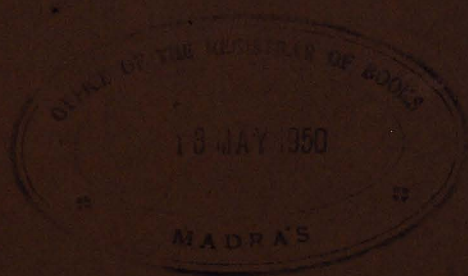


HIGHER EDUCATION IN RELATION
TO
RURAL INDIA

ARTHUR E. MORGAN



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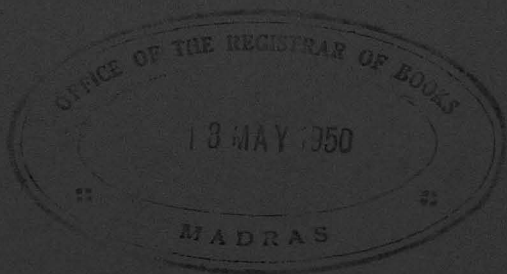
HIGHER EDUCATION IN RELATION TO RURAL INDIA

A Memorandum Prepared for the Work of the
University Commission, April 1949

BY

ARTHUR E. MORGAN

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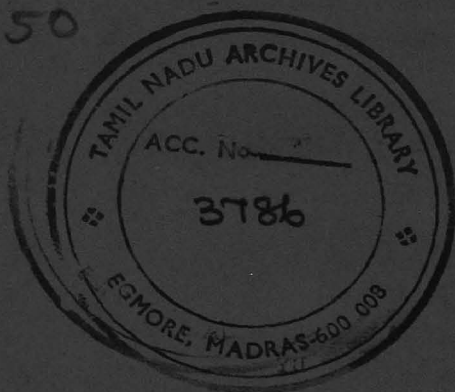
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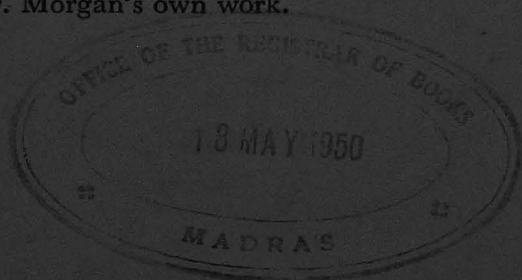
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FOREWORD

The future of rural development in general and rural education in particular, is a subject which deserves and is increasingly receiving the serious attention of thinking persons who have the welfare of India at heart.

The Hindustani Talimi Sangh has reprinted Dr. Morgan's memorandum in this pamphlet form because it is a valuable contribution to thought on this subject. Closely similar conclusions are reached in the chapter on Rural Universities in the recently published Report of the University Commission of the Government of India, which has brought the whole matter into the field of immediate interest.

In publishing this memorandum, the Hindustani Talimi Sangh does not necessarily endorse in detail the various opinions and suggestions put forward by the author. It does commend them for study, and for research and experimentation, in that spirit of open-minded inquiry in the service of man which marks Dr. Morgan's own work.



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HIGHER EDUCATION

IN

RELATION TO RURAL INDIA

A study of university education in India within the framework of that education should lead to desirable and important improvements in the existing system. Such a study the Universities Commission has made thoroughly and well. We have never been members of any board or commission which pursued its work with greater faithfulness and persistence, or with more faithful regard for the instructions under which it worked.

However, to reach a judgement as to the major over-all educational needs of India, and of the suitability of the present university system to meet those needs, requires a very different frame of reference. The system must be viewed from outside itself, as a part of the whole life of India. Such a view has been beyond the "terms of reference" of the Commission, and is not suggested by the questionnaire sent out preparatory to the organization of the Commission.

The Minister of Education in his directives to the Commission went beyond the terms of reference and invited the Commission to look into the foundations and total setting of university education. This action of the Minister of Education seems wise, for it is difficult to see how sound conclusions concerning university education can be reached except in relation to the entire educational needs and the whole destiny of the nation.

In some respects the universities of India are not in the main current of the national life. For instance, about eighty-five per cent of Indians live in villages. Yet in visiting

numerous universities and scores of affiliated colleges, and in listening to the testimony and suggestions of hundreds of leading university men of India, except for suggestions received in Mysore State and for occasional comments by perhaps a dozen persons, a stranger might never have learned from those hearings that a village exists in India. The university indirectly draws its students from the village but does not send them back. With agriculture the chief source of wealth, most of the fundamental support of the university comes directly or indirectly from the villages, but, except through irrigation works, very little benefit has been returned. We have asked many educators and others what has been the contribution of Indian universities to the Indian village. With few exceptions the answers have ranged from "nearly nothing" to "absolutely nothing".

The pattern and culture of the university are from a foreign land and are not rooted in the native soil. This is not wholly bad for the human family is fundamentally one, and cross fertilization of cultures is one of the main sources of social progress. But to have the faces of educated men turned away from more than three quarters of the population is a great national loss. How great a loss that is, is only now comming to be realized. The following comments on the significance of the village in the life of India and of humanity are pertinent to what follows concerning the possibilities of Indian education.

* * * *

The course of human history has been marked by the almost rhythmic rise and fall of civilizations. It would seem that truth would breed truth, order a greater order, and that justice should grow from more to more. Yet after each brilliant climax of civilization there is deterioration or disintegration. How many times have Indian nations gone through this cycle of rise and decline since the collapse of a highly developed civilization in the Ganges Valley more than five

thousand years ago? Some civilizations have risen and fallen quickly. Others have had a much slower course.

One of the causes, if not the chief cause, of such collapse of civilizations is that cities draw the life from villages returning almost nothing, until the current village sources of culture and energy are largely exhausted, whereupon the whole civilization declines, and the region is ripe for military conquest.

So far as we can learn, cities almost never maintain themselves by their own birth rates. Various studies in Europe indicate that city families die out in four generations or less. American experience is somewhat similar. Ibn Khaldun, writing at about 1400 A.D. indicated about the same for cities of the great Arabian civilization. Studies of the Parsees of Bombay do not give a basis for definite estimates, but indicate that but for the very substantial migration of Parsees into Bombay from villages and towns to the north and from Iran, with the higher initial birthrates of people fresh from villages, the Parsee population would have greatly declined. The source of supply from Parsee villages is now largely exhausted and the decline of the Parsee population in Bombay seems to have begun. Most of the evidence obtainable over the world indicates that the villages are the source of population while the cities are the burial grounds of the families that come to them. The Sourastra community of Madura seems to be an exception to that rule. This colony, which through centuries has been like a band of pilgrims in a strange land, has maintained in a city environment most of the desirable characteristics of a village.

The tendency for cities to be recruited from the villages is nothing new. Ibn Khaldun, discussing the Arabian civilization wrote about 1400 A.D. :

“Those people who depend upon the plough and the animals are compelled by their necessities to do so. The village is the only place suitable for them..... Their society, organization and civilization, all are conditioned by their need for food, shelter and clothing sufficient

enough to hold life and body together, as their means of subsistence do not allow for more than that. But when these people are favoured by fortune and are able to spare some wealth after satisfying their elementary wants they incline towards comforts and try to produce above their necessity, and increasing both the quantity and quality of their food and clothing, and expand their house and found towns and cities to settle down. As they grow prosperous it reflects upon their food, clothing and housing.

“But a citizen (inhabitant of a city) never seeks after the conditions of a village life except when he is compelled to do so for some reason, or else he is unable to lead a town life.”

“The thing which proves that the village life is the basis of a town life and precedes it, is the fact that when we inquire about the population of any town, we find in the first place that most of it comprises the villagers who lived in the vicinity, and when they became prosperous and inclined towards comforts and luxuries, they settled in the towns whose characteristics these are. This leads us to the conclusion that the conditions favorable to a town life have their seeds in a village life and are dependent upon in”.

Ibn Khaldun stated that when a villager had become prosperous and had moved to the city, his family seldom lasted more than four generations.

If the cities simply took from the villages an average cross section of the population, there would be little to be concerned about. But that is not the case. Migration from village to city tends to be selective. Some people from every class migrate, but the movement is strongest among the more intelligent, the educated and the well-to-do. As they steadily leave for the city, the village population becomes more sodden, less virile, more inert. Its cultural resources are impoverished. From students of Indian history we receive the impression

that up to 150 or 200 years ago the cultural life of India was widely distributed through the villages, to a degree which is not the case today.

Yet the families which go to the cities die out, and the following generations must still be recruited from the villages, which come to have less and less quality to contribute. Is not this process a sure road to cultural and national decline? The great classical literature of India, we understand, was mostly produced by village people. Could the villages of today produce it? Even though native capacity is present, the background of fine cultural tradition and of education has been sadly depleted by this steady one-way movement of the best elements from village to city. There are four chief causes of this flight from the village, and for its decline.

