

RURAL INDIA

(Journal of the Madras Forest Panchayats)

A monthly periodical devoted to the discussion of all
Topics of Rural interest.

EDITED BY

A. SWAMINATHA AIYAR.

Office—No 9, Brodie's Road, Mylapore, Madras S.

Vol. III

Oct. & Nov. 1928.

Nos. 4 & 5

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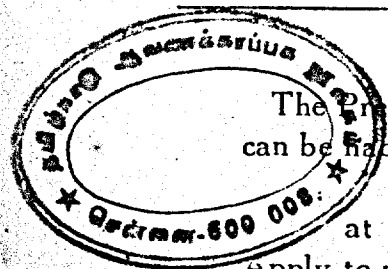
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RURAL INDIA

Managing Editor :-A. Swaminatha Iyer, B.A.

Vol. III. | October—November, 1928. | Nos. 4 & 5

The Linlithgow Report and after.

In welcoming the Royal Commission on Agriculture in India, we said that a body which had as its President such an experienced agriculturist as the noble Marquess of Linlithgow, an eminent authority on Rural Economics as Prof. Ganguli, a practical farmer on a large scale as the late Sir Gangaram and such a tried and sincere friend of the cultivator as Mr. Calvert as members would not feel its hands tied down by the limited terms of reference, but would take a wide view of its duties and responsibilities and tackle all the problems in anyway connected with the uplift and the economic advancement of the farmer in India. We added that in Lord Irwin, our Viceroy, we were fortunate in having a statesman at the helm of affairs in India with genuine interest for the development of agriculture in this country and that was a sufficient guarantee that the recommendations of the Commission would receive the fullest measure of official support.

Our expectations were amply justified. The report of the Royal Commission which we have perused with great interest is an exhaustive study of the agricultural problem in India and as well characterised by H. E. Lord Irwin, the report is a most complete and creative document affecting the welfare of the agricultural population in this country full of useful and illuminating facts and of stimulating suggestions. Our grateful thanks are due to Lord Linlithgow and his Colleagues for the valuable and comprehensive report which they have produced. Lord Linlithgow and his Colleagues have treated the subject as a whole and have considered the present state of India's staple

industry from which the bulk of her population derive her livelihood and the means whereby it could be improved. There is a refreshing definiteness in the conclusions arrived at and the recommendations made, unclouded by doubts and reservations this should prove of great help to administrators and students of Rural economics alike. The present conditions of village life and the problems which the peasant has to solve from season to season are discussed. The existence of wide spread poverty in rural India is recognised and the commission express the considered view, with which we entirely agree, that the greatest hope for the salvation of Indian rural life lies in the extension of a sound and wellorganised cooperative movement based upon "the careful education and scientific training of the villagers themselves". The life of the cultivator should be improved, the state taking a great part in it, assisted by the sympathy and active support of educated Indian opinion. The solution of the problem consists in the awakening of the peasant and in producing a change of outlook in him. The recommendations of the Commission are designed to produce this change of outlook. Insistence has been laid on the revival of corporate action for the common good, without which the commission recognise there can be no hope of radical improvement of Indian village life. We who firmly believe in the infinite potentialities of Panchayats, attach the greatest importance to this portion of the Commission's report and it is devoutly to be wished that the revival of Panchayats will be taken in hand by the Provincial Administrations in a whole-hearted manner.

His Excellency Lord Irwin's Government as soon as the report of the Royal Commission was published lost no time in examining its contents in order to decide what would be the best way of securing prompt and fruitful consideration for the commission's proposals and to determine the relative urgency of the main recommendations, and the authority, central or provincial or both provincial and central acting in concert, by which individual recommendations were to be carried out." His Excellency reiterated the Commission's conclusion that the problem of agricultural improvement was identical with the problem of, rural reconstruction and the amelioration of the agriculturists' lot could not be effected without coordinating activity in several

fields of administration and besides agricultural proper, particularly in the fields of public education and health. As each of these departments of Government is under the control of popular Ministers, His Excellency took care to point out that the initiative to secure such cooperation rested with them. But whatever assistance by way of counsel and supply of information the Government of India could render would be willingly and readily given. We are glad of the assurance given by His Excellency but he must be aware of the handicaps which the provincial Development Ministers labour under. It is not so much the want of willingness on their part to undertake the task, as the want of funds. If sufficient funds are forthcoming and with the encouragement of the Government of India there is no reason why the work of rural reconstruction should not proceed apace.

It is a huge task to notice in detail the other recommendations of the Commission in this rapid survey. In Chapter III of their Report, the Commission lays great stress on the subject of agricultural and veterinary research which they consider has received most inadequate attention from the Central and Provincial governments. There is no provision for machinery by means of which agricultural research for India as a whole could be promoted, guided and co-ordinated, nor have Provincial Governments which since the reforms are directly in charge of agriculture taken steps to provide such machinery. Consequently it is considered that fundamental problems are being tackled in more or less haphazard fashion by research workers who are not on touch with one another and who are not guided in their researches by any co-ordinating authority. The Commission have accordingly recommended that the Government of India should undertake to promote, guide and co-ordinate agricultural research throughout India and link it with research in other parts of the British India and foreign countries. Their scheme provides for the establishment of an Imperial council of Agricultural Research on the model of the Australian council for Scientific and Industrial research, and in some respects resembling the Development Commission in England.

His Excellency earnestly pleaded for setting up a central council for Agricultural Research as recommended by the Royal Commission, and stated that the organisation should be brought into being as soon as possible and subject to the approval of the Legislative Assembly, his Governments would endeavour to endow the organisation that may be set up with such funds as their resources might permit. His Excellency Lord Irwin and Sir Muhammad Habibullah have given the assurance that in setting up the Central Research Institute, no financial assistance would be expected from the Provincial Governments and that in asking the Provincial Governments to co-operate with the Government of India in carrying out the recommendations of the Royal Commission, there would be no overlapping of functions between the Central and Provincial administrations and that the freedom of action and initiative now enjoyed by the latter would not be encroached upon.

Too much importance cannot be attached to Agricultural Research, the promotion and coordination of which has been placed in the forefront of the Royal Commission's recommendations. As observed by His Excellency scientific research is largely responsible for the agricultural prosperity of Java. The same is true of all nations with a developing and progressive agriculture. In our own country we are aware how the improved varieties of Pusa wheat and Coimbatore sugar-cane have added materially to the prosperity of the agriculturist. The Veterinary work done at Muktesar has saved and is saving the lives of hundreds of thousands of cattle every year. While recognising the importance of the agricultural and veterinary research which is the concern of the central Government, Provincial Administrations should not be oblivious of the fact that unless they heartily cooperate in the scheme of the Government of India and take steps to enable the ryots to benefit by the results of research, the work of the Royal Commission will go in vain. We have no doubt that the Development Ministers and the Heads of the Development Departments who met together at Simla have arrived at satisfactory conclusions. If there is to be a revolution in Indian rural life to the great advantage of the cultivator, they will explore all avenues of usefulness for the benefit of the ryot. There is the problem of

Agricultural finance for instance. It is well recognised that the Indian ryot suffers from lack of capital and that Indian agriculture cannot thrive without facilities for providing him with capital at reasonable cost. Too much attention cannot be devoted to this aspect of the agricultural problem. The establishment of Land Mortgage Banks, the Opening of Rural Credit Departments in the Imperial Bank, the liberalisation of Land Improvement and Agricultural Loans Rules, are some of the more urgent matters which the Provincial Governments should address themselves to.

The Report of the Royal Commission on Agriculture In India and Rural Education.*

By Rudolph D. Anstead, M.A., C.I.E.,
Director of Agriculture, Madras.

In discussing the Linlithgow Report I have interpreted the subject of rural education in its broadest sense and assumed it to include all those educational and social subjects which comprise what is usually spoken of as "rural reconstruction."

For the first time in its history Indian agriculture has been subjected to an exhaustive study by a highly qualified body of administrators and technical experts armed with wide terms of reference. The Report which the Royal Commission has issued deserves the most careful attention and consideration. It contains a great deal of sound advice and points to the road to be travelled to attain the haven we all so much desire, the uplift of the rural community. One whole chapter of the Report is devoted to the Indian village and the subject of "Rural Reconstruction" and it is this chapter which it is my duty to examine.

While no one disputes the existence of wide spread poverty in rural India its causes have been the subject of acute controversy. The Royal Commission at once recognised what so many have failed to grasp that there is no royal road to rural betterment and that neither Viceroys, nor Governors, nor

[Notes of an address delivered to the Y. M. C. A. Rural Education Conference]*

Legislative Councils, nor Agricultural Departments, nor Laws can cure all the ills from which the peasant suffers and that if he is to escape from his troubles *he must be taught to help himself*. His ignorance, his failure to realise the cause and effect of bad sanitation and dirt with disease and ill health, his lack of will to live better are his enemies. The very fact that he accepts debt as a natural condition to be in renders it difficult to lift him out of the hands of the money lender.

The Royal Commission believe that the greatest hope of salvation of Indian rural life lies in the development of a sound and well organised co-operative movement based upon the "careful education and scientific training of the villagers themselves" and they are in favour of the progressive adoption of compulsory education which they consider to be the most secure basis of co-operation. At the same time they recognise that improvement along these lines must necessarily be slow and that it will take decades. Meanwhile, something must be done to improve the life of the cultivators who cannot advance unaided.

The Commission believe that the solution of this great problem lies in the awakening of the poor to the possibilities of improvement in their lives, by official action, assisted by the sympathy and active support of educated Indian opinion.

Those are the broad lines of the Report as it deals with this subject. The advice I believe to be sound ; it is for us to devise methods of carrying it out.

It appears to me that the first essential is to realise that the problem must be conceived as a whole and not as a series of questions each to be dealt with by a different and separate departments. What is needed is a well thought out plan of campaign and then a simultaneous advance and attack all along the line, every man in it going over the top with one single thought in his mind to do his very utmost to achieve the objective before him. No helper in this campaign must be turned aside from this purpose or diverted from it for a single moment by any consideration of politics, or self, or he at once becomes a weak link which may wreck the whole. It is this conception

more than anything else which I wish this Conference to get hold of and emphasise with the utmost of their power. I am convinced myself that nothing material will be done till we do realise this and act upon it.

As to agencies and helpers, I want to use all and every one which has the slightest chance of proving of use and which will act on the lines and in the spirit I have just enunciated. I want Government departments, and individuals and personally I believe that the very greatest use might be made of Village Panchayats.

In this connection I should like to quote a very pertinent and if I may be permitted to presume to say so, a very wise paragraph from the Report of the Unemployment Enquiry Committee, Travancore.

"We recommend that Government should consider the advisability of inaugurating the movement usually called "Rural Reconstruction" or "Rural uplift." Adult education, male and female, rural sanitation, agricultural co-operation for purchase, production and sale, removal of rural indebtedness, improved methods of cultivation, rural clubs and Libraries, elevation of the depressed classes, establishment of panchayats or (here) revival of Karayogams, in fact every kind of welfare of development work in the rural areas comes under the scheme. It means a well organised and well co-ordinated campaign of all the forces available against poverty, dirt, disease and ignorance in rural areas. Such a campaign deliberately planned and vigorously waged is coming to be recognised as the true salvation for rural India. It will put new life into our decaying villages, check the tendency of migration to the towns and increase the productivity of the rural population. It is a vast programme requiring the services of energetic and public-spirited leaders and a host of enthusiastic followers. The army of elementary school teachers can and should be trained to play its part in the movement. The co-operative societies will also serve as useful instruments. The officers of Government retiring from service should also be invited to co-operate. And the young men of the educated classes

should be enlisted in the service of the great cause. It is not mainly with a view to find immediate employment for the educated unemployed that we have made this recommendation. We are thinking rather of the ultimate effects of such a movement in making village life and agriculture more attractive for our young men than it is at present, by improving the standard of life, the social amenities and the productivity of our rural areas. We recommend in particular the bringing into force of the Village Panchayat Regulation as early as possible."

Turning once more to the Report of the Royal Commission they make it clear over and over again that the villager can and must be made to help himself and only along such lines does his salvation lie. Thus they say "substantial progress in the campaign against malaria can only be achieved by concerted action by the people themselves," and "villagers have ample time at their disposal for improving the amenities of their village by co-operation."

