

* VARTHAGA OOLIAN. *

Monthly Journal of Commerce, Trade, Industry, Finance and Agriculture

TRICHINOPOLY, APRIL 1940

திருச்சிநுப்பள்ளி, ஏப்ரல்-மீ 1940

CONTENTS.

	PAGE
Jottings ...	174
Labour Strikes ...	175
The Indian Sugar Industry ...	176
Co-operative Movement in Hyderabad ...	178
New Way to Fight Famine ...	179
Mr. M. H. Kantawala on Ceylon Exports ...	184
Reviews ...	185
Economic Progress of Mysore in 1938-39 ...	186
கால்நடைகள் உணவில் வைடமின் “ஏ” சத்து ...	188
சிறந்த தர்மம் ...	189
ரோடியோ ...	190



மலர் 8

EDITOR: T. V. K. NAIDU.

“VARTHAGA OOLIAN”

Annual Subscription.

Merchants	Re. 1
Others	Rs. 3
Foreign	Sh. 5

Advt. Tariff per Insertion

One inch.	Re. 1-8
Half Page	Rs. 10
One Page	„ 15
Wrapper Page	„ 25

Advertisement without prepayment will not be considered.

For further particulars write to the Manager.

RECEIPT OF A COPY OF

“VARTHAGA OOLIAN”

IS AN INVITATION TO
SUBSCRIBE OR TO ADVERTISE

All Correspondences, Money Orders etc. should be addressed to

THE MANAGER,

“VARTHAGA OOLIAN”, TRICHINOPOLY, (South India.)

“வார்த்தக ஊழியன்”

வருட சந்தா.

வார்த்தகர்களுக்கு ரூ. 1
மற்றவர்களுக்கு „ 3
வெளி நாட்டிற்கு ஷி. 5

மாதம் 1க்கு விளம்பர விலை.

அங்குலம் ஒன்றுக்கு ரூ. 1-8
அரை பக்கத்திற்கு „ 10
பக்கம் ஒன்றுக்கு „ 15
ராப்பர் பக்கத்திற்கு „ 25

முன்பணமில்லாத விளம்பரங்கள் பிரசுரிக்க முடியாது.

நீடித்த கால விளம்பரங்கள் நூக்கு மாணேஜருக்கு எழுதவும்



JOTTINGS



Handloom Industry.

The Government of India have decided to continue the grants-in-aid for the development of the handloom industry till the end of March 1942 on the existing scale viz Rs. 5 lakhs a year.

Butter Perfume.

German scientists have found out an ingenious way for satisfying the craving for butter. They have invented what is called "butter perfume" which is said to be now on sale throughout the Reich. It is claimed that two or three drops poured on to food give the impression that it has been cooked in butter.

Research on Flax.

The Indian Central Jute Committee has decided that research should be made at the committee's technological laboratories into fine jute yarns jute blended with flax and into weaving. This is with a view to capture a share of the world's flax market. Machines are to be installed as soon as possible at the laboratories to test the flax grown in India during the coming season.

Industrial Directory for Baroda.

The Department of Statistics, Baroda, is preparing a directory of Industries in the State containing information about the progress made in major and minor industries in the state. A questionnaire was prepared and sent to the industrial establishments in the state for supplying the required information. A surveyor was also appointed for collecting the same by visiting the factories.

Cottage Industries in Rampur State.

The Rampur Government have been devoting special attention to the development of cottage industries. Large amounts, it is stated, have been provided for this purpose. A recent conference of weavers in Rampur considered ways and means for the assistance of local weavers and for the development of handloom and hosiery industries. A detailed scheme is being drawn by the Secretary for Industries for submission to the Rampur Government.

Travancore Ceramic Factory.

H. H. The Maharaja of Travancore opened on March 6 the Government Ceramic Industries at Kundara. There is said to be an inexhaustible deposit of good china clay while there are good facilities for transport by backwaters. The disposal of the waste and residual materials was a paying proposition because of the reclamation of land nearby. The factory will not only produce water and drainage pipes, sanitaryware electrical goods and articles of domestic use and toys but also refine and market china clay. A leading Bombay firm is stated to have contracted to purchase the entire production of china clay.

Regional Soap Corporations.

Presiding over the 7th annual conference of Indian soap makers at Bombay on March 9, Mr. S. G. Sastry suggested that as a first step towards rationalisation of the soap industry, regional soap factories should set up corporations for co-ordinating their efforts in various directions such as procuring chemicals, arranging advertisements and laying down standards of soaps. Every member of the corporation would gain by this cooperative effort and have a share in the profits of the corporation while continuing to enjoy its own independent existence and developing its own specialities. Such enterprises were very common in Japan and played an important part in the foreign trade of Japan.

Preservation of C-nifilms.

Up to the present no treatment of celluloid films has been able to safeguard them from the danger of spontaneous combustion after about ten years. Lately, British experts, it is stated, have been discussing measures for preserving films for an indefinite period of time by special storage methods including the maintenance of an even temperature in the place where they are kept. At the same time, a senior chemist at the Government laboratory at Clements' Inn is experimenting with special preservative treatments for celluloid. The British Film Institute have acquired special storage vaults for their film library at Astom Clinton, Bucks, where films will be stored at an even temperature.

Overseas Trade of the United Kingdom in 1939.

The remarkable resilience shown by United Kingdom trade in face of the difficulties created by the war is clearly shown in the United Kingdom Overseas Trade in December 1939. The value of the exports was 3 per cent., greater than those in December 1938, a peace month, which is a striking tribute to the efforts made by His Majesty's Government in collaboration with British Industry and to the confidence reposed in us by consumers throughout the world says the *Commercial Bulletin*.

For the year as a whole imports fell by £33.6 million (4 per cent.), exports of United Kingdom goods by £31.9 million (7 per cent.) and re-exports by £ 15.6 Million (25 per cent.) For United Kingdom exports the decline was wholly since the outbreak of war, there having been an increase of £6.7 million in the first eight months of the year. For imports and re-exports there was a reduction in the pre-war period as well as during the war, amounting for imports to £ 10.5 million and £ 23.1 million respectively, and for re-exports to £6.0 million and £9.6 million respectively.

VARTHAGA OOLIAN

APRIL 1940

LABOUR STRIKES.

THE prolonged labour strike in the textile industry of Bombay has happily come to a close in the middle of this month and the labourers have after all agreed to accept the recommendations of the Conciliation Board. The Board had recommended an increase of 10 per cent dearness allowance, but the labour union demanded 15 per cent. It might be mentioned here that the Mill-owners had also agreed to provide cheap grain stores. That labour should refuse to accept the recommendations of a duly constituted conciliation board and that labour leaders and their supporters should be allowed to declare a strike causing heavy losses to all concerned and that political parties should take sides on a purely economic question, all these show the magnitude of the labour problem to be tackled. The battle between labour and capital seems to be fought on many fronts and consequently the issues seem to be confused. First, there is the question of intrusion by politicians, communists and socialists. Both labour and capital as also the Government have to decide, and that early, whether it is desirable to allow mischief mongers to interfere with the peaceful relations that are being attempted to be established in industry. Only those communists and socialists who are enamoured of the Russian millenium would deliberately attempt to create and foment industrial trouble. It is for the country to decide whether these agitators should be allowed to influence and lead labour.

There are some others who talk loosely about the relations between labour and capital. They say that capital and labour are partners in industry, that labour is entitled to a share in any increase in profits, a few going to the extreme of demanding a share in the control of industry by providing seats for labour in the boards of management. There was also recently a proposal that dividends should be restricted and what was left over should be distributed among labourers either as bonus or by way

of increased amenities and provision for future. Nobody seems to think of the effect of these proposals on capital, whether such proposals would not prevent increased investments on industrial enterprises. Again; there is no answer to the query of the capitalists whether labour would be willing to forego a share of their wages if industry is hit hard by depression and other causes. There are occasions when industrial concerns are unable to pay any dividend at all or pay only a nominal dividend. Will labour permit a proportionate decrease in its wages?

There are many so called labour leaders who do not try to understand the various aspects of a labour dispute but simply launch a strike bringing trouble and misery to thousands of workers. Mr. N. M. Joshi speaking at Bombay on the eve of the withdrawal of the textile strike admitted that the anticipations of the workers that the cost of living would further rise had not proved correct. It is clear from his speech that what Bombay labour demanded was not to meet the actual increase in the cost of living but what the workers (which means the labour leaders) anticipated would be the increase at some indefinite future. The labour leaders merely speculated and have goaded the workers to a strike. It is a pity that these so called leaders have not cared to study the relation of the increase in prices to the cost of living of the industrial workers. It is also a pity that the labour leaders tried to save their faces by attempting to throw the blame for the strike on the ill-educated and illiterate labourers.

The large number of strikes in this country and the frequency and the length of these are a very disturbing feature in the industrial development of India. Serious attempts should, therefore, be made to evolve a scheme of industrial relations which would automatically prevent the occurrence of strikes. For this, certain fundamental issues have to be clarified some of which we have mentioned above. First there is the question of partnership between capital and labour. Any partnership can only be between willing parties. Both should be prepared to face any risks as they would be willing to share in prosperity. Labour should be prepared for a reduction in wages

in times of depression. Is labour prepared to admit such a formula. Is capital willing to launch on any enterprise on these terms. If not, are governments, provincial and state, prepared to launch any undertaking on these conditions. If the Congress party comes to power again, they may be expected to gamble that way with the tax-payers' money. Until then, we have to frame a code of industrial relations on the assumption that capital would not take labour as a willing partner and that labour would not be prepared to share the risks which capital is liable to.

The most satisfactory arrangement that could be evolved is as follows:—A minimum living wage on a reasonable scale should be worked out and fixed for each different area and for each class of industry taking into account the various conditions in each area. There should be provision for working out the cost of living index for each area and this should be published each month as is being done for important cities. And the minimum wages for several industries in different areas should be changed periodically if necessary by a Wages Board appointed by the Government which should take into account the capacity of the industry to pay any increase, the effect of such increase on the industrial development and trade of the country, the possibility of any competition from foreign countries, its effect on capital and other relevant questions. Such Wages Boards are functioning in Australia. A study of the working of the fixation of wages in Australia might be found very useful in tackling our present industrial problem. When wages are fixed periodically on an equitable basis, there would be no reasonable ground for labour to declare a strike on the question of wages and if any unlawful attempt is made by the mischief mongers in that direction, the various governments should see that such attempts are put down.

Likewise, other labour questions should be tackled on similar lines before we can think of industrial peace in the country. Hence it is necessary that responsible people in the country take up this question as early as possible and arrive at a suitable solution.

The Indian Sugar Industry.

MR. R. C. Srivastava, Director, Imperial Institute of Sugar Technology stated, in his review of the Sugar Industry in India, that the increase in 1938-39 of sugar prices had provided an incentive to growers for planting more cane. If the present conditions continued there was, he added, danger of over production in 1940-41 when the difficulties experienced in 1936-37 might be repeated. The Indian Sugar Syndicate also feared over-production due to another cause viz. the erection of factories in various parts of India. The fears of over-production have now materialised. There is an increase of about 100 per cent over the production of sugar of last year.

