult to lay down hard and fast rules in regard to a young child's diet. Many factors, such as climate, home, race, family and social conditions, must all be taken into consideration. There are, however, certain fundamental principles that must be observed in order to keep a child fat, fit and healthy. Faulty food and faulty food habits sooner or later will result in sickness, indigestion and malnutrition.

The late Dr. Lulu Hunt Peters listed six necessary food factors and called them "The Food Sextet." Fruits could be added to that list, so that we have a "Food Septet," although fruits are really made up of the other six:—

1. Starches and sugars—carbo-hydrates
2. Nitrogen foods or proteins
3. Fats
4. Mineral salts
5. Vitamins
6. Water
7. Fruits.

A correct and sufficient proportion of each and all of the members of the "Food Septet" makes a balanced diet which will provide the proper food for growth, repair, energy and heat. A working knowledge of the basic principles of feeding is necessary in the preparation of suitable diets for growing children.

CARBOHYDRATES

These are popularly known as sugars and starches. They are all composed of just three elements—carbon, hydrogen, and oxygen. The hydrogen and oxygen are combined as they are in water, and the name carbo (carbon) hydrate (water) is based on this fact. These elements are required for life and growth. The carbohydrates have two functions, to furnish energy and strength for muscular activity in work and play, and to supply heat to keep the body warm. They produce about one-half of the heat of the body.

They cannot build bones, muscles, nerves or other tissue, but they can be stored up as reserve food in the form of fat. Children who are given too much sugar and starchy food will not have strong bodies. They may look fat but they are not well nourished and often have a pale and puffy appearance, and have little strength. Sugar contains no iron, mineral salts or vitamins. The carbohydrates should be used as "fillers" after the essential food elements have been consumed. Too much carbohydrate food rather than too little finds its way into most children's stomachs. The amount of candy and cake should be limited, and these sweets should never be eaten between meals.

Too much sugar in the food is very likely to irritate the intestines and cause a loss of appetite, indigestion, cramps, diarrhea and headaches. Less sugar and starch should be taken in warm weather than in cold weather. We do not use as much fuel in the furnace when the weather is warm.

The sugar foods are found in many fruits and vegetables, in sugar, molasses, maple sugar and honey. The starches are found in potatoes and cereals.

PROTEINS

These foods contain nitrogen and are all-important in body building. They are the building stones of the edifice. The Greek word *proteno* means "I take first place." Just as there are different kinds and sizes of stones to build and repair, so there are different kinds and forms of proteins to build and repair the body. Proteins are complex substances made up of twenty-two separate units known as amino acids which are used in building and repairing the body. A protein food containing all of these amino acids is known as a complete protein; if lacking in one or more, it is considered an incomplete protein. Protein foods of animal origin, such as meat, milk and eggs, are complete, while those of vegetable origin, such as wheat, corn, peas and beans, are incomplete. The cells of the body tissue pick out, from the blood, one or more of these building stones and fit them into their proper place in the erection or repair of the human structure.

Protein is not stored up in the body as a reserve for starvation periods, like sugars and starch, and so must be eaten every day. Children will not grow and gain or maintain their health unless they receive a sufficient daily amount of complete protein in their diet. Herein lies a difference between the food requirements of the child and of the adult. The business of growing is very active during childhood, and the young child requires at least four times as much protein per pound weight as an adult. When more protein is taken than can be absorbed, the rest may remain in the bowels, decompose, and form poisons which get into the blood. The reverse is true in regard to the carbohydrates.

The adult, on the other hand, usually receives too much protein from an excess of meat in his diet. Some dietetic authorities advise against giving meat in early childhood, holding that it is too stimulating and acid-forming. They believe that cereals cooked and used with milk will provide the proper proportion of protein. The late Dr. Emmett Holt, however, found that "vegetable proteins are of distinctly lower grade in nutritive value than the animal proteins, and that while they may be adequate for maintenance, it is hazardous to depend upon them for growth."

FATS

Fats are the foods which furnish heat, energy and strength. They supply about one-third of the heat of the body. They also serve as a covering under the skin to help keep the body warm and as a support and padding for some of the organs.

Fat is a concentrated food and supplies two and a quarter times the heat and energy of an equal amount of protein and carbohydrates. Some of the fat is stored up in the form of fat or adipose tissue, which can be utilized later when the food does not contain enough for the day's work. This is energy stored away in the reserve tank. An excess of fat in the diet may break down into fatty acids and cause stomach disorders and diarrhea. The mucous membranes are likely to become congested and catarrhal, and the skin becomes more susceptible to pimples, eczema, etc. Children should eat sparingly, if at all, of food fried in fat.

The fat in the children's diet should come from milk and its products, such as butter, cream, ice cream, cheese, yolk of egg, cod-liver oil, and vegetable oils such as olive oil. A child can get enough fat for his needs by drinking a quart of milk a day or using cream on his cereal or taking a liberal amount of butter or one egg a day.

MINERALS

Minerals are essential for the healthy action of the functions of the body. They build the bones, red-blood cells and other tissues. In childhood they are essential for growth. A shortage or lack of minerals in the food will cause poor health, with lessened resistance to disease. Its effects may appear in the form of anemia, stunted growth, soft bones, decayed teeth, or enlarged thyroid gland.

Vegetables contain many minerals which are dissolved in the water in which they are cooked. This water should not be thrown away but saved to be used in making soup, gravies, etc.

Lime is necessary, not alone to make bones and teeth but to maintain the normal reaction of the blood and lymph—the fluid which bathes all the cells of the body. Its absence or insufficient supply causes a number of serious disorders. A recent medical book was devoted entirely to the calcium needs

and its deficiency effects on the body. Absence of this mineral in babies causes rickets and tetany. The lack of it is a common fault in the diets of children. Children require about four times as much as adults in proportion to the weight. A certain amount leaves the system every day, and this has to be replaced. The chief source in the diet is milk, and if a child drinks three glasses each day he receives enough lime.

Iron supplies material in the manufacture of red-blood cells. These cells carry oxygen to every part of the body from the air which is breathed into the lungs. Without iron the blood cells cannot do this work, and death will slowly but surely result. A deficient amount causes anemia and makes a child dull and listless. There is insufficient iron in milk, so it is necessary to give other foods which are rich in iron. Vegetables, such as spinach, string beans, cabbage, celery, tomatoes, carrots and peas contain this necessary iron. The yolks of eggs as well as lean meats contains iron.

Phosphorous is needed by every living cell in the body. It is as necessary as protein. In combination with calcium it makes the bones hard and solid and prevents rickets. It is also needed by the glands to help form special body and digestive fluids. We could not live without phosphorus. Egg yolk contains phosphorus as well as iron. Phosphorus is present in milk, cheese, lean meat, fish, potatoes, whole wheat and oatmeal.

Iodin is required only in very small amounts but is a necessary and vital mineral. Without it the thyroid gland enlarges and loses its function. A disturbance of the thyroid gland affects all the organs of the body as well as the process of growth. Its absence will stunt a child's growth and make him nervous, irritable, and high-strung. In certain parts of our country, away from the seashores, the water and soil contain very little iodine and the children are apt to develop an enlarged thyroid gland or goiter. In such districts iodine must be taken or added to the food. A simple procedure in these districts is to give it in the salt used for cooking and for the table. The salt used for this purpose has not had the iodine removed in the process of purification, and is called iodized salt. It is easily procured.

VITAMINS

Vitamins, as the name implies, are parts of the food which are necessary not alone for growth and health but for life itself. They have been likened to ignition sparks that run the human body. The human motor may be perfect in its construction of fats, carbohydrates and proteins, but it will not run without vitamins. Vitamins are found in vegetables and fruits, in milk, and in codliver oil. The concentrated, dried and dead vitamin powders or tablets are unnecessary, expensive, and mostly worthless.

"A pint of milk, egg, orange and greens
Will give you your daily vitamins."

There are four vitamins that should be present in the child's food. They are designated by letters of the alphabet. Some one has called them the alphabet of life.