The first of these is the habitual robbery and the despoiling of the village by those in power. This exploitation of the village has continued for so long and has been so universal that the government and the rest of the society have become parasitic on the village. They have sucked its life blood in taxes, rent and interest on debts, and have made very little return. The villager, who supplies the nation with food and fabric, is himself stripped of everything but a mud hut, a worn garment, a mat to sleep on, and simple tools for his work. Such exploitation has become almost the foundation of national wealth and culture. The process has gone so far that its elimination without the destruction of the national culture will be a difficult and delicate undertaking almost as difficult as that of teaching a tiger to live on vegetables rather than on the bodies of other animals.

Yet a fundamental change of public policy in respect to villages and their lands is imperative. The elimination of the zamindar function is a painful, but probably necessary step. Changes in the tax laws of the provinces are equally necessary. Land taxes, except for direct services such as irrigation, should be largely discontinued as a source of provincial revenue, or such income should be returned to the villages, or

spent directly in their interest. It would be difficult to find in the whole history of mankind a more parasitic and unjust tax policy than the past land tax policy of the provincial governments of India—of taking nearly everything from the villages and returning nearly nothing. The policy cannot be justified by its great age. No pious expressions of interest in the villages, and in the eighty-five per cent of the Indian population who are villagers, will be more than hypocrisy except as those wishes find expression in public policy. Recent actions of several provincial governments in the interests of the villages are good beginnings.

The second chief handicap to the recovery of rural life in India is the too frequent lack of integrity on the part of those with whom the villagers must deal. Wherever one turns he finds graft, thieving, improper influence and bribery. This is a hard thing to say, but nothing is gained by fair words or by silence on this most vital matter. Of all the obstacles to the recovery of India, this is by far the greatest. The vast network of rules and regulations which encumbers Indian government and business, making government and business expensive, wasteful and inefficient—this network of rules and regulations becomes itself the instrument of the dishonesty it is intended to curb. Each rule and regulation to be observed becomes an additional opportunity for demanding a bribe by whatever name it may be called.

This widespread dishonesty is not an innate characteristic of the Indian people. The Chinese traveller, Hiuen Tsiang, in the seventh century A. D. wrote of the people of India: "With respect to the ordinary people, although they are naturally light-minded, yet they are upright and honourable. In money matters they are without craft, and in administration of justice they are considerate." Marco Polo wrote in the fourteenth century concerning the merchants of Gujarat: "They are the most honourable merchants that can be found. No consideration whatever can induce them to speak an untruth even though their lives should depend on it." A. S.

Altoker, who quoted Marco Polo, states that the Greek, Megasthenes, expressed a similar opinion. The extremely high and discriminating standards of integrity and honour one repeatedly finds in men and women of all ranks in India bears witness to a standard of honour which has been native to India, and which can be again the prevailing attitude.

Free men tend to be honest men. Wherever men can save their property and their lives only by shrewdness and deceit, there shrewdness and deceit will grow, both on the part of the exploited and the exploiter. India has suffered morally from centuries of conquest and exploitation. In Indian villages one often finds the most well-to-do villagers living in squalor and apparent poverty, like their less fortunate neighbours, in an effort to avoid the clutches of those who live on the villagers by blackmail and coercion. Once lack of integrity becomes entrenched in the lives and habits of a people, it tends to continue of its own momentum.

This greatest of all blights on the life of India will be removed only with difficulty. Social parasites will tend to continue the processes by which they have lived, and people long exploited will be slow in trusting to the integrity and good will of those with whom they deal. Elimination of exploitation of the villagers who make up 85% of India's population will largely remove the incentive to dishonesty. A great extension of industrial activity in the villages, so that persons who have lived by exploitation may have productive channels for their efforts, will greatly reinforce ethical teaching. The process also will be aided by clear and careful expressions of practical ethical standards appropriate to modern life in industry, public service and human relations generally.

The third handicap to village progress and prosperity is the general absence of the open, inquiring mind and of the scientific spirit. Most young boys and girls in India are curious and inquiring, as they are the world over. Yet as they grow up that live inquiring spirit is imprisoned in the rigid cage of custom and tradition until it dies. The educational policy all

the way from pre-basic education of year-old children to the graduate school, should be infused with the scientific spirit of free, critical inquiry. Since the early years are largely spent with the mother, the general education of women in the scientific spirit is one of the great needs of the nation, and should be a guiding aim of education.

The general spread of the scientific spirit through the villages of India will be a tremendously vitalizing influence. In the long run it will not only be a progressive influence, but a conserving and stabilizing force. The young people of India, and the under-privileged, are being subjected to powerful, well organized propaganda which promises them all good things, but demands of them uncritical acceptance of an ideology which will not stand the test of free critical inquiry. The surest protection against such propaganda is not the demand that people shall give uncritical loyalty to other beliefs, but rather that they develop the habit of critical, free inquiry. If they know the truth, the truth will make them free.

The fourth great handicap of the Indian village is the absence on the part of the villager of any clear, full picture of what a good village would be like. This subject is discussed under the heading, "A Programme for the Reconstruction of Indian Villages".

America also discloses a trend toward the deterioration of rural life. In the past America has been steadily enriched by a flow of the more virile and purposeful of the villagers of Europe. Now that flow has been largely stopped. American farms and villages have provided a steady stream of quality to the cities, all the more rapidly because of the wide spread of education and opportunity which enables almost any capable person to improve his lot.

This rapid migration of the quality of the country through the universities and otherwise into American urban centres has resulted in a quick flowering of wealth, power and culture, but at the cost of impoverishing the sources from which future generations of Americans must come. Unless this trend is

checked, the decline of America may be as sudden and precipitous as its rise. Some Americans are becoming deeply concerned over this matter. Baker Brownell, Professor of Philosophy at Northwestern University, has described the situation ;

“The failures of higher education in America have become the concern of millions of people who a few decades ago would have been indifferent.....When the college becomes over-whelmingly an influence toward the aggrandizement of urban society with the corresponding impoverishment of our small communities, it is no longer good. Instead of helping to enrich small communities and to stabilize them, the college in general serves as a channel whereby youth and wealth are drained away---In this urban supremacy and its somewhat decadent, predatory ideology our higher educational system is involved. This probably is the greatest problem, educationally and socially, that Americans face today. But few are aware of it.

“Though much is heard nowadays about world community, global friendship, and the like, such talk is meaningless if the firm regional and local community is dissolved.

“By a community I mean a small, diversified group of people, young and old, male and female, with different skills and abilities, living together as kin or neighbours. It is a face to face, primary group, in which many of the major functions of life are carried on cooperatively within the group itself. It is a small group where people know each other as whole persons, not as specialized fragments, and in which they have a sense of ‘belonging’. This normal community has been the setting or matrix in which human activities have taken place since immemorial time. To it the human being is adapted ; he is, indeed, a community animal. When this community is dissolved, human life breaks down biologically, morally,

even intellectually, and human education becomes futile. College education is one of the erosive forces that cause our small communities to wash away under our feet."

The Indian University is no less at fault. Our inquiries indicate that of all students who leave villages for university study not one in twenty returns to live in a village. The whole university process tends to unfit them for village life. Even in the few cases where sociology students visit villages, we are told, it is as observers rather than participants. The villagers accurately appraise this attitude and often are not pleased with such visits.

India must decide whether its policy shall be to maintain a widely distributed population making the villages such prosperous interesting and culturally rich places to live in, with such range of opportunity and adventure, that young people will find more zest and interest, more cultural advantages, and more opportunity for pioneering there than in the city, or whether to run to vast centralized industries with masses of labour, taking direction either from the state or from private corporations. Nearly everyone in India is in favour of the former course, yet nearly all policies of the universities and of government and big business naturally tend to bring about the latter. Higher education is almost completely failing to face this issue.

Natural drift will not change existing trends. Neither will any change in favour of or opposed to industrial socialization necessarily do so. A policy of drift is in effect a decision against a wide distribution of culture and industry and in favour of mass aggregations, with further impoverishment of the villages. Definite governmental and educational policy and a change of public attitude are required. The long time welfare of India demands that the centre of educational attention shall be the eighty-five per cent of the population that live in the villages. So far as Indian higher education is concerned, that 85% of the life of India gets probably less than one per cent of the educational interest.

Consider the present state of the village. Though there are areas with clean, attractive villages, most of the more than half a million villages in India consist of mud huts with dirty floors, with one, two or three rooms, with unprotected open wells, and with open drains. These conditions, along with extreme poverty, result in a large amount of water-borne, insect-borne and earth-borne diseases. In large parts of India the few well-to-do village families commonly imitate the poverty of their neighbours as a protection against money lenders, tax-collectors, petty officials and others in positions to exploit them. Less than ten percent of the villagers are literate to the extent of recognizing their own names on a letter, which has been the official test of literacy. An average day's work in an Indian village produces probably less than ten percent as much wealth as would a day's work by modern methods. The villages are largely isolated from the world, and so have difficulty in getting a world view.

In contrast, let us picture for a moment the kind of village life which should be the ideal to be aimed at.