Personally I believe this to be very true, but the villagers are in need of leadership and of all the proposals I have yet heard or read for establishing this leadership that adopted in the Gurgaon district of the Punjab to which the Commission call attention appeals to me most. There is a system of "guides." Sons of cultivators are given a special course of training which familiarises them with the principles of sanitation, elementary medical aid, co-operation, agricultural improvement, and gives them also some knowledge of the simpler home industries so that each man may act as a guide, philosopher, and friend to the group of villages to which he is posted and can direct the villagers where to go for advice and lead them on to help themselves to better and higher things.

I can only mention very briefly two other points which I feel that this conference cannot afford to neglect. The Royal Commission lay a finger on several points of the utmost importance. First—"No lasting improvement in the standard of living of the great mass of the population can possibly be attained if every enhancement in the purchasing power of the cultivator is to be followed by a proportionate increase in the

population" and second—"the establishment of a women's Institute in a village would supply a centre for educational and co-operative activities and might remove the obstacles to the employment of women teachers in village schools;" and again "the spread of literacy among women in India is of very great importance in rural development."

In conclusion I wish to say a word or two about the type of primary education which is necessary in India. The Royal Commission say that judged by the only possible test that of literacy achieved, the system of primary education in India has been costly without being efficient. They then go on to formulate a system which is very near to my heart, and I would plead with this Conference the value of a good system of NATURE STUDY in primary schools as an ideal form of education for young children around which all other subjects can be made to centre in the hands of a good teacher.

The Royal Commission agree with this view in part but do not go far enough to please me though I am glad to say they utterly condemn the pretence of teaching agricultural methods to boys five to six years old whether theoretically or practically in school gardens. To quote the Report. "The years from five to ten are important formative years. If during this period the boy comes under a teacher who takes little or no interest in country affairs, if he learns his lessons and does his sums in terms of urban life and is given no explanation of the life that passes under his own eyes he is apt to conclude that town life is the ideal. The more the primary teacher knows about the rural surroundings in which he finds himself and is in sympathy with them the better teacher he will make." Having come to this conclusion the Commission then become disappointing for they only say, "If it can be secured that the teacher in primary schools though not himself necessarily of rural origin and upbringing has a genuine interest in country life, that the school text books are rural in tone, and that the boys are given such opportunities of observing plant and animal life as are afforded by occasional school walks through neighbouring cultivation the minimum standard at which we think it desirable to aim will have been achieved." Personally I desire to go further than this and it has always appeared to me that this system of education, the teaching of Nature Study, is eminently suited to Indian conditions and I have never been able to understand why it has not been developed more.

Manu's Trade and Land-Laws^C

. By Prof. K. Sundararama Aiyar, M.A.

This book deals in an interesting and informing manner with the topics which are mentioned in its title. We wish first to point out where we agree with the author and it is certainly pleasant to do so. In Chapters I and VII, our author has dealt with property in land, its origin and development. When the late Sir H. S. Maine put forth his theories, they commanded and gained a wide acceptance, chiefly, because it seemed as if he had adopted the comparative method which is always of undoubted value and validity in the scientific determination of the origins of law and social usage. But many subsequent writers on social and economic history brought forward ample evidence which helped to overthrow the assumptions underlying his broad generalisations. In spite of the compelling force of the destructive arguments levelled against them, Sir H. S. Maine's views and theories are not yet quite dead, chiefly for the reason above mentioned,—that there is a *semblance* of the adoption of the comparative method of treatment in all his writings on ancient law and usage. So far as India at least is concerned, the learned authors of "The Vedic Index"—Professors. Macdonnell and Keith—have shown that the father was the owner of all (landed) property, and that such property was *not common* to the members of the family. (I. 351—2). Mr. Vaidyanatha Iyer has in his present work, driven another nail into the coffin of Maine's theory that property was communistic in its origin. He tells us (Chap. I) that it was the individualistic theory that formed the essence of the law of property as propounded by Manu. Our author has also shown (in Chap. VII) that the corporate ownership of land in the Indian village at a later stage in the history of Aryan civilisation arose out of the "colonies formed in unopened tracts." He also holds that these colonies were really "city-states", and were first organised "only during the period of Chanakya". As no convincing evidence is offered to us on these points, they must be considered as yet doubtful. Sir Henry Maine's idea that the customs prevailing among the so-called Western Aryans—Germans and other kindred tribes—existed also among the (true) Aryans of India is an unproved assumption. The relics of a barbarous age in the long history of the Teutons in the West ought not, in our view, to be brought into comparison with the regulations of the Sanatana Dharma which have a *purely moral and religious import* and were propagated by the ancient Rishis among the Aryan people of all sections of the Holy Land for the benefit of all advanced souls in the universe who take their incarnation among them. H. H. Wilson, the translator

^C Manu's Trade and Land Laws: by R. S. Vaidyanatha Aiyar, B. A. M.R.A.S., F.R.H.S., with a Foreword by Sir. T. Vijayaraghavacharya K.B.E., M.A., Higginbothams, Madras.

of the Rig-Veda into English, points out that "the Hindus of the Vedic age had attained to an advanced state of civilisation, *little if at all differing* from that in which they were found by the Greeks at Alexander's invasion." We invite Mr. Vaidyanatha Iyer's attention to the truth contained in this sentence and to its bearings on the views which he has propounded regarding the so-called changes in Hindu institutions and usages at the different epochs to which he has adverted in his work.

We can also heartily give credit to our author for the comparison which he has taken the trouble to draw (*vide* Chap. IV) between the Indian laws of Manu and those of Sumeria, Akkadia, Babylon, &c., so as to show how close is the resemblance (along with differences, too) between the laws relating to land and other commodities, the regulations regarding taxation whether as affecting the landed interest or the trades and professions then prevalent, &c. But our view is that this comparison, however close, can only entitle our author to claim that there *might* have been a borrowing on one side or the other. The question of origins must always be approached carefully and from solid ground prepared by an examination of all the sources available, and without any preconceptions likely to influence our views regarding the practical aims or situations which have affected the peoples, communities or individuals who have had to play their parts in the world in the various epochs of history down to the days now passing over the land. Judged by this standard, we are of opinion that our author's views cannot command the credit which he claims for them either on the ground of originality, or because they are based on careful and reliable examination or comprehension of the sources of evidence which are available to us. We hope to deal with this part of our task without any bias and error, and with the support of what we have considerably regarded and accepted as based on logic and fact.

In a typed letter accompanying his work, our author speaks of "the several new theories I have advanced in this book", and also draws pointed attention to the fact that he has "established beyond doubt that the Code of Manu is essentially of Sumerian origin, and that it was compiled in its present form by Parasurama in about 2300 B.C. from the same Sumerian and Accadian laws from which the Code of King Hammurabi of Babylon and the Assyrian and Hittite Codes of Central Asia were prepared. We shall *first* speak of this latter topic of origin, and then with other matters.

Our author first warns us that "the expression—Sumerian origin—does not necessarily connote foreign origin", for "the Indus valley and the Punjab originally formed an integral Sumerian colony". Our first remark here is that men are said to "*colonise*" only when they settle in foreign countries. Hence, if the Code of Manu came from Sumeria to the Indus valley and Punjab which formed a "Sumerian Colony", it must have

been of foreign origin. Secondly, our author says (at p. 18 of his work) that "the conflict between the priestly classes and other social orders furnished the reason for the Indo-Aryans to migrate to India" and that "as soon as they entered India, they were confronted with the Dasyus of the Punjab." This clearly shows that those whom our author calls "Sumerians" and "Early Aryans" came into India from outside, and so were foreigners. But recent research has shown the utter baselessness of this theory. In his recent work, *"The Ancient History of the Near East"*, H. R. Hall says that "the Sumerians were an Indian race which passed certainly by land, perhaps also by sea, through Persia, to the valley of the Two Rivers". Even the recently published first volume of the Cambridge Ancient History of India speaks of the idea of an Aryan invasion and Colonisation of India as only a "supposition" or "assumption". The late Professor Max Muller also held that, "Zoroastrians were a colony from Northern India" and "migrated westwards from Asachosia and Persia". John Muir, a Western Orientalist has avowed that "none of the Sanskrit works contain a distinct reference to the foreign origin of the Hindus". The same is also admitted by the Indian historian, Elphinstone. But Mr. Vaidyanatha Iyer unhesitatingly speaks of "the invasion of India by the Indo-Aryans" (p. 18) and immediately goes on to give various details regarding such an invasion. One of these details, for instance, is the reference to the "Panchajanas", as Aryans distinguished from those called "Dasyus" (p. 19). The Rig-Veda gives not the least support to this view. The Dasyus were as much Aryans by race as those called Panchajanas, though the latter might have been more advanced in culture and religion. The Dasyus are stated to have been mostly descended from Visvamitra, who is certainly quite as much an Aryan by race as his opponent, Vasistha. Thirdly, even the authors of the Cambridge History of India have held as follows with regard to the discoveries through excavations by the Archaeological Department in Boghaz-Koi, Tel-el-Amarna, Punjab and Sindh and elsewhere,—"It is still too early to dogmatise over the results of these discoveries" (p. 72). Hence, we would tell our author, Mr. Vaidyanatha Iyer, not to push on with his present task of propounding "new theories"—especially when Indian Scholars like Mr. A. C. Das (of Calcutta) and others are astir, and their labours are helping to overthrow the idea of an ancient Aryan invasion and conquest of India from without, but prove the very reverse. Further, historians like Mr. Hall (already mentioned) have established that "the Sumerians came into Western Asia from India"—and not from Western Asia into India, as Mr. Vaidyanatha Iyer, following old-fashioned and obsolete "assumptions" of foolish men and the false pretensions of officialised writers, assumes without the least evidence to prove it.

We now pass to our author's Third and Fourth Chapters, where he deals with the contents, the date, and authorship of

the Code of Manu. He reveals the entire clue to his "new theories" when (at p. 35) he states that "the structural and cultural identities of this Code (of Babylon) and the Code of Manu are so very striking that they were both compiled from a common source, and in close proximity to each other in point of time."

First, as regards the authorship of the Code of Manu, our author's view is entirely based on the conclusions of Dr. Weddell on deciphering the "Indo-Sumerian seals", so-called. (p. 53, *et seq.*) We offer the following criticisms:—(1) Our author is wrong in saying that the Code of Manu was "compiled by a nameless son of an unknown Bhrigu" (p. 28). For firstly, the Code itself says (I. 59) that Manu taught it to Bhrigu himself, and not to a "nameless son", or even a descendant, of his. Secondly, our author is wrong in calling Bhrigu contemptuously by the epithet, "unknown". Bhrigu is a most famous name among the Rishis. For in the Bhagavad-Gita, X. 25, the Lord mentions him as one of his *Vibhūtis* (or manifestations of power and splendour). Again, when Sauti, the narrator of the Mahabharata, meets the concourse of Rishis in the Naimisha forest, the first matter with which Saunaka, the Kulapati, asked him to begin his narrative was an account of "the family of Bhrigu";—and that family is called (*vide* Adi Parva, Chap. V.) "that Bhrigu family which is respected by Indra and other Devas, Rishis, and Maruts". The same context also says that "the great Rishi, Bhrigu, was brought into existence by the self-existent creator from the fire at the sacrifice (*Yagna*) of Varuna." The Taittiriya Upanishad also confirms this fact when speaking of Bhrigu as the son of Varuna.

We now pass to our author's identification of the Bhrigu (of Manu's Code) with Parasurama of the Mahabharata,—which is based on Dr. Weddell's unproved idea that the "*Burra Sein*" (of the so-called Indo-Sumerian seals) is only a transformation of "*Parasurama*". The epic Parasurama is only a late descendant of Bhrigu, and ought not therefore to be identified with Bhrigu himself, who, as already stated, was brought into existence—by the creator at an early stage in the world's creation (*Adi-Parva* Chapter V in Mahabharata),—a stage also mentioned in the Code of Manu itself.