Vitamin A gives strength, aids growth, builds resistance against disease, and prevents some eye diseases. The vitamin is found in milk, butter, egg yolk, and in "green-leafy and yellow-rooty" vegetables. It is stored in the liver for future use, which is not the case with the other vitamins.

Vitamin B improves the appetite, helps growth, and prevents a nerve disease called beri-beri. It is found in whole-kernel cereal foods but not in the milled and refined flours. Certain vegetables, such as spinach, raw cabbage and tomatoes—also yeast—contain vitamin B in large amounts.

Vitamin C prevents a disease in babies and older children called scurvy, and improves health. Fruits, berries, tomatoes both raw and canned, spinach and cabbage contain this valuable vitamin. As it is not stored in the body, some of it should be eaten every day.

Vitamin D prevents and cures rickets and makes strong bones and teeth. It is found in large amounts in codliver oil, milk and egg yolks. Sunlight may take the place of this vitamin.

WATER

While not a food, water is most important in the diet of children. It should be used unsparingly, both externally and internally. It cools the body in hot weather and assists in the elimination of waste products and body poisons by means of the skin, urine and stools. It dissolves and carries food to the tissues and also helps to digest and assimilate the foods.

Water alone should be given freely between meals, especially in the summer. About three-fourths of a child's weight is water, and without water the body would dry up just as a flower would wilt without it. There is a large proportion of water in milk, fruit and green vegetables, but aside from this a child should drink three or four glasses of water each day.

FRUITS.

Some fruit each day will help to make children healthy, strong and full of play—and perhaps keep the doctor away. Fruits contain large amounts of vitamins, water and roughage, which help to keep the body in condition and the bowels regular. They increase the appetite and help to increase nutrition and build and maintain body health.

Each member of this food septet plays an important part in the feeding of children. No one member should be permitted to play a solo role. They must perform together in perfect harmony in order to maintain life and promote growth and to make not only healthy children but happy ones.

AMOUNT OF FOOD NEEDED.

The amount of food necessary to supply all the needs of a growing child depends on his age, weight and activity. He requires more than twice the supply of energy for each pound in weight that the adult needs. The energy value of foods is measured in terms of calories. A calory—we are speaking here of the greater or kilogram calory—is a heat unit and is the amount of heat necessary to raise the temperature of one kilogram of water one degree Centigrade. This is a measure of food heat, just as a yard is a measure of length. Foods vary greatly in their heat-producing value. Fatty foods are high in heat value, while fruits and vegetables are low. A child will not thrive on one food alone, even though it supplies the required amount of calories. He must have a balanced diet containing all the food essentials. Ignorance of relative food values, and the fact that sugars and starches are cheaper and more tempting to the child, often results in the use of too large an amount of these foods in the diet, to the exclusion of the more necessary vitamins and salts.

The appetite of a healthy child should be appeased, provided he is given the right kinds of food three times a day with no food between meals. Desserts, candies, etc., should only be allowed when the child has eaten the necessary fat and protein foods. A child is receiving the right amount of food if he is gaining in weight if he is normally active and sleeps well at night. Good health, proper growth and normal nutrition are the results of a well balanced diet.

MILK

Milk is without doubt the best all-round food for children. It is easily digested and contains in proper proportions all the elements of body building. However, the tiny toddler must not be allowed to live on milk alone. We do not want him to get the "milk habit" and refuse to take solid food. A pint and a half of milk a day is sufficient for nearly all children. These who dislike to drink milk can take it camouflaged in cocoa, chocolate milk, egg-nog, cooked with cereals, and in soups, custard, junket, puddings and other desserts. Milk should be looked upon as a food; not a beverage; and should not as a rule be given between meals.

CEREALS

Cereals are very useful foods when properly cooked and should comprise about one-third of the diet. There is a great difference in cereals. A grain of wheat consists of three parts—the bran, the endosperm, and the germ. Bran is the outside layer and has a valuable laxative effect. It is also rich in proteins, minerals and vitamins. The endosperm is the core and is composed of starch cells and proteins. It contains no minerals or vitamins. The germ is a very small part of the grain of wheat, but is the living part which grows into the new plant. It is rich in vitamins, protein, fat and salts.

White flour is made up entirely of the endosperm and therefore does not contain the valuable ingredients of the bran and wheat germ. Your physician has access to information about cereals and can tell you the composition of any one of them.

Several brands of cereal are now irradiated, which means that they have been exposed to ultraviolet rays from a mercury quartz lamp. This process produces a small amount of vitamin D, but not enough to fulfil the body requirements, so that codliver oil must be given in addition.

The uncooked cereals must be cooked slowly for a long time in a double boiler. It takes fully an hour to make the starch granules easily digested. These cereals can be cooked in milk and served with thin cream or butter. This is an excellent way to have the child take more milk. Such cereals are smoother if cooked for three or four hours or longer in a fireless cooker. They should not be made too sweet: a teaspoon of sugar is sufficient. Children would prefer to reverse the process and put a little cereal on the sugar. Sliced ripe bananas, chopped dates, brown sugar or grated maple sugar can be used to tempt unwilling children. Two or three cereals cooked together appeal to the taste of some children.

The addition of a tablespoon of bran to the cereals is helpful for constipated children. Bran is laxative and has a high nutritive value. The following recipe is relished by most children:

- 3 cups bran flour
 - 3 cups white flour
 - 1½ cups milk
 - 1 cup molasses
 - 1 teaspoon soda
- This should be baked for two hours.

MEATS

Meat is the chief source of protein in the child's diet. It is one of the most important parts of the diet and does not cause digestive disturbances. It can be given daily to very young children. Meat contains water, proteins, fat, carbohydrate, minerals and vitamins, and is almost a complete food. It stimulates appetite; promotes growth and prevents anemia. As it contains only a slight amount of carbohydrate and no "roughage" it should be eaten with bread, vegetables and fruit.

The best methods of cooking are boiling, broiling, roasting or stewing. Meat should not be fried, as such meat absorbs fat, and fatty acids irritate the intestinal tract and delay digestion. For this reason the excess fat on meat should be removed before cooking. There is no particular advantage of white meat over red, and the cheap cuts of meat are as nourishing as the more expensive ones. There is no objection to giving cold meats to children. A high

temperature should be used in cooking meat, as it toughens the protein fibers and makes the meat safer to eat, and it kills all germs and other living organisms.

Pork and veal are hard to digest and should never be given to young children. Crisp bacon is readily digested and eagerly taken. Liver or liver soup is excellent for some forms of anemia. Chicken and fresh fish when broiled or boiled can be given to very young children.

Eggs contain all elements necessary for growth, and the young child should receive at least one egg a day unless he has a reaction against eggs, called allergy. Eggs should be boiled soft, poached or scrambled—never fried.

VEGETABLES

Vegetables contain "roughage" which regulates the bowels; iron, lime and other minerals, as well as some of the necessary vitamins. No child will become strong and healthy unless he eats plenty of vegetables. They are introduced into the diet of the baby as early as the fourth month. Young children can eat many vegetables raw with advantage, and the raw are often preferred to the cooked vegetables. Canned vegetables are wholesome and are always available. Vegetables may be cooked in milk or served with cream. Steaming and baking are the best methods of cooking vegetables, as no water is used and the mineral and vitamin content is conserved.

PLANNING THE DIET.

The young toddler requires three meals a day with no solid food or milk between meals. The breakfast should consist of fruit, cereal, egg or crisp bacon, toast or bread and butter, and a cup of milk. Stewed fruit can replace fresh fruit.

Dinner is the chief and largest meal of the day and should be given in the middle of the day in winter and in the evening during the summer months. It should consist of a soup or broth, a leafy and a root vegetable cooked or raw in the form of a salad, meat, a simple dessert, bread and butter; and a glass of milk.

Supper should be a light meal except in summer. A vegetable soup, creamed codfish, an egg, cream cheese, bread and butter corn bread; etc; and a glass of milk.