As a material basis for its welfare the village must be economically prosperous. Its life must not be wasted in primitive methods of production. Full advantage should be taken of modern technical methods. Farming by efficient methods will require only a small part of the human labour needed at present, and the production will be greatly increased. Much of the village population will be available for work other than agriculture. Each village, and especially each group of villages or small region, will have a wide range of economic activity. A large part of the industry of the country should be located in villages and small towns.

Every village should have a good year round transportation, and should be supplied with electric power. Each one should have a piped water supply under pressure, a sewer system, and a telephone system.

Refrigeration plants will preserve perishable fruits and vegetables. Temperature and humidity controls in homes and

industries will largely remove the inconvenience of summer heat.

With water supply, drainage and sewerage installed, malaria and intestinal diseases will practically disappear as they have nearly disappeared in certain other countries. Health centres and public health care will nearly eliminate communicable diseases. Household vermin will almost wholly disappear, as they have disappeared in certain other countries.

If these economic and hygienic advantages should be secured without corresponding development of character and culture, the change might be loss rather than gain. Pioneer American educators pictured the achieving of universal literacy as bringing an end of crime, and the coming of the phonograph and radio as giving universal access to great ideas and thereby ending trivialty. Such results have not necessarily followed. Universal literacy, high income and much leisure sometimes find expression in going to crude movies, in reading comic books and in listening to puerile radio entertainment. Integrity and goodwill in human relations, simplicity and self-discipline in living, and appreciation and respect for cultural values, difficult as they are to secure, must be assumed to be a part of the pictures of the good community. Economic, cultural and ethical education must go together.

Cultural activities should be well developed and varied. Recreation will call on the traditional games, music, dances and avocations of India and of the world. The new methods of communication will bring the news and culture of the world into every home. The limitless ranges of science, arts, industry and agriculture will furnish endless opportunity for pioneering to whoever has a mind of curiosity.

The present lack of these advantages which might be possessed by community life is not due to absence of native intelligence or of natural resources, or even to foreign domination, but to the lack of mental and spiritual attitudes and

especially of a picture of what might be. It should be the chief business of rural education in India from the elementary to the post graduate years, to develop such a picture of a good life for the Indian village and to actually bring it about in fact.

For several reasons the existing university system of India is ill suited to the task of furthering such a transition. In so far as it does have a democratic concept, that concept is not to share the common lot of the common man, but to give an equal chance to all able men to escape from the common lot into favoured positions, as in the professions, where they can demand the services of less favoured persons, treating them as of a lower order of humanity.

The universities face toward the city and not toward the village, and they cause nearly all their students to turn their backs on the village. The roots of university interest have been in foreign cultures and not in their own. They should be grounded in both world culture and domestic culture.

The universities are too much interested in degrees and in access to public positions. To only a limited extent do they stimulate students to self-reliance and initiative in undertaking work within their own reach and their own powers.

The universities are too much concerned with theory and not enough concerned with learning by doing. They are too much concerned with learning from books, and too little concerned with learning through the normal course of living a full life as a member of a normal community.

These criticisms do not imply that the universities do not turn out some excellent students, or that there are not a few colleges which are struggling valiantly to overcome such limitations. The universities are a connecting link with the scholarship and the technology of the world by means of which some of the greatest of the human traditions and values are preserved, strengthened and refined. The great tradition of scholarship can be preserved for the immediate present only

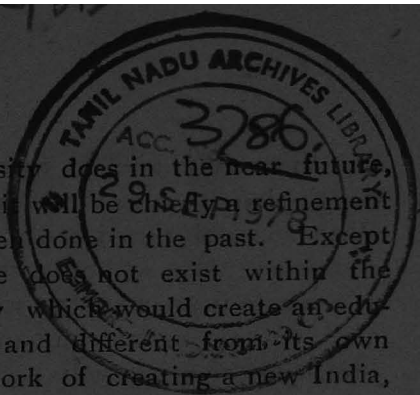
through scholars, which means in practice, only through the universities. Therefore the universities should be nurtured and improved. But it remains true that they are ill suited to be the agency for the education of rural India.

The point of the criticism made above is not for the sake of criticism, but to support the following assertion :

As a major agency for bringing to life the more than half million villages of India, for helping these villages to realize their full possibilities as good homes for the bodies and the spirits of men, and to create and stabilize an adequate village society, the existing Indian university, or any institution following that university tradition and pattern, would be an inadequate instrument. There are one or two Indian universities to which this assertion need not apply. Encouragement should be given to such an institution to adjust its work and outlook to the needs of rural India. The following comments do not refer to such a case.

It is hard for a leopard to change its spots. The Indian university, an exotic from the West, has given a deep and nearly unchangeable colour and pattern to the lives of most of those who have been educated by it.

In listening to the considered suggestions of hundreds of the ablest university men, in a large part of the universities of India during the hearings of the Universities Commission, we have been constantly impressed by the fact that, while nearly everyone sees grave faults in the Indian University of today, and eagerly and intelligently seeks their removal, yet the total over-all pattern of the university is seldom challenged. The word "seldom" is advisedly used, for here and there is a person who has quite broken through the total educational pattern in which he grew up, and who sees the whole system objectively, as a man might who came from Mars, with no ingrained university bent of thought or habit. In one university in particular this critical objective view was frequently in evidence.



Whatever the Indian university does in the near future, however improved it is in detail, it will be chiefly a refinement and improvement of what has been done in the past. Except for the few cases mentioned there does not exist within the university that overall objectivity which would create an educational system strikingly new and different from its own pattern.* In our opinion the work of creating a new India, with the Indian village as its core and controlling element, must be the work of a new, separate and independent institution, which is free to develop its own pattern in its own way.

That does not mean that the new institution shall not draw heavily upon the university. To a large degree the European University, with its off-spring institutions in India and America, is the custodian of the world's scholarship in science and the humanities. Its services are indispensable, but they should be the services of consultation, friendship and advice, and not those of authority and direction. To transmit the pure spirit and content of scholarship without imposing its own form and pattern, should be the essential and difficult, but limited, service of Indian universities to the new education of India.

The possibilities of Basic Education

At this fateful moment in her history, India has had the extreme good fortune to have had presented to her a pattern and philosophy of education of such universal and fundamental worth that it may well serve as the type for bringing into being the new India which is the desire of many Indian hearts. We have no sympathy with hero worship, and feel

* This is not a peculiar limitation of Indian universities, but of humanity in general. Twenty five years ago one of us endeavoured to build an educational institution according to a strikingly unconventional pattern. A faculty was assembled of university men, most of whom felt themselves to be pioneers, and rebels against prevailing conventions. While they maintained high quality of scholarship and made innovations which have had marked influence on American education, yet their common background conventional university training largely controlled, and resulted in an institution which in most respects is only a mild variant of prevailing university practice.

that there should be no withholding of criticism of an educational plan because it was presented by India's great leader. With some of the details of Gandhiji's programme of basic education we may not agree. However, taking his concept as a whole it presents the seeds of a method for the fulfilment and refinement of human personality, the wisdom and excellence of which will become more apparent through the years, and will stand the test of time and of ruthless criticism. Years of time and vast effort will be required to insure this movement against cultists and extremists and self-seekers, and to develop effective skills and methods; yet inherently the concept is one of the world's great contributions to education.

The method outlined in its rudiments by Gandhiji is not just a way of meeting the educational needs of little children. He has stated the essential elements of a universal method of education, from the time a little child shares in its mother's work, through the whole process of growth of personality to the time when the mature man of disciplined mind and character works at the side of the master in the achievement of a great design.

The essence of this philosophy is that education should largely consist of the practice of living. This is a fundamentally different concept than that which prevails in Indian universities, and in most other universities. Gandhiji was not the first to get a vision of great principle which he enunciated. Aristotle specifically suggested a similar course. He would take students from their books and thrust them into life. Again, he said that that which it is impossible for a man to do he learns to do by doing it.

I believe it was Sir Francis Bacon in his great work, "The Advancement of Understanding" who commended the ancient ideal of the Persians for the education of a Prince; "to ride a horse, to shoot an arrow, to speak the truth". That is, the educated man is he whose first concern is not in reading about life, but in becoming a master of living.

John Milton, in his "Tractate on Education" expressed the same ideal. He would take young men from their books and would have them, by travel and action, become men of self-reliance and competence. How strange that intelligent students through the centuries have read these stirring words of Aristotle and of Milton and then returned meekly to their books. Was it not because the bookish example of their bookish teachers was a more powerful influence than the words they read ?

The great Louis Aggasiz came from Switzerland to teach in America ... the greatest science teacher America has known, and perhaps the greatest science teacher for a thousand years. For a long period after a student would come to him, Aggasiz would keep books away from the student. His constantly repeated precept was "Study the thing and not the book". Nearly all great biology teaching in America has sprung directly or indirectly from Aggasiz.

Gandhiji was not the first to have this vision. But in one important respect he differed from most of others. Some of these others had grown up in books. While their minds caught the vision of a new way, the bookishness of their lives held some of them captive. Therein is Gandhiji's pre-eminence. No sooner was a conviction matured in his mind than he acted on it.