Our author's next argument for identifying Bhrigu and Parasurama is found at 55 of his work, and refers to a passage in Mahabharata, *Adi-Parva*, Chapter LXIV, which, after mentioning the extirpation of the Kshatriyas, refers to a resulting re-organisation of caste. We make the following observations in this connection:—(1) This passage and the social conditions to which it refers have no reference or connection of any kind with Bhrigu, to whom Manu taught his Institutes of law and who in turn taught it to others. This *original* Bhrigu is referred to, as already stated, in the Mahabharata, *Adi-Parva*, Chap. V.,—and the Parasurama now mentioned by our author

(at 55) is a *late descendant* of that original sage Bhrigu who alone had to propagate the laws of Manu;—and hence it is an error to connect him (Parasurama) with the code of Manu and its promulgation. The social changes brought about in consequence of Parasurama's destructive career occur at a comparatively *very late* stage in the history of ancient India, and should not be confounded with his original ancestor's (Bhrigu's) promulgation of Manu's Institutes of Law at that primitive stage of Indian society which occurred in those early times which are stated to have come off after the work of creation had been completed, and man a social being started on his career on earth. Thus the Mahabharata itself disproves our author's "new theories". (2) Again, our author is wrong when he says in this connection (p. 55) that "the Brahman caste is not mentioned as a caste in the Rig-Veda" and that it "was legalised as a permanent institution in the Indian social organisation" only after the epoch-making destructive labours of Parasurama. Recent research (*vide* "Vedic Index", by Macdonnell and Keith) has established the following:—It seems certain that in the Rig-Veda, this Brahmana is already a separate caste differing from the warrior and agricultural castes. Of course, some have declared that the Purusha-Sukta is only a late addition to the Rig-Veda. But others like Martin Haug have held:—"There is no sufficient evidence to prove that. On the contrary, reasons might be adduced to show that it is even old".—(3) Mr. Vaidyanatha Iyer also says that caste is not found in the pre-Indian stages of the Aryan immigration. Against this view Martin Haug holds:—"From all we know the real origin of caste appears to go back to a time anterior to the composition of the Vedic hymns". De La Saussaye, the French scholar, says:—"More especially among the Persians the same four castes are mentioned. From this we can naturally conclude that this division cannot be the product of any specially Hindu development, but existed already in the oldest, at least Indo-Persian, times".

At p. 59 of his work, our author holds that "there is no allusion at all in the Code to the two epics". Manu Smriti cannot mention the Bharata for the obvious reason that it is older. We can easily find passages both from the narrative and didactic portions of the Bharata which imply passages in Manu and even mention Manu-Smriti. Our author himself holds (at p. 106) that "the original work known as Bharatam was subsequently swelled by the addition of a great number of interminable stories by a succession of later poets, &c." But it is in one of the *didactic*—not narrative—Parvas (XIII) that we find a large number of quotations of passages exactly corresponding to our Manu-Smriti. Even Western—so-called researchers grant that Manu did not know at all of either the Mahabharata or even the Ramayana,—and so it is difficult to see how it can help our author in proving his contention that Parasurama was either the author of the Code of Manu or

framed and promulgated any of its provisions in carrying out his Mission in India.

We must now conclude. The author, as we have shown has failed to establish what is really the main thesis of his book—viz., that the Code of Manu is "of Sumerian origin". The mere fact that close resemblances exist between "the trade and land laws of Manu" and those of Sumeria, Akadia, Babylon, &c., however interesting and instructive, cannot help to establish our author's claim to have proved that our Manu-Smriti is of "Sumerian origin". But, before we close, we cannot help remarking that, throughout his work, and not simply for the establishing of his main theses, our author is apt to form his views without a careful knowledge and examination of his authorities, and hence everywhere he shows how unsatisfactory and meagre are his qualifications to be our guide in matters of historical research. We shall give an instance of this before we stop. His work abounds in censure, but unsupported and random statements throughout.

For instance, at p. 107, he says,—"*Vyasa* certainly drew up his Ramopakhyanam from his personal and contemporaneous knowledge of Rama's exile and exploits and included it in his Bharatam at a time when Valmiki had not yet composed his great epic; for we see that Vyasa does not refer to Valmiki at all,—this bold assertion being made in the face of Prof. Hopkins' statement that 'the Mahabharata has four direct references to the Ramayana.' The very fact (stated in the Ramayana and admitted by the Mahabharata, too) that Valmiki was the first to invent the "stoka" verse shows that the Ramayana must be older than the Mahabharata. Even some of our "great" occidental scholars have admitted that the Ramayana dates "from the twelfth or thirteenth century B.C." But our author rushes into the extraordinary statement made above regarding Valmiki and he seems to have adopted the view expressed therein as we have shown just now, without full knowledge of the contents of the Mahabharata.

The work abounds with other similar random statements without number, but we must content ourselves with this one instance, and bring this review to a conclusion, as it has already become much longer than we had intended that it should be.

Our Village Homes.

By S. Sundara Sarma, B.A.

The village is a collection of homesteads. And in any scheme of rural uplift on which the minds of the intelligentsia are now engaged, the reconstruction of the home becomes a necessary factor. The question is of very vital importance in the bigger problem of village reconstruction. Our Homes are our immediate surroundings, which reflect unmistakably the whole of our inner nature, whether we will it or not. Our mental, moral

and physical attitudes are really reflected by our Homes. A Home is really an extension of our personality. A dirty and disorderly house is surely indicative of a dirty and disorderly mentality within the house.

Naturally the question divides itself into :

1. The arrangement of an existing home and
2. The building of a new Home.

Existing Homes : If we happen to possess a Home of our own, our responsibility is all the greater, because it is sheer neglect that debar us from making it a silent but effective centre, radiating light, peace and contentment all around.

BUILDING A NEW HOME : To give a cut and dried plan for a village home, is not here attempted. For uniformity and monotony are drudgeries belonging to the province of modern architects, who, in most cases, construct structures on paper, with the result that buildings built according to those plans are as flimsy as the paper on which they had their birth. If like the ancient people of this country we are really permeated with Divine Wisdom, we are bound to reflect the same in everything that we do consciously or otherwise. Art, which is all intelligent work lovingly done, can alone help us.

3. LET THERE BE PERFECT ORDER WITH REGARD TO MOVEABLE THINGS.—Have nothing in the house which you do not really love and care to preserve. Have a place for everything and restore the same to its place every time that it is taken out and the use of it is over.

4. LET THE DOMESTIC VESSELS BE INDIAN AS FAR AS POSSIBLE :—Because they are not only beautiful and lasting, but are made by and for the people for the purpose for which they are intended, and can be used safely without injury to health. Avoid empty, cast-off tins and enamel wares. They are ugly, and soon become deteriorated. Nothing is so ugly, than to see the use of kerosine tins to fetch or store water in India at present. A kerosine tin is a kerosine tin, and not even a Vasu-deva, can make it otherwise, with all the magic of a brush at his command. It is un-Indian and most inartistic, to think of converting a thing intended for one purpose for other purposes. To use art for that purpose is to prostitute it and nothing less. Our bronzes and brasses are beautiful and lasting, improving by age and constant use, shedding a lustre which they alone can do. Nothing again is more inartistic than to see domestic vessels used to adorn book shelves and tables in the drawing rooms of Anglo Indians which we are unconsciously copying.

5. LOOK TO THE KITCHEN PROPERLY :—Very many Hindu Homes are dark, because of the accumulated smoke from the kitchen. Smoke not only spoils things at home, but affects a good deal the lungs of the inmates resulting in diseases.

6. LOOK TO THE KUDAM OR CENTRAL BIG HALL :—This was an essential part of every Hindu Home, till the advent of the modern commercial spirit which is encroaching upon it, with a view to have more rooms to enable the house to be rented to a greater extent than would be possible otherwise. The uses of such a central hall are many as is only too well-known to every Hindu.

The following are some suggestions as to how a Home can be made beautiful and radiate contentment, love and peace all around.

1. LET YOUR HOUSE BE SCRUPULOUSLY CLEAN.—Floors should be washed as often as possible with clean water and swept regularly.

Walls, if plastered, and polished, can generally be washed with pure water, at times with water in which is dissolved a little washing soda. Otherwise the only way to keep them clean is periodically to give them an additional coat of chunam. Since blank walls are indicative of a blank mentality of the inmates, it will be nice to give them at least a color coating, which can easily be done by adding a little of yellow ochre or red to the whitewash that is generally used. In India, in old days, walls were beautifully covered with simple designs of familiar pictures as may be seen even now in some villages. The domestic art of *kolam*, an art of free-arm design with white powder on the floors of houses—which every Hindu girl and woman delighted in had trained the hands of our women to decorate beautifully the walls of our homes. Nothing is more ugly and inartistic than to see on our walls at present wall-calendars hanging at all angles with accumulated dirt and cobwebs, or cheap prints and reproduction of pictures which convey nothing to our understanding or feeling.

In a hot country like ours, where insect life is luxuriant, particular care and attention should be constantly devoted to corners and ceilings, where such insects find a convenient place to build their resting places.

2. LET THERE BE PLENTY OF FRESH AIR.—An open central court-yard was an invariable feature of every Indian Home which admitted fresh air always, and it will be wise not to forget this ancient Indian place in reforming village homes. The Tulasimadam, usually placed in the centre of the open court-yards, was not only a relieving beauty, supporting a brotherly plant over it, but served intelligently all the purposes which an ugly modern wall calendar does. It was in fact a domestic astronomical observatory enabling the inmates intelligently to know all the things which now are known from lifeless calendars, by the careful observation of its daily changing shadows cast both by the sun and the moon.

The best available room in the house should be so set apart for the puja or shrine as in the days of old and should not be too much exposed. Here we train and discipline ourselves in the art of seeking God and to the extent to which we pay special attention to the Shrine room, to that extent we shall be fitted to radiate love, contentment and peace around effectively in the immediate vicinity.

LOOK TO THE FURNITURE.—The habits of this country are so simple that we really need very little of furniture at home, unless it be that we want to ape the West. Some *jamakalams* or mats, and where it can be afforded, some nice carpets are all that are needed. Coupled with small wooden planks, one can have as much ease as possible in the most natural way. Where luxury permits, low chowkies can very well take the place of mats etc. Three-legged low stools of very nice patterns seem to have been in use in this land from time immemorial, and they are very useful too.

GARDENS.—No Hindu Home was really complete without its kitchen and flower gardens. The backyards of houses were generally set apart for the purpose, where flowers, vegetable and medicinal herbs that were required for domestic use were carefully nurtured and grown. But, alas! the struggle for existence, keen commercial competition, the consequent crowding and over-crowding into the towns, the deserting of villages, have all lessened the space allotted for the garden which added health to beauty in old days. The recent development in Motor transport should make it possible to restore our villages, enabling us to lead a truer and healthy life in the midst of our own gardens.

Above all let simplicity and purity be the key-note in the arrangement and plan of the Home.

Notes and Comments.

THE HINDU. The "Hindu" celebrated on a grand and impressive scale its golden Jubilee in October. The "Hindu" which has an unchallenged position in Indian Journalism was founded by the late Mr. G. Subramanya Ayyar and the late Mr. Viraraghavachariar as a weekly. It was soon converted into a tri-weekly and subsequently became a daily. Some time after it became a daily newspaper, the concern passed into the hands of the late Mr. S. Kasturiranga Ayyengar. Under him it attained a unique position as a fearless champion of national causes and today the "Hindu" is by common consent, the most ably edited English daily in India, valued alike for the soundness of its views, dignity of its style and clarity of expression. We express our hearty felicitations to our contemporary and pray that under the distinguished lead of its present talented

editor, Mr. A. Rangaswami Ayyengar it will have many many years of successful and prosperous career and continue to enjoy the proud distinction, it has deservedly attained as a national institution.

THE CHIDAMBARAM UNIVERSITY. The Chidambaram University which we owe to the munificence of Sir Annamalai Chetti has now become an accomplished fact. The public of Madras owe a deep debt of gratitude to Sir Annamalai whose noble example we trust will not be lost on other wealthy men in the country. A Residential and Unitary type of University is a new and welcome feature in the educational history of this Presidency. Another welcome feature is the inclusion of Technology among the faculties. We should have wished to see Faculties of Commerce and Rural Science established in connection with the University. We wish God speed to the new University and trust that it will be a real home of culture and learning.

PANCHAYATS AND CRIME. We are gratified by the testimony given by the Inspector General of Police, Madras, regarding the wholesome influence of the village Panchayats in respect of crime. The Inspector General states in his latest administration report that where a number of village Panchayats showed a marked increase as in Tanjore, crime diminished steadily. Such valuable official testimony to the good work done by the village Panchayats and by forest Panchayats which in addition to the improvement of the forests entrusted to their management actively work for the village uplift, should not be lost on the Panchayatdars who we trust will devote themselves more and more heartily to the task they have undertaken.

HELP TO AGRICULTURISTS IN COCHIN: We understand that the Government of His Highness the Maharajah of Cochin has recently issued orders liberalising the rules relating to the grant of loans to the agriculturists for land improvement and agricultural purposes and has provided a lakh of rupees for advances as loans during the current year. The interest on these loans which will be spread over a number of years will be only 3 per cent. Revenue Tahsildars have been instructed to explain to the agriculturists the advantage of availing themselves of the help the State is rendering for bettering their condition and to afford facilities for getting applications from ryots and granting loans speedily.