A child should learn to eat the food placed before him. The foods are necessarily limited by the family budget and the season of the year. The specific food requirements should be met. Within reason a child may be permitted to select some of the foods: a certain amount of dietary freedom is desirable. The indispensable foods for every day are a pint of milk, two vegetables, meat, one egg and raw fruit.

Recent Steps for Improving Physical Education in Madras Province

PROCEEDINGS OF THE DIRECTOR OF PUBLIC INSTRUCTION
MADRAS,

Name.—R. M. Statham, Esq., M.A., C.I.E.

R.O.C. No. 1374-E/38 dated 5-5-1940.

Sub.—Improvement of Physical Education. Giving it a greater prominence in the S. S. L. C. and T. S. L. C. Curriculum—Instruction Regarding.

Read.—G. O. No. MS 665 Education, dated 17-4-1940.

ORDER.—

The Government approve the proposals of the Director of Public Instruction for the inclusion of records of physical education and physical fitness of pupils in secondary schools in their Secondary School Leaving Certificates and of students under training in training schools in their Training School Leaving Certificates.

2. The following notification will be published in the Fort St. George Gazettee:—

NOTIFICATION.

In Rule V of the scheme for the award of Secondary School Leaving Certificates published at pages 410-412 of Part I B of the Fort St. George Gazette dated 21st August 1929, as subsequently amended, substitute the following for the last sentence of sub paragraph (2):—

“In the case of the subjects included in Group B except physical training, a general remark will be entered in the column provided for the purpose. In the case of physical training the school records for each school should be entered in the appropriate page provided for the purpose.”

(By Order of His Excellency the Governor)

G. H. Cooke,

Secretary to Government.

Copy communicated to the undermentioned officers for information.

2. The officers are informed that these proposals will be given effect in Form IV in 1940-41, and will be extended thereafter to Forms V and VI in 1941-42 and 1942-43 respectively. It will be introduced in the junior class of the training schools also in 1940-41 and will thereafter be extended to the senior class in 1941-42.

3. Attendance at physical education classes will be compulsory, and the minimum attendance that will be required of each pupil will be 75 per cent of the total number of physical education classes for the whole year. The District Educational Officers and Inspectresses will fix the number of Physical Education classes for each school after taking into consideration the playground facilities, the size of the school, the climate of the locality etc. The rules regarding the attendance prescribed in sub paras of the subsidiary Rule 18 of the S.S.L.C. Notification and Examination rules will be made applicable to Physical Educational classes also, exemption being granted by the District Educational Officers and the Inspectresses only in respect of those pupils who have any kind of physical disability as certified by a registered medical practitioner.

Additional printed sheets Vide annexures i & 2 will be added to the S.S.L.C and T.S.L.C. forms to provide for detailed remarks regarding physical education. Revised forms of certificates will be supplied in due course.

The following instructions are issued for the guidance of the heads of institutions as to what is now required of the pupils in physical education.

(1) *Attendance at Physical Education Classes*:—The minimum attendance required is 75 per cent of the total number of Physical Education classes for the whole year.

Attendance at practice and participation of school teams should be accepted as attendance for physical education and those who attend will be exempted from regular classes, provided of course the team practice is well directed.

Record of play habits:—It should be noted whether a pupil has developed such regular habits of play that he or she on his or her own initiative regularly utilises the opportunities for wholesome play and games, or whether the pupil reluctantly participates in the play, or only when compelled to do so by the rules.

Everything possible needs to be done in the Physical Education programme to stimulate voluntary participation in play and the formation of regular play habits.

Health habits:—The important thing in health education is not to store up knowledge about health and illness, but to develop regular habits of putting knowledge into practice. It is not difficult to note whether pupils practice the fundamental rules of hygiene and sanitation, or whether they violate them.

Physical Training Teachers and other teachers must constantly be on the watch to guide pupils in developing good health habits.

Sportsmanship habits:—The remark under this head should not only show a record of the pupils' behaviour in games and competitions, but should

also indicate the pupils' whole attitude towards physical activities in general. The careful observation of pupils in the required and in the optional activities makes it quite possible to enter a remark on sportsmanship.

Record of fundamental physical skills: (boys):—This record may be arrived at by means of efficiency tests or achievement tests in such fundamental skills as running, jumping, throwing, climbing etc.

For example at the beginning of each year tests might be given in the following five simple items and then again at regular intervals throughout the year and a careful note should be made of the achievement or improvement in each and in all items. The five items might be (i) Pull Ups (2) High Jump (3) Throwing the cricket ball for distance (4) Running 100 yards or hundred meters (5) Long Jump. The Secondary School Syllabus already indicates what a reasonable performance for pupils in these items is. A remark on the ability of the pupil in these items should stimulate them to regular practice to show good results.

Tests in individual skill: (girls):—In order to secure a pass the candidate must achieve the following records. Distinction may be secured by notably exceeding the minimum set.

1. 7 steps	..	28 feet
2. 7 hops	..	40 "
3. 7 jumps	..	35 "
4. 7 skips	..	50 "
5. 7 rope skips	..	60 "
6. 7 ball throws	..	275 "
7. 50 yards run		

Directions:—From behind a starting line each candidate must attempt to make the best possible record in each of the 7 tests. These tests are now being widely used in girls' schools throughout the Presidency and are very popular. The 7 steps, hops and jumps are a test of balance and trunk development. The 7 skips and rope skips are a test of rhythm and balance; the 7 ball throws and the 50 yards dash are—a test of bodily strength.

Record of ability in organised games:—This record should take into consideration minor, major, indigenous and non indigenous games. The remarks should have reference to the pupils ability as a player in several games.

Participation in a variety of games rather than specialization in only one should be encouraged.

The record should include (a) Remarks in ability in minor group games, rope skipping etc. (b) remarks in ability in major games as played in the average school.

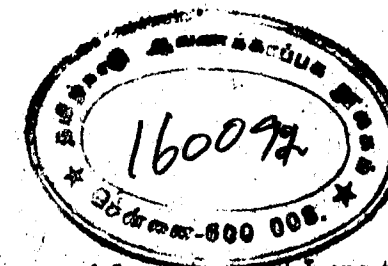
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|----------------|---------------------|
| 1. Tenniquoit. | 6. Playground ball. |
| 2. Throw ball. | 7. Hockey. |
| 3. Badminton. | 8. Volley ball. |
| 4. Net Ball. | 9. Basket ball etc. |
| 5. Tennis. | |

II. Record of ability in gymnastics:—This applies to drill, marching, apparatus work, rhythmic activities, indigenous and non-indigenous exercises; and for girls, kummi and kolattam, Bharatha Natyam, Folk dancing etc. in addition to the above.

Record of ability to teach games:—(For T.S.L.C. only) In addition to the entries under the above heads the pupil teachers in training schools should learn to teach and referee. Tests may be given in teaching and refereeing to determine the teacher's ability and to arrive at proper remarks.

5. The undermentioned officers are informed that remarks on item 2 in the annexed forms should be based on careful and close observation of pupils in the class and the play ground; while the remarks against items 3 and 4 (4 in the case of T.S.L.C.) should be based on periodical tests conducted by the school as in the case of other subjects. Records of these periodical tests should be maintained and they should be scrutinised by the inspecting officers at the time of inspection. The intention is that the old system of making remarks as "fair", "satisfactory", "good" etc., should be done away with and that the records should contain definite and precise remarks in respect of each pupil as observed and tested in physical education classes; otherwise these records will not serve any useful purpose. The undermentioned officers are therefore requested to see that the above instructions are brought to the notice of all heads of institutions for information and guidance.

[True copy. Forwarded By Order.]



R. M. STATNAM
Director of Public Instruction.

(Sd.) P. RAMASWAMI,
Superintendent

To

All Divisional Inspectors and Inspectresses, District Educational Officers and Principals of all Government Colleges with High Schools attached.

Copy to the Secretary to the C.G.E.

Adviser to Government on Physical Education, Woman specialist
E Section Spare copies.

T. S. L. C.

RECORD OF PHYSICAL EDUCATION AND PHYSICAL FITNESS.