Commenting upon the situation Mr. Srivastava stated that such over-production and under-production and the resulting wide fluctuations in sugar and cane prices which were becoming a feature of the sugar industry in the country showed a state of unstable equilibrium. He made a plea for planning for the industry in such a manner that the growers as well as the factory owners were assured of a fair margin of profit over a number of years and the consumer paid a reasonable price for sugar.

For want of proper planning not only the industry-but the consumer also is put to hardship.

Protection for sugar industry was granted with a view to place it on a secure basis during its infant stage and to protect it against unfair competition from the highly developed sugar concerns of foreign countries. The sugar consumer was asked to bear the additional burdens in the shape of a protective tariff to enable the industry to stand on its own legs. It might be reasonably expected that the phenomenal growth of the industry would have led to a gradual reduction in the price of sugar leading to a reduction of the burdens of the tax-payer.

But what we find after so many years of protection is that the price of sugar has not been reduced and whatever gains are possible from such high price levels are made over either to the sugar capitalists or to the growers, in most cases to the latter. It looks as though the consumer has no say in the

matter and if this position is to be maintained, then there is no argument in the protests of interested parties against the increase in sugar excise duty as, after all, the increase would be attempted to be passed on to the consumer. The latter has apparently no representative to uphold his interests except perhaps the present Commerce Member who tried once to plead for the interests of the consumer at the conference of steel interests.

It is time that the interests of the consumer are looked after by the Government of India. The aim of the socialist-minded provincial ministers seems to be to put more money into the pockets of the cane growers at the expense of the sugar consumers. The linking of the cane prices with the sugar prices in U. P. & Bihar cannot be explained in any other way. Such linking on a sliding scale leads to the vicious circle of increased sugar prices and increased cane prices leading to increased cane production, over production of sugar, lowering of sugar prices, and consequently of cane prices, importation from Java etc. There is no planning as urged by Mr. Srivastava. Protection ought to have stabilised the industry but it has led to instability.

There is another question that has to be faced sooner or later. Are the different provinces of India to be dependent on the vagaries of U. P. and Bihar. Are they not entitled to make their own attempts to produce cheap sugar if facilities for such production exists. The leaders of the provinces would be failing in their duty to their brethren in their area if they do not help in such attempts. Such attempts would be a salutary lesson to the high-handed socialist minded persons in the main sugar producing areas to reduce the profits of cane growers and thus lessen the burden on the tax-payer, i. e. the sugar consumer.

The Government of India have a very responsible duty to perform in this connection. They have to ensure that the burden on the consumer of sugar is gradually reduced. The sugar capitalist need not grumble as with a reduced price of sugar and a consequent reduction in the price of cane, he stands to gain by way of increased return on the capital invested. *The Indian*

Sugar for March gives certain figures which go to show that with a reduction of a rupee in the price of cane, the percentage of profits increases from one to 2½.

The price of sugar should be kept at a level which would give both the sugar manufacturer and the cane grower a reasonable economic return on their investment and for their labour. Keeping sugar prices steady between reasonable maximum and minimum levels would keep cultivation of sugar cane steady and within economic limits. There would be neither over-nor under-production. Under-production of sugar due to abnormal natural causes such as failure of rains, crop pests etc. might be easily met by importation of foreign sugar, while over-production due to bumper crops of cane due to adequate rainfall, freedom from cane diseases, larger recovery of sugar etc. might be attempted to be disposed of by exports to foreign countries. The question of an export trade for sugar might also be considered. This might be solved by controlled increases in the area under cane, better cultivation methods, improvements in methods of sugar production if possible, utilisation of palm jaggery (the latter being made increasingly available by the extension of prohibition), extension of sugar production in non-sugar provinces thus allowing the main sugar provinces to concentrate on foreign trade etc.

Vigorous attempts should also be made by the various provincial governments and sugar industrialists to effect improvements in the methods of cultivation. The methods of the Mysore Sugar Company which seem practically to control sugar cane cultivation by the supply of manure and seeds and the purchase of the ryots' cane might be studied and if the system is found feasible might be copied wherever possible by other factories. The various provincial governments should also take vigorous steps to improve sugar cultivation so that the yield per acre might increase both in quality and quantity and the cost of cane reduced. This would lead to a reduction in the price of sugar which would not only lead to easing the burden on the consumer but also enable India to create an export trade in sugar.

Co-operative Movement in Hyderabad.

The co-operative movement continued to make satisfactory progress in Hyderabad State in 1937-38 although the year was not without anxiety for the credit societies and banks, says the report of H. E. H. the Nizam's Governments' Co-operative department.

There was a growing demand for credit societies but the Government adhered to its policy of guarded expansion. The policy pursued by Central Banks of controlled credit and of restricting it to crop-loans had a sobering effect on the movement. Villagers have begun to realise that they should not expect their societies to finance each and every requirement, irrespective of the fact whether it is intended for productive or non-productive purposes. The legislation passed recently by Government for the control of relief and rural indebtedness had a salutary effect on money transactions in rural areas, where there is an increased demand for credit societies.

The educative work of the Central Co-operative Union was carried on by 13 propaganda agents who toured for 1,100 days, gave lectures and held training classes at 34 centres. The rural re-construction scheme approved by Government was introduced in all districts and one village in each Taluq was selected for intensive treatment.

With the registration of 298 new societies and the cancellation of 44 old ones, their number stood at 3,573 as against 3,119 in the previous year, while their membership recorded a corresponding increase from 1,05,224 to 1,20,467. Similarly the working capital of the movement as a whole improved from Rs. 2,51,94,081 to Rs. 2,60,98,720, out of which the owned capital was Rs. 1,16,00,068. This shows that the societies were loyal to the fundamental co-operative principle of thrift. The paid-up share capital and the various reserves were larger than last year and stood at Rs. 58,72,517 and Rs. 52,45,762 respectively, their proportion to the working capital being 44.4 per cent.

The agricultural credit societies increased in number from 2,546 to 2,963, and their membership rose from 52,241 to 56,561. The working capital went up to Rs. 83,44,735 and the owned capital to Rs. 40,38,085. The latter was made up of Rs. 16,52,168 shares, Rs. 2,19,548 members' deposits and Rs. 21,66,369 reserves. The owned capital of these societies is 48 per cent of the working capital, and every endeavour is being made to increase their owned resources by teaching the members the virtues of thrift and savings.

The non-agricultural societies maintained their pace of steady progress. Their number and membership rose from 505 to 612 and 34,103 to 43,800 while the working capital increased from Rs. 47,62,368 to Rs. 51,13,925 and the owned capital from Rs. 31,56,206 to Rs. 33,82,459. The salary-earners' societies were conspicuous among them by their continuous growth; they had to their credit a membership of 17,030 and a working capital of Rs. 33,24,646 out of which as much as Rs. 25,66,016 or 77 per cent was owned capital. They were followed in the order of merit by Urban Banks which numbered 109 and claimed 13,497 members with a working capital of Rs. 10,75,649. Rs. 4,32,303 or 44 per cent of the total capital was owned by them.

Grading of Mangoes.

Grading of mangoes is said to be appreciated by the Bombay merchants and a premium of four to eight annas per railway maund was obtained for the special quality exported from Chittoor district. In order to demonstrate to the producers and merchants the benefit of selling the produce (mangoes) after proper grading an experimental grading station was opened during the last season at Chittoor. Over 3500 baskets weighing about 1500 railway maunds were despatched to Bombay and sales effected with the assistance of the Provincial Marketing Officer of that province. That grading efforts have only touched the fringe of the problem would be seen from the fact that the district produces about two million maunds of mango fruits out of which 114,000 maunds are exported to other provinces as follows:—Bombay 69,000 maunds; Central Provinces 29,500 maunds; Nizam's State 11,000 maunds and Other Provinces 5,000 maunds. Besides 50,000 maunds are exported to places within the province.

As grading is appreciated by merchants and brings in a better return the garden owners are advised to take up grading. The Provincial Marketing Officer, Madras, should be approached for particulars and assistance.

Co-operation in Baroda.

During the half year ending January 1940, 57 Co-operative Societies were registered in Baroda of which 12 were thrift societies of women, 6 development associations, 8 for depressed classes, 3 joint sale, one co-operative mill and one housing society. The work of re-organising and reconstructing bad and stagnant societies was taken up. There will be 151 societies reconstructed during the period of report. The cotton growers' co-operative ginning society at Kosamba finished the erection of the factory and will commence ginning work during the season. The Kodmar Banking Union carried out the work of joint sale of cotton and agricultural produce of its members. The Agricultural Bank at Amreli supplied grass and seeds to the agriculturists through the societies at the time of scarcity of rains in early monsoon. A co-operative training class was held at Padra during the period.

Working Class Cost of Living.

The cost of living index numbers for the working classes in Madras city works out to 105 for March 1940, and is higher by one point than the index for the previous month. As compared with the previous month, the index number for the fuel and lighting group rose by nine points to 121 owing to an increase in the prices of firewood and charcoal. The index numbers for the food, clothing, housing and miscellaneous groups remained unchanged at 103, 117, 100 and 103 respectively.

Sale societies which remained eight in number with a membership of 766 and a working capital of Rs. 48,491 do not seem to have made progress compatible with their importance in rural economy.

Mr. C. A. Muirhead.

Mr. C. A. Muirhead, Agent and General Manager, S. I. Railway, has assumed charge from Mr. J. W. Gordon, C.I.E., O.B.E., Manager, Jodhpur Railway, of the Presidentship of the Indian Railway Conference Association from April 1, 1940.

Mysore Railway Requirements.

Recently the Mysore Iron and Steel Works have been making spare parts for their own use and also for the Mysore Paper Mills and other industrial concerns. Some work in this direction is also being done in the Electric Factory. The Railway Department have asked the Mysore Iron and Steel Works, Bhadravati, for the manufacture and supply of axle boxes, buffer guides, cast steel wheels, etc., required for the Railway. All the cast iron materials are made at Bhadravati and raw steel made into necessary parts. Only special steel castings and parts are got on foreign indents, as it is not possible to manufacture them in the Railway Workshops.

Objects of Merchants' Meetings

The Railway is a commercial concern and as such personal contact with its customers goes a long way in establishing mutual confidence and goodwill. It has been found that the best way in which such a contact could be brought about is by holding periodical meetings with the merchants. As a result each gets a first-hand knowledge of the view-points, problems and requirements of the other. The discussions that ensue prove fruitful in evolving measures to the advantage of both. That the Railway is sometimes unable to comply with the demands of certain merchants for reduction in rates, etc., should not be considered as neglect or carelessness on the part of the Railway Administration in dealing with such demands. Any item that is discussed at a merchants' meeting is very carefully scrutinised and considered from all its view-points before any decision is made. A request is turned down only on grounds which would operate against the interests of both, or against the interests of one which would outweigh the interests of the other. When a request is turned down, the merchants are apprised of the full grounds for the decision. Again as the Railway is the chief means of transport for developing unexplored but rich tracts or for giving an impetus to infant industries, etc., the Railway Administration is always open to make a reduction in rates (subject to the legal minimum) in order to help industries or commerce. In no case is, however, a rate imposed which the traffic will not be able to bear.

New Way to Fight Famine.