SMALL-POX AND VACCINATION: If proof were needed for immunity from small pox by vaccination, the figures quoted by the Director of Public Health, Madras ought to be enough. In a statement of deaths from small-pox during the last six years appended to the report we find that in 1922-23 the deaths numbered 22,626; next year they were 20,227; then there was a fall to 14,193. In 1925-27, there was a further great fall to 9816, and in the year under report (1927-28) there were only 7610 deaths.

As pointed out by the Director, the above figures afford convincing proof that small pox is a disease which could be prevented and controlled by an efficient system of vaccination. The annual saving of thousands of lives from preventable diseases is no small gain to the State. But as well pointed out by Lieut. Col. Russel "no estimate in rupees, annas and pies can be made of the tremendous amount of crippling, disfigurement and blindness which has also been prevented."

PANCHAYATS IN MYSORE: We find from the address of the Dewan to the Mysore Representative Assembly (Dasara Session) that the Village Panchayat scheme which was partially introduced in 1926-27 was brought into operation throughout the state during the year 1927-28 and up to the end of the year of report 8863 Village Panchayats have been formed in the State. About 430 Panchayats have levied optional taxes and 3000 Panchayats have made arrangements for half a day's labour in each week. It is estimated that including Government grants actually spent on works and cost of labour supplied by the villagers, the total value of the work done in all the villages during the last year came to nearly five lakhs of rupees. Under the New Village Panchayat Regulation, the Panchayats have been empowered to levy taxes for common village purposes and they have now an assured income. The total annual demand on account of Village Panchayats revenue is expected to exceed 10 lakhs of rupees. This with the closing balance of Rs. 14½ lakhs of rupees which the Panchayats had to their credit at the end of the year, should as observed by the Dewan enable them to carry on village improvement work on a large scale in future. This is a record on which we congratulate the Government of His Highness the Maharajah of Mysore.

THE JAVA INSTITUTE: We have pleasure in noticing the good work done by the Java Institute which aims at the development of the native culture of Java, Madura and Bali and strives towards this aim not only by the publication of periodicals but also by the organisation of Congresses where topics regarding Javanese culture are discussed, performances of Javanese plays are given and excursions made to important monuments of culture under expert guidance. The Institute publishes a quarterly Journal "Djawa" which can be had from the Secretary Mr. S. Koperburg, Laan, Wiccherst 13, Welte Warden.

FORESTS AND FOREST PANCHAYATS: One of the earliest witnesses to appear before the Statutory Commission was Mr. Newman, the Chief Conservator of Forests, Bombay. His evidence is given in full in this issue. He was evidently anxious to show that further indianisation so far as the forest service was concerned was detrimental to the best interests of the country and that it was more advantageous to retransfer the subject of forests to the reserved half of the Government in

those Provinces in which it is in charge of Ministers. Forests in Bombay and Burmah alone are under the control of Ministers. Mr. Newman who must have had an uncomfortable time of it during his examination, had to admit that the administration of forests had not suffered in the Bombay Presidency by being handed over to the control of Ministers, that the control of the Forest Department by the Provincial Legislative Council through a Minister responsible to it, was not prejudicial to Forests, as the Legislative Council always accepted the Minister's policy and rejected resolutions adversely affecting forests and that the department got from the Council all the money required for the development of the forests. His main reasons for opposing the indianisation of forest service were that the right class of recruits were not forthcoming among the Indians who "did not take kindly to jungle life." Mr. Newman had promptly to withdraw or considerably modify his views during his examination. It is unfortunate that a responsible officer of Government should not have been more careful in expressing opinions not strictly borne out by facts.

Mr. Newman's opinion regarding the management of Forests by Panchayats cannot be of much value. An experiment in the solitary case made in Bombay led to mismanagement and there is a proposal to take back the forest from Panchayat control. The management of minor forests in the Madras Presidency is admittedly a success. Mr. Newman whose experience was confined to Bombay might have been more guarded in expressing his opinion on a subject in which he had no personal knowledge. His statement that the forests managed by the Panchayats in the Madras Presidency were not important was gratuitous. If opportunity had been afforded to Panchayats to manage important forests, we have not the slightest doubt that the Panchayatdars would have proved themselves equal to the task.

A NEW PADDY STATION: A Paddy Breeding station has been opened by His Excellency Lord Goschen at Pattambi in the Malabar District. Mr. R. D. Anstead, the Director of Agriculture welcomed His Excellency whom he quite appropriately characterised as a farmer and a very good friend of the Agricultural Department. The Department began plant breeding work with paddy so long ago as 1913 with the object of improving the varieties of paddy in general, the test of improvement being the increased monetary return to the cultivator. Mr. R. E. Hiffe, Paddy Specialist to the Madras Government gave a short history of the Paddy Breeding stations in the Presidency, explaining in particular the object of the Pattambi station. It comprises an area of 82 acres and includes lands suitable for first crop, second crop and third crop, wet paddy, dry land paddy and garden lands; a special feature of the station is an orchard which is being established in connection with it. The Pattambi station will devote itself to collecting information regarding the varieties of paddy grown in Malabar and South Kanara

and to obtain accurate data regarding the method of cultivation and practical difficulties. In formally opening the Agricultural station, His Excellency made a highly sympathetic speech full of practical wisdom. It is a matter for congratulation that His Excellency will soon be called upon to occupy the exalted position of Viceroy during Lord Irwin's leave in England. In that capacity, His Excellency will have the opportunity of advancing the cause of agriculture in this country, particularly of this Presidency. A "farmer" Governor acting for a "farmer" Viceroy is a happy augury.

WHAT IS WRONG WITH THE CO-OPERATIVE MOVEMENT? The time is long since passed when one judges of the Co-operative movement in this country by the number of societies registered, or the number of members or the amount of working capital. The movement has come to stay and its friends cannot now engage themselves in the unnecessary and unprofitable task of eulogising themselves or those who are engaged in the work but in taking stock of the situation with a view to find out defects and the causes that retard the progress of the movement on right and proper lines. To this task, Mr. Mathan, member of council, Mysore and Mr. A. Ranganatha Mudaliar, formerly Minister for Development, Madras, devoted themselves in their comprehensive and instructive addresses which they delivered before the Provincial Cooperative Conference in Mysore and the First Urban Banks Conference in Erode respectively. Mr. Mathan complained that the greater portion of the loans advanced to the members remained unpaid. That unfortunately has become a normal feature of the working of the societies. This complaint is heard elsewhere also and one has perforce to infer that in spite of the growth of the movement, judging by mere figures, the underlying principles have not been clearly grasped. Else how are we to account for the laxity and unpunctuality of the members in discharging their obligations even when they are able to do so. This is a serious handicap to the growth of the movement. Another defect to which Mr. Mathan drew pointed attention is the comparatively small proportion of deposits in the primary societies, both by members and non-members. While in European countries the greater part of the working capital of societies comes from deposits, demonstrating the confidence of the constituents. Rural Cooperative Societies should endeavour to afford facilities to villagers to invest their small savings in cooperative Banks.

Mr. Ranganatha Mudaliar in his Presidential Address to the Erode Conference asked: "What part Urban Banks can play to alleviate the condition of the Urban population, specially that of the poor labourer and the workman and the petty trader and small industrialist?" Urban banks are now mostly institutions for receiving deposits and lending money as ordinary loans to members, which, however, is but a fraction of the real work of those bodies. Our industries, especial-

ly cottage industries are declining for lack of financial support. If the Urban banks had a proper appreciation of their true position in the cooperative field, surely they have ample scope for arresting this decline in industries and rendering them more remunerative. Apart from this, there is plenty of scope for the enlargement of the activities of the Urban Banks by undertaking education, social or other ameliorative work. There is hardly any aspect of rural or urban life to which the principles of cooperation could not be successfully applied for improving the lot of the poor peasant or the poor town trader or wage-earner. What is required is active educative propaganda which the cooperative societies should urgently undertake. The support and guidance of the Government Department concerned should be forthcoming and ungrudgingly given in such an endeavour.

LONGEVITY OF CROP SEEDS. There is a common belief that crop seeds more than a year old do not germinate satisfactorily and that an addition of another year renders them completely unfit for use. With a view to ascertain the facts, a series of longevity experiments were conducted in the seed testing laboratory of the Poona College of Agriculture for a period of six years and the results are given by Mr. K. M. Sana-
vua of the College of Agriculture, Poona.

It would appear that excepting groundnuts and *bajri* all the crops that have been tested maintained a high percentage of germination throughout five years without appreciable decrease. Groundnut however, rapidly lost its vitality especially after the third year. *Bajri* seed retained its high germination for four years but fell off in the fifth. The so-called "hard" seeds of the pulses tested lose their hardness within the year of harvesting and storage. A further fact ascertained was that naphthaline effectively prevents hatching or growing of weevil seeds. The only objection to the use of naphthaline is that it renders the seeds useless for human consumption but does not affect the seed stored for sowing.

MANURE IN ITS RELATION TO THE QUALITY OF JAGGERY. The bulk of the cane grown in India is utilised for the production of *gur* (unrefined raw sugar-jaggery) and consequently every factor which affects the quality of the price also affects the quality of the juice produced from it. During the last five years a number of analyses have been made under varying manurial treatments in the Central Research Institute, Poona which seems to indicate says Mr. P. B. Sanyal M. Sc. Assistant to the Imperial Agricultural Chemist (see Agricultural Journal of India July 28) that the quality of the cane juice was affected very appreciably by the manurial constituents applied. The results of the analysis may be summarised as follows: Superphosphate has the effect of improving the quality of the cane juice and that juice obtained from the superphosphate and potash plots are of much higher quality than those

from plots manured with nitrogenous manures. In other words nitrogenous manures tend to produce juices and *gur* of comparatively low quality compared to those produced by the use of phosphates and potash manures. Consequently in order to obtain the highest quality of *gur* from a given plot, nitrogenous manures must be employed with extreme circumspection. Possibly a solution of the problem obtaining the greatest possible yield of cane with the maximum quality of juice and *gur* will be attained by employing nitrogenous manures preferably cake in combination with heavy applications of super and potash. Nitrogenous manuring alone cannot accomplish this.

MEDICINAL PLANTS. The Medical department of the Imperial University of Keijo, Corea has established a farm for the cultivation of medicinal plants. It is the intention of the University authorities to make this the largest establishment of the kind in the east by collecting and cultivating as many varieties of medicinal herbs and trees as possible from all parts of Asia.

It may be interesting to note in this connection that the Calcutta School of Tropical Medicine is now engaged in a systematic investigation of the Indian medicinal plants. These researches seem to have already borne fruit so far as their commercial aspects are concerned and it is understood that some of the prominent manufacturers of drugs at Calcutta have already put themselves in touch with the chemical department of the School of Tropical Medicine and are manufacturing drugs and medicines according to the instructions of the school authorities. What is more important should be establishment of a farm for the cultivation of approved plants and trees as in Keijo. India imports considerable quantities of drugs from foreign countries and facilities could be afforded for growing them here; an indigenous cottage industry suited to the genius of the people would be created and established.

BE KIND TO ANIMALS. The Japan Humane Society celebrated some time ago a "Be kind to animals week" and thus provided an object lesson to the citizens of Tokyo in the right treatment of animals. Every conceivable measure was taken by the members and friends of the association to show to the general public that to treat animal with more kindness was not only right but profitable. Like the Health week which is now an annual fixture in the various parts of the Presidency, the "Be kind to animals week" should also be celebrated if possible along with the health week so that the Department of Public Health and the Veterinary and Agricultural (cattle breeding) departments may co-ordinate their efforts.

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(Journal of the Madras Forest Panchayats)

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EDITED BY

A. SWAMINATHA AIYAR.

Office—No 9, Brodie's Road, Mylapore, Madras S.

Vol. III

December, 1928.

No. 6.

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Vol. III.

December, 1928

No. 6.

Occupations and Rural India.

By Prof. G. S. Krishnayya, M.A., Ph.D. (Columbia).

For an effective approach to the problem of rural reconstruction, it is of prime importance to gain an adequate grasp of the forces and factors involved. The health, the income, the occupations, the customs and attitudes of the villagers need to be seriously studied. In this article an attempt is made at a survey and, to an extent, at a diagnosis of the problem from the point of view of occupation.