Gandhiji did not depreciate books. They furnished much of his inspiration. As to machines, he said he was in favour of machines so long as they were surely the servants of men, and not their masters. So, if I read his mind right, it was with books. They are good to the extent that they throw light on a man's efforts to fulfill his personality and to serve his time, but not when they become the masters of his mind. The capacity to generalize, to learn from others' thinking, to take advantage of the accumulated wisdom of the world in books, to use the scientific method—these are the contributions of the university. But they must be added as contributions and not as determiners and dictators of the pattern.

The greatness of the change of educational outlook and spirit which are needed for fulfilling the possibilities of rural India will seldom be realized by men and women steeped in the conventional educational system. The timid and puttering changes which we have heard suggested for curing the ills of Indian education would be of little significance to rural India. An American writer, Dorothy Canfield Fisher, famed for her clear head and practical wisdom, has well described a similar situation in America. As a villager herself, and a strong supporter of village life, she speaks from first hand knowledge. Describing the Danish folk schools planned by Bishop Grundtvig, and similar projects in America, she wrote:

"The danger in the case of the situation of the adolescent youth of our country is that the emergency may not be recognizable enough to call out that bold, fearless grappling with the new, that conquering of the unexplored, which in other fields of effort has been traditional in America ... Our professional educators alone cannot cope with the emergency. No educators could ...

"The imagination needed to transform our secondary schools to meet our new urgent demand on them is of a quality which can be nourished only by the national blood stream. To graduates of normal schools, of university courses in pedagogy, to those who have won high academic degrees in graduate study of school systems, to earnest, sincere, devoted gifted practitioners of the great art of teaching, the quick shifts they have made from Greek and Latin and literature to shopwork and home economics and preaviation courses probably seem as revolutionary a transformation as is imaginable. But if Bishop Grundtvig of Denmark could look in on them as they hurriedly change one kind of subject taught in classrooms to other kinds, the great old man who fired the hearts of his people to turn disaster into triumph might think they look like nervously conscientious housewives the morning after an earthquake, dusting their tables and sweeping their floors in a house the walls of which are cracked from roof to foundation. He would not blame them. But he would blow a blast

on his trumpet to summon the nation to do what they cannot do—reconstruct the house.”

The “Basic Education” Program

To see rural higher education in good perspective it is desirable to have a short glimpse of the elementary and secondary education out of which it should emerge. As to the program of Basic National Education for grades one to five, the revised syllabus published by Hindustani Talimi Sangh about 1947 may be taken as a representative statement. As we have seen this program in practice in several parts of India it seems to us in the main to be justifying the great expectations of those who gave it form. One possible criticism of actual practice is over-emphasis on the one process of producing fabric and cloth. This is highly valuable as an opportunity for children to have first hand familiarity with an economic process from start to finish. However, in some cases it seems that a more distributed interest and attention to varied processes of rural life would be desirable. Basic education should introduce children to all the chief issues and interests of living. It should not become a routine with spinning and weaving as its main expressions.

These first steps of the basic education program have been clearly defined, and in some cases at least give able and inspiring expression. Therefore, no time will be spent in discussing them. The secondary schools program has been less clearly worked out, and so more space is given to suggesting its form and content. As to higher education, its expression has not been clearly formulated, and most space will be given to it.

This discussion does not go far in technical details of organisation. These will mean little unless there is an overall picture of the needs and possibilities of rural secondary and higher education. To make those needs clear and the possibilities real is the first requirement. If that is achieved, plans will emerge, whereas unless the general idea has life, technical descriptions will mean little.

The Rural Secondary School (Post Basic Education)

The development of rural secondary education can help to modernize and to stabilize village life. Let us picture a rural secondary school as a continuation of the basic education program.

Whether secondary schooling should be co-educational, or whether boys and girls should have separate schools, will be a matter of judgment. Some groups will prefer one course and some the other. Where there is wise leadership, for boys and girls to work and study together may be an education in courtesy, propriety and in mutual respect and understanding. This description will assume secondary education to be co-educational.

Wherever possible the rural secondary school should be a residence school, with the pupils living in hostels, somewhat after the manner of the Danish folk school. A school for 150 pupils should have about 40 to 60 acres of land, depending on circumstances. Perhaps 10 or 15 acres of this should be for school house, hostels, playgrounds, workshops and industry, while the rest should be for agriculture, forest and pasture. The grounds and streets should be planned, and the buildings planned and built, as nearly as possible like a well planned modern village. It should be an example to the students of what their own villages might be like. Small units of perhaps 150 will be far better than mass schools of many hundred pupils.

In so far as possible the school village should be built by the pupils and their teachers working together, with the advice and assistance of a person trained in village and school planning. During construction of the school village the pupils and teachers would live in temporary shelters, or return to their home villages at night.

The life of the school should follow the course of life in a good village, except that about half the working time would

be given to study, and half to farming, building, carpentry and cabinet making, housekeeping, weaving, street cleaning, and other useful village work. It should also include one or more modern industries, manufacturing goods for sale.

Some work, such as cleaning the school village, probably should be done by everyone, teachers and pupils working together. There are some kinds of work with which nearly every pupil should become familiar, such as child care, cooking and home keeping for girls, and agriculture and the use of household tools for boys and girls. Little by little many boys and girls would find the callings they would wish to follow for their life's work, and would begin to specialize. For many, the secondary school period would complete their schooling and their special training. Others would find it desirable to go to more advanced rural schools or colleges.

Perhaps there should not be a fixed length of time for secondary rural schooling. Some students might be quite well prepared for their life callings in two years. Others might profit by twice as much secondary schooling. While some could profitably spend still more time in rural higher education. There should be no sense of failure for a boy or girl who did not complete a prescribed length of course. As people vary greatly, so should the length of their schooling.

In their study periods the pupils should be getting an all-round, well proportioned education. In so far as is feasible the subjects of study would be related to the practical work and life of the pupil. However, as boys and girls grow older it will be found increasingly desirable to follow some orderly course of study, sometimes regardless of their own experiences of the moment. They should become acquainted with the physical environment as disclosed by elementary geography, geology and astronomy. Boys and girls should be introduced to the physical sciences in elementary physics and chemistry and to the world of living things in biology. They should get a general knowledge of the history of their own locality, of India and of the world, and should be introduced to some

good literature. Their studies also should help them to understand the theory of their work. They should have enough mathematics to serve their practical needs, and a general knowledge of local and national government. Physical education should be universal. To select subject matter and to distribute the available time between the different subjects, so that these fields should be covered without over-crowding the students' time, will require much preparation by those planning post-basic education.

Even more important than the imparting of information is the development of habits and attitudes of mind and spirit. The habit of openness and honesty is a tremendous source of national strength and so are habits of goodwill and fair play. In training teachers for secondary rural schools these qualities should be the first consideration. The scientific attitude, that is, the habit of free, critical inquiry, of looking into actual facts and causes, rather than credulous acceptance of rumour or tradition, would put new life into India. It should be the aim of the secondary school village to be a sample of what village life can be in its human relations.

The secondary school village should be as nearly as possible self-supporting, except for providing the land and buildings. Well planned and well managed school industries will go far to secure self-support.

As boys and girls grow older, the periods of uninterrupted work will naturally grow longer. Rather than work and study for a part of each day it probably will be well to divide the students into two shifts, each shift working or studying alternate days or alternate weeks.

The basic secondary school should raise most of the food needed by the school, and should teach boys and girls how to make the land yield as much as possible. The world is learning the secrets of good agriculture faster than ever before and the secondary school should be keeping up with the world.

So far as training in a modern industry is concerned, a two to four year period of work in a secondary school industry

under skilled teaching, along with related study, should produce highly skilled workers, ready to perform many of the more exacting processes in new industries in new secondary school villages. Some students would continue more advanced training.

In its industrial work the rural secondary school should aim to create a new industrial tradition. It has been assumed that the industrialist works chiefly for profit, whereas the teacher works chiefly for service. There is no inherent reason why these different callings should be carried on with different motives. The tradition should develop that rural industrialists deserve reasonable and decent living and economic security, but that beyond such standards all earnings should go to strengthening the industry, accumulating reserve for expansion or against depression, founding new industries for new secondary schools, improving quality, lowering prices, or raising wages and bettering working conditions. It is a curious delusion that amassing fortune gives greater satisfaction than does good citizenship. Rural education should aim to change that tradition.

Self Support in Basic Secondary Education

Basic secondary education can be largely self-supporting, and can be better education than that which is chiefly supported by taxation. Generally the land and the buildings and equipment should be supplied from public funds. If the boys and girls do part of the work of building, then their labour should be paid for at a fair rate from public funds, for otherwise, in order to be self-supporting, it may be necessary for them to use all working time to produce for immediate use or sale, and the educational value of building might be lost.

In order for basic secondary education to be self-supporting, it is necessary that living standards of great simplicity should prevail. The tradition of India has been of hovels and palaces, with almost nothing in between. University buildings have imitated palaces. Some university buildings, like

some palaces, are in such a state of neglect and are so ill adapted to their purpose that they are unfit for use. Yet even in such cases the palace tradition may be seen.