	Year of training.	Year of training.
1. Attendance at Physical Education Classes.		
(a) No. of Physical Education classes in the school year.		
(b) No. of attendances.		
(c) Percentage of attendance.		
2. Pupil's attitude and interest in Physical Education activities.		
(a) Play habit.		
(b) Health habit.		
(c) Sportsmanship habit.		
3. Pupil's Physical fitness.		
(a) Ability in Fundamental Physical skills.		
(b) Ability in organised games.		
(c) Ability in Gymnastics.		
4. Pupil's ability to teach games and referee games.		

S. S. L. C.

RECORD OF PHYSICAL EDUCATION AND PHYSICAL FITNESS.

	Form	Form	Form
1. Attendance at Physical Education Classes.			
(a) No. of Physical Education classes in the school year.			
(b) No. of attendances.			
(c) Percentage of attendance.			
2. Pupil's attitude and interest in Physical Education activities.			
(a) Play habit.			
(b) Health habit.			
(c) Sportsmanship habit.			
3. Pupil's Physical fitness.			
(a) Ability in Fundamental Physical skill.			
(b) Ability in organised games.			
(c) Ability in Gymnastics.			

In the light of the foregoing proceedings the Advisor to the Government on Physical Education submits the following suggestions for keeping records of physical education, and for facilitating the operation of the requirements.

- (1) A Record of Attendance at Physical Education Classes.
 - (2) A Record of Play Habits.
 - (3) A Record of Health Habits.
 - (4) A Record of Sportsmanship Habits.
 - (5) A Record of Fundamental Physical Skills.
 - (6) A Record of Ability in Games.
 - (7) A Record of Ability in Gymnastics.
 - (8) A Record of Ability to Teach and Referee Games.
- For T. S. L. C. only.

I give herewith an explanation of what would be involved in each item.

- (1) Record of Attendance at Physical Education Classes.

Attendance at 80% of required periods should be considered satisfactory.

Attendance at practice and participation on school teams should be accepted as attendance for physical education, and those who report regularly for team practice should be exempted from attendance at the regular classes, provided of course that the team practice is well organised and well directed.

- (2) Record of Play Habits.

It should be noted whether the boy has developed such regular habits of play that he of his own initiative regularly makes opportunities for wholesome play and games, or whether he reluctantly participates in play, or only when compelled to do so by the requirements.

Everything possible needs to be done in the physical education programme to stimulate voluntary participation in play and regular play habits.

An honest remark on this will be of immense help.

- (3) Record of Health Habits.

The important thing in health education is not to store up knowledge about health and illness, but to develop regular habits of putting knowledge into practice. It is not difficult to note whether pupils practice the fundamental rules of hygiene and sanitation or whether they violate them.

Physical Teachers and all other teachers must constantly be on the watch to guide pupils in developing good health habits. A remark in the S.S.L.C. book on the merits of health practices ought to be a stimulus not only to pupils, but to teachers as well.

At present schools do not hold pupils up to a high standard in preserving neatness and cleanliness of their surroundings, nor in their personal habits. A record of health habits should help.

(4) Record of Sportsmanship Habits.

By this is meant not merely a record of the boy's behaviour in games and competitions but his whole *attitude* towards physical activities in general. Does he participate willingly and wholeheartedly in all the required physical activities, or is he a shirker who has to be compelled and who sulks? Is he a good team worker or is he an individualist? Does he play in good spirit respecting the rules, referees, opponents and team mates, or does he cheat and evade the rules and show bad spirit toward those in authority? It has to do with spirit and not with *ability*.

Careful observation of boys in the required and in the optional activities makes it quite possible to enter a remark on sportsmanship.

(5) Record of Fundamental Physical skills.

This record may be arrived at by means of Efficiency Tests, or Achievement Tests, in such, fundamental skills as running, jumping, throwing, climbing, etc.

For example at the beginning of each year tests might be given in the following five simple items, and then again at regular intervals throughout the year and careful note be made of achievement or improvement in each and in all items. The five items might be (1) Pull Ups or Chinning. (2) Running High Jump, (3) Throwing Cricket Ball for Distance. (4) Running 100 yards or 100 meters. (5) Running Long Jump.

The Secondary School Syllabus already indicates what is reasonable performance for school boys in these items. A remark on the ability of the boy in these items should stimulate him to regular practice to show good results rather than poor.

(6) Record of Ability in Games.

This record should take into consideration minor games as well as major games and indigenous as well as non-indigenous games.

The remark should have reference to his *ability* as a player in *several* games, not only one.

. We need to encourage participation in a variety of games rather than specialization in only one.

(7) Record of Ability in Gymnastics.

This applies to Drill, Marching, Apparatus Work, Rhythmic Activities, Indigenous and Non-Indigenous Exercises.

(8) Record of Ability to teach and Referee Games—T.S.L.C. only.

For pupil teachers the T.S.L.C. book should have a place for remarks on all the foregoing, but in addition, pupil teachers should learn to teach and referee. Tests may be given in teaching and refereeing to determine ability and to arrive at proper remarks.

It seems quite clear that this innovation requires good quality physical education teachers in all schools and headmasters willing to put it into operation. Also, headmasters must accept the reports and records submitted by the physical education teachers and enter them in the S.S.L.C. book and T.S.L.C. books honestly, according to the judgement and tests conducted by the physical education teachers.

Report on the Y.M.C.A. College of Physical Education

From our Prospectus, Summer School Bulletin, and other College Literature, copies of which may be obtained on request, it will be seen that the major portion of our work consists of *training teachers* of physical education. But because of our facilities and because of the evident needs for service in many other directions our efforts are not confined to teacher training but cover a much wider field in catering to the recreation and health needs of schools, colleges, clubs and the general public.

This pioneer institution, started *twenty years ago* by the Y.M.C.A. National Council, has served and continues to serve as a clearing house on matters of physical education, health education, and recreation for *India, Burma and Ceylon*. Our students are a *cosmopolitan group* coming to us from India, Burma, Ceylon, Egypt, South Africa, Iraq, Siam, etc. During the past twenty years we have trained over one thousand physical education teachers for schools, colleges, Y.M.C.As., Public Playgrounds, Village Recreation Schemes, and various other Educational and Welfare Organizations throughout the country. Graduates of this College are widely scattered and what improvement has taken place in the type and in the quantity and quality of physical education throughout the country has been due to the enthusiasm and pioneering spirit of our "old boys". They represent the institution at work in the field. Our congratulations and our prayers go out to them for their continued and renewed efforts.

The following figures give an idea of the steady increase in students and growth of the College from 1920 to the present.

Year.	
1920-21	.. 5
1921-22	.. 3
1922-23	.. 4
1923-24	.. 12
1924-25	.. 9
1925-26	.. 11
1926-27	.. 24
1927-28	.. 36
1928-29	.. 50
1929-30	.. 64
1930-31	.. 57
1931-32	.. 60
1932-33	.. 78
1933-34	.. 68
1934-35	.. 68
1935-36	.. 64

Year.	
1936-37	.. 67
1937-38	.. 59
1938-39	.. 65
1939-40	.. 77

Total students trained in the One Year course	.. 891
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In addition to this, at least 250 have attended special short courses. It will thus be seen that during these twenty years we have qualified about 900 physical education teachers in our One Year Course, and helped 250 more in Short-term Refresher Classes, thus making a total of about 1,150.

A fairly high percentage of the men trained were *University Degree holders*, and it is our hope that in the near future schools will be satisfied only with the most highly qualified physical education teachers and that they will be willing to offer salary scales which will make it possible for the more highly qualified teachers to serve.

During the past year we made certain proposals to the Madras University regarding *affiliation* of the Y.M.C.A. College with the University, putting forward the idea of the desirability of increasing the course of training to two years, and suggesting that thereby the University could award a B.P.E., Degree in Physical Education. Unfortunately the University was not convinced of the desirability of this step, but we still have *hope* that such a progressive move may become a reality in the near future. We have available for those who desire it a booklet setting out our plan for developing a Degree Course in Physical Education.