Experiments are now being conducted in India which give grounds for hoping that cultivators in areas of so-called precarious rainfall need have no fear of famine, according to *Indian Farming*, the new monthly magazine of the Imperial Council of Agricultural Research. These areas are mostly in Central and Southern India where crops are frequently lost by a failure of the monsoon.

In the Punjab and Sind, irrigation has converted deserts into smiling fields, but in the Southern Punjab, Rajputana, Kathiawar and some districts of the Bombay and Madras Presidencies and Hyderabad State, no irrigation is possible. The crops, generally *jowar*, *bajra*, *tur*, wheat and gram are grown over more than 20 million acres, and their failure brings famine to millions of people.

Experiments in dry farming financed by the Imperial Council of Agricultural Research indicate that, by adjustment of current agricultural practices, the farmers in these areas can grow their crops even when rainfall is below the minimum of 20 inches considered indispensable for cultivation. A practical method has already been adopted in Bombay as the result of studies in the conservation of moisture, improvement of soil conditions and plant growth.

So successful has been the new technique that *jowar* yields at the two experiment stations in Bombay averaged over five years, have shown a doubling of the grain yield and a 33 per cent increase in straw as compared with grain and straw obtained in the traditional way.

Under the new method, the cultivators of the dry areas plough the land with a turn-wrest plough at least once in three years in medium and deep soils. The land is bunded or terraced and divided into compartments to allow the rain water to move only under controlled conditions. Cattle manure is added at the rate of five cartloads per acre or a green crop of *sann* (*Crotalaria juncea*) buried every year to reduce the water requirements of the crop.

Repeated harrowings during the monsoon months before sowing help in conserving soil moisture and in destroying weeds. The surface of the soil is stirred frequently with bullock-hoes worked between the rows. Lastly, sowing with a moderate seed rate of four to five pounds per acre with a wider drill is being advocated.

None of the suggested measures involves expenditure of money, though they do call for additional labour. But the cultivator has plenty of leisure which he can usefully occupy by working longer and oftener in his fields. Apart from increasing the out-turn of the crops in the dry areas which can be valued at several crores of rupees, dry farming promises to guarantee them against famine, which is a constant menace to man and beast.

Tanning Industry in Hyderabad.

A five year scheme involving a total expenditure of a little over Rs. 1 lakh for improving the methods of flaying and tanning of hides and skins has been sanctioned by the Government of Hyderabad. The scheme is divided into three stages; flaying and curing; tanning; and manufacture of leather goods. Tanning being a highly technical process it is proposed to appoint a well qualified tanning officer to guide and control model tanneries to be set up by the Government. He will also undertake a survey of the industry and offer expert advice to tanning factories. In order to induce *chammars* and *dhers* to take to improved methods of tanning, they will, in the first instance, be asked to work in a tannery on payment of wages. After they have been trained for a period of at least three or four months, they would be asked to bring their hides to the factory and tan them there at their own expense under the supervision of the tanner.

Britain's Record Sugar Beet Crop.

More than half Britain's annual wartime requirements of sugar will be supplied this year by her own sugar beet industry, thanks to a record 1939 crop, yielding 500,000 tons of white sugar. Besides providing each citizen with 23 lb of sugar, this will release 66 cargo steamers for importing essential goods which cannot be produced in Britain: and the cargo space of 40 more ships will be saved because of the cruder sugar extracted—molasses, for cattle food—from the home-grown beet.

Nearly 350,000 acres of beet were grown last year, compared with practically none during 1914-18, and to make sure of another record yield the Government have guaranteed farmers a substantially increased price for the 1940 crop. The average yield of beet is about 8 tons per acre, and 6½ tons of beet give one ton of sugar.

Sugar beet pulp, left over after the sugar has been extracted is another valuable by-product, as it can be fed to all classes of stock in place of cereal meals. The beet tops, which are cut off in the field, are excellent for sheep. With a little grazing, one acre of tops will feed 100 ewes for a week, and, if not needed immediately, the tops can be converted into nutritious silage.

Private Broadcast Messages.

Obituary notices and urgent private messages when relatives are required at the bedside of a sick person, certified to be dangerously ill, are now accepted at all Postal Telegraph Offices in Ceylon for the purpose of being broadcast in one or more of the languages, English, Sinhalese and Tamil, as desired by the sender.

Messages must be written on the usual inland telegram forms in English and will be charged for at the rate of 40 cents per word of the English text for the first announcement in the language desired, and 20 cents per word for each subsequent announcement of the same message on the same day. The translation from English into Sinhalese and/or Tamil will be made at the Broadcasting Station.

Motor Vehicles in India.

Details have been supplied to the Indian Roads and Transport Development Association by the various Provincial and State authorities in regard to the number of motor vehicles in operation in India on 1st January last. These show marked increases in the number of vehicles in use in most of the provinces over the number in use a year earlier.

Bombay Presidency records the highest increase, with over 3800 new vehicles on the road, which is followed by Bengal with an addition of more than 2000 vehicles. The Punjab records an increase of 1000 vehicles, and Assam of 800, while many other provinces follow with increases in a less marked degree. One prominent feature is the steady increase in goods lorries recorded in almost all cases.

The number of motor vehicles in use in India is shown as 177,188 of which 113,175 are private cars. This reveals that there is now approximately one vehicle per 2000 head of population.

Electric Motor Car.

In Old Palace Yard, Westminster (the forecourt of the Houses of Parliament) a group of experts recently watched a small, sleek and noiseless motor car run round in circles, reverse, and generally go through its paces.

The car was driven by electricity, and the maker suggests that many people eager to divert petrol supplies to war purposes will buy these cars, which are very useful for town motoring.

Batteries will last, with normal running, for over a month, and can then be easily recharged.

The demonstration model the experts saw in Westminster is said to be beautiful in appearance, almost noiseless, easy to drive and maintain; it may quite easily set a new fashion in wartime motoring.

Heat from Cold.

We may soon be able to heat our homes in winter with the refrigerators which in summer keep our food fresh and cool. Engineers have discovered that even on the coldest day there is sufficient heat outside to warm our homes. The only difficulty is to capture the elusive heat units. Now they have mastered the secret of reversing the action of the refrigerator, so that instead of cooling, it captures the heat from the air and releases it in an enclosed space. The difficulty at present is the cost, but when that is lowered dual-control refrigerators shall undoubtedly become popular.

Minor Industries in Baroda.

The Government of Baroda have recently sanctioned a programme for the development of minor industries in the forest areas. Demonstrations at various villages in the art of making bamboo furniture and other articles; special facilities for the preparation of charcoal; investigation of the possibilities of starting toy and brush industries at Vyara or Songadh; the development of Katha, gum and lac industries, are the main items of the programme.

BOOKS RECEIVED

Annual Report on the working of Co-operative Societies in H. E. H. the Nizam's Dominions for 1346-47 Fasli.

Review of the Administration of Local Funds for the year 1347 F. in H. E. H. the Nizam's Government.

A. B. C. of A. R. P. from Jordan & Sons, Ltd., 116,, Chancery Lane, London W. C. 2.

Statistical Abstract of the United States, 1938.

Report on the Administration of the Mysore State for 1938-39.

Report on the Administration of Cochin for 1114 M. E.

"Finland" published by the Labour Party of Great Britain.

The Annual Report of the Patent Office for the year 1938.

Gas Storage of Fruit.

According to the annual report of the Food Investigation Board for 1938, successful experiments were carried out on the gas storage of home grown pears, apples and broccoli. No form of storage for apples can be reckoned successful, the report states, unless it conserves their flavour, and this is especially important in the case of the finest dessert variety, Cox's orange pippin. A full scale demonstration was arranged to remove any doubt in the trade as to whether this variety developed its full flavour after gas storage. Twenty-six tons of Cox's orange pippins were put into a gas store at the Ditton Laboratory at the end of September, 1937. The composition of the atmosphere of the store was 2.5 per cent of oxygen, 5 per cent of carbon dioxide, and 92.5 per cent of nitrogen, and was obtained by the removal of the excess of carbon dioxide by a scrubber commercial design, together with controlled ventilation. The temperature of storage was 39° F. The store was opened on February 22, 1938, in the presence of some 150 fruit-growers and other experts. The demonstration was completely successful, the fruit being in excellent condition; in fact, 80 per cent of it was graded as "Fancy" or "Extra Fancy". It can be confidently reaffirmed that gas storage, properly carried out, does not prevent in any way the full development of the unique flavour of the Cox's orange pippin apple. On the other hand, a subsequent survey of fruit of this variety from 10 representative areas has shown that the extent to which the flavour is developed depends, in the main, on pre-storage conditions, such as soil, manurial treatment and maturity at the time of gathering.

India's Trade with East Africa.

Although the total trade of Kenya, Uganda and Tanganyika Territory was in a depressed state imports from India recorded an improvement according to the report of the Indian Trade Commissioner, Mombassa for July to September 1939. During the first 9 months of last year imports from India into Kenya and Uganda were to the value £. 339,290 against £. 291,375 in the corresponding period of 1938, showing an improvement in the percentage share of India from 4.1 to 4.9 per cent. Exports to India in the same period fell from £. 2.8 millions to £. 1.5 millions recording a drop in the percentage share of India from 32.6 to 18.4. As a result, the visible balance of trade against India was reduced from £. 2,523,691 in 1938 to £. 1,188,287 in 1939.

India's imports into Tanganyika territory between January and December rose in value from £. 121,035 in 1938 to £. 146,817 in 1939. Exports to India on the other hand dropped from £. 140,350 to £. 88,613. As a result the visible balance of trade which was against India to the extent of £. 19,315 in the first 9 months of 1938 turned in her favour to the extent of £. 58,204 in 1939.

Link between Forests and Industry.

The Central Advisory Board on Forest Utilization consists of 28 members nominated by the Central and Provincial Governments, the Imperial Council of Agricultural Research, Federation of Indian Chambers of Commerce and Industry, Associated Chambers of Commerce of India and the Inter-University Board.

The functions of the Board are to advise the Forest Research Institute, Dehra Dun, in the selection of particular problems for investigation, on the initiation of such investigations and on the best means of making practical and beneficial use of the results obtained.

Much valuable work has been done at the Forest Research Institute, Dehra Dun, to test the practical possibilities of timber and other forest products for commercial and industrial use. The Utilization Officer, who co-ordinates activities of the officers in charge of the various sections of the Institute that deal with the problems of utilization, for instance, the wood-working and the paper pulp experts, visits centres of industry in order to stimulate industrial interest in the activities of the Institute. The Government of India were of opinion, however, that more could be done to ensure close and more active liaison between the forests and industry by the establishment of a permanent link. They, therefore, consulted all Provincial Governments and other interests concerned on the constitution of a Central Advisory Board on Forest Utilisation. The replies received unanimously favoured the creation of such a link, and the Board has accordingly been set up.

Cochin in 1114 M. E.