The basic education secondary school should completely avoid the palace tradition. It should be an example to young people of the truth that simple, inexpensive living can be clean, convenient and attractive living. At Sevagram we saw a building which cost Rs. 2000 which served as a hostel for ten boys and also as their classroom. Modern sewerage, lighting and water supply would increase the cost, but the standard of simplicity was admirable. At Mysore we saw a building in which 80 boys were studying drawing and 80 more were listening to a lecture. This temporary building 22 by 70 feet cost Rs. 2000. More substantial buildings are desirable, but this is an example of what is possible, if necessary.

Clothing should be clean, neat and in good taste, but as simple as that of the villager, or more so. In general, it should be made at the school. Food should avoid the wasteful elaborateness so common in Indian university circles and Indian cities, but should set new standards of skill in plain cooking, seasoning and serving, and should be of such quality as to meet all needs of good health and craving for variety. Nearly all food can commonly be raised at the school, but there should be no fetish of complete support in food. It may be better to sell some which the school is especially successful in raising, and to buy some that can be raised better elsewhere.

In general the standards of the school should illustrate improvement of village conditions, resulting in a type of living that should be entirely feasible in a prosperous village, and should not be a cut down imitation of palace traditions. Self support must come partly by restricting wants, the very simple living, and partly by increasing income.

It is possible for the basic education program, especially after the first six or eight years, to so direct its work that

industrialisation and well proportioned, all-round education shall aid each other, shall meet a large part of the cost of education, and shall help in modernizing India by a pattern that will preserve the best qualities of the old India and add the best qualities of the new world.

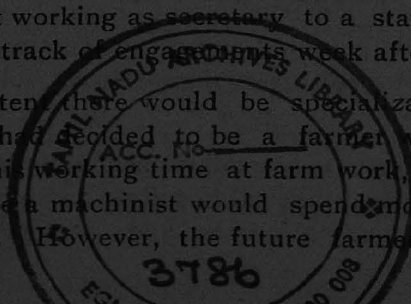
Division of Labour in Basic Secondary Schools.

The division of labour in secondary schools should probably be different from that in the first years. Probably some labour should still be shared by all, such as a half hour for general clean-up in the morning. Most work should be divided, with each student having his or her definite duties. The duties of a student may be changed from time to time so that he or she can become acquainted with many kinds of work.

A convenient way of dividing work would be to have most students work and study every other week. In one week about half the students would be at work and the other half at study. In one week about half the students would be at work and the other half at study. During the following week those who had been studying would work, and those who had been working would study. Thus one set of teachers would teach two sets of students. Some members of the staff would give their whole time to supervising students work.

In actual practice many variations of this arrangement will be found useful. Some members of the staff will spend part time in teaching and part time in supervision of work. It will be found convenient sometimes for certain students to work part of each day instead of every other week, as in the case of a student working as secretary to a staff member, and needing to keep track of engagements week after week.

To some extent there would be specialization of work. A student who had decided to be a farmer would come to spend most of his working time at farm work, while one who wished to become a machinist would spend most of his working time at that. However, the future farmer should learn



how to repair tools, and the future machinist should learn to keep his own garden.

The extreme division of labour which has been usual in the caste system of Hindu society is one of the chief reasons why India has not advanced more rapidly. A narrow range of work leads to a narrow range of thinking and living. The great material advance of the western world had been due to a large extent to the fact that people were skilled in both head and hand, because most western men can turn their hands to varied kinds of work, and because all necessary work is honorable.

Every boy and girl in basic education should be able to perform almost any common, necessary duty. In line with the spirit of the new Indian Constitution every boy and girl in a basic education school should make the following resolve :

I shall never ask nor accept from any person any menial service that I would not gladly do for him or her, or for others.

Rural Colleges

The widespread development of rural secondary schools, modern industries in towns and villages, and the planning and construction of villages, will call for a wide range of abilities beyond the secondary school level. First of all teachers and school administrators will be needed for primary and secondary rural schools. Managers will be needed for village industries, trained men will be needed for the more exacting technical processes, for marketing, buying supplies and for accounting. The planning and construction of secondary school villages, and the wholesale planning and reconstruction of villages as elsewhere described in this memorandum, will require trained men.

It is probable that secondary school villages will become the locations of local medical hospitals and clinics, and that a large number of visiting nurses and doctors' assistants will

be required. The management of irrigation systems, the drilling of tube wells, and the construction and operation of rural electric lines will all require skilled workers. These should be supplied by rural colleges.

Just as the rural secondary school (post-basic education) will draw pupils from the basic elementary schools of surrounding villages, so the rural college, located in a village built for that purpose, will draw from the surrounding secondary schools those students who because of their ability or interest or because of the requirements of the work they have chosen, need preparation beyond the secondary school. The range of study will be as wide as the fields of work in rural India. In various colleges the practical work will be related to agriculture, to the processing of agricultural crops, to mining, quarrying, fishing, lumbering, transportation and other interests.

In the college, as in secondary school, practical studies should be united with general education, so that those who finish college work will be cultured and educated men and women, as well as skilled workers.

As with rural secondary pupils, rural college students should spend about half the time at their studies, and half at practical work, and probably for longer periods than in secondary schools. A part of the staff of the college should be engaged in locating suitable work for students in industries, in secondary schools, in planning and re-building villages, in irrigation and rural electrification, on railways, in mines, quarries, fisheries and forests, and in various public services. The colleges as a rule should also develop their own industries, which might well be of a more specialised and exacting nature than those associated with secondary schools

The Rural University

Each step in the development of rural India and of rural education will call for leadership and skill of a higher order. Just as rural colleges should serve an area of secondary schools,

receiving selected secondary school pupils and preparing them for more exacting work, so a number of rural universities should receive a selected number of students who have completed rural college work, and should prepare them for more advanced work.

In industry, the university student should study the design and improvement of machines and processes. He should study the methods by which many small industries can co-operate in purchasing, research, marketing, in business management and in financing. He should study the principles of business ownership and management. In education the rural university student can prepare for administration and leadership in primary, secondary and higher rural education. In agriculture he can prepare for leadership in production, marketing, breeding and agricultural co-operation. He can become skilled in the processes of planning and rebuilding agricultural villages in the consolidation of small agricultural holdings, and in many other phases of rural life.

As with previous stages of rural education, university students should divide their time between study and practical work. The practical work should be in the field of their special study, and should be giving them practical skill in it.

Women's Education

While women's education has made great advance in India, it is in the field of basic education that it has most fully come into its own. This emphasis on the all-round education of women should continue to be maintained throughout the rural education program. How strange that anyone should expect a new India to emerge when those who chiefly form the new generation are left in ignorance!

The underlying habits of life are fixed in the early years, and the early years are spent chiefly with the mother. If she is open-minded, inquiring and alert, looking behind rumour and tradition to find the facts, concerned with the course of events, informed about the nature of the world about her

and interested in it, acquainted with literature and history and enjoying them, then her children will learn these interests and attitudes from her. Seldom does a person become thoroughly efficient unless he has seen efficiency in operation. Many a leader among men has become so in part because as a boy he lived in a home that was intelligently and efficiently managed by his mother. Probably there would be no quicker way to raise the general standard of economy and efficiency in Indian life than to make women interested in the efficient, economical and convenient planning and management of their homes. Rural education should include such training in the teaching of girls and boys from the earliest years through the university. The teacher training syllabus of Hindustani Talimi Sangh is a good beginning.

The fact that women should be educated as the equals and companions of men need not mean that their education should in all things be identical. Some elements of education should be the same for men and women, some different. Since women are the chief home-makers they should be as well trained in home-making as men are in their callings. Since they largely bring up the children, they should be skilled in child care. Since house is their workshop they should be as well acquainted with home-planning as the small manufacturer should be with the layout of his plant.

A spirit of pioneering, of experiment and research in planning and management of even a simple home can add variety and zest to living, as well as economy and convenience. Rural education should help develop this spirit.

In the traditional universities little thought has been given to women as women. They must, in the main, take the same studies as men. Where such studies are not appropriate to them, as is generally the case in engineering, little that is appropriate is put in its place.

Physical Education

Whenever one sees a gathering of very successful men or women in almost any field he will observe that one of the

characteristics they most frequently have in common is a sound body and great physical vigour. Many a man of mediocre mental powers has gone far in realizing his aims because his health and vigour have sustained him in his long continued effort. Many a man of fine mental abilities, but lacking physical endurance, has been able to realise only a small part of his intellectual possibilities. Any person who fails to develop his full physical powers is throwing away a large part of his life. Much of the prevailing physical handicaps and frailty of men and women can be overcome by intelligent persistent physical education. Most men and women can become well and strong. Throughout the entire range of rural education the maintenance of physical development, health and vitality, should be one of the fundamental aims. Rural education should teach forms of play, sports, games and recreation which are inexpensive and adapted to rural life, and so can be continued long after the school and university years.