Next year, that is from July 1940, we shall be experimenting on co-educational training in physical education, and we will have here under training a group of *women*. These future women teachers of physical education will be under the leadership of Mrs. H. C. Buck, as part of her work as the Woman Specialist to the Government of Madras on Physical Education. The success or failure of this experiment will determine whether we shall become a co-educational institution or not.

For the College Year of 1938-39 we admitted 68 students, 62 of whom were permitted to complete the course and earn Diplomas or Certificates. For 1939-40 we admitted 77 students, of whom 66 have been permitted to remain and to sit for the examinations in April. The College having permanent Government recognition, the Department of Education assists in conducting the examinations and awards Government Certificates to successful candidates.

Of the 77 admitted for the College year of 1939-40 their distribution by States, Provinces and Countries is as follows :—

Madras	..	46
Punjab	..	9
United Provinces	..	2
Bombay	..	3
Orissa	..	2
North West Frontier Province	..	1
Bikaner State	..	1
Travancore State	..	4
Pudukotta State	..	1
Malerkotla State	..	1
Alwar State	..	1
Gwalior	..	1
Siam	..	2
Ceylon	..	3

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In our Summer School of May 1939 we had 33 students. We expect a much larger enrollment in May of 1940 as we have added a course in Health Education.

The college co-operates with the Education Department of Government; with the University; the Madras Collegiate Athletic Association; the Madras Schools Athletic Association; the Olympic Association; the Boxing Association; and with various other organizations in the Madras City and throughout the Presidency in the promotion of physical activities. In addition to our own college programme and in addition to the competitive programme participated in by our College we provided the leadership on our compound during 1938-39 for *organising and conducting* 75 Match Games, 12 Sports Meetings, 5 Boxing Tournaments, and various other recreative activities for outside organisations. During 1939-40 the amount of such service was even greater than that of any previous year. Service of this type is of immense value from at least two points of view. It provides facilities and leadership for recreation for a fairly large number, and it also provides excellent experience for our students in organising, conducting and judging a great variety of physical activity competitions.

Another bit of service that is mutually beneficial is the Saturday Morning *Class for School Teachers*. About two hundred teachers report to us every Saturday morning from 7 to 9 o'clock, and our students teach them activities suitable for elementary schools. This is of great value to the elementary schools and one more opportunity for normal practice for our students.

The *Public Playground for Children*, provided and supervised by the College on our own compound, and equipped with Swings, See-saws, Giant

Stride, Climbing Apparatus, Teeter-Ladders, Gymnastic Apparatus, Games Facilities, etc., attracts about 200 children daily and is an opportunity for our students to obtain some practical experience of public playground work. And in as much as the Corporation of Madras looks to the College for some guidance in the development and administration of its City Playgrounds our students are given many opportunities to visualize and experience the problems of a Public Playground system.

Further practice teaching is accomplished by sending groups of our students daily to Teachers' College Model School to organize and teach activities for school boys there and by bringing several schools to our own compound for the same purpose. The strength of our normal practice lies in its abundance; we probably get more of it for our students than most any other teacher training institution. Its weakness lies in the fact that our staff is too small to permit of adequate supervision of normal practice. A way must be found to overcome this very real difficulty.

Our organized *street play* in Saidapet still flourishes and the Village Recreation Scheme started by us in Salem District is succeeding marvelously and is being duplicated in other Districts. Our Experimental Day School and Night School in Saidapet have succeeded to the extent of being recognized by Government.

The economic and health surveys conducted by our College in Saidapet have helped immensely toward obtaining for Saidapet a Leprosy Clinic for Children, a Child and Maternity Welfare Centre, and a Tuberculosis Clinic.

During the past year staff members of the College served on a number of special committees appointed by Government to study and improve the general syllabuses of schools and of teacher training institutions, and in particular to discover ways of introducing and improving Health Education closely co-ordinated with Physical Education. Many constructive suggestions have been worked out. A weakness exists in the fact that many educational institutions are *not yet willing to remodel* their traditional time-tables to permit of adequate attention being given to Physical Education and Health Education. Until time-tables are radically revised and the quality of leadership improved, very little progress may be expected.

The past students of the College resident in Madras City have formed a *St. Johns Ambulance Division* registered with the Surgeon General for service in any emergency. The division is named the Y. M. C. A. College Old Boys Ambulance Unit and its official insignia is "Y.O.B." During the year the custom was also started of getting the "Old Boys" of Madras City together for a "Tea Party" once a month. This is an excellent innovation and it will be on such occasions that our St. Johns Ambulance Unit will assemble for its regular parade. We trust that the Old Boys Association may discover many more ways of serving and helping the College.

Dr. Berry of Springfield College, U.S.A., gave his services to the college during 1938 and 1939 while Mr. C. C. Abraham of our Staff was in America specializing in the field of Health Education. We have been extremely fortunate in having had the help of an experienced and capable teacher like Dr. Berry. Now Dr. Berry has left us, but Mr. Abraham has returned and is enthusiastically forging ahead in the promotion of Health Education. This therefore is the opportune time to add to the College Staff a medical man with special training and experience in the field of Health Education. We know of nothing more urgently needed in India than proper *Health Education*. The addition of a full time Medical and Health Specialist to our staff to work along with Mr. Abraham in this necessary service would enable the Y.M.C.A. College to make an unique and extremely valuable contribution to the life of the country. Our present Health Service Programme for our own student body is perhaps unparalleled in any educational institution in India. It consists of thorough-going Medical and Physical Examinations with efficient Follow-Up and Remedial Work as well as all the Preventive and Educative Measures for developing a healthy student body and a student body trained to *practice* health habits. In the Y.M.C.A. College this is done for two reasons; (a) to protect and improve our own students, (b) to demonstrate to them how Health Service can be organized and carried on in other educational institutions. But we need to do much more than this in pioneering the cause of Health Education if we are to succeed in introducing it into schools and colleges and for the general public throughout the country. Strengthening the staff with Health Education specialists will make it possible for us to pioneer and make a contribution in this field as we have been doing for so many years in the field of physical education.

In so far as material things are concerned friends of the College have helped us to add *four new Hostel Cottages* during the past year. Col. K. G. Pandalai, I.M.S., very generously made it possible for us to construct two Cottages, and Mrs. Freda Dann made an initial contribution toward a Reginald Dann Hostel Fund which enabled us to construct two more. But the monsoon storms demolished our remaining thatched living quarters for students and so we again have the housing problem before us. We now have seven *pukka hostel cottages*. The addition of three more is urgently required to enable us to house our present student body in comfort. We are *taking steps for the construction* of these three cottages during the summer months so that we may be in a position to house our students properly as from July 1st 1940.

The fact that other parts of India are *attempting to duplicate* what this institution has been doing for the past 20 years seems to indicate that the ideas and ideals set in motion by the Y.M.C.A. are gradually bearing fruit. But in spite of similar institutions springing up the Y. M. C. A. College becomes more and more the clearing house and information bureau for the whole country. Our staff therefore needs to be strengthened to enable us to give

more and better service in this direction, and we need to improve considerably what we are now doing in order that our services may continue to be in demand.

It has been a pleasure to work and to play with the group of students who have been with us this year. It is our hope that they may have caught some vision of the possibilities for service through physical education. As we say farewell to them we wish them an abundance of happiness and success in their chosen profession.

For the College Year of 1940-41 we have 74 men and 26 women on our rolls. They are a cosmopolitan group representing many sections of the country, as portrayed in the accompanying table.