The report on the administration of Cochin for the year 1114 M. E. (1938—39) reveals general progress in the State. The total receipts of the administration amounted to Rs. 110 lakhs against Rs. 105 lakhs in the previous year, while the expenditure was to the extent of Rs. 101 lakhs against Rs. 105 lakhs in the previous year. There has been remarkable progress in the working of the various departments under the Minister while there was also a considerable awakening of popular interest in matters relating to rural uplift. In order to enable the Minister to frame a three year programme of rural development, Government announced during the year a special grant of Rs. 3 lakhs, a lakh to be spent every year from 1115 M. E. An allotment was also given for the purpose of giving loans to industrial and other development activities. In the industries department paper making by hand was introduced for the first time. Two persons were sent for training in paper making at Wardha one of whom has been employed for demonstration at the Rural Development Centre at Cherpu. For developing weaving industry on a cottage basis looms and accessories were given free. With a view to encourage training among hereditary artisans, rules of admission to the Government Industrial School at Chittur were relaxed. A scheme for the marketing of rural products of the State was approved during the year. According to this scheme all productive cooperative societies including rural development societies would organise themselves into a central society called the Cochin Rural Products Cooperative Society Ltd., and the society would run a depot at Trichur. The objects of the society would be to develop cottage industries, find proper markets for rural products to enable the actual producers to get better prices, grade and standardise rural products, to supply raw materials to constituents at favourable rates etc.

Twelve new companies were registered during the year, the majority of them belonging to the trading and manufacturing class. 29 companies ceased to work. The total number of companies limited by shares at work at the close of the year was 183.

Development of Handloom Industry.

Good progress is being maintained in the working of the centrally financed scheme for the development of the handloom weaving industry in the various provinces. Weavers' Societies have increased in number, new designs are being introduced and small scale factories providing new opportunities for employment have been set up. Last year sales of weavers' societies amounted to over Rs. 5 lakhs in the United Provinces, about Rs. 1½ lakhs in Bengal and over Rs. 1 lakh in Bombay. In Madras alone there were 123 weavers' societies. Facilities for calendering and finishing have been provided and in the initial stages the provincial society have decided to calender the goods of affiliated societies free of charge to popularise the process. Three more sales depots have been opened. A large number of new designs were introduced in many provinces while many students and professional weavers were trained in the industry. Some of the trained students have started their own weaving.

The Oriental in 1939.

We have been informed that the amount of New Life Assurance Business written by the ORIENTAL last year was:—

39,965 Policies Assuring Rs. 7,73,10,040.

Producing Dyes in India.

A suggestion was made at the recent Eleventh Industries Conference that the Government of India should investigate the possibility of producing dyestuffs, vegetable and synthetic, with indigenous material and other commodities with the assistance of appropriate scientific and other technical bodies or individuals. It is understood that the Hon'ble Dewan Bahadur Sir A. Ramaswami Mudaliar, Commerce Member to the Government of India is bringing the proposal to the notice of the Government of India. If the Government agrees, the work undertaken will be co-ordinated and placed before all industrialists and Governments—Provincial and State.

New British Sisal Process.

An important development in the process of extracting fibre from the leaves of sisal promises to extend its use and also the export of processing machinery from the United Kingdom. The new machinery handles the sisal far more gently than hitherto, and so reduces loss from broken fibre. Finer strands will open up new commercial uses and experiments with other fibres already indicate an extension in the demand for Empire fibre products. Each of the new units turns out 1,000 tons a year and costs about £4,500.

Broadcasting of Market News.

The Central Marketing Staff have arranged the daily broadcast from Delhi of 'ready' and 'futures' prices in Hapur market for a number of cereals, pulses and oilseeds.

In addition, a weekly market report in English and Hindustani is broadcast every Saturday and issued to over 100 newspapers. This includes a summary of the position in markets abroad as received from the Indian Trade Commissioner in London.

Attempts are being made to maintain closer relations between marketing staffs and the commercial branches of the railways, and as a result of discussion with the local marketing staffs, several railways have allowed more than 100 concessional rates on about 30 different commodities.

The scope of central legislation for controlling commodity exchanges dealing in 'futures' with a view to the elimination of (Satta) gambling transactions has been taken up by the Central Marketing Staff at the instance of the Ministers' Marketing Conference.

ENCOURAGE the habit of thrift
early in life and make suitable provision for your boy.

**TAKE OUT A POLICY UNDER
CHILDREN'S DEFERRED ASSURANCE**

WITH THE

“ORIENTAL”

**THE STRONGEST and MOST POPULAR
INDIAN LIFE ASSURANCE COMPANY.**

CHILDREN'S DEFERRED ASSURANCE
is a new scheme designed to enable a parent
to provide for his child by payment of a very
low rate of premium a Limited Payment Whole
Life or Endowment Assurance Policy, the risk
under which will commence at a selected age not
earlier than age 22

Write for particulars to :—The Branch Secretary

ORIENTAL

GOVT. SECURITY LIFE ASSURANCE Co., Ltd.

MCDONALD'S ROAD, CANTONMENT, TRICHINOPOLY.

Estd. 1874.

Head Office : BOMBAY.

Scientific Training for Orchardists.

An Orchardists' Training Class was recently opened at Ashwi Khurd in Ahmednagar district, Bombay Presidency where 40 students attended daily. The class was organised under the auspices of the local Agricultural Co-operative Credit Society and conducted by Mr. P. G. Gani, Assistant Horticulturist to the Government.

Whereas the area under orange plantations in the canal zone is rapidly increasing, in many cases the plantations are being conducted on wrong lines. In order to bring home to the growers the harmful effect of such plantations, it is intended through such classes as this to give sound and scientific training in the selection of sites, improved methods of cultivation, tillage, manuring, irrigation, pruning, control of pests and diseases and improvements that may be effected in existing gardens.

A feature of the class was that the operations were carried out on the growers' own orchards and the growers themselves were able to repeat immediately the operations demonstrated to them.

If similar classes are arranged by organised bodies, the Assistant Horticulturist to the Government, will be pleased to conduct them.

Profiteering Defined.

The purpose of the Prices of Goods Act (1939) of England is to prevent the price of goods to which it is applied by order of the Board of Trade (called "price-regulated goods") from being raised above the pre-war price by more than the increase in the costs of producing and selling them. The price thus arrived at is called the "permitted price." The permitted price of such goods will be arrived at by taking the price at which they were sold before the war with such addition as is reasonably justified, having regard to changes in certain items of costs and expenses. These items include, among others, the cost of the provision of materials and stocks of goods, the expense of manufacturing and processing operations, wages and salaries, administration and establishment expenses, and transport charges. Changes in the total volume of the business over which overhead expenses fall to be spread may also be taken into account, and any other matter may be added by order of the Board of Trade.

The pre-war price of goods taken for the purposes of the bill is the "basic price" and it will normally be the price at which goods of the kind in question were sold in the ordinary course of business on 1st August, 1939.

In cases where it would not be fair to take the price ruling at that date, either because it was affected by exceptional circumstances or because the price of the goods in question is subject to seasonal variation, the date will be varied accordingly.

Mr. M. H. Kantawala on Ceylon Exports.

Writing in the January number of the *Ceylon Trade Journal* Mr. M. H. Kantawala, Ceylon Trade Commissioner for India contends that it is not statistically correct to say that Ceylon "dumps" her cocoanut products into India as out of a total exportation of 35½ million rupees worth of cocoanut products from Ceylon to all countries, in 1939 India has only purchased a little under Rs. 8½ millions worth which gives a percentage of 24 per cent.

The value of cocoanut products exported to India is about four-fifths of the total exports from Ceylon to India; this figure is yet short by Rs. 3 millions of the peak of 1937 where India paid Rs. 1,18,54,600 to Ceylon for her cocoanut products.

Exports from Ceylon to India increased from 9 millions to Rs. 10·7 millions in 1939. There was a decrease in India's intake of Copra by 4532 tons, while the case of cocoanut oil was more satisfactory. The quantity sent to India was 13448 tons, almost double that of the figure for 1938. As regards dessicated cocoanut to popularise which in India some efforts were taken last year, there was only a slight increase of 70 cwt., the total exports of this commodity to India being 4687 cwt. valued at Rs. 47386. This disappointment was due, it seems, to the abnormal rise in price after the declaration of the war each cwt. since September having been landed at Rs. 15·77 as against Rs. 7·26 only in 1938. The average valuation for the whole year (1939) has thus become a little over Rs. 10 as against Rs. 7·35 previously. Dessicated cocoanut can continue to be consumed freely in India only if its retail price is in parity with that of edible copra, says Mr. Kantawala.

The export of cocoanuts was to the value of Rs. 1½ lakhs (3½ million nuts).

Indias consumption of Ceylon rubber fell from 368065 lbs. valued at Rs. 131371 to 7840 lbs. valued at Rs. 3879. This is probably due to the restrictions now operating on the importation of foreign rubber into India. It was reported last year that the manufacture now commenced in India of rubber goods by the dipping process was responsible for an increase in the importation of normal and concentrated latices; this increase is being maintained. From 1613 lb. in 1938, the imports of crude latex have jumped to 7915 lb. valued at Rs. 3609.

A decrease is also noticeable in India's consumption of Ceylon tea while there was a slight increase in the export to India of graphite. Notwithstanding the heavy duty there was some improvement in the quantity of betel nuts imported into India, the figures being 69468 cwt. in 1938 and 77452 cwt. in 1939.

Ceylon tobacco is sent only to Travancore but as the import duty in Travancore was raised during the latter part of last year by 50 per cent the total intake by Travancore fell from 2 million lb. in 1938 to 1¼ million lb. in 1939. The value too has gone down from Rs. 628,998 to Rs. 382414.

India remained the sole consumer of the Island's chanks and has increased her takings by about 45 per cent, the number imported being a little over 1½ millions valued at Rs. 25,832.



REVIEWS



Statistical Abstract of the United States of America 1938.

[Compiled by the Bureau of Census U. S. A. Government Printing Office, Washington. Price \$1.50.]

This volume of over 850 pages presents a concise statistical record of the various phases of the national life of the people and government of the United States. There are 865 tables classified under 33 sections. According to this book the national income of the United States was 69.8 million dollars in 1937 as against \$ 63.4 millions in 1936. The national income was very low in 1932 and 1933 when the figure was 40 and 42 millions respectively. Of the national income produced in 1937 manufacturing was responsible for \$ 16.7 millions, trade for \$ 8.6 millions, finance for \$ 6.5 millions, transportation for \$ 5 millions, agriculture for \$ 6.2 millions and mining for \$ 1.4 millions.

Figures relating to foreign trade of U. S. A. show that exports to British India were on the increase from 1933 except for a break in 1936, the figures for 1936 and 1937 being 26.8 and 43.7 millions respectively. Imports from British India increased gradually from \$ 43.7 millions to \$ 95.9 millions in 1937. The total export trade of U. S. A. was to the tune of 3349 million dollars in 1937 against 2455 million dollars in 1936, while the import trade was to the extent of 3083 million dollars in 1937 as against 2422 millions in 1936.

The book abounds in very many useful tables relating to industry, agriculture, labour, finance, trade etc. which will be found very useful for economists and others interested in the economic progress of India.

Southern India Chamber of Commerce Madras.

In his report on the activities of the Southern India Chamber of Commerce for 1939, the President Mr. M. Ct. M. Chidambaram Chettiar says that this is the most opportune time for India to build up her own mercantile marine and establish many new enterprises. Businessmen and industrialists have therefore a special responsibility to guide the destinies of the country in the years to come in the economic sphere and Chambers of Commerce and Trade Associations will be called upon to play a more important part in casting the mould of an economically self-sufficient regenerated India.