Physical development should be seen in right proportion to the whole of life. In some universities we have observed a most unwise over-emphasis on wrestling, tumbling, weight lifting, etc. Some of the students were muscularly so over developed and over strained that their lives would almost certainly be shortened. This custom, we presume, is a left-over from the old days when princes were entertained by spectacles of strength and skill, quite unmindful of the well-being of the entertainers. In this as in many other respects, the rural university should be free to break with undesirable custom.

Post Basic Education and Village Industrialization

One of the issues which troubles the basic education movement is the extent to which modern industrial processes shall be welcomed in the villages. Unless there is clear thinking on this subject the whole program of rural secondary and higher education may be endangered, and much of the possibility of a fine future for Indian village life may be lost. Moreover, there is only a limited time within which the pattern

of Indian economic life may be formed. Industry can be massed in great units and in great cities, or it can for the most part be widely distributed over the country in villages and small towns, and mostly in relatively small units.

India will surely industrialize. Can there be any doubt as to that? To pump irrigation water by muscle power as in India requires more than a hundred times as many man hours for a given result as by modern methods. The Indian farmer spends a hundred times as many hours to produce an acre of rice as does a California farmer, and then gets a smaller yield per acre. The difference in labour between hand and machine spinning is very great, and nearly all village weavers prefer the machine spun yarn. (Hand weaving has far greater possibility for survival than does hand spinning). The makers of handmade padlocks in India are finding constantly greater difficulty in competing with machine made padlocks from other countries. The village black-smith is losing to the big factories in Indian cities his trade of making the agricultural implements. Handmade paper in India requires 50 to 100 times as many hours of work for a given product as does American machine made paper. (Perhaps a combination of handmade paper from machine made pulp may be economically sound.)

India will surely industrialize. The vast saving in labour which modern power and machinery make possible will be used either to raise the possibilities of life for the average man, or else in vast industries, whether publicly or privately owned, it will be used to exploit the common man for the benefit of those in control. Those who oppose the introduction into Indian life of modern production methods may get emotional satisfaction from fighting gloriously for a lost cause but in doing so they may be destroying the possibility for developing wholesome village life in India.

While industrialization of India cannot be stopped, it can be guided into wholesome channels. The energy and devotion needed to guide industrial development in India, so that it

shall serve widespread industrialization on a high economic, social and spiritual level, should not be dissipated in trying to prevent industrialization.

The next few years may largely set the pattern of Indian industrial life for a long time. If there is clear and prompt recognition of the need and possibility for distributing modern industry through the villages and small towns of India the prosperity of modern industry may be difused through the whole country. If there is effective opposition to specialised modern industries in the villages, on the ground that each village should be a self-contained, independent unit, there industries may concentrate in the cities.

A very large amount of small unit industry is feasible. People looking at America from a distance see only the towering industrial giants. Yet there are many thousands of thriving small industries in that country, and there would be more but for the cult of size and power which seeks to grow large, just as a prince might wish to add to his dominions even though the administration might not thereby be more efficient.

Over half the business of America is done by small and medium sized firms. These on the whole are more profitable than the great industries, as is disclosed by several public and private studies. While some industries are growing larger others are decentralizing, and many are moving from cities to rural areas. Small and medium sized business is very much alive in America, and can be in India.

In discussion of the possibilities of government carried on in America, when Switzerland is mentioned as a nation with excellent government, the response commonly is, "Oh, that is possible because Switzerland is a small country". This tribute to small size is sometimes heard also in industry. Excellence does not necessary lie with bigness.

In the modern world the village will steadily lose the status of an independent, self-contained economic unit, but at the same time it can become far more important as a basic unit of society, out of which the larger society is built. Village

people want books, radios, watches, bicycles, metal goods, electric power, and railway travel, which cannot be produced by each village for itself. The world is becoming constantly more interrelated. That interrelation will be best if each of the units has a vigorous, definite existence of its own, while it co-operates with other units. Even when a normal and wholesome degree of local self-sufficiency has been achieved by the villages, a constantly increasing part of local needs will be supplied from a distance, and must be paid for by the export of produce and services.

It is a mistaken aim of some friends of basic education to atomize India into nearly unrelated villages, as though interdependence were itself an evil. A better social aim is the growth together of independence and of interdependence, each where it is most appropriate. Not the *greatest* degree, but the *best* degree of local self-sufficiency should be the aim. Inland people will get desirable food elements in eating ocean fish, and the fishermen will get desirable variety in buying wheat, rice and pulse. Modern industrial methods are necessary to distribute ocean fish products without waste. There is no merit in impoverishing a community in order to maintain economic isolation.

If the village does not industrialize, the actual result will be that urban industry will take over all those processes that are most profitable, leaving to the village the unprofitable operations. As industrialization spreads over the earth it becomes increasingly true that handicraft workers receive very small pay for their work, and even then the products are commonly luxury goods, sold to wealthy people.

It is not strange that early America did not have a clear and wise policy with reference to industrialization. At that time, the industrial revolution was a new development in the world, and there was no experience to provide guidance. A hundred and sixty years ago, when the industrial revolution was beginning, less than five per cent of Americans lived in cities or towns of eight thousand or more. As steam power and

machinery developed there was a steady drift of young people from farm and village to the city. With the settlement of the great west the number of acres of farm land has increased until it is probably twenty times as great as a century and a half ago. Yet the proportion of Americans engaged in farming has steadily shrunk, from about 90% in 1790 to about 15% today. Within a few more decades probably not more than 6% of Americans will be farmers. America still has more farmers than are needed, and its agricultural production continues to increase.

During the whole of the past century there has been in America a constant stream of advice to young people to return to agriculture. This is spoken of as the "back-to-the farm movement." That constant exhortation, which still continues, has had no noticeable effect. The praise and encouragement given to handicrafts have not prevented their steady decline. There were constant gloomy forecasts as to vast unemployment which would follow the introduction of modern labour-saving methods, yet there is less unemployment in America today than there was a century ago. Even during the great depression the poor people on relief lived much better than their grandparents did.

If a hundred years ago there had been clear insight and sound public policy, a decentralized industrial society might have developed, and the small communities of America might have become many small centres of economic prosperity, educational excellence and discriminating culture. However, not enough such insight and leadership appeared, and the price paid for prosperity had been the loss of the best village population to the city, where it tends to die out.

For India to repeat the mistakes of America would seem to be unnecessary. As modern farming methods are introduced larger crops will be raised, and by fewer farmers. If modern industry can be developed in the villages under good social controls, there can be employment for those not needed in agriculture, as the standard of living in the villages rises. The

increased variety and range of social and economic opportunity will cause many young people to prefer village life.

The Work of the Rural University

The description which has been given of rural university may seem vague and abstract, leaving the critical reader to question whether there is really any field for such an institution, and whether its work would, in fact, be any different from that of existing universities. When one looks at the drab, impoverished, monotonous scene of Indian rural life today he may wonder whether it offers any field for the widely varied talents of cultured and educated men and women.

If for the first time one should see a hen's egg and examine it, he would find only a rather uninteresting mass of yellow with a light spot on it surrounded by a sticky, watery mass. How could he imagine the wonderful complexity of eyes, brain, nerves, heart, muscles, glands, skin and feathers, and the instincts, skills and habits that can develop from that simple appearing mass! Rural India is a tremendous, vast egg, or a vast reservoir of potential intelligence, skill, creative drive, energy and cultural and spiritual possibility. Given right incubation, food and brooding care, with a great, full picture of its possibilities, it will burst forth with a growth of power and beauty.

In one important respect a latent people is not like an egg. An egg has within itself not only general possibilities but an exact pattern. It has no possibilities beyond becoming like that pattern, unless by injury that pattern is mutilated or destroyed. Rural India is a great reservoir of creative life, but the pattern that life shall take is not yet determined. It is largely a spiritual matter. The future society may take any one or more of many forms, some better, some worse. There is no predestined design that society must follow. The range of possibilities may have few limits except the capacity of men's minds and spirits to create and to live by patterns of excellence.

It is the main business of the whole people and of its leadership, by science, art, philosophy, sociology and technology, by patient reverent search for truth and value, to help to define an ever-growing pattern of the life of India. Especially so far as the 85% of India's population which is rural is concerned, the development, enlargement and refinement of that pattern should be the work of rural education. This is the more true because, as we have stated elsewhere, the present university system is so totally exotic and urban-minded that, in listening to the testimony of hundreds of university men, except for the comments of perhaps a dozen rebellious persons, one might never have guessed that a village exists in India, so completely was it absent from the University mind.

To suggest interests which should concern the rural college and university we shall mention a few of the new or relatively new, professions which will be necessary in a well-developed rural India. If the descriptions seem to be extended, it is because only by accumulations of cases can the varied needs and possibilities of well developed rural life be realized. The list is by no means complete, but only suggests the wide range of professions, skills, fields of scholarship, and services which would accompany a vigorous, wholesome development of rural life.