Y.M.C.A. COLLEGE OF PHYSICAL EDUCATION SAIDAPET, MADRAS
TABULATED REPRESENTATION OF THE STUDENTS FOR 1940-41

I. MEN

A. Section

1. Diploma	..	..	17	
2. Government Certificate Higher Grade	..	..	16	
3. Government Certificate Lower Grade	..	..	41	74
	..	..	—	

B. Provinces

1. Madras				
(a) Tamil	..	21		
(b) Telugu	..	29		
(c) Malayali	..	5		
(d) Malabar	..	2	57	
2. Berar	..	..	2	
3. Maharashtra	..	..	2	
4. Central Province	..	..	1	
5. Behar	..	..	1	
6. Bengal	..	..	1	
7. Rajputana	..	..	2	
8. Delhi	..	..	1	
9. Punjab	..	..	4	
10. Ceylon	..	..	1	
11. Thailand (Siam)	..	..	1	
12. U. P.	..	..	1	74
	..	..	—	

C. Basis

1. Deputed	..	..	28	
2. Private	..	..	46	74
	..	..	—	

Y.M.C.A. COLLEGE OF PHYSICAL EDUCATION SAIDAPET, MADRAS
TABULATED REPRESENTATION OF THE STUDENTS FOR 1940-41

II. WOMEN

A. *Section* : All in one section.

B. *Province*

1. Madras				
(a) Tamil	..	..	6	
(b) Telugu	..	..	7	
(c) Malayali	..	..	7	
(d) Malabar	..	..	4	24
2. Punjab	..	..	—	
3. Gwalior	..	..	1	
	..	..	1	26
	..	..	—	

Is Knowledge about Nutrition Essential to Improve our Diet?

By

C. C. ABRAHAM, B.A., M.P.E.

Article I.

The problem of nutrition should be of immense interest to the people of India because malnutrition is the root cause of most illhealth and the contributory cause for diseases like tuberculosis, malaria and leprosy. Poverty and ignorance are the two main causes of malnutrition. People do not get enough food to eat because they are poor, and gradually families after families become victims of malnutrition. Ignorance as to what one should eat with the means available is equally a serious menace to the prevalence of so much of malnutrition among the lower class of people. It is fairly well true of most of the so called middle class of people as well.

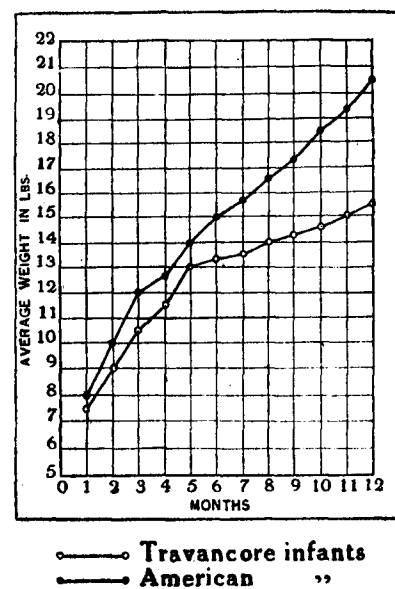
The human organism has no instinct for the right food, particularly in the modern civilisation. Writes W. R. Aykroyd in the League of Nations Quarterly Bulletin of the Health Organization Vol. IV. No. 2. June 1935. "One of the commonest dietary superstitions of the day is a belief in instinct as a guide to dietary excellence. Its partisans believe that nature has provided man with a specific instinct which infallibly prompts him to consume the kind of diet most suited to his well-being; it follows as a corollary that the diets of primitive peoples are superior to diets approved by science. It is urged that civilized man, to avoid degeneration, must base his food habits on those of savages, who, if not completely free from all disease, are at least immune from the diseases of nutrition. It has been seriously suggested that light might be thrown on the problems of human nutrition by study of what Chimpanzees eat in their native forests. Such notions are derivative of the eighteenth century fiction of the happy and noble savage. Those who have lived among the native populations in Equatorial Africa, for example, are aware of the value of such legends. Dietary superstitions are perhaps not without influence on economic problems in connection with food."

Victims of beri-beri consume raw rice with avidity without knowing its consequences. So are the people in maize eating areas who suffer from Pal-lagra. Keratomalacia (softening of the cornea) is a very common disease of the eyes in South India and one of the most frequent causes of permanent blindness. It is due to vitamin A deficiency and often occurs in children who are fed on milled rice and whose diet includes little or no milk and vegetables. The instinct of the victims of all these deficiency diseases seems to have failed entirely in choosing the right food.

Experiments on rats have shown that even in rats there is no instinct. They are unable to select the food they want from a wide collection. But they

learn from experience. This was demonstrated by Harris in an experiment where a colony of rats were fed on a type of food rich in vitamin B. Yeast was added later. The rats selected the yeast because they felt better. It was also found that the rats preferred autoclaved yeast to ordinary yeast. (Autoclaved yeast is richer in vitamin B).

All this goes to show that we have to educate people on nutrition. The accompanying chart comparing Travancore infants with American children illustrates the point still better.



This chart compares the average weights of infants in America and Travancore during the first year of life. The weight of Indian infants at birth is approximately the same as that of the American infants. During the first five months of life, the former are not far behind the latter, but in the second half of the first year there is a falling off. The probable explanation of this is that in the early months the Indian babies receive enough breast milk to enable them to grow well. At about the fifth or sixth month the supply of breast milk begins to fail and cow's milk is not given to make good the deficiency. American infants, on the other hand, usually receive plenty of cow's milk and other supplementary foods like mashed vegetables—carrots, potatoes, tomatoes—and orange juice after the third or fourth month either in addition to breast milk or a substitute for it. There is also the tendency in India to keep the child for nearly 2 years on the breast. Normally, weaning should begin at the 6th month and the mother should start the child on a mixed diet from that time. For full growth and development, the child needs more than the mother's milk after the sixth month.

Nutrition is an important national problem in India. There is need for educating people what to eat both in regard to quantity and quality. School feeding is gaining attention in certain parts of the country. There seems to be an awakening of interest in better nutrition for our school going children. Knowledge on nutrition is necessary to adequately meet the needs of children and prevent waste. For the benefit of the readers of *Vyayam* extracts of "Food and Diet" written for children and published by the Nutrition Research Laboratories, Coonoor, are given below.

The Purposes of food—Everybody knows that living things cannot exist without food. Starvation means death. Let us first consider why food is needed by our bodies. In the first place, it is needed as a supply of fuel. A railway engine cannot go without coal, nor a car without petrol. Throughout life, some part or other of the body is constantly working or moving; the heart beats, driving blood to every part; the lungs take in air and with it oxygen; and expire gases generated by the body; other organs are busy digesting food and transforming it into flesh and blood, discharging waste material, preparing substances the body needs; and in many other activities; the muscles move the body and its various parts. For all these purposes the energy supplied by food is necessary. Food is "burnt" in the body to produce the heat and energy required for making the body live and move.

But food has other purposes to fulfil. Living creatures grow and the material necessary for growth must be obtained from food. Again the body needs repair; its tissues "wear out" and have to be replaced. Some loss of body substances, which must be made good, is always taking place. If the body is to grow properly, and maintain all its parts in the most efficient working order, it must be supplied with the right kind of food containing all the materials it needs.

What food must supply.—Almost any kind of food can supply heat or energy. But some foods are much better than others for supplying the food substances which the body needs to make it grow and to keep it in health. The substances which food must supply in the right amounts are the following:—

Protein	Fat	Carbohydrate	Mineral salts
Vitamins.			

Protein is necessary because it supplies *building material* for the body. Fat and carbohydrates supply heat and energy. The mineral salts and vitamins are needed to keep all the parts of the body in good working order. A motor car engine needs petrol which explodes in its cylinders and drives the pistons down. But it also needs oil to keep it working smoothly and well, and it will break down and stop just as quickly without oil as when the petrol tank is empty. The action of the vitamins and mineral salts in the body may be compared to the action of oil in a petrol engine.

Now-a-days we know how much protein, and how much of the various vitamins and mineral salts, are contained in the foods which make up our diets. This has been worked out by scientists in their laboratories. We therefore know the nutritive value to the body of these foods, and it is easy to tell the differences between a good and a bad diet when we know the different foods it contains. Ordinary people do not need to know how many vitamins, and how much of each, are present in each food. All they need to know is how a good diet should be made up and which foods are richest in the substances we need most.

THE VALUE OF VARIOUS KINDS OF FOOD.