The report gives a detailed account of the Chamber's activities in various fields such as commercial and industrial legislation, communication, tariff and taxation etc. The visits of Sir A. Ramaswami Mudaliar, Commerce Member and other prominent persons were availed of by the Chamber by submitting memoranda on topical questions of the day and the report gives a connected and readable account of the interviews. Besides, the reports contains much useful information regarding the varied activities of the Chamber.

Ceylon and the War.

This is an illustrated monthly journal giving important facts and figures relating to the present war and the part played therein by Ceylon. The journal which was begun as soon as war was declared is published by the Department of Information, Ceylon. The articles are very instructive and interesting and relate among others to the various aspects of the defence arrangements. Special numbers relating to army, air force and navy have also been published. A Tamil edition is also published.

A. B. C. of A. R. P.

[Second Edition: Edited by. J. Gordon Hassel, F.C.I.S. Messrs Jordan & Sons Ltd., 116, Chancery Lane, London W. C.: 2. Price six pence]

This book is a practical pictorial guide for householders and A. R. P. Personnel illustrating Home Office instructions regarding Air-raid Precautions. The book contains among others pictorial instructions as regards construction of shelters and trenches of various kinds, gas proofing rooms, use of gas masks and respirators, information regarding high explosives and bombs and poison gases, anti-gas clothing, first aid etc. The book will give an idea of the comprehensive precautionary efforts taken both by the Government and the people in England against possible air-raids by the agents of Hitlerism.

The Pharmacist.

[Quarterly journal published by Mr. A.N. Lazarus, M.P.S. (India) Wilfred Pereiras Building, Vepery, Madras Price as. 4 per issue.]

This is a quarterly Journal devoted to the interests of Pharmacy in India. The January issue contains among others an interesting article entitled some aspects of Pharmacy, while Mr. A. Selvanayagam gives instructive notes in an article on indigenous drugs of economic importance in India. Other useful articles are emulsions in cosmetics and manufacture of malt from choham.

Paperless Cigarettes.

Cigarette smokers may enjoy an entirely new form of paperless cigarette. The wrapper is made by a special process from the stock and leaf of the tobacco. It is much thinner than the thinnest cigarette paper now in use, and is almost wholly transparent.

The new wrapper, a Hungarian invention, has aroused great interest in the U. S., and may revolutionise cigarette making. The tissue in burning consumes itself, leaving an infinitesimal quantity of ash which is not in the slightest degree unwholesome.

The tobacco wrapped in this way burns slowly to the end.

Economic Progress of Mysore in 1938-39.

There were 393 large industrial establishments in Mysore State in 1938-39 employing 62,593 persons per day according to the Mysore Administration Report for the year. The mineral, metal and textile industries continued to be the most important as usual followed by engineering industries and industries connected with food, drink and tobacco. Of the several companies floated during the year special mention may be made of a coffee curing works and glass and enamelling works. Thirteen large industrial concerns with a total fixed and working capital of more than three crores of rupees are completely owned by the Government of Mysore. About 18 concerns have started with the assistance of Government. A labour welfare board was constituted to deal with a wider range of questions affecting industrial labour. Industrial education is provided in 11 government institutions and four private institutions subsidised by Government. Grants are given to 13 home industries classes organised for the benefit of women. Mention has already been made of the several schemes in the State for the development of rural and cottage industries in the State. The year was not favourable for the silk industry due to the cheap dumping of foreign silk.

Intensive bee-keeping work has resulted in the existence of an increased number of bee colonies. Five new bee-keeping centres were opened in the Malnad during the year. There was progress in the work of improving the livestock in the State.

The intensive propaganda and demonstration by the Agricultural Department are stated to be yielding excellent results in the increased use of improved seeds, trial of new crops and new methods. About 4000 demonstrations have been arranged. Seed farms are now being systematically developed in the areas where seed is in demand. A scheme of subvention farms was also started during the year to find out which of the several very good varieties would be best suited to particular areas.

The success of the demonstration jaggery-unit for the preparation of cream jaggery by the "active carbon" clarification process and the attached "active carbon" plant induced Government to order the enlargement of the two units. A very large demand for instruction of the methods and supplies of active carbon has sprung up. It has been arranged to establish a factory for the manufacture of active carbon on a large scale for meeting the demands from ryots as well. Laboratory experiments on the use of activated carbon for clarification and decolorisation of honey and vegetable oils have been concluded and are found to be encouraging. Large scale trials for an economic utilisation of these results are in progress.

In the field of co-operation the attention of the department was diverted among others to the development of non-credit activities. Besides the formation of non-credit societies, efforts were made for the organisation of multi-purpose societies and the tackling on of multiple activities to the existing credit societies wherever conditions are favourable.

Benefits of a Regulated Market.

Opening the third market yard of the South Arcot Groundnut Market Committee at Tirukkoilur recently, Rao Bahadur K. Gopalakrishna Raju said that a regulated market benefited not only the grower but also the general trade. The exporters who bought groundnuts should not only have a sufficiency of supplies, but also should be assured of fair quality. Only a regulated market could ensure this. Further as the market developed, there would be stability in trade and business would have scope for expansion.

Industrial Research Board.

The functions of the Board of Industrial and Scientific Research Board were outlined by its Chairman Sir A. Ramasami Mudaliar at its first meeting held at New Delhi on April 1. The functions would be firstly, to advise the Government on proposals for instituting specific researches, secondly, to help specific institutions in the scientific study of problems affecting particular industries and trades, and, thirdly, to make proposals for the establishment of research studentships, scholarships and fellowships. The Board would receive proposals from various research institutions and Universities from industries and trades, and would also initiate proposals at the instance of any member and these proposals would be considered at the meetings of the Board and the Government would be advised as to whether these proposals were approved and if so what funds should be provided for carrying them out.

The next meeting should be held on June 8. In the meanwhile, the Chairman undertook to circulate to members a survey of the present state of research in the country regarding industrial matters and of the institutions which at present are engaged in or could undertake such research and to communicate proposals relating to research received in the meantime either from members of institutions or adumbrated by the Board's Director, Dr. S. S. Bhatnagar.

Japanese Opinion Regarding Indian Market.

It is generally presumed in Japan, that, provided the prices offered are sufficiently low, it will be possible to sell goods to India and there is, therefore, no need to consider Indian susceptibilities on a basis of reciprocity in matters of trade, says the Indian Government Trade Commissioner, Osaka, Japan, in his report for 1938-39. The consequence is, continues the Commissioner, that, whereas Japan is selling goods to India to the limit of her capacity under existing conditions, she buys from India only when and to the extent that she must.

PUBLICATIONS RECEIVED

London Chamber of Commerce Journal
 Statistical Bulletin of the International Tin Research
 The Pudukkottai Gazette [and Development Council
 The Industrial Australian and Mining Standard
 Mysore Chamber of Commerce Bulletin
 South Africa Standard Bank Review
 Mysore Information Bulletin
 Official Journal (Union of South Africa)
 Indian Jute Committee Bulletin.
 Monthly Survey of Business Conditions in India.
 Statistical Bulletin of the International Rubber Regula-
 The Cochin Government Gazette [tion Committee
 Monthly Summary of the National Bank of Australasia
 The Madras Wholesale Market Rates
 Market Information Bulletin (Ceylon)
 Madras Market Price Current (Patterson)
 Share Market Report (Maconochie)
 Mining and Geological Journal
 Indian Information. Norwegian Trade Review
 Southern India Commerce The Ceylon Trade Journal
 Indian Soap Journal Railway Herald
 Circulaire Commerciale Gram Udyog Patrika
 Bombay Information Economic News
 Anglo-American News Journal Officiel
 Monthly Record Industry
 The Whip Guardian
 Indian Listener Indian Trade
 Commercial News Batanagar News
 The Prince Indian Sugar
 Advertiser Ceylon and the War
 The Commercial Opinion Trade Advertiser
 Ceylon Radio Times Sugar Bulletin
 Sunday Observer Investment Guide
 The Pharmacist Paint
 Indian Concrete Journal Eastern Economist
 Indian Farming The Indian Trade Journal

Lighting by Invisible Rays.

By the use of a material that can be manufactured from garbage it is claimed that lighting can be effected by projecting rays on to walls and ceilings painted with this preparation. It glows when the rays are thrown upon it.

Mr. H. Ayres Purdie, British illumination engineer, is reported to have come to Australia to establish a factory to develop the new lighting method. The apparatus for the new invisible lighting consists of a black lamp, which gives out invisible rays when the electric current is turned on.

"Walls, ceilings, furniture, in fact, any substance or plastics, are treated with the preparation," Mr. Purdie said. "As the black lamp is switched on, the room or building begins to glow, and full illumination takes place within half a minute. "The principle on which the lighting operates is the harnessing of ultra-violet rays, which cause other substances to glow in the dark. The new lighting is still expensive. It costs about £15 to install in a large room."

Digging Gold Under Water.

Submarine gold-fields between Alaska and Admiralty Island will soon be worked over by a 9,000 ton, self-propelled dredging unit now under construction, devices being incorporated in it having reached the hitherto unobtainable depth of 1,000 feet under water.

Hydro-Electric Undertaking in Travancore.

The Pallivasal Hydro-Electric scheme was inaugurated on March 19 by Sir C. P. Ramasami Iyer, Dewan of Travancore. Switching on the scheme Sir Ramasami Iyer said that he looked forward in Travancore not to the rise of large industrial centres but to the spread of a net work of cottage industries and medium sized factories taking advantage of supplies of electrical energy from sources like Pallivasal. The project was sanctioned in 1932 and execution of the work was taken up in the following year under the control and supervision of Mr. K. P. P. Menon, Electrical Engineer to the Government of Travancore. The project was completed at the close of last year and is designed to be capable of extensions in the near future if necessary. The Government according to the present scheme propose to extend the net work for all areas in North and Central Travancore where lift irrigation using electric power appears to be a definitely economic proposition.

The capacity of the station is 13500 Kw. of installed plant capable of dealing with a continuous demand of 9000 Kw. The scheme when fully developed will be able to generate power and cater for a demand of 30000 Kw.

Development of Lac Industry.

How the London Shellac Research Bureau is popularising Indian lac products in the Western countries is disclosed in its Annual Report for 1938-39. According to the Report, India exported in 1938-39 as much as 642,254 cwt.

The London Shellac Research Bureau was formed to forge a strong link in the chain between the producer and the consumer by finding out what the consumer wants, what his difficulties are and to what extent the producer can meet those wants. In pursuance of this object, lectures were delivered and films illustrating the industry were shown, while lac exhibits were staged at the British Industries Fair in London and in other localities.

The Bureau is maintained by the Indian Lac Cess Committee which has also appointed a Special Officer, Lac Enquiry, in the United Kingdom. He receives information from different firms and countries about their difficulties in the use of lac and passes on the problems to the Bureau for solution. The research staff of the Bureau on its part has the benefit of contact and discussions with technicians in the industries during the course of work on these problems. Thus the co-ordinated action of the Bureau and the industries in the United Kingdom, which use some 40 per cent of the lac produced in India, leads to the larger use of lac and greater benefit to the lac grower in India.