New Rural Professions

The development of rural life in India will call for the services of rural professions requiring a high order of training and ability, such as can be supplied best by resident rural universities. Some of these professions do not now exist while others are but inadequately provided for by existing universities. To describe some of these new professions will be a good way to indicate what would be the peculiar work of rural universities, and some of the ways in which they might differ from existing urban ones.

Of course, there are fundamental, underlying subjects, such as physics, chemistry, geology, mathematics, psychology, the history of social institutions, and physical education,

which would be included in any good university programme, wherever located. However, the manner of teaching even these fundamental subjects may be modified to suit the uses to be made of them. The experiments, cases and illustrations used in teaching may be those familiar to rural life. ●

Water Control Engineering

Because of the seasonal distribution of rainfall over most of India, and of the semi-arid condition of much of the country, and also because the principal crop, rice, requires irrigation, the very life of India depends on the control of the water supply. We are informed that only five or six per cent of the flow of Indian streams is used for irrigation. Over a large part of India only one irrigated crop a year is raised, while in other large areas there is no irrigation and only light yields are secured by the natural rainfall. In those cases where year-round irrigation is feasible two or three good crops a year are produced, and long experience has shown such practice to be sound. If the use of the river flow in India should be increased from five or six per cent to twenty-five or thirty per cent, and if other good agricultural practices should be followed, the crop yield of India might be multiplied three times or more.

In this improvement, water control engineering must play a large part. General large-scale river control for irrigation, flood control, power development and navigation will go far in increasing the total water supply for irrigation. In the interests of rural India such over-all river control projects should largely be in the hands of engineers trained in rural universities. Irrigation and flood control are chiefly rural and agricultural interests. Power development in the hands of urban-minded engineers tends to be turned to the development of great mass industries, whereas the first consideration should be the development of rural life and small industry.

There need be no conflict between basic industries, such as aluminium and chemicals which use large amounts of elec-

tric power, and vigorous development of rural life and industry. The use of large amounts of power in basic industries may actually make more feasible the electrification of rural areas. Moreover, there is no reason why the basic industries should be located in cities. They can be located in the midst of a group of villages, getting their labour from such villages. The largest aluminium plant in the world is so located.

But the control of great river systems is only the beginning of the work of the water control engineer. After such great projects are carried to the utmost a large part of India must depend on more limited sources of water supply. The construction of tanks by modern methods can be greatly extended, including the creation of smaller tanks (reservoirs) in the hills by means of masonry dams.

America has greatly increased agricultural production while reducing the farming population from 90% of the whole population to 15%. Even now 90% of American farm produce which is put on the market is raised on the half of the farms that are most modernized. The half of the farms that are still largely primitive produce only 10% of the marketed produce. These inefficient farms are rapidly disappearing, and before long a still larger total of American crops will be produced by only 6% to 10% of the total working population.

As Indian farming is improved and mechanized perhaps twice as much total crop will be raised by a quarter as many farmers. Probably a hundred million Indians will be released from agriculture. One of the ways in which very large numbers of men can be used for long periods is in providing storage for surplus water, even by the excavation of great cisterns where that is the only possible way of storage.

A great deal of Indian agriculture is carried on by pumping water from wells. So long as such pumping is by human-muscle power or by bullock power there may be little danger of exhausting the ground water. With electric power a hundred times as much water might be pumped, and the ground water exhausted. In some parts of America this

exhaustion of ground water has already occurred. The water control engineers, probably working under the government, should make careful ground water surveys where irrigation is by pumping. In some cases it will be necessary rigidly to limit the amount of pumping to prevent the failure of agriculture in large areas.

Over a considerable part of the peninsula, ground water is found only in fissures in the underlying rock. If a well intercepts one of these joints or fissures an abundant supply of water may be had. If it misses a fissure by five or ten feet the well may yield almost no water. Much hard work is wasted in digging dry wells. The water control engineer should become skilled in so-called geophysical exploration, so that by the use of electrical and electronic devices he can locate water veins and avoid the waste of digging dry wells.

In some areas it is possible to spread the flood flow of rivers so it will sink into the ground and renew the ground water. This process has been developed in California.

Irrigation often results in the accumulation of salts at the surface and in the ruin of fine irrigated lands. The water control engineer can prevent this, and can even reclaim land that is naturally too heavily impregnated with salts to raise crops.

We have outlined some of the work of the water control engineer to show how an only partially developed profession can grow and can contribute greatly to the wealth and economic security of rural India.

Soil Improvement Engineering

The earth was not made for man's special benefit. He takes it as he finds it and improves it to suit his purposes. Civilization is largely made up of the efforts of men to master nature and to make it serve their needs. In very little of India is the rainfall ideally distributed for agriculture. So men correct the unbalance by irrigation. Similarly the soils of India are the results of geologic forces having no purposeful

relation to maximum productiveness. They must be studied, understood, and completed by human effort. This paragraph is inserted because there exists within the basic education movement a cult which tends to worship what is "natural" and to oppose the use of mineral fertilizers to correct natural deficiencies of the soil. Just as land may be ruined by excessive or unskilful irrigation, so can it be injured by unskilful use of fertilizer. The cure in each case is not to "go back to nature" but to master the subject by scientific inquiry.

Many Indian soils are lacking in certain elements necessary for full fertility. The soil improvement engineer can learn to correct these deficiencies, and may prescribe treatment for soils which will greatly increase their productiveness. It is coming to be realised that simple increase in the weight or volume of a crop may be of little advantage. A wheat crop of thirty bushels per acre, produced by unbalanced fertilising, may have little more food content than a crop of twenty bushels raised with well-balanced plant food. Much exploration is yet needed before the treatment of soils will reach its full possibilities. This is true not only as to mineral contents, including such trace elements as manganese, boron, cobalt, zinc and copper which have been overlooked till recently, but also with reference to soil organisms which help or hinder the growth of crops.

Much of the soil of India is seriously eroded, much of it so seriously that it is entirely out of use, except for poor pasture. By the use of good engineering and modern equipment, such as bull-dozers, millions of acres of this abandoned land can be brought back to full production.

Ancient Peru, which before its conquest had perhaps the highest degree of economic security of any country in the world, developed most of its agriculture on rocky mountain sides, by means of stone terraces so well built that after four centuries of neglect by the conquerors, they are still largely intact. A Peruvian, working for his government, might spend his entire life building terraces and filling them with rock and

soil to create a few acres of land. The process was time-consuming, but once completed and supplied with water through irrigation channels built along the mountain side, new land had been created which would support a family for generations to come. India has large areas susceptible to such treatment, but skilled engineering will be necessary for planning and management.

At the mouth of India's great rivers are vast expanses of land a little below sea level, or so little above that they are too wet for cultivation. Holland has reclaimed large areas of such land, not nearly as fertile, and thereby has added to her population resources and her wealth. With proper soil improvement engineering India can in the same way add fertile lands and good homes for millions of people, somewhat as is already being done about the mouth of the Ganges.

These suggestions by no means exhaust the possible fields for the soil improvement engineer, but they indicate what a vast field is open to this new rural profession.

Temperature Control Engineering

The tropical sun's heat, which now in many ways is a handicap to India's life, can become one of its great resources through the new profession of temperature control engineering.

Much of India needs hot water, especially during the winter months. It is entirely feasible, by means of simple engineering and construction, to use the sun's energy to heat water which then can be stored on insulated tanks. In this way a year-round supply of hot water can be provided without the use of fuel, as is done in America under far less favourable circumstances.

With somewhat greater expenditure the heating of entire houses during winter months can be done by using solar energy for heating and storing water, using circulating hot water for heating a house. In that way nearly all fuel for house heating may be saved.

Homes, schools and factories of the future will have temperature control to make them pleasant places for working during the hot weather. The sun's energy can be used to operate cooling systems, just as gas, kerosene and coal are used to operate such plants today, though the necessary research has not been made to determine relative costs under Indian conditions. It may be that more economical results can be had from burning coal or waste materials.

A large amount of fish, fruit and vegetables and other food is wasted in India through the lack of cold storage and "deep freezing" facilities. Every good village should have a cold storage "deep freeze" centre for the preservation of food, as well as refrigeration for each family. Every important fishing village and every large fishing vessel should have provision for cleaning, packing, and freezing fresh fish, and there should be provisions for shipping frozen foods. For these and other uses, temperature control engineering can have great extension in rural India.

Food Processing Technology

Many kinds of food are over-produced in some seasons and are almost entirely lacking in other seasons. Food processing can greatly increase and stabilise the food supply. Food processing can be canning, preserving, drying, extracting, cooling, freezing or pickling. Much grain is lost because it is stored with too much moisture. Control of the moisture content of grain for storage is becoming well developed. All these processes require a high degree of training and skill, and constitute a new profession or technology.