Though it is commonly known that India is a rural country it is not usually realized, to what an extent that is so. According to the Indian Census, a village is a non-urban unit used for revenue purposes. It may have all the huts concentrated at one place, or divided among several residential groups. The people live closely together, on one or more hamlet sites, and walk out to farm their holdings of land, often at long distances away. There are about 286,400,000 villagers scattered over, 1,800,000 square miles and living in more than 695,000 villages. Only 28,800,000 live in the 3,316 towns averaging 13,800 in population. Not more than 10 per cent live in places with over 5,000 people. The average village has about 400 inhabitants.

That only 10 per cent lives in towns is a clue to the simplicity of the Indian industrial structure. Nor is it difficult to guess that agriculture and cottage industries are the two chief occupations. Of the total population, 73 per cent or 231 millions are supported directly by the exploitation of animals and vegetation,* and are distributed as landlords, 177 million cultivators, 44 million landless field servants, and less than a million estate agents, managers etc.† There are in all 387 million acres of land culturable or fallow or actually sown, which is 605,000 square miles. Thus there are on an average 332 people per square mile in agricultural areas, although European experts say that 250 per square mile is the maximum number that can be

* See P. Padmanatha Pillai: 'Economic Conditions in India,' p. 70

† According to Mr. G. Keatinge, formerly Director of Agriculture for Bombay the landholders with less than forty acres of dry crop land who have all their work done by hired labour are a mere encumbrance on the land. On the other hand, the landlords who have a good sized tract and supervise it carefully may be doing a distinct service.

supported by agriculture.† The value of India's average yield per acre has been computed to be $\frac{1}{2}$ that of Italy, $\frac{2}{5}$ that of France, $\frac{1}{3}$ that of Egypt, and only $\frac{1}{4}$ that of Japan.‡ Dr. Gilbert Slater says that five agricultural families in India produce enough food for eight or nine families, while five agricultural families in Western Europe or North America would feed about fifty families. A partial explanation is to be found in the fact that the Indian farmer uses methods fixed by custom thousands of years ago. His equipment is both scanty and poor in quality. A very rough kind of seed selection is sometimes practised by the wealthier villagers. Further, as a rule the cultivators are ignorant of the way to combat plant diseases. Gradually they are beginning to open their eyes to improvements. The vicissitudes and heavy burdens of Indian agriculture are such as to increase the villager's fear of change.

There are other serious handicaps. One of them is the smallness of the holdings. Frequently they are so small that not all their owner's time can be profitably employed. The acreage of cultivated land per capita in India and other countries is as follows:—

	Of the total population	Of those actually doing farm work
British India	1.1	3
Japan	0.3	1
United Kingdom	0.4	8
U. S. A.	3.5	25
Canada	4.6	51

More serious than that is their fragmentation into many plots widely separated from each other, which obviously is an unmitigated drain on the economic life of the cultivator. Some of the evil effects of excessive sub-division and fragmentation are waste of time, prevention of permanent improvement of the land, and orderly organization of labour and capital, and serious interference with cultivation. The Hindu Law of Inheritance requires each child to get a part of every plot owned by the deceased.

In addition, except where rivers in flood leave a layer of silt over the land, most of the soil is growing poorer in fertility. Cattle dung is burnt as fuel, and bones and phosphates are shipped out of the country. The amount of rainfall varies from year to year and much loss is sustained by the fact that the problem of spreading out the water supply over the year to those months when the crops need it most, has not yet been met satisfactorily. The Indian cultivator has a growing season of nine months, but the great heat from March to July, and the scorching midday sun most of the year on the plains and plateaus, tend to lower his energy for intensive work.

† See Heinrichs: 'Economic Causes of the Present Political Unrest in India' (Unpublished), M.A. Thesis, Columbia University 1926.

‡ 'Encyclopædia Britannica,' 11th Ed., XV, p. 197.

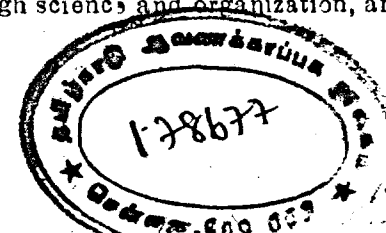
§ 'Geography of the World's Agriculture,' World Almanac, 1922.

We have not yet come to the end of this sad story. Lacking adequate storing space, the cultivator is forced to sell most of his meagre crop at harvest time when the price is rather low and to buy again when the prices are higher. His situation is summarized by the Industrial Commission. (1)

"The export trade from country districts generally suffers from the existence of an undue number of middlemen, who except a large share of the profits; the reasons for this are various. In the first place, it must be remembered that a great number of Indian cultivators are indebted to a class of traders who not only lend money, but lend, purchase, and sell grain and such articles as cloth, and salt to the small consumers. The position of the peasant farmer, with grain, seeds and cotton to hand and at the same time heavily indebted to his only possible purchaser, eventually prevents him from obtaining a fair market price for his crop. Even when the farmer is not burdened by debt, his purchase and sale are often both reckoned in his dealer's books, at a rate which is not always known to the customer at the time. The farmer, owing partly to the extreme sub-division of land, is often a producer on so small a scale, that it is practically impossible for him to take his crop to the large markets. The marketing system and examination do not usually provide means for preventing or punishing fraudulent trade methods. Complaints are frequent, but all parties accept what appears to them inevitable. But, where a better organization has been established, the ryots thoroughly appreciate the benefit. A better marketing system, co-operative selling, and education are the most promising remedies."

Nor is that all. In spite of the overwhelming importance of the agricultural industry in India, the *laissez faire* attitude of the Government imported from England has greatly affected the growth of other industries in the country. (2) To-day, the Government is showing some signs of interest in the land, but for years and years, it was only as one of its main sources of revenue. (3) and the provincial governments are still getting large funds from this source. The State appropriates for itself a direct share in the produce of the soil, the money owed to the Government being the first liability on the land. The revenue to be received from a piece of land is determined directly without an assessment of its value, or the fixing of a certain proportion of the value for payment. (4) This has worked havoc in very many cases and cannot be overlooked while dealing with the causes of poverty in rural India.

Whatever some men may hope from the industrialization of India, it is safe to say that now, and for a long time to come, the great bulk of the wealth of India must continue to be derived from the land. With a tropical climate and prospects of agriculture through science and organization, and the possi-



bility of heavier yields and heavier profits, should India turn from the cultivation of the soil?

The proportion to the total population of those depending on agriculture rose from 61 per cent in 1891 to 66 per cent in 1901, to 71 per cent in 1911, and to 73 per cent in 1921.(5) The Famine Commission of 1880 found that the numbers who turned to the soil for subsistence were far in excess of that needed for its thorough cultivation, and traced the retardation of material progress to this cause.(6) Sir Thomas Holderness calculates that subtracting the land utilized for supplying foreign markets from the total area under cultivation, we shall find that what is left over does not represent more than 2.3 of an acre per head of the total Indian population. India therefore feeds, and to an extent, clothes her population from what 2.3 of an acre per head can produce. There is no country in the world where the land is required to do so much.(7)

Since so large a number of those depending on agriculture is frequently underemployed, it is clear that they may be drawn from the land without loss to the soil or to the output. Again, with the increasing adoption of machinery and other labour-saving devices, the numbers who may be dispensed with without impairing the efficiency of agriculture will go on multiplying and the growth of this excessive agricultural population will be a heavier indent on her maximum returns. The obvious remedy for this economic mal-adjustment is to seek other outlets for the surplus population. For raising the standard of living this is absolutely imperative and was recognized so long ago as 1880 when the Famine Commission demanded the introduction of a diversity of occupations in the country.

Here is a list of occupations according to the Census of 1911. (Since rural conditions have not changed very much since then, that list will serve the purpose.) The number given is the number of persons per 10,000 of total population who were supported in 1911 by the simple occupations commonly followed in every village, and which, taken together, meet all the ordinary requirements of village life.

Landlords and tenants	...	5,606
Agricultural labourers	...	1,316
General labourers	...	287
Cotton workers	...	207
Stock owners, milkmen, herdsmen	...	164
Mendicants	...	121
Grocers and confectioners	...	119
Fishermen, boatmen and palikbearers	...	113
Grain dealers and money-lenders	...	109
Basket makers, leather workers and drummers	...	107
Carpenters and woodcutters	...	99
Leather workers	...	99
Barbers	...	68
Washerman	...	68

Grain huskers and parchers	...	68
Priests	...	64
Village watchmen and other officials	...	63
Potters	...	57
Goldsmiths	...	51
Vegetable and fruit sellers	...	47
Cartmen and pack animal drivers	...	44
Blacksmiths	...	37
Oilpressers	...	20
Teddy drawers	...	18
Makers and sellers of bangles	...	9
Brass, copper and metal workers	...	9
Village quacks and midwives	...	6

The simplicity of the fabric of life is obvious from the general functional distribution shown above. Forty-seven per cent of all people in India are returned as workers increasing the family income; for individuals over 15 years the figure is about 70. About two thirds of all the males are actual workers, and nearly one-third of the females. The occupations in which there are over a million women earning money for their families are the following:—

Ordinary cultivators(8)	...	19 millions.
Farm servants and field labourers	12	do.
Labourers and unspecified workers	2	do.
Cotton spinning and weaving	1	do.

Pasturing is one of the chief village occupations. Among the people raising stock in the villages, the census says that 69 per cent are wage earners. India has about 130 million cattle, but most of them are weak and scrawny beasts. The oxen are used only for draft, that is, for drawing carts and ploughing the fields, and cows are profitable only when they produce male calves or give a little milk(9) Very little is known or done about improving the stock. The desirability of filling profitless and diseased animals is generally not realized, and beef eating is abhorred by the Hindus. The water buffaloes give far richer milk and are more useful for cultivating flooded land. The goats numbering about 29 million are tended by the village boys. Often cultivators suffer much loss by cattle straying into their unprotected fields. Scientific poultry raising is practically unknown.

India has been well called the country of small industries. Cottage industries have survived because they are in some way adapted to their environment. Artisans produce commodities for which there is a demand, and which so far have not been displaced to any large extent, by factory-made goods, and they work under conditions which they prefer to factory life. The unity of interest and occupation among the members of an Indian family has always been one of the chief characteristics. Besides an Indian economist(10) reminds us that "collaboration of the family members not only economises expenses but sweetens

labour. Culture and refinement come easily to the artisan through his work amidst his kith and kin." The policy of allowing workers to carry on their occupations amid congenial surroundings and under conditions suited to their temperament is deserving of every encouragement.

Diversity of occupations from another point of view is necessary for the stimulation and widening of the mental vision of a people and to lead to a better civilization. Sameness and monotony of a simple industry even make a people dull and monotonous. Agriculture if alone tends to keep a people backward and ignorant.

Further, agriculture being a precarious undertaking, depending on an irregular and uncertain rainfall, village handicrafts do a great deal toward reducing the vicissitudes and hard times of Indian life. (11) Cultivators benefit by some subsidiary occupation to make their spare time profitable, not only during the three to six months that they are not working but also during the hours of the day when there is little to do.

In such industries as handloom weaving, carpentry, shoe-making, pottery, building, oil-pressing, metal work, etc., the production of the village workers approaches, and in some cases out-distances, the total output of the townsmen. Besides, in spinning and weaving—the most important cottage industries—machine-made cloths do not trench on the handloom workers' special domain. The handloom is easily worsted by machinery in the ordinary middling qualities, but at both ends of the scale, it can still hold its own. Again, the handweaver's plant represents only a small capital and can be kept in use for many years and therefore his initial outlay need not be great; the nature and amount of labour required for the great variety of design in the more artistic and elaborate garment precludes machine competition in such articles. Owing to their corporate connection with the village organization and their numerical superiority to the town workers, the rural artisans have always played a prominent part in the manufactures of India.

Co-operative buying and selling is little known and less practised. The results are obvious. When buying, the cultivator pays more than is necessary, or finds that he has to do without many things that would increase his productivity and when it comes to selling, he disposes of his goods for much less than he would get in a larger market. As a rule, he is obliged to compete with other producers and so he tries to undersell them and in doing so, makes little attempt to reach better paying parties. Co-operative marketing alone will bring justice to the rural worker, agricultural or otherwise.