கால்நடைகள் உணவில் வைடமின் “ஏ” சத்து

ஏகாதிபத்திய மிருக வைத்திய ஸ்தாபனத்தைச் சேர்ந்த டாக்டர் எஸ். என். ராய் கால்நடைகளுக்குக் கொடுக்கப்படும் உணவுப்பொருள்களில் வைடமின் “ஏ” (சத்து) இருக்கவேண்டிய முகப்பத்துவத்தைப் பற்றி ஒரு பிரசங்கம் செய்தார். அதன் விவரம் வருமாறு:—

எல்லாவிதமான சத்து உணவுப்பொருளும் கால்நடைகளுக்கு வேண்டுமா என்பது இன்னம் சந்தேகமாக இருக்கிறது. ஆயினும் ‘ஏ’, ‘டி’ சத்து உணவுப் பொருள் எல்லாவிதமான கால்நடைகளுக்கும் அவசியமெனத் தெரிகிறது. இந்த ‘ஏ’, ‘டி’ என்ற சத்து உணவில் ‘ஏ’ வைடமின் தான் முக்ய ஸ்தானத்தை வகிக்கிறது. ஏனெனில், ‘டி’ மிருகங்களின் தோலின்மேல் சூர்ய வெளிச்சம்பட்டாலே அதிவின்று உண்டாகிறது. சூர்ய வெளிச்சம் ஏராளமாக இருக்கும் நமது தேசத்தில் வருஷம் பூராவும் ‘டி’, வைடமின் இருப்பதால் இது வேண்டுமென்ற தேவை மிக்க குறைவே. ஆனால் வைடமின் ‘ஏ’ கால்நடைகளுக்குக் கொடுக்கப்படும் ஆகாரங்களில் இருக்கிறதா என்று பார்த்துக்கொள்ளவேண்டும். இல்லாவிட்டால் இதன் விளைவாக நாசகமான விளைவுகள் ஏற்படலாம்.

இந்த சத்துப்பொருளும் மிருக உலகில்தான் உற்பத்தியாகிறது. காட் என்ற மீன், ஹலிபட் என்ற மீன் ஆகியவைகளின் குடல் ஈரலில் இது மிகவும் நிறைய இருக்கிறது தாவரவர்க்கத்தில் வைடமின் “ஏ” இல்லை. ஆனால் இவைகளில் மஞ்சள் விதமான தொரு வஸ்து இருக்கிறது. இதற்கு “காரோடின” என்று பெயர். இது மிருகங்களின் தேகத்திற்குள் சென்றுவந்து வைடமின் “ஏ” யாக மாறுகிறது. கார்ட்டிகிழங்கு, வெண்ணை ஆகியவைகளுக்கு மஞ்சள் வர்ணம் கொடுப்பதுதான் காரோடின் என்ற வஸ்து.

பச்சை சோளம், ஓட்ஸ், மற்ற இலைகள் இதற்கு அடுத்தபடியான. இதைத்தவிர தானிய விதைகள், புண்ணாக்கு இவைகளில் இந்த சத்துப்பொருள் குறைவாகத்தான் இருக்கிறது. வெள்ளை சோளத்தில் காரோடின் கிடையாதெனலாம் ஆனால் மஞ்சள் சோளத்தில் இது நிறைய இருக்கிறது. பச்சை இளம் புல்லில் நிறைய காரோடின் என்பது இருக்கிறது. ஆனால் வைக்கோலாக இதனை செய்யும்போது வெளிச்சத்தினால் இது அழிந்து விடுகிறது. வைக்கோலில் காரோடின் இருக்காது. ஆதலால் கொட்டிலில் வைக்கல், மற்ற காய்ந்த உணவைத்தின்ற கால்நடைகளுக்கு மாரிக்காலத்தில் பிறக்கும் கன்றுகள் அவ்வளவாக நன்றாக வாழ்வதில்லை.

வைடமின் “ஏ” யின் முக்ய வேலை தேகத்தின் மேலுள்ள சதைகளை நல்ல ஆரோக்கியமான நிலைமையில் வைப்பதுதான். இது இவ்விதமிருந்தால் கிருமிகள்

உட்புகுந்து கெடுதி செய்யாதிருக்கும். இந்த வைடமின் குறைவாக இருந்தால் மேற்சொன்ன இந்த சதைகளைப் பலவீனமானதாகச் செய்து, கிருமிகள் சுலபமாக தசையில் நுழைந்து கெடுதலுண்டிடுபண்ண ஹேதுவாகிறது. இந்த காரணத்தினால்தான் வைடமின் “ஏ” குறைவான உணவுப்பொருளை சாப்பிடும் மிருகங்கள் நிமேனியா (ஜன்னி) ஜ்வரத்தில் சாகின்றன.

இந்த உணவுப்பொருள் கண்ணுக்கும் நல்லது செய்கிறது. இது போதுமானவரை உணவுப்பொருளில் இல்லாவிடில் கால்நடைகளுக்கு அந்திமாலை வருகிறது. பஞ்சாபில் அநேக இடங்களில் இந்த அந்திமாலை வியாதி சர்வ சாதாரணம். இந்த உணவு சத்து ரொம்பக்கடுமையாகக் குறைந்தால் இன்னம் பல கோளாறுகள் உண்டாகி இறுதியில் கால்நடைகள் கண் பொட்டையாகிவிடும். வைடமின் “ஏ” இல்லாத கர்ப்பம் தரித்த மாடுகள் சகஜமான கன்றுகளைப் போடாது. கர்ப்பம் சிதைந்துவிடும் அல்லது பிறந்து உயிரோடு இருந்தால், கண்ணை தெரியாதிருக்கும். இந்த கன்றுகள் பலவீனமானதாகவும், பார்க்கவாய்வு பிடித்ததுபோலும் இருக்கும்.

ஒரு கால்நடை கர்ப்பம்தரித்தால் சாதாரண காலத்தைவிட மூன்றுமுதல் 5 மடங்கு அதனுடைய போஷணை தேவை அதிகமாகும்.

போதுமானவரை பசுமையான புல்போன்றவை போடுவது அல்லது வைடமின் “ஏ” மிக நிறைந்துள்ள காட் லீவர் ஆயில் கொடுப்பதின்மூலம் இந்தக் குறைகளைபெல்லாம் போக்கிவிடலாம்.

கர்ப்பம்தரிக்காத ஒரு பசுவிற்கு ஒரு நாளைக்கு 14 மக் காரோடின் வேண்டும். இது மாடுகள் உண்ணும் காய்ந்த உணவுகளில் லக்ஷத்தில் ஒரு பங்காகும். இவ்வளவு குறைவாக இருந்தாலும் இது வேண்டும். இல்லாவிடில் மிருகங்கள் சிரமப்படும். இந்த காரோடின் அல்லது இதற்குச் சமையான வைடமின் “ஏ” $\frac{1}{2}$ ராத்தல் பசும்புல் அல்லது 2 அவுன்ஸ் காட் லீவர் ஆயிலில் கிடைக்கும். ஆனால் மட்டமான 100 முதல் 150 ராத்தல் வைக்கல் தின்றால் இந்த போதுமான காரோடின் கிடைக்கலாம். உஷ்ணக் காற்றினால் அல்லது வெல்லப்பாரு அல்லது திராவக்கல்பால் உலர்த்தப்பட்டபுல்லில் காரோடின் அப்படியே இருக்கிறதென சமீபத்தில் கண்டுபிடிக்கப்பட்டது.

காரோடினே அல்லது வைடமின் “ஏ” யோ தேவைக்குமேல் அதிகமாக உட்கொள்ளப்பட்டால் குறைந்த காலத்தில் உபயோகப்பட இது குடலிலேயே தங்கியிருக்கிறது.

மிருகங்களில் வைடமின் “ஏ” இருப்பது அதுனுடைய வெண்ணை அல்லது பாலில் காணலாம்.

கொஞ்ச வைடமின் “ஏ” உள்ள பசுவின் பாலில் இதுவும் கொஞ்சமாக அல்லது இல்லாமலே இருக்கும். ஆனால் நிறைய காரோடின் உள்ள உணவைச் சாப்பிட்ட பசுவின் பாலில் வைடமின் ‘ஏ’ நிறைய இருக்கும்.

குழந்தைகளுக்கும், வளரும் சிறுவர்களுக்கும் பசும்பால்தான் வைடமின் ஏ-க்கு முக்கிய சாதனமாக லால் இந்த விஷயம் சுகாதார அதிகாரிகளுக்கு மிக முக்கியமானது. மாரிக்காலத்தில் கொட்டிலிலேயே இருந்து வைக்கலைத்தின்னும் மாட்டின் பாலில் வைடமின் ‘ஏ’ மிகக் குறைவாக இருக்கும். இதனால் இப்பாலை அருந்தும் குழந்தைகளின் தேகாரோக்யமு பாதிக்கப்படும். ஆதலால் முன்னேற்றமான தேசங்களில் காரோடின் பத்திரமாக இருக்கும்படி மாட்டு தீவனத்தை காப்பாற்றி மாரிக்காலத்தில் இவைகளைக் கொடுத்து பாலின் தரம் கெடாதபடிச்செய்ய முயற்சிகள் செய்யப்படுகின்றன.

பிறகு டாக்டர் ராய் வைடமின்கள் கண்டுபிடிக்கப்பட்ட வரலாறு, மனுவ்ய தேகத்திற்கு இதனுடைய முக்கியத்துவம் ஆகியவைகளைப்பற்றி கூறிவிட்டு, “இளைப்பு, இலம்பு உருக்குவதுபோன்ற நோய்கள் வராவண்ணம் உடம்பைக் காப்பாற்ற வைடமின்கள் நிறைபக்கொண்ட உணவுப்பொருளை உட்கொள்வது தக்க பாதுகாப்பாகும். இவைகள் சாதாரண ஜனங்களால்கூட இப்போது உணரப்படுகிறது. இந்த முக்கியமான ஆராய்ச்சி சுமார் 25 அல்லது 30 வருஷ காலத்திற்குள் செய்யப்பட்டது. இதற்குமுன் ஜனங்களுக்கு இதனைப்பற்றி தெரியாது. இதற்கு முன் பெல்லாம் புத்தப்புது உணவு, பழைய உணவைக் காட்டிலும் தேவலையென்பது பல நூற்றாண்டுகளாக இருந்துவரும் விஷயம். ஆயினும் 1912-ஐ)த்தில் சர். பிரடிக் கோலண்ட் ஹாப்கின்ஸ் என்ற பிரபல விஞ்ஞானி அவருடைய ஆராய்ச்சி வேலையை முதன் முதலாக பிரசுரித்தபின்னர்தான் இதன் தாத்தர்யம் விளங்கியது.