Cereals.—The cereals include rice, wheat, cambu, cholam, ragi, and a number of other grain foods less often eaten in India. The chief food of most people in South India and in many other parts of the country is rice, and it is very important that Indian children should learn something about the food value of this grain. It is the main food of about seven hundred million people in various parts of the world, which amounts to nearly half the human race. Rice is a good fuel for the body, when we are hungry and need food, a big meal of rice makes us feel comfortable and satisfied. But rice cannot supply enough of all the substances the body needs, no matter how much we eat of it, so that we need to eat, as well as rice, sufficient quantities of other foods such as pulses, vegetables, fruit and milk. Otherwise our bodies will not grow properly and be fit and strong.

There are some other things to remember about rice. Paddy harvested from the fields has a woody husk which has to be removed before rice is eaten. The rice grain itself, after the husk is taken away, consists of three parts. First, there is the little germ, which you can see at the end of the grain; this is the part which grows into a new plant when rice, is sown in the fields. Secondly, there is an outer layer covering the grain, which is sometimes called the *bran*. The bran layer is very easy to see in red rice, which is red outside and white inside; the red part is the bran. White rice has got the same sort of bran on it, but it is not so easy to see. Thirdly, there is the inside part of the grain, which is sometimes called the endosperm. Now the germ and the bran contain more vitamins than the inside part, and so it is a bad thing to remove the outer part of the grain before rice is eaten. Unfortunately this is just what rice mills do; they produce white rice which has lost its best parts. Rice which has been made very white by the mills is not as good a food as rice which has been pounded by hand, because hand-pounding, unlike machine milling leaves quite a lot of the bran behind.

Another thing to remember about rice is that, if you do eat milled rice which has lost its germ and bran, it is better to eat parboiled than raw rice. In most parts of India people eat parboiled rice in preference to raw rice, and this is a good habit to follow. The steaming of paddy alters the grain in a strange way, so that some of the vitamins pass from the germ and bran into

the inner parts of the grain. Once paddy has been parboiled, even the most up to-date mills, which turn out highly-milled and polished rice, cannot remove all the vitamins from the grain, which is a good thing.

Before rice is eaten it is washed and then cooked. Now it is necessary to wash rice which contains dust and dirt but unfortunately washing removes a good deal of valuable food material, including vitamins, which passes into the washing water and leaves the grain poorer than before. It is the first washing which causes most of the loss, so that there is not much to be gained by reducing the number of washings. The cooking of rice may cause further losses of vitamins and other necessary food substances if too much water is used and the cooking water is thrown away. In cooking, the smallest necessary amount of water should be used, and the water or congee in which rice has been cooked should always be consumed.

Whole wheat (atta), ragi (okra), cholam (jowar) and cambu (bajra) are in some ways better food than milled rice although, like rice, they cannot by themselves supply all the substances we need for growth, repair and health. Ragi, cambu and cholam are millets. It is a good thing for people who live chiefly on rice to take some wheat or millet every day.

Pulses.—Let us now consider certain other kinds of food which enter into our diets. Most people in India eat some pulses such as dhal, gram, etc., every day. Other familiar pulses are peas, beans and lentils. The pulses are richer in body-building materials than the cereals and they also contain more of certain vitamins. Hence it is important that some pulses—amounting to one or two ounces every day—should be taken by growing children, and this is particularly necessary when the diet is largely made up of milled rice. In many parts of India people do not grow and eat enough pulses.

When pulses are allowed to sprout they develop one of the vitamins in the growing shoots. A method of sprouting pulses is to soak them in water for twenty-four hours and then spread them out on a damp blanket and cover them over with a moist cloth or sack which is kept moist by sprinkling water upon it from time to time. After two or three days the grains will have sprouted and be ready for use. They should then be eaten raw or after being cooked for only a few minutes. It is good to eat sprouted pulses when you cannot get enough fresh vegetables and fruits.

Vegetables.—Vegetables do not supply much food energy; a meal which consists only of vegetables will not satisfy a hungry man. But they are of value for another reason—because they supply certain vitamins and mineral salts. You should remember that one kind is particularly good. This is the green leafy kind, which includes cabbage, amaranth, drumstick leaves, spinach and many other varieties. The leafy vegetables contain plenty of vitamins, and they are rich in one of the mineral elements which the body needs most—calcium. People who live largely on rice are often short of calcium, because

rice contains very little of this element. For this and other reasons at least two ounces of green leafy vegetables should be eaten every day.

Not only leafy vegetables, but vegetables of all kinds, should be eaten in greater quantities in India, in order to enrich the diet with vitamins and other necessary substances. In many parts of the country more vegetables could be grown in the villages, if people would take the trouble to do so. Every house should have a little vegetable garden, or else vegetables should be grown on some suitable piece of ground near a well or wherever water is available. It is surprising how many vegetables can be raised from a very small plot. Waste water from the house can be used to water vegetables. At least six or eight ounces of vegetables, including two ounces of leafy vegetables, should be taken daily. The growing of more vegetables in India would do much to improve the health of the people.

Fruits.—What has been said about vegetables is also true of fruits. Fruits supply vitamins and mineral salts and they are useful in keeping the bowels healthy and active. The tomato is a fruit which is of high value and it is also one which is very easy to grow. Indian gooseberries (nellicka or amla), which ripen in jungles and forests in the cold season, are very rich in one of the vitamins—vitamin C. Plantains and bananas are not very rich in vitamins but they are nevertheless good food. It can indeed be said that any kind of fruit is good healthy food and supplies necessary vitamins and mineral salts. Two ounces or more of fruit should be taken daily. More fruit should be grown in India.

Nuts are rich in protein and fat and in some of the vitamins. They cannot be eaten in very large quantities, but taken in small quantities they make a good addition to rice diets. Some nuts, such as ground-nuts, are used as a source of oil.

Vegetable Oils.—These include gingelly, coconut, ground-nut, linseed and mustard oil. They are good fuel foods, but do not contain vitamins. Butter and ghee, on the other hand, do contain vitamins and are therefore better food than vegetable oils, but, of course, they are dearer. Those who cannot afford butter and ghee should take about one ounce of vegetable oil every day.

Milk.—We now come to the best of all foods—milk. Milk is rich in body-building material (protein), vitamins and mineral salts, and, in fact, supplies all the substances of which there is not enough in rice. This is true of all kinds of milk, including buffalo's, cow's, and goat's milk. Unfortunately milk is dear and scarce in many parts of India and poor children never get enough of it. Many Indian children, indeed, never get any milk at all to drink. If more milk were to be consumed in India, this would mean a great improvement in the health of the people. Boys and girls would grow stronger and bigger and there would be less sickness.

In India cows and buffaloes often produce very little milk because they are themselves not properly fed. To increase the milk supply; more food for cattle must be grown. It is unfortunate that in India there are many old and useless cattle which produce no milk and eat up grass and fodder which might be used to feed the better cows and buffaloes.

Milk from which the fat or cream has been removed—skimmed milk—is good for children, though not as good as whole milk. Skimmed milk contains the body-building materials, mineral salts and most of the vitamins present in whole milk. Butter-milk and curds are also very good. Growing children should take at least eight ounces of milk every day. Few children in India get even half this quantity.

Milk fat (Butter and ghee) is good food because it contains one of the most important vitamins—vitamin A. Ghee is butter that has been boiled. Butter is made into ghee in India because ghee keeps better in a hot climate. Ghee sold in the bazaar is often mixed with vegetable fats and this makes it less valuable as a food because vegetable fats do not contain vitamins.

Milk as sold in many parts of India often contains a lot of dirty water which is added by the milk sellers to increase their profits. It will be a difficult task to improve the milk supply of the country, but it must and can be done. India needs more milk and purer milk.

Meat, Fish and Eggs.—Very little meat is eaten in India, even by those whose religion does not forbid meat eating. Meat is good food, rich in body-building substances, but it is not a necessary food because a diet containing whole cereals, milk, pulses, vegetables and fruits in the right amount, and no meat, is in every way a satisfactory diet. Liver is an exceptionally valuable food, rich in protein, vitamins and mineral salts. Fish, whether fresh or dried, contains a good store of some of the substances in which rice is deficient. Small fish which are eaten whole are very rich in calcium. Of eggs it may be said that they are nearly as good as milk. More eggs should be produced and eaten in India.