As for means of transportation and communication India has some good trunkroads but all too inadequate for the needs of the rural people. Often the only means of communication is a narrow path between the rice fields. Dirt roads are impassable

in rainy weather, and covered with dust and sand in dry weather. Generally speaking travelling is not very popular, especially among the villagers. In the Census of 1921, no less than 90 per cent of the population were enumerated within the district within which they were born. India has a railway mileage of 38,000 miles serviceable not only for the transportation of goods within the country, but especially for export purposes. According to the Industrial Commission, some of the changes brought about by the growth of transportation facilities are:—

An increasing degree of local specialization in particular crops, especially in those grown for foreign export..... Markets have sprung up on or near the railway, where the foreign exporters or the large Indian collecting firms have their agencies; and the ryot is now not far behind in his knowledge of the fluctuations in the world prices of the principal crops which he grows.

For the requirements of a country like India, so definitely agricultural, where water supply is the greatest lack, irrigation works would be of much greater value and therefore need to be more urgently encouraged. Some question the value of railways as an aid against famines, because they believe that whether India herself has enough or not, food grains are usually exported to other countries. (12)

By way of a conclusion the words of Sir Daniel Hamilton, a leading Calcutta merchant, may not be altogether inappropriate.

"We have given the people a railway system which removes their surplus crops, but we have not yet given them a banking system to bring back the price. The world takes the surplus crops, the sowcar (money-lender) and the trader takes the money, and the devil takes the people." (13)

Unfortunately there seems to be more truth than poetry in this statement. The solution lies in an *all-round* attack of the problem.

The economic problem of the village and of India in general, is largely one of increasing the number and variety of occupations. Towards the solution of this problem the school can contribute not a little. If it is desired to encourage industries and to promote technical training, the start needs to be made in the kindergarten. "Teach a child the way he should go, and when he is old he will not depart therefrom." It is absurd to expect a decade and a half of "literary" education to leave a man skilled in agriculture or interested in machinery!

While still children, their interest in creating things should be roused. They ought to be trained in the handling of tools. It may be eminently worth while also to introduce some cottage industries, not for vocational purposes, but chiefly to cultivate skills and aptitudes. Practical methods of nature study and

school gardening, and the formation of clubs around different rural projects are also to be recommended. Such activities encourage co-operation for the realization of common ends. The linking together of a half day of class-room work with a half day of work in the fields, or miniature farms, would in addition provide a variation in the curriculum. Says the Village Education Commission, "The children would gain educationally not only from the more intelligent attitude towards field work so utilized, but also from the class-room work, relieved as it probably would be, from so constant interruption of irregular attendance."

With a school thus serving the people, the problem of "the educational indifference of the agriculturist" is automatically solved. The task of preventing a relapse into illiteracy and of instructing the unlettered in matters of health, home-making and better farming, is rendered a hundred-fold easier. Such a school would concern itself with all, from the unborn babe to the aged parent. Such a school is the educational dispensary of its community. With such a school, the solution of India's economic and other difficulties cannot be far distant.

[1] 'Indian Industrial Commission,' 1916-18, pp. 56.

[2] See Vakil, C. N.: 'Financial Developments in Modern India' p. 169.

[3] The land revenue in 1923 formed 18 per cent of India's total revenues from all sources, in contrast to the 1 per cent that the land tax furnishes in Britain.

[4] For a brief account of the method of determining the payment see Olcott Mason: 'Village Schools and Teachers in India,' p. 19.

[5] See 'Census Reports' 1901. Vol. I. p. 238; 1911, Vol. I. pp. 413-414; 1921 Vol. I. p. 246.

[6] 'Report' Vol. I, p. 34.

[7] 'Peoples and Problems of India,' p. 140.

[8] In farming operations, men do nearly all the ploughing and threshing while the women have the larger share of the transplanting and weeding.

[9] See 'Madras Year Book' 1923, p. 792.

[10] Mukerjee, Radhakamal: 'Foundations of Indian Economics' p. 326.

[11] Prof. Pigou of England in his 'Economics of Welfare,' 1921, supports this idea and illustrates it from British experience.

[12] See Heinrichs: 'Economic Causes for the Present Political Unrest in India' Unpublished Thesis for the M. A. Degree, Columbia University 1925.

[13] "India, Her Present and Future," *Calcutta Review*, July 1916, p. 295.

Village Planning

By V. Narayana Ayyar, M.A., M.L.

Many truths emerge from a close scrutiny of the formation of several villages in South India. Most of them are located on high grounds rising from the surrounding fields and gardens. These grounds which form the village sites are known as "Gramanathams". The houses of the village are built on such sites only. The houses are constructed either among the paddy fields or among the gardens. One advantage of confining oneself to these "Gramanathams" is the drainage water from the several houses find an easy flow into gardens and fields around. As this forms the basis of village sanitation, building houses in the village amid the paddy fields or gardens contrary to this ancient practice is detrimental to the village. We also notice that the lie of the streets follows the levels and the slopes of the village site. Streets are so formed that the back-yards of houses are at a lower level than the front portion of the houses which abut the streets. This facilitates the drainage of the waste water into the back-yards either to be utilised for home gardens or to be drained into the gardens and fields beyond them. The streets also seem to have been laid after taking into consideration the direction of the winds that blow during the year. In places where the northern wind is unpleasant we notice in several villages that temples are located towards the north of the village. By these means, the temple walls act as a barrier to the unhealthy northern winds and the streets run north and south acting as channels for the blowing of the pleasant southern breeze. Similarly where the western wind is undesirable it is shut out by a temple on the west and the streets run east to west.

Our old books on village construction appeared to have embodied many truths about the planning of the village and even where such books do not render the fundamental truths about village planning clear to the reader, a study of the actual formation of ancient villages will bring out these truths clearly. In several villages where we do not find any unpleasant winds blowing during particular seasons of the year, we notice that the temple is located in the middle and that the four main streets run round it. Houses face the temple walls; and the streets between are designed very broad to enable the temple car to run along them. These car streets are considered sacred and the villagers consequently kept them in good sanitary condition. The several festivals during the year sustained the villagers in their enthusiasm to keep the streets clean. The streets were decorated on festive occasions. On other days, each house-owner kept the front of his house clean. And the result was that the whole street was kept clean without the

necessity for a village sweeper. As the temple walls were in front of the houses, people were afraid to commit nuisances in the streets and used the back portions of the houses for bathing and washing. The temple tank or the temple wells where there are no tanks furnished the villagers with good drinking water. These are in many cases located inside the prakaram of the temple and people therefore, were afraid to keep them dirty or unclean and they dared not use them for washing purposes. The water from the well inside the temple was used in temple worship. Consequently the well was kept clean. One notices that several of these wells are supplied with best drinking water in the village; and probably, the location of the temple near it was due to the situation of the well.

There are some advantages in locating the village temple in the centre of the village. The main streets in such cases will be very broad. The houses will be built along the streets on only one side. The temple and the space around it in the centre act as the lungs of the village. This space could not be encroached upon by villagers by building houses. The extent of the temple site depended on the extent of the village Nattham and is proportionate to it. The main streets serve as playgrounds for the village boys and girls. In old Tamil poems we find frequent references to the front yards of the houses which formed in these streets, being used by girls for building toy houses and for playing at striking the ball. We are told in these poems that the streets resounded with the chanting of the Vedas, with the festive shouts and the shouts of playing children.

It is quite natural that as such well formed villages grew in size new streets were formed round the main streets in the form of squares. Some of the old villages were so designed as to enable such growth and in such villages the temple was built on a large scale suited for the formation of new squares and one could guess at the intention of the original villagers from the size of the village temple. One obvious indication of the original intention of the villagers about the size to which they intended the villages to grow to is gatherable from the location of the Deities which act as guardians of the village. Small temples for these Deities are fixed on the outer limits of the village and the Deities are made to face the outside of the village as if on the look-out for external dangers. But they not only warded off outside evils by standing on guard on the boundaries of the village but also prevented effectively the growth of the village beyond its natural size; for it was the belief of our villagers that living in front of these Deities and exposing one-self to their looks, worked evil. Therefore people did not build houses beyond the limits of these village Deities and between the limits of one village and another there could not be any growth or overflow of either village. No

new houses or streets could be formed in the interspace between villages, such houses and streets will be open to the malefic influence of the guardians of both the villages.

There was another advantage in the location of the temple in the centre of the village. No house in the village could be built higher than the temple walls and the height of the temple walls probably indicated, what the original villagers thought, was the limit to the height of the buildings of the village. It was considered sacrilegious to build houses higher than the houses of God.

We thus see that in several of the ancient villages in Southern India, the village site was chosen after careful consideration of the lie of the land, the highest plot of land being demarcated, as village Nattham. In several villages temples were located in the centre and in places where best drinking water for the village was available. The best well or tank consequently fell within the sacred precincts of the village temple. This insured the drinking water supply being kept under good sanitary conditions so long as people were swayed by spiritual ideas. The village streets were made very broad and the continuance of the breadth insisted on by the annual car festival of the temple. The streets were kept clean as they abutted the temple walls and the several owners of houses kept the front portion of their houses clean and tidy, decorating them on festival occasions. The several festivals of the village helped in the proper maintenance of the village streets and in the annual repairs to the houses and the streets being made regularly. The guardian Deities who were located on the outer limits of the village served to prevent the expansion of the village beyond its natural size and the amalgamation of number of villages into a town. The main road which connected the villages with one another ran outside the village limits and along one side of the village. These facts which one notices in old villages reveal the fundamental truths of village planning; and we find that these rules agree with the modern principles of village planning.

In these modern days, however, belief in the old practices is gradually dwindling. Therefore it is very necessary that

new rules of sanitation and village planning should be laid down by the village community and by the Government and enforced upon the villagers. We notice considerable encroachments by the owners of houses abutting the streets by their putting up pials or pandals in front of their houses and these encroachments are to be seen in the broad streets where the village temple car is intended to run. In villages where the temple occupies a central position and the streets run round it, villagers misuse the outside of the temple walls. Religious sanction which acted as a deterrent to such misuse no longer holds sway among the villagers. In some places we find the streets so far encroached upon that it is difficult to drag the temple car along them. In some villages we find that the open space left for communal purposes like thrashing floors have been utilised both by the Government and by public bodies for the construction of village schools and offices for the village Revenue Officials and for Registration offices. These sites which were never intended to be built upon have been utilised for building purposes.

People are not afraid of the baneful looks of the deities; the practice of limiting the heights of buildings to the height of the temple walls is passing away. Consequently several of the old villages which have been well-designed and well-planned and according to the hygienic principles are growing bad from the village planning point of view. If these villages are to be put aright, the principles that underlay these old practices ought to be brought out clearly to the villagers and new municipal rules framed to take the place of the wholesome superstitious fears which kept the villagers in check in the old days. Village officials should be given power to insist on the villagers conforming to these rules in building their houses and also in preventing encroachments on spaces left open for village purposes. In some villages these powers might be given to the village community itself. Power should also be given to enforce rules of hygiene and sanitation. The owners of houses should be forced to keep the front yards of their houses clean and to allow the drainage water to drain from the back-yards of the houses into gardens and fields beyond. The same officers may be given power to enforce rules regarding sanitation with respect to the temple premises and the village tanks and wells.

When the old villages were formed it was not necessary to enforce rules of village formation and of sanitation as they derived sanction from the spiritual ideas of the villagers. Nor was there any need for educating the people in civic responsibility then. But now when the old rules have lost their sanctions, we who boast of the excellence of our Indian villages should see that the people are educated in civic responsibility and that rules of hygiene and sanitation are enforced by local authorities.

Paddy Cultivation in the Tanjore District

By Rao Bahadur K. S. Venkatrama Aiyar, B.A., B.L.

The Department of Agriculture deserve congratulation on its being able to introduce improved methods of agriculture in the District. Though the Agricultural Demonstrators were not received cordially in the villages some years back, by their patience and perseverance they have been able to make themselves and their work understood in rural areas; the annual conference of landholders held at Aduturai at which large numbers attend and give their experiences shows the increasing interest in agricultural improvements evinced by them. The Aduturai Paddy Breeding Station has been able to place in the market improved strains of paddy for seed. The station has till now evolved 7 improved strains; they are i. Kuruvai—a short crop of about 107 days duration made shorter and yielding in about 100 days. ii. Another Kuruvai of the ordinary duration but yielding 10 per cent higher than the ordinary Kuruvai iii. White Samba of 5 1-2 months, largely in demand in Ceylon on account of its pearly whiteness and of its small size and yielding 10 per cent higher than the ordinary variety of the District and free from rogues iv. Red Sirumani of about 170 days duration yielding 16 per cent higher, pure and largely in demand in the district on account of its being able even to withstand floods for some time and drought too v. Nellore Samba of smaller size and capable of yielding as much as 25 per cent more than the usual variety of 180 days duration and resisting floods longer vi. Red Ottadan—a variety usually mixed with the Kuruvai when sowing, in the proportion of 1 to 4 and growing well from the stumps left after the reaping of Kuruvai crops—200 days duration vii. White Ottadan similarly mixed with the Kuruvai of 210 days duration.