புது உணவுகளில் புரோடீன், நார்போ ஹைட்ரேட்ஸ் (அதாவது சர்க்கரை சத்து) கொழுப்பு, உலோகப்பொருள்கள் இருக்கிறதென்பதை சர். ஹாப்கின்ஸ் எடுத்துக்காட்டினார். இந்த சில பொருள்கள் உணவுப்பொருள்களில் குறைவாக இருந்தபோதிலும், தேகம் வளர்வதற்கும், ஆரோக்யமாக இருப்பதற்கும் இது தினசரி உட்கொள்ளும் உணவில் இருக்கவேண்டியது அவசியமென்பதை இவர் எடுத்துக்காட்டினார். பரிசுத்தம் செய்யப்பட்ட புரோடீன், சர்க்கரை, பால் கொழுப்பு ஆகியவை பாலில் இருப்பவைகள் மிருகத்தின் எடையை நிலைநிறுத்தப் போதுமானதாக இல்லை யென்றும், ஆனால் இத்தடன் 60 சென்ட்ரல் புதுக் கறந்த பாலைக் கலந்தால் ஈடுசெய்துவிடுகிறதென்பதை சர். ஹாப்கின்ஸ் விளக்கினார். இந்த மாதிரி உணவுப் பொருளில் கலந்துள்ள சத்து ஒன்றுக்கு மேற்பட்டதென்றும். இந்த மாதிரியான 8 இருக்கிறதென்பதும் பிற்கால ஆராய்ச்சியில் தெரியவந்தது.

சிறந்த தர்மம்.



திருச்சி “கோனார் மளிகை” யின் உரிமையாளர் திரு. த. கிருஷ்ணசாமி பிள்ளை அவர்கள் 3—4—40ல் காலஞ் சென்ற தனது அருமைக் குமாரத்தி செல்வி, விஜய லக்ஷ்மியின் ஞாபகார்த்தமாக 500 ரூபாய் மதிப்புள்ள பொருட்காட்சி ஒன்றை, ஷே குழந்தை வாசித்த கல்விச் சாலையாகிய திருகிரபுரம் வரதராஜப் பெருமாள் கோவில் தெருவிடிலிருக்கும் சாஸ்வதி விலாச ஆரம்ப பாடசாலைக்கு கொடுத்து உதவினார்.

அதன் திறப்பு விழா 19—4—40 வெள்ளிக் கிழமை மாலை 5-மணிக்கு ஷே பாடசாலை கூட்டிடத்தில் நடைபெற்றது. கவர்ன்மெண்ட் ட்ரெயினிங் ஸ்கூல் ஹெட் மாஸ்டர் திரு. சிவராமகிருஷ்ணய்யர் அவர்கள் தலைமை வகித்துப் பேசுகையில் இம்மாதிரியான தர்மம் இந்தியாவில் இது முதலாவதாக இருக்கக் கூடுமென்று குறிப்பிட்டு இம்மாதிரியே மற்றொரு ஜனங்களும், கல்விச் சாலைகளுக்கு உதவிபுரிய வேண்டுமென்று சொன்னார். ஷே பொருட் காட்சியை திருச்சி செயிண்ட் ஜோசப் காலேஜ் தமிழ் பண்டிதர் திரு. ஐயன் பெருமாள் கோனார் அவர்கள் திறந்து வைத்து ஷே பாடசாலைக்கு பொருட் காட்சியை நன்கொடை அளித்த திரு. த. கிருஷ்ணசாமி பிள்ளை அவர்களைப் பாராட்டி பேசுகையில் திரு. பிள்ளையவர்களின் நல்ல முயற்சியைக் குறிப்பிட்டு அவர்களின் குடும்பம் நீழே வாழ பிரார்த்திப்பதாக கூறினார். விழாவிற்கு நகரத்திலுள்ள கல்வி அதிகாரிகளும், கல்விச்சாலைகளின் ஆசிரியர்களும், நகரசபை அங்கத்தினர்களும், குழந்தைகளின் பெற்றோர்களும் வந்திருந்தனர். பகலில் ஏழைகளுக்கு சாப்பாடும், மாலை யில் குழந்தைகளுக்கு சிறுநாட்டியும் அளிக்கப்பட்டது. இரவு 7½-மணிக்கு இவ்விழா ஷே பள்ளிக் கூட மாணேஜர் திரு. டி. என். சுந்தரராஜலு நாயுடு வந்தனங்கூற இனிது முடிந்தது.

இந்த வைடமின்களுக்கு தனித்தனி பெயர் ஆன கில எழுத்துக்களில்—அதாவது “ஏ” “பி” “சி”, “டி” போன்று—கொடுக்கப்பட்டுள்ளன. இந்த ஒவ்வொரு சத்தும் நமக்கு மிக முக்கியமென்பதும், இதில் ஒன்று குறைந்தால் தேகக்கோளாறு அறிகுறிகள் தோன்றுமென்பதும் உணரப்படவேண்டும். வைடமின் “ஏ” இல்லாதவனுக்கு கண் கோளாறும், “பி” வைடமின் இல்லாதவன் பெரிபெரி வியாதியாலும். “சி” வைடமின் இல்லாதவனை உடம்பு உருக்குப் வியாதியும் வந்து பீடிப்பது தெரியவரும்.

ரேடியோ

இந்த நூற்றாண்டின் “மாந்திரிகன்” என்று கூறத்தக்கது ரேடியோ தான்; இது ரேடியோ யுகம் என்று கூறினும் பொருந்தும். சென்ற ஐம்பது வருட காலத்தில் வர்த்தகம், கைத்தொழில் சம்பந்தம் கொண்ட சமூகத்தின் ஒவ்வொரு பகுதியும் தலைகீழ் மாறுதல் அடைந்திருக்கிறது. இந்த மாற்றத்திற்கு ரேடியோ சம்பந்தப்பட்ட புதுமைகள்தான் மற்றெதையும் விட அதிக தூரம் காரணமாயிருந்து வந்திருக்கின்றன.

ஒரு சிறு குமிழைத் திருப்புகின்றோம்; லட்சக்கணக்கான மைல்களுக்கப்பால் நடப்பவை நம் காதில் நன்கு விழுகின்றன. அதில் தாமதம் எதுவும் ஏற்படுவதில்லை. ஏதோ காகரப்பு சப்தம் கேட்பதாகப் பலர் குறை சொல்லுவதுண்டு; ஆனால் எதிர்காலத்தில் இந்த ரேடியோ நமக்கு என்னென்ன புதுமைகளை அளிக்கப் போகின்றது என்பதை இவர்கள் உணர்வதில்லை.

17-வது நூற்றாண்டில் தான் ரேடியோவைப் பற்றிய நுணுக்கமான ஆராய்ச்சி ஆரம்பமானது. அது முதல், மூளை சக்தியுள்ள, மனித வர்க்கத்தைச் சேர்ந்தவர்களெல்லாம் ஏதோ ஒரு முறையில் இந்த அற்புத சக்தியின் ஆராய்ச்சி விஷயத்தில் ஈடுபட்டு தாங்கள் கண்டு பிடித்தவற்றை உலகுக்கு அளித்திருக்கிறார்கள். விஞ்ஞான ஆராய்ச்சியில் ரேடியோவைப் போன்று வேறு எதுவும் அத்தனை பலன்களை அளித்ததுமில்லை, அளிக்கப்போவதுமில்லை.

ரேடியோ உபயோகம் எல்லையற்றுப் போதும்.

பத்துப் பன்னிரண்டு புதுமைகளைச் சுற்றியே எதிர்கால உலகம் அமையப் போவதாகத் தெரிகிறது. பன்னிரண்டு என்னும்போது அத்தனை பெரிதாகத் தோன்றவில்லை; ஏனெனில் வருடந்தோறும் சுமார் இரண்டரை லட்சம் புதுமைகள் பதிவு செய்யப்பட்டு வருகின்றன. ஒவ்வொன்றும் வாழ்க்கையின் ஒரு புது அம்சத்தை உற்பத்தி செய்யக்கூடியதேயாகும்.

மனிதனுடைய உழைப்பில் ரேடியோ பெரிய மாற்றத்தை உண்டுபண்ணிவிட்டது; அது மட்டுமல்ல; அவனது வாழ்க்கை நிலைமையே அடியோடு மாற்றி விட்டது. அவனது ஆரோக்கியத்தைப் பாதுகாக்கவும், ஓய்வு நேரத்தைச் செலவிடவும் அது அதிக உதவி புரிகின்றது.

இன்று ரேடியோ நமக்கு ஒரு பொழுதுபோக்குக் குரிய சாதனமாகத் தோன்றுகிறது. அதனுடைய ஊழியம் விரிவடைபுட்போது, செட்டுகள் அபிவிருத்தியுற்று கஷ்டங்கள் நீங்கும்போது, தினசரி வாழ்க்கையில் அதன் உபயோகம் எல்லையற்றுப் போய் விடும்.

புரபலர் கொவாரிலித் என்பவர், ஆஸ்திரேலியன் பெளதிக சங்கத்தின் முன்னிலையில் ரேடியோ மூலம் எப்படி சமைக்கிறது என்பதைச் செய்து காட்டினார்.

ஒரு இறைச்சித் துண்டைத் தண்ணீரில் போட்டார். தூரத்திலிருந்து ரேடியோ அலைகள் அதன்மீது பிரயோகிக்கப்பட்டன. ஒரு சில நிமிஷத்தில் தண்ணீர் முன்னிருந்தபடியே சூடாக ஆகாமலிருக்க இறைச்சி மட்டும் வெந்துபோயிற்று. அதேமாதிரி ரொட்டி பொரித்தும், தேயிலை போட்டும் காண்பித்தார்.

இன்று ரேடியோ குழந்தைப் பருவத்திலேயே இருக்கிறது. நாளையதின் அதன் நிலை ஒவ்வொரு வீட்டிலும் ஒரு “ரிசீவர்” இருக்கத்தக்க நிலையில் மலிந்து விடலாம். வீட்டுவேலை கஷ்டத்தை அது மிகுதியும் குறைத்துவிடும் என்பதில் சந்தேகமில்லை. கரியமெப்பும், அதனால் உண்டாகும் அழுக்கும் கஷ்டமும் ஒழிந்துவிடும். குளிர்காலத்தில் உணவுப் பொருள்கள் கெடாமல் வைத்திருக்கும் பிரச்சனையும் இதன் மூலம் எளிதாகத் தீர்ந்துவிடும்.

கம்பியில்லாமல் மின்சார விளக்குகள் போடலாம்.

பூமிக்குள் கீழே போடப்படும் மின்சாரக்கம்பிகளின் உதவியில்லாமலே இனி ரேடியோ மூலம் வீட்டில் மின்சார விளக்குகள் போடலாம். அதே சக்தி வீட்டிலும், ஆபிசிலும் தொழிற்சாலைகளிலும் சீதோஷண நிலைமையை நம்முடைய வீரூப்பத்துக்கு ஏற்றவாறு ஒரே படித்தாக இருக்கச் செய்யும். அதாவது வேனிற் காலத்தில் மலைப் பிரதேசங்களுக்கு குளிரை நாடிச் செல்லாமல் வீட்டுக்குள்ளேயே குளிரைத் தருவித்துக்கொள்ள முடியும்; அதே போன்று, குளிர்காலத்தில் வெந்நீர்க் குழாய் முதலியவற்றின் உதவியின்றி உஷ்ண அலைகள் மூலம் வேண்டிய அளவு வெப்பத்தை உற்பத்தி செய்துகொள்ளலாம். பக்ஷிலும், இரவிலும் நமக்கு வேண்டிய இந்த ஊழியங்கள் எதுவும் தானே நடைபெறும்படி செய்யலாம்.