Condiments and spices, such as chillies, tamarind, saffron, pepper, cinnamon, garlic, etc., are used in all Indian homes. They add flavour to rice and other foods and increase appetite. But they do not supply body-building materials, vitamins or mineral salts to any great extent. Condiments taken in excessive amounts may be bad for the stomach and intestines.

Some of the Results of Wrong Feeding.—The usual diet eaten by poor people in India is in many ways a bad diet. It usually contains too much rice, and too little milk, pulses, vegetables etc. A child who does not get enough of the right sort of food to eat will not grow properly; it will be thin, small, weak and easily tired. The skin, instead of being smooth and glossy as it should be in a healthy person, will be dry and rough. Eye trouble and sore-

ness of the lips and mouth are sometimes caused by wrong feeding. People living on a poor diet get all kinds of illnesses more easily than well-fed people, and when they get sick they take longer to get well. A good diet is particularly necessary in places where there is much malaria and hookworm. Both these diseases cause *anaemia*, which means lack of sufficient good rich blood. People without enough blood are weak and sickly. Iron enriches the blood, and anaemia caused by malaria or hookworm can be improved by taking iron pills or tablets. A good diet contains more iron than a poor diet, so that proper feeding also helps to enrich the blood.

The Right kind of food for Indian Children.—Sir Robert McCarrison, who worked for many years in India and is a great authority on diet, has written a little book called "Food", for use in schools in India. The following is a passage from "Food":

"The right kind of food for Indian children and, indeed, for children in any country, is one made up of the following simple things: (1) any whole cereal grain or mixture of cereal grains; (2) plenty of milk and products of milk—curds, buttermilk, butter, ghee; (3) sprouted pulses; (4) eggs; or liver; or meat; or fish; occasionally, if religion permits their use; (5) tuber and root vegetables; (6) abundance of green leafy vegetables; and (7) fruit. These are the things with which the appetite should be satisfied; the things that should be eaten for health's sake. What else is eaten does not greatly matter so long as it is simple, clean, easily digestible; well prepared and not in excess of the body's needs."

[Next article will deal with the deficiency diseases due to faulty nutrition and how they can be prevented.]

News and Notes

By

A. K. SINGH, B.A.

COLLEGE NEWS

The Opening Ceremony of the College this year came off a week later than the actual date of opening. Mrs. Hensman gave the commencement address. New students and Old Boys enjoyed and appreciated her talk.

We are again on our path of service and hard work. There is ample proof that the seeds which have been sown for the cause of Health and Physical Education are bearing fruit. The new feature of this year's batch of students is the enrolment of 26 women. Besides these, 74 men enlisted, and as usual we have one student from outside India; he is from Thailand. It is very encouraging to note that the strength of the College has not dwindled in spite of the two new colleges in the north, and the number of Diploma candidates has again gone up like the previous years. Majority of our students this year are from Andhradesa and the group as a whole from the point of health is much better than last year. We hope to mould this material into good shape.

HOSTELS

At last, the College has been able to have permanent hostels for all the students. The addition of three more pucca cottages has given us an accommodation for 80 students, and we know that our students will be more comfortable now.

Mr. and Mrs. J. H. Dunderdale: We miss them a lot, as they have left us for Colombo where Mr. Jack Dunderdale has taken up work with the boys of Ceylon.

Mr. C. C. Abraham: spent a few weeks of his vacation at the Nutrition Laboratory in Coonoor, and is utilising his knowledge about nutrition in his enthusiastic scheme of Health Education.

Mr. A. K. Singh got married on May 20th to Miss Dorothy Thomkinson. They thank all those who very kindly sent them greetings.

Mr. P. M. Joseph paid us a visit on his way to Bombay. His stay here was so short, and on a Saturday, so we were unfortunate in not making the best use of him, by making him speak to the students. All of us were so glad to meet him and his family.

OLD BOYS NEWS

Chevana Gowder (1939-40) has been appointed in the Board High School, Hoobathalai and is trying to do his best as he has got some facilities. We wish him luck.

Safdar Q. Baksh (1939-40) is working in the Baptist Mission School, Montgomery, and is making the best use of the training that he had here.

C. A. Backianathan (1939-40) has been employed by the Anderson High School, Conjeevaram. We are sure he will be a great help to the school.

Mathura Prasad (1939-40) has started his work at Gwalior. Though he has not got the response that he expected, still we hope he will be given a chance to make full use of his training at the College.

M. Somantho (1939-40) started his work in May and is doing useful work. He is soon getting married and we wish him luck and a happy new life.

Amar Nath (1938-39) got married on July 12th. We congratulate him heartily.

R. P. Joseph was married to Miss Daisy Viswasam on May 13th. We are sure that both the Physical Directors will do good work jointly. Our sincere good wishes and hearty congratulations to both.

N. Thangavelu (1939-40) is working in Ramakrishna High School, Mambalam.

D. G. Mulmulay (1938-39) has been appointed in Railway School, Bandikui.

V. D. Pitchai Pillai (1936-37) has been appointed a Junior Deputy Inspector of Schools. We believe he will have new opportunities now for promoting Physical Education.

A. Surendranath Rao (1934-35) has also been appointed Junior Deputy Inspector of Schools and is very anxious to do his best in the cause of Physical Education. We wish him every success.

R. S. Govindarajan (1937-38) was married on 8th June. We wish him a long and happy married life.

S. C. Ratha and Nai Mongol (1939-40) are working in the Government Physical Education Department, Bangkok, Thailand. We are sure they will do everything to give an impetus to Physical Education in the far east. We wish them success.

E. Gould Jacobs (1937-38) has been employed in London Mission High School, Salem, after taking his L.T. He has got plenty of facilities and support from other teachers for the Physical Education work. We are sure he will succeed in his work.

Book Reviews

INTRAMURAL SPORTS by Elmer D. Mitchell Ph.D. published by A. S. Barnes and Company, New York, 1939. Pp. 324, Price 2 Dollars; by C. C. Abraham, B.A., M.P.E.

Intramural sports means all competitive and recreative sports which takes place within the walls of a particular school. The word *intra*, meaning within, and the Latin word *muralis*, meaning wall. The implication takes us back to the time when all cities were surrounded by walls. To-day, the term, in its symbolical sense, refers to all activities taking place within an imaginary boundary of the particular school or institution.

The popular use of the word intramural links it with activities confined to one particular school, either among individuals of that school that compete with each other. In a sense such teams are representative teams; but they represent subdivisions of the school—never the school as a whole.

The tendency in our schools is to have just one representative team to represent the whole school and the emphasis is on Inter-School competitions. This practice must give place to a scheme whereby as many of our boys and girls get the opportunity and the thrill to vie with each other in competitions within the school itself. To those of us who are interested in making physical education reach the largest number, this book by Elmer D. Mitchell will be very helpful.

The original edition of this book was published in 1925. For fourteen years, it remained as a standard work on the subject. The book has been entirely rewritten and many new illustrations have been added. It is a comprehensive text and guide on Intramural Sports.

The book offers the results of years of experience and investigation. It abounds with practical suggestions that have been found to be successful in actual practice. There are reproductions of forms, programmes, and other printed material that have been used throughout the U.S.A. and which can be adapted for individual school programmes in our country. "Sports for All" and "Sports for Sports sake" are the key note of the intramural movement. This new book will surely help to install a progressive programme of physical education in our schools and colleges.

SOFTBALL (Playground ball) by Arthur T. Noren published by A. S. Barnes and Company, New York, 1940. Pp. 108, Price 1 Dollar; by C. C. Abraham, B.A., M.P.E.

Playground ball or Soft ball is becoming a very popular sport in many of our schools and colleges throughout India. In this book Arthur T. Noren outlines the technique of the game, describing each position, then outlines the fundamentals of batting, base running, and team play. The official rules for 1940 together with the interpretations of the rules are included. The