The above strains evolved at the station have the following qualities:—(1) Uniform shooting of the ear heads—the advantage being that if the ears come out earlier than others in the same field (as is found in the ordinary ryot's field) the grains will mature early and the ears will shed the corn before the majority becomes fit for harvest.

(2) Purity-free from admixture of other kinds of grains some of shorter and others of longer duration and thereby losing the earheads of such rogue plants. Further if the crops are free from admixture, of other varieties, they are easily marketable and fetch higher prices in the market.

Higher Yield:—The above strains yield higher than the ordinary local varieties as shown above.

The following improved methods have found favour with the ryots:—

1. Reduction of seedrate:—It was usual to sow 6 to 8 Madras measures per cent of land in the case of the short

Kuruvai crop. Experience shows that it is sufficient to sow 2 to 2½ Madras measures per cent though a majority are yet sowing 3 to 4, per cent. In the case of samba—5 to 6 months duration crops—It was usual to sow about 3 to 3½ Madras measures per cent; but from experience it is found that one Madras measure will be sufficient for 2 to 3 cents according as the nursery is well manured and is of proper level.

II. Bunch Planting versus single palanting:—It was usual to plant 10 or 12 seedlings in the case of short crops and 6 or 7 in the case of samba. My own experience and that of several others show that 4 or 5 in the case of Short Crops and one or two in the case of Samba, tiller well and stand the drought and flood better than bunch planting. The planting of smaller number enables the plants to take roots sooner than the bunch, the reason being that the plant food available in the soil is divided among a larger number in the case of bunch and the smaller the seedlings the greater the food available to the plants. The crop being able to take in more food, is sturdy, send its roots deeper and tiller well. In cases of planting late into one or two seedlings there are as many as 25 to 30 tillers and necessarily the same number of earheads, the number of grains in such earheads, being larger than in the case of ears from the bunchplanted crops.

III. Spacing:—Opinions differ. If the fields are well manured it may be possible to plant a little apart than in the usual way. In the case of crops of 3 to 4 months duration, 3 to 4 inches apart is advisable though it was usual to plant them 2 to 3 inches apart. In the case of crops like Kar-a crop of 4 months duration, 4 to 5 inches apart, provided the field is well manured, will give a good yield. In the case of varieties like Samba, the seedlings should be planted 6 to 7 inches apart and single seedling is advisable. In the case of longer varieties like Nellore Samba, 8 inches may be advisable. No hard and fast rule can be laid down in the matter of spacing; it must depend on the fertility of the soil the nature of the soil, facilities for subsoil drainage and the climatic conditions and seasonable rains.

IV. Ploughing:—Deep Ploughing is advocated: the ordinary plough wooden-plough furrows only about 2 inches. There is an old Tamil Proverb that deep ploughing is better than ploughing wider and deep ploughing is not a new method invented by the Department. Iron ploughs have been and are being gradually introduced by the Department and are found to be advantageous: but the ordinary village cattle are not able to drag the iron plough, especially in clayey soils and in wet ploughing. Even in the case of dry ploughing after rains the usual country wooden heavy plough is needed to give the first turning of the soil, though the iron plough turns the soil better in the second and third ploughing and also ploughs deeper. The ordinary wooden plough only makes a fissure in the soil and does not turn it.

Dry ploughing is decidedly better; for the weeds die and there is no necessity of extensive weeding except those brought by the water irrigating the fields. The soil when ploughed dry also gets the benefit of hot sun by which it becomes aerated and thereby impregnated with nitrogen to some extent. Unless a landholder is able to command the labour for ploughing immediately after harvest when the soil is moist and fit for ploughing, it will not be possible to dryplough the lands after the harvest, when it becomes hard. If you get rains in March you can plough the lands dry and there will be sufficient time for the soil to be exposed to the sun, before the freshes which are usually received by the 15th of June. There is a Tamil proverb that the rains in the tamil month of Chitrai—15th April to 15th May—will destroy the child in the womb i. e., the fertility of the soil. Dry Ploughing enables the soil to retain the moisture better than the soil (which cracks on account of its sticky and clayey nature,) and the soil thus ploughed will protect the plant for a longer time during drought seasons. Dry ploughing for paddy cultivation is specially useful in the case of nurseries whether for short or long crops.

V. Manuring: (a) Green Leaf Manure—The ryots have taken to the sowing of wild indigo during December when there is sufficient moisture in the soil. For some years the seeds do not sprout properly and even if they sprout the plants do not thrive on hard and clayey soils. The plants grow well in sandy soils. Till the soil becomes loose by persistent growing of the leaf manure crop, the plants do not grow well. Even wild indigo wants a rich soil and adds to the richness. After some years the plants become selfsowing though in some years when there are rains in December they do not germinate: in such years fresh seeds will have to be sown. Indigo is equally good but the seeds are costlier. Daincha is good but it is difficult to protect the plants from the depredations of cattle and it is impossible to fence the fields or guard them during the dry season. Daincha is good tonic for cattle. Sun-Lemp is not possible in open fields. If it is possible to grow leguminous trees such as Rain Trees, Vahai Trees and Konnai Trees which are in full foliage in May and June, a large quantity of green manure will be available for application to the ploughed lands in wet cultivation. The short crops transplanted in June or early in July if dressed with green leaves give very encouraging yields. In this connection, I am obliged to state that Kuruvai alone as first crop show a better yield than when mixed with Ottadan and the field if left fallow after the Kuruvai harvest (without second crop cultivation) gives a high yield in the next season, as plenty of rest is given to the land thereby.

The ordinary farmyard manure if properly collected and not allowed to dry in open air and exposed to the hot Sun but collected and stored in pits covered well and if properly rotten is cheaper than the artificial manures. The artificial manures

deplete the soil and the grains grown by artificial manure alone also possess little vitality. The farm yard manure is the best and if applied with green leaf and bone meal has proved to be very valuable. Care should be taken to see that the farmyard manure is not allowed to dry in open fields without being ploughed in and is not allowed to be washed away by indiscriminate watering and draining. Unless the manure is spread evenly, the portion on which the manure lay, grows higher and quicker and even denser with the result that the cluster on the heap portion shoot their ears earlier and the grains fall before the other portions of the field are ready for harvest.

Care must be taken that broken glass, tins and other hard substances which may cause injury to the labourer and the bull are not thrown into the manure pit. In some places the town refuse is carted to the fields; but the cost of transport and the necessity of sieving the refuse to rid of glass, etc., prevent the use of the same to fields far away from towns. If only the ryots will conserve their cattle manure properly, they will have no need to go in for costly manures. The practice of using cowdung for fuel cakes should be rigorously stopped.

There is a custom in Tanjore District of penning sheep in seedbed lands and also penning cattle herds during the months of March, April and May. This enables the soil to get the urine of the cattle; but the dung is allowed to dry and is either carried away by the village folk for fuel or exposed to sun thereby losing its manurial value. The practice of burying small heaps of dung is good.

Talks on Sanitation.

By Dr. N. Seshadrinathan, Capt. L.M.S.

WE are fond of calling ourselves a cultured nation. It will be more accurate to call ourselves an intelligent race. A nation can be said to be cultured only when it also possesses high ideals of healthy living. We may have many ideals, but what we practise is in reality a very primitive mode of living, in matters sanitary. Half our ills are due to living in unhealthy surroundings, possessing unhealthy habits and eating unwholesome food, rather than due to a low vitality brought by social evils or by economic distress. Ours is a country of contrasts. We see extreme poverty in the majority and fabulous wealth in a few. We can see extraordinary intelligence in a few and deep ignorance in the majority. A similar contrast can be had in other respects also, such as colour, morality, etc. It is doubtful if there are people in any part of the world, who could preach the most ideal life and practise the contrary. This is unfortunately what is most common in our so called educated community. The education does not appeal to the hearts of the students. It is like an outer clothing, a whitewash on a salt-laden wall. It crumbles on the

first touch of practical application. The educated man of our community is a great sinner in regard to his sanitary habits. It is a very common sight to see in most of the streets of a town where the educated classes are living, infants and even adults answering the calls of nature in the street gutters, or even on the open road. Another very objectionable feature is the throwing of plantain leaves and other rubbish into the open street which plays about by the wind which often blows it on to the face of pedestrians. Individually they may have very clean personal habits, but are entirely devoid of regard for communal welfare. They think that as long as they keep the interior of the house clean, they are safe. This is entirely wrong. Cleanliness like charity begins at home but does not and ought not to end there. The individual's responsibility is to see that the immediate vicinity of his house is also clean, that the refuse from his house does not become a nuisance to his neighbour, for a similar exhibition of irresponsibility by his neighbour can and will contribute to the ill-health of the inmates of his own house. This state of affairs is due to the inadequate and insufficient teaching of hygiene in our elementary or in our secondary schools. Many of our educated people evince a profound ignorance as to the origin and causation of the most common diseases, as also the methods of their prevention. Spitting indiscriminately is another very pernicious habit which our countrymen practise to a proficiency unequalled by few other nations. Some of us can and do spit with such force that the spray will reach several yards ahead. Each spray can convey disease germs from a person to several around him, or the spit may be conveyed by our bare feet to our houses and even to our food. These insanitary habits are a source of greater danger to the population of a small town than to that of a larger city. In the small town there is every chance of polluting the common water-supply. The usual source is a pond or a stream unprotected and often inadequate for the number, and serving both for the bathing and drinking purposes. It is quite an usual sight to see the same used for ablution after defecation which is effected on the bund of the source of supply. When the rains come, the dried fecal remains are washed into the stream or tank. Many an epidemic of cholera or typhoid have been traced to such contaminations of water supply. The accumulation of moist rubbish with decaying food material in the street forms a good breeding place for flies. The flies bred from these places find their way to the fecal matter deposited early in the morning in front of the houses, for their breakfast. In the latter part of the day they get their meal along with the inhabitants of the locality, depositing the disease germs which they have carried on their feet and in their stomach from their infected fecal matter. That this means of spread of bowel diseases is the commonest has been amply proved. When the moist warm weather arrives the flies increase in number and the cases of dysentery,

cholera and typhoid also correspondingly increase. If we can destroy the flies we can certainly control the spread of these diseases, but a more efficient and humane way to do it is to prevent their breeding. How this can be effected will be dealt with later.

Fighting the "lilac devil".

In a previous issue we briefly referred to the menace to agriculture and public health by the water-hyacinth (lilac devil) in Bengal. It has become a very dangerous pest there and serious attempts are being made to eradicate it. The water-hyacinth has been allowed to grow unchecked in several parts of the Madras Presidency and if sufficient precautions are not taken betimes, there is every likelihood of its becoming a real menace to health, sanitation, and agriculture as in Bengal.

According to Sir J. C. Bose, a single root of water-hyacinth is capable of covering an area of more than 600 square yards in a few months; and each root has about 150 submerged roots and innumerable rootlets. So it can easily be realised what the spread of the weed may mean to health, sanitation, agriculture, communications and commerce. Where, as in Eastern Bengal, water-ways are the principal means of communication, the spread of the pest will be most felt. For by paralysing water communications, the plant will not only retard trade and commerce but also cause a great deal of inconvenience to the public. Its effect on health and sanitation is no less serious. Mr. D. K. Sanyal writing in the "Cosmopolitan" says, that from his personal experience the spread of the water-hyacinth causes scarcity of water for domestic purposes as its presence in tanks and rivers results in the fouling of water by its decomposition. It is no less responsible for the spread of malaria as admitted by the Public Health Department of Bengal. Now what should be done to eradicate the pest? Mr. Sanyal is correct in saying that there cannot be one universal process of eradication and the remedies to be applied must vary with the peculiar circumstances of particular localities. Of all the known methods such as spraying, burying, burning, and mechanical handling, Mr. Sanyal prefers the method of burning first as it will not only kill the weed, root, and branch but also the ashes obtained thereby, may be utilised as manure. His second method is to move the weed down to the sea wherever possible and practicable, as the weed will be destroyed when it comes in contact with the salt water. At the same time, the economic utilisation of the water-hyacinth may be investigated as a useful adjunct to eradication. Of course the danger in this method consists in that the weed may not be properly destroyed if it is known that it has a commercial value and the plants not destroyed will continue the evil.