நமது நாகரீகத்தின் அடிப்படையாக இருப்பது விவசாயந்தான். ஜனத்தொகையில் 70 சதமானம் பேர் அதில் ஈடுபட்டிருக்கிறார்கள். விவசாயத்துக்கு உயிர் நாடி சூரிய வெளிச்சம். தண்ணீரையும் கரிம வாயுவையும் உணவாகக் அதுவே உதவுகின்றது. ஆனால், போதிய மழையில்லாததாலும் புழுப் பூச்சிகளாலும் நமக்கு எத்தனை கஷ்ட நஷ்டங்கள் நேரிடுகின்றன? இந்தத் தடைகளையெல்லாம் ரேடியோ வென்று விட்டது. ஹராட் என்பவர் கண்டு பிடித்த யந்திரத்தின் மூலம் சிற்றலைகளைக் கொண்டு விதைகளை மூளைக்கச் செய்யலாம். லெஸ்ட்டரில் விஞ்ஞான பண்டிதராயிருக்கும் புரபலர் R. H. சாட்டில் என்பவர், உலகில் வாழும் ஒவ்வொரு ஜீவ ஜந்துவும் கிரணங்களை வெளியிடுவதாயும், அந்தக் கிரணங்களை அதே அளவுள்ள வேறு கிரணங்கள் மூலம் கிரகிக்கச் செய்வதால், அந்தப் பிராணியை உடனேயே கொல்ல முடியுமென்றும் கண்டு பிடித்துள்ளார். இந்த மரண கிரணங்களைக்கொண்டு, தோட்டங்களையும் பயிர்களையும் அழிக்கும் பூச்சிகளையும், எலிகளையும் கொன்று

விடுகின்றனர். எந்த விதக் கம்பியுமின்றி நீண்ட தூரத்துக்கு ரேடியோ சக்தியை ஓரிடத்திலிருந்து மற்றோரிடத்துக்கு அனுப்ப முடியும்; இச்சக்தியை மீண்டும் மின்சார சக்தியாக மாற்றலாம். இதைக் கொண்டு தண்ணீர் பம்புகளை இயக்கி, வயல்களுக்கு நீர்ப்பாய்ச்சலாம். மின்சாரக் கலப்பைகளை உழப் செய்யலாம். விவசாய வேலை கலப்பமாக நடைபெறும். ரேடியோ சக்தியின்றி இம்மாதிரி அற்புதங்களை நிகழ்த்த முடியாது.

இவ்வீல் விஷக்கல்லாமல் கார் ஓட்டலாம்.

இந்த ஆராய்ச்சிகள் விஞ்ஞான சோதனை சாலையை விட்டு வெளியேறி கலிபோர்னியாவிலுள்ள 6 பெரிய மார்க்கட்டோட்டங்களில் ஊழியம் புரிய ஆரம்பித்து விட்டன. பருவ காலங்களில் நல்ல புலனும் கிடைத்து வருகின்றது.

இனி வரக்கூடிய கார்கள் மின்சார சக்தி மூலமே ஓட்டப்படும். ரேடியோ சக்தியைக் கிரகித்து ஓடக் கூடிய மின்சார இயந்திரங்கள் இணைக்கப்படும் சான்றாபி ரயில் பாதையில் இம்முறையைப் பரீட்சார்த்தமாகக் கையாண்டு பார்க்கிறார்கள்.

இனி விளக்கில்லாமலே இரவில் கார் ஓட்டலாம். மோட்டார் பாதைகளெல்லாம் கண்களைக் கூச வைக்காத ரேடியோ லைட்டுகள் மூலம்பிரகாசிக்கச் செய்யப்படும். வண்டிகள் போக்குவரத்து, ஆள் போக்குவரத்து எல்லாம் ரேடியோ மூலமே ஒழுங்குபடுத்தப்படும். ரயிலிலே ஸ்டேஷன்களில் விளக்குகளில்லாமல், ரேடியோ யந்திரங்கள் மூலம் இனி டிரைவர்கட்கும் மற்றையோர்கட்கும் வழி காண்பிக்கப்படும். வட மெல்போரின் கிராவிட்டேஷன் யார்டில் இம்முறை திருப்திகரமாகக் கையாளப்படுகிறது.

இதெல்லாம் கேட்பதற்குக் கட்டுக்கதை மாதிரி தோன்றும்; ஆனால் ரேடியோ மூலம் செய்தி அறிவிக்கும் முறை வெற்றியளித்து விட்டது. ரேடியோ வின் "தந்தை" யான மார்க்கோனியை அதன் எதிர் காலத்தைப்பற்றிக் கேட்ட போது "ரேடியோ என்ன செய்யும் என்பதில் விஷயம்; அது செய்யமுடியாத காரியம் மிகக் குறைவாகவேயிருக்குமென எண்ணுகிறேன்" என்று பதிலளித்தாராம்.

நோயை தண்படுத்த உபயோகிக்க முயற்சி.

நோய்களைக் குணப்படுத்துவதற்கும் துன்பத்தைத் துடைப்பதற்கும் ரேடியோவை எவ்வாறு உபயோகிக்கலாம் என்ற ஆராய்ச்சியில் வைத்தியர்கள் பல வருஷங்களாக ஈடுபட்டு வருகிறார்கள். கண்ணப் புத்து நோயை ரேடியோ அலைகள் மூலம் குணப்படுத்தக் கூடுமென்று பிரிட்டிஷ் ரிபுனர் புரொபலர் ஹாப்வுட் 1933-ல் தெரிவித்தார். சிற்றலைகளின் உஷ்ணத்திற்குச் சிகிச்சை செய்யும் சக்தியிருப்பதாக அவர் கண்டு பிடித்துள்ளனர். சில வாதம் முதலிய பல நோய்களைக் குணப்படுத்த ஐரோப்பாவிலுள்ள பல்வேறு ஆஸ்பத்திரிகளிலும் ரேடியோ இணைத்த யந்திரங்கள் வெற்றிகரமாக உபயோகப்படுத்தப் பட்டிருக்கின்றன. நித்திரை வராமல் கஷ்டப்படும் நோயாளிகளிலே 60 சதமானம் பேரைத் தாம் கண்டு

பிடித்த யந்திரத்தின் மூலம் குணப்படுத்திவிட்டதாக பிரபலர் ஜே. பி. மார்கன் என்ற அமெரிக்கா தெரிவித்துள்ளார். இந்த யந்திரத்தின் உதவியால் ஒருவர் தமக்குத் தூக்கத்தை வருவித்துக்கொள்ளலாம். உடம்பில் உண்டாகும் சிறு கட்டிகளை ஆப்பிரேஷனில்லாமலே ரேடியோ அலைகள்மூலம் இல்லாமல் செய்யுங்காலம் சிக்கிரம் ஏற்படலாம். ஒரு இடத்தில் நடைபெறும் கஷ்டமான ஆப்பிரேஷனை, உலகின் மறுகோடியிலிருக்கும் ரிபுனர் டெலிவிஷன்மூலம் மேற்பார்வைசெய்யும் சந்தர்ப்பம்கூட ரேடியோவின் உதவியால் ஏற்படக்கூடும்.

நீருடனாயும் பிடித்து விடலாம்!

உங்கள் வீடுகளில் திருடர்கள் புகாத பிடிபிடித்து ரேடியோ பாதுகாக்கும்; திருடன் புகுந்துவிட்டால் ரேடியோ யந்திரம் மணியடித்து எச்சரிக்கை செய்வது அமெரிக்கா, அவளை அப்படியே 'ஒளிவெள்ளத்தில் அமிழ்த்திவிடும். விஷவாய்ப் பிரயோகத்தினின்றும் வேறு முகமுடியொன்றும் இல்லாமல் ரேடியோமூலம் பாதுகாத்துக்கொள்ளும் வழியை புரொபலர் அந்தோனி என்பவர் கண்டு பிடித்திருக்கிறார். இது கிரேட் பிரிட்டனிலே பெரிய பரபரப்பை உண்டு பண்ணியிருக்கிறது. இதன் உபயோகத்தைப் பற்றிப் பரிசீலனை செய்ய ஒரு கமிட்டியை அமைக்கும்படி பார்லிமெண்டு மெம்பர்கள் சிலர் கேட்டிருக்கின்றனர். உண்மையெது, பொய்யெது என்பதைக் கண்டு பிடிக்கவும் ரேடியோ உபயோகமானது. உண்மை எழுது பவனுடைய எழுத்திற்கும் பொய் எழுதுபவனுடைய எழுத்திற்கும் ரத்த அழுக்கில் ஏற்படும் வேற்றுமை மூலம் ரேடியோ யந்திரம் உண்மையைக் கண்டுபிடித்து விட முடியும்.

150 அடி ஆழத்துக்குள்ளே மறைந்திருக்கும் புதைபல்களைக் கண்டுபிடிக்கும் யந்திரமொன்றை காலிபோர்னியாவைச் சேர்ந்த டாக்டர் பிஷர் என்பவர் கண்டுபிடித்துள்ளார். கீழே கிடக்கும் தண்ணீர்க் குழாய்களைக்கூட அது உணர்ந்து சொல்கின்றது. உலகின் பல பாகங்களிலும் எராளமான பேர் இதை உபயோகித்துப் பயன் பெற்றிருக்கின்றனர். ஆரி சோனாவில் ஒருவன் சமீபத்தில் இதன் உதவியால் தங்கம், வெள்ளி, செம்பு உள்பட 14000 பவுன் பெறுமானமுள்ள புதைபலைக் கண்டெடுத்தான்.

மனித வாழ்க்கையின் நலத்துக்கு ஆஸ்பதமான இன்னும் பல துறைகளில் ரேடியோ முக்கிய ஊழியம் புரிகின்றது. 'டெலிவிஷன்' (தூதிருஷ்டி)—உலகின் ஒருகோடியில் நடப்பவற்றை மறுகோடியிலிருந்து நேருக்கு நேராகத் தத்ருபத்தில் பார்ப்பது. இது இக்காலத்தில் கொஞ்சம் அதிகச் செலவு பிடிப்பதாயிருப்பினும், ஒவ்வொரு வீட்டிலும் அமைக்கப்படத் தக்க வசதியான வீலைக்கு வரக்கூடிய காலம் வருமென்மதி ஸ்பம்மிலே. டெலிவிஷன் மூலம் வீட்டைவிட்டு வெளியேறாமலே, பல இடங்களிலுமிருப்பவர் ஒரே விஷயத்தைப்பற்றிச் சம்பாஷிக்க முடியும். நீங்கள் தூரத்திலிருக்கும் உங்கள் மனைவியோடு பேசலாம். நாளை உலகில், வெகுதூரப் பேச்சுகளெல்லாம் டெலிவிஷன் மூலமே நடைபெறும்.

IF YOU REQUIRE**BEST AND GOOD QUALITY OF MALIGAI**

CALL AT

“KONAR MALIGAI”**OR PHONE No. 105****PRICES MODERATE**


COMMUNICATE WITH

T. KRISHNASAMY PILLAY

TELEGRAM:

PROPRIETOR

“KRISHNA”**507-508, BIG BAZAAR STREET****TRICHINOPOLY**

PAINT YOUR CAR,**BUS,****HOUSE****WITH**
**THE DOUBLE
PROTECTION PAINT
WITH THE ENAMEL FINISH**

AGENT:-

T. R. Rangasawmy Naidu,

PAINT & GLASS MERCHANT,

BIG BAZAAR STREET, TRICHINOPOLY.