A special Hyacinth Conference was held at Dacca in 1927 at which it was resolved that the weed should be declared as a

noxious pest and legislative action is also being contemplated. We have mentioned these facts in order that we may be forewarned of the evil and that precautionary measures may be taken before the weed becomes a menace.

Notes and Comments.

OURSELVES: We propose to complete the current volume with the present issue and to commence a fresh volume from January, and our Journal year will in future be the calendar year, January to December. We are sure that the change will be appreciated by our subscribers which is in accordance with recognised practice.

THE FOREST PANCHAYATDARS' UNION, LIMITED. The President of the Union asks us to announce that Panchayats which remit moneys to the Central Urban Bank, Limited, Mylapore, Madras, to the credit of the Union should invariably advise the President of the remittances made with clear details as to the name of the Panchayat making the remittance, correct postal address, and the District. There are instances in which a Forest Panchayat bearing the same name is situated in different districts. For example, there is a Panchayat bearing name "Velur" both in North Arcot and Trichinopoly Districts. Again the post town of one Panchayat is also the name of another Panchayat. For example Gandrayi Panchayat in Kistna District is served by Jaggayapetta post office. Jaggayapetta itself is a Panchayat with postal address Jaggayapetta. The Central Bank no doubt sends advices to the President of the receipt of moneys by them, but it cannot be expected to know the above details with the result that endless confusion is caused in the maintenance of the accounts of deposits by the Union office. To give an illustration, the Bank sent to the Union the following advice: "Received..... Gandrayi Post, Jaggayapetta" which would mean that the amount was received from Jaggayapetta Panchayat. As a matter of fact the amount was received from Gandrayi Panchayat while the account in the Union showed that it was received from Jaggayapetta Panchayat which was a mistake. We have on previous occasions, at the instance of the President requested the Panchayatdars to advise the Union office at the same time as they make remittances to the Bank. We repeat the request and trust that the Panchayatdars will help the Union in maintaining the accounts correctly.

THE LATE LALA LAJPAT RAI. In the untimely death of Lala Lajpat Rai, India has lost one of her greatest sons, and there is a genuine and wide spread feeling of sorrow at the great and irreparable loss which the country has sustained. He was staunch patriot of unimpeachable character and an ardent social reformer. His great services in the cause of education in the Punjab will ever be remembered with gratefulness by the people of that Province. India today is distinctly the

poorer owing to the loss of such a great and good man especially at the present juncture. We express our heartfelt and sincerest sympathy to the Late Lalaji's family.

SIR K. V. REDDY NAIDU: Sir K. V. Reddy Naidu has been appointed as Agent-General in South Africa in succession to the Right Hon'ble V. S. Sreenivasa Sastri. As a prominent politician and a former minister in Madras under the reformed constitution Mr. Reddy Naidu is well known, and Madras has again the unique distinction of sending one of her sons abroad in the service of the Empire. We congratulate Sir. K. V. Reddy Naidu on his selection and sincerely trust that he will fearlessly champion India's cause and prove as good an ambassador as his distinguished predecessor has been.

MR. A. RAMASWAMI MUDALIAR: Our readers will be gratified to know that Mr. A. Ramaswami Mudaliar the talented Editor of the "Justice" newspaper and a shining light of the Justice Party has been elected as the President of the Madras Corporation. It will be remembered that as a member of the Legislative Council he took a leading part in the formation of the Forest Panchayats and the handing over of ryots' forests to Panchayat control. We express our hearty felicitations to him and trust that under his able Presidentship the civic life and the health of Madras will vastly improve.

OUR FELLOW SUFFERERS: "Trees are the silent sentinals of nature, the true expression of life in its many phases. There is a similarity between their structure and the physical structure of man, for trees have limbs, trunks, heart, lungs and also an outer covering which protects the inner parts of the tree, just as the skin of the human body protects the muscle fibre beneath. They have circulatory system as well." (Sister Sareswati, U.S.A.). There is really no difference between a human being and a tree. Both can feel harm done to them, but the feeling on the part of the tree is silent and unexpressed. And therefore is the greater reason why they should not be subjected to the pangs of pain and suffering. The thoughtless destruction of trees by man is therefore an unpardonable crime against a fellow being and his better sense should revolt against it. And when the suffering inflicted is wanton there can be no punishment which may be deemed too much. The pitiful condition of the avenue trees and the mangled and disfigured specimens of trees on village sites and porambokes are indeed a heartrending sight. Shall we not cultivate a spirit of fellow feeling and avoid the ruthless destruction of trees which contribute not a little to the health, comfort and beauty of the country side.

JAPANESE ARMY GOING DRY: It is understood that prohibition is being applied to the Japanese Army with marked success. The Japanese General Inchi speaking on the subject recently is reported to have said :-

"I decided to introduce prohibition in my division, first because I believe the military profession stands for the training of good citizens as well as good soldiers, and drinking, in any form, is detrimental to such training. I am also convinced from practical observation that drink is a prolific cause of many crimes, quarrels, offences, wranglings and petty thieving, so common in our barracks. I felt, therefore, that it was my duty to wipe out entirely every sort of alcoholic drink from the army. I caused the officers of the medical corps to prepare temperance pamphlets, posters and other prohibition literature had it distributed in each officer's quarters and the contents taught to the men." General Inchi went on to say that the results were surprising. Crimes, violations of rules, and even diseases considerably decreased.

EUCALYPTUS INDUSTRY IN THE NILGIRIS: The extraction of Eucalyptus Oil is a profitable cottage industry in Nilgiris and Mr. D. Narayana Rao, the Officer appointed by Government to survey cottage industries in the Presidency has been, investigating the possibilities of its further expansion. He has found as a result of his enquiry, that the industry is carried on by individual Badagas. The capital outlay is very small and the profit is from thirty to fifty per cent. The total monthly output is estimated at Rs. 1,500 worth of oil. The recommendation of the special officer is we understand to bring these individual producers who are scattered in different places under one common organisation, both for production and sale of oil in a manner which would benefit the actual producers in a greater degree than at present. At present the middle men are having the lion's share of the profits.

RURAL INDIA: The Director of the Science Museum, South Kensington, London, has asked to be supplied regularly with copies of "Rural India" for the use of the National Science Library, which possesses an exceptionally extensive collection of books and periodicals on Forestry and Agriculture. "Rural India" which deals with these subjects among others, will be in very good company.

THE FORTH-COMING FOREST PANCHAYAT CONFERENCE.—We understand that the next Provincial Conference of Forest Panchayats will be held at Ongole in Guntur District on the 5th January 1929, under the chairmanship of Dewan Bahadur B. Muniswami Naidu Garu B.A.B.L., M.L.C; President, District Board, Chittoor. As this is the first Conference that will be held outside the Presidency town and in the Andhra country, it is hoped that the Panchayatdars from all the districts will muster strong at the Conference and make it success.

FOREST PANCHAYATS.—A subject that will probably engage the attention of the Conference is that of excess grazing fees. We understand that under a recent order of the

Board of Revenue, excess grazing fees should be remitted into the Government Treasury. The object of the Government in discouraging the levy by Forest Panchayats of excess grazing fees is we believe to prevent Panchayat Forests being overgrazed. This can be secured by a strict adherence to the area per cow unit fixed by the rules. But there would seem to be no object in Government appropriating the excess fees which under paragraph 9 of the agreement between Government and the Panchayatdars, should be utilised, first for the improvement of the village forests and then for any works of general utility to the Panchayat villages.

A SUGGESTION.—The Hon'ble Sir Muhammad Habibulla Sahib, Member of the Viceroy's Executive Council who has been a regular reader of "Rural India" from the beginning, has kindly suggested that the message of "Rural India" deserves to be propagated in the Provinces of Northern India and that to secure that end it would be desirable to arrange to have a Urdu edition of the Journal published, which would be particularly useful in the Punjab where the majority of the landholders are muslims. We are grateful to the Hon'ble Member for his kind suggestion, which we shall be happy to carry out as soon as we are able to secure a sufficient number of muslim subscribers from the north.

Reviews & Notices

REVIEWS AND NOTICES: "*The Gita and Spiritual life*" by D. S. Sarma M.A. Prof: Presidency College Madras. (Theosophical Publishing House, Adyar). Not only in India the land of its birth but also in the world of letters and thought generally, the message of the Bagavat Gita—the Lord's lay—has a unique place. Thousands of people find the teachings of the Gita a source of solace, and a guide, philosopher and friend. As an inspiration for right living and thinking, few books have had a greater hold on the popular mind as the Gita. Mr. Sarma, the author of "Introduction to the Gita" has brought together in the present volume a number of addresses delivered by him at various times and places on the spiritual teachings and the devotional and ethical aspects of the Gita. The paper on "What the Gita Does not teach" is a thoughtful contribution to the literature of the subject. The concluding paper in the Volume on Sri Ramakrishna Paramahansa was an address delivered to the students of Sri Ramakrishna Students Home, Mysapore, and is an illuminating exposition of the mystic experiences of the great saint. As a contribution to the philosophic basis of Hinduism, its universality, the lectures should prove useful and stimulating and the Theosophical Publishing House have done a service in bringing out a neat hand volume of Mr. Sarma's addresses.

"SWARAJYA" (WEEKLY) TAMIL: At a time when the consideration of the framing of a constitution on a democratic basis for India is on the anvil involving the exercise of wide franchise, the need for educating the voter on the privileges he has got and the responsibilities which the exercise of the privilege involves becomes insistent. Vernacular journals are a powerful factor in this educative propaganda and their work and importance cannot be over estimated. We welcome the weekly "Swarajya" to the ranks of Indian vernacular Journalism and trust it will be the means of inculcating sound and correct ideas on all matters affecting the national weal. We wish our contemporary a long, useful and prosperous career.

FOOD by Robeet McCarrison C.I. E., M. D., D. Sc., LL. D., F. R.C. P., Lieut Col I. M. S., Director of Nutritional Research, Pasteur Institute, Coonoor, South India. Macmillan & Co. Ltd.

We have on several former occasions, brought to the notice of our readers the very, valuable work which is being done by Lieut Col. McCarrison on the food which the people of India eat. The result of his experiments, are given in the neat little book before us written in plain simple language on the nutritional value of the articles of food consumed by the Indians; and how to make the best use of such food stuffs as are obtainable. The purpose of this book as stated in the 'Foreword' is to teach young people what to eat and why they eat it. In the opinion of Lieut Col. McCarrison, normal nutrition and health cannot be maintained on many of the diets now used by the Indian people. The most interesting chapters in the book are those which deal with the vitamins of food which are essential to life and are the builders of our bodies. (Chapter IX to XIII) In subsequent chapters the author gives an idea of the vitamin content in the commoner foods, milk and their products, cereal grains, pulses etc. In Chapter XIX is given an idea of the faults of the Indian diet with useful suggestions as to how to rectify those faults. The chapter on teeth gives practical advice as to the care of teeth. It is not generally known that bad teeth in children is the result of the wrong food eaten by the mothers before the birth of the child, so that for the proper development of our baby's

teeth, it is necessary that the mother's food should be of the right kind. For the proper maintenance of health, the care of the teeth is therefore necessary. The mouth according to the old Indian custom should be washed out with cold water, first thing in the morning and last thing at night as well as after every meal. This wholesome rule is not strictly followed by our young men and boys. Nowadays they often suffer from indigestion and liver troubles. The author condemns the use of the modern tooth brush which has become the fashion now even among the women folk and prefers the use of a chewed acacia-(Babul)-twigs which is a common practice in villages. The book which is a mine of useful information deserves to be placed in the hands of school children. We would suggest that vernacular translations of it should be published and taught regularly in all schools as part of the curriculum right up to the High School standard.

Ivalkkaikkrama Rahasyam : Tamil. By M. N. Ganesa Ayyar, published by Messrs C. Dharmalingam Chetty & Co, Choolai, Madras.

This book seeks to enlighten young men and young women on the rules to be followed in the preservation and promotion of health and vigour in order that they can lead happy matrimonial lives and beget strong and healthy children. The chapters on human physiology and the brain and the nervous system, as also a very detailed description of the life, nature and functions of the organs of generation, their several parts and the purpose of each part together with precautions to be observed in respect of them are the most important and informing portions of the book. Courses of physical exercises are also prescribed.

A great deal is said about the vice of self abuse to which our young men and young women are often addicted, which is well worth perusal.

Some hints for preventive conception are also mentioned.

On the whole, we consider that the book deserves to be read not only by the young folk, but also by parents and guardians of children so that they may watch and correct those that