Chemurgic Engineering

This is a term recently given in America to the process of turning farm crops, especially waste, into industrial products. The half million tons per year of waste molasses in the sugar industry should all be used for production of industrial alcohol, stock feed, fertiliser or other useful products. Sugar cane bagasse should become an important source of

highly desirable building materials for interior work. Castor oil may become an important source of nylon fibre. The vegetable oils of South India may be processed for a thousand industrial purposes. The possibilities of sisal have not been fully explored. Many of the forest trees and wild plants of India are unexplored as to their chemical and industrial possibilities. "Chemurgic Engineering" opens a new world for rural industry.

Ocean Products Technology

India is bordered by fishing villages, but the processes are almost as primitive as a thousand years ago. The head of the Oceanographic Institute at Woods Hole in the U. S. A. recently expressed the opinion that in large areas of ocean south of India an acre of ocean would produce twice as much food as an acre of good Indian land. Ocean products technology can begin with improvements in packing, cooling or freezing, transporting and marketing fish products, and in processing and selling fish wastes for industrial products, poultry food and fertiliser.

But that need be only the beginning of a great new field of industry. As the profession of ocean products technology develops we may look forward, not only to a great direct increase of food supply, but to a very large increase of fertiliser, made of all living things in the ocean, plant or animal, not otherwise useful. The ocean, especially those parts where "plankton" and other life is most abundant, can be a vast source of vitamins, drugs, oil, glue, chemicals, leather, poultry food and fertiliser. The fishing villages and towns around the coast of India may become places of varied industrial life.

Mineral Processing

India has a great variety of mineral products. There is no reason why these should be sent to large cities or to foreign lands for processing. Much of that work can be done by village or small town industries at or near where the minerals

are found. Mica can be prepared ready for final use, including ground mica for paints and lubricants. Kyanite can be made into furnace linings, asbestos into roofing and other products. The field of mineral processing is so large and so varied that any detailed discussion is out of place.

Rural Transportation

The six hundred thousand villages of India are largely lacking in good roads, and many are entirely cut off during the monsoons. To provide a good highway system for rural India, with well graded, hard surfaced roads and good bridges, would require the expenditure of thousands of crores of rupees and many years of time. There is a way by which rural India can jump clear over the highway age, and save most of this time and expense. The following description of how roadless Honduras is solving this problem can be a hint to India.

"The chief means of transportation in Honduras is by plane. A cross-country flight is full of interest and anything but conventional.

The planes are small but modern. Their chief business is carting freight. Although there are passenger seats they are generally used for stacking up boxes or sacks of potatoes or limes—or bananas or crates of hardware—and maybe you have to step over some long lead pipes that are lying in the aisle, between and under the seats. Perhaps an Indian woman will get aboard with live chickens hanging over her arms—or you will see a couple of little barefoot children climb on and strap themselves into one seat—flying quite alone, and with utter sophistication. A great pig with a gunny sack tied around his neck and protesting loudly is hoisted up and carefully placed back by the crates. Via the grapevine a native woman learns that the plane is leaving an hour earlier than scheduled on account of impending rains in the mountains ahead, so she comes running with her two

small nude children on one arm and their clothes in the other, and dresses them on the plane. The big kindly Hunduranian steward takes care of passengers and animals and freight alike."

A correspondence with Honduras to get information up to date indicates that in mountainous areas where cross currents of air make landing dangerous, this service is discontinued, but elsewhere it continues. A small plane costs less than a bus or van. While it carries less, it can make several times as many trips. The rare pieces of heavy freight can be carried by larger planes. In South America all the machinery for a large mine, and whole hydro-electric plants, have been flown into remote mountain localities by plane. The land otherwise required for highways would be more than enough to produce alcohol crops to operate the planes. The planes could be made in village industries, from Indian bauxite, reduced to aluminium by hydro-electric power.

The rural university could train men to plan, develop and operate this entire system, and with the rural secondary school, could train the young men to build the planes and operate the system, as well as the system of inter-village radio communication which would be necessary. There is no need for rural India to live in isolation. The economics of modern farming methods will release the manpower needed for all this development. The added variety of occupations will make rural life more interesting.

Rural Industrial Counselling

By and large, the chief disadvantage of much small industry is less in small scale production than in the limitations of small scale management. Big industries can afford specialists in administration, in buying, selling, finance, accounting, labour management, and in the development of manufacturing processes and research. For small scale industry to realise its full possibilities it is necessary that such special services as those mentioned shall be available to small industries as well as to large ones.

This need of small industry for specialised services is only now becoming generally recognised. In America such help is becoming available, chiefly from private organisations, but in a lesser degree from the Government. In Scandinavia the same results are being achieved by cooperation of small industries, with the help of Government.

In Finland a very interesting process is underway. About two hundred small metal industries, scattered all over Finland, with from three or four employees to two hundred employees each, have developed a cooperative organisation for supplying the member firms with these specialised services. A central office was set up, supported by a percentage of the income of each member firm. This office supplies its members with technical advice and services of many kinds. It looks after import and licensing arrangements, purchases supplies and raw materials, works out new technical methods for manufacturing, prepares accurate working drawings and specifications for products being manufactured, helps in marketing the products, supervises accounting and business management and arranges loans at the banks. Where the central office, with its staff of forty members, cannot supply the research facilities or the technical services needed by any of its member industries, it is acquainted with all such services in Finland and the adjoining countries, and can quickly make the necessary arrangements.

Thus these little firms, through their cooperative organisation, have available the highly specialised modern technical services which had been available before only to great corporations. This development has occurred in a poverty-stricken, war-devastated nation, in a barren country along the Arctic Circle among a people just emerging from primitive life. Only for the past century have the Finns had even a formulated grammar and a published literature. They do have the advantage of a high quality of integrity in personal, business and public relations.

In India a similar movement has been initiated by Sir M. Visvesvarayya through the All-India Manufacturers' Association.

The Indian rural university might well undertake to develop and to supply leadership for these services so essential to the success of small rural industry. Somewhat similar services are necessary for agricultural marketing cooperatives.

Rural Public Administration

The profession of public administration in a rural democracy has yet to be developed in India. In the old days the villages, so far as local affairs were concerned, were much like little independent nations, handling their own affairs in a spirit of self-reliance. As a result of centuries of conquest and dictatorship nearly everyone has come to look to the Central Government for help and direction. Democracy cannot thrive unless the people learn to handle their local affairs themselves. If the new India is to be truly democratic, it must learn to combine the local management of local affairs and the regional management of regional affairs with cooperation and unity in those matters which must be dealt with by the nation as a whole.

In all democratic governments, while the general over-all control rests with elected representatives of the people who come from every walk of life, the actual administration of the public business can best be done by professionally trained men who are skilled in the theory and art of public order and safety. Dr. Vollmer of the University of California has been a pioneer in raising police and public safety administration to the level of a profession. Cooperation over large areas, with the help of modern radio communication, has made crimes of violence increasingly unprofitable. The rural university should train professional safety directors.

The keeping of records of land ownership in parts of India has been a vast source of petty blackmail, graft, special privilege and coercion by small officials and self-seeking

persons. This whole field of title recording and administration should be raised to a professional level. Airplane maps should be made of every village and its lands, and orderly records of ownership should be kept so well that the small owner will have no need to make forced contributions or to give bribes to maintain his rights. It should fall to the rural university to develop good methods of title administration, and to train men for that work.

We have mentioned a few phases of rural public administration to illustrate new professional fields for which the university can provide training. There are many other elements in rural public service for which the rural university should prepare. Travelling accountants could train local officers in simple accounting methods for villages, firkas and districts, and could supervise accounts and prevent irregularities. (Such services are now provided in certain parts of rural America.) Sanitary officers will need to be trained, the distribution of irrigation water should be improved and the collection of taxes should be regularised. The rural university should train men and women for such services.

Rural Social Welfare

Over all the area of rural India, aside from missionary undertakings, there is very little provision for the care of the aged or orphans, crippled, blind and deaf. Nor is there any orderly provision for relief in time of natural catastrophe. Rural social services should be developed not to take the place of neighbourly care and friendliness, but to help them to intelligent action and to supplement them where necessary. This work should not be over-professionalized, but should strive to make the ordinary processes of neighbourliness intelligent and effective.

Rural Land and Village Planning

As discussed elsewhere in this report, most Indian villages are unfit for human habitation, and should be entirely

rebuilt on new locations. It may seem at first thought that a village is only a village and needs no skilled planning. Such is not the case. The wise location of streets so that the natural drainage will be good, the proper planning and location of sewers and drains, the best size, shape and location of house sites, the best size and location of playgrounds, school houses, public buildings and meeting places, garden plots, pastures and barns, airplane landing fields, and the best locations for industries, especially those which might have unpleasant odours or waste—all these are important; and only trained and experienced men and women can handle them well. In many cases groups of villages will unite in planning landing fields, playgrounds, schools, common pasture, or industries. There again professional planners will be useful.

One of the great wastes of Indian agriculture is the fragmentation of land holdings. We read recently in a daily paper of one ownership of 80 acres which was divided into more than 160 parcels scattered all round the villages. Land planners, working under suitable legislation, should become skilled in working out and administering the consolidation of land holdings.

More and more India will want to preserve its wild spots of natural beauty, making them precious possessions of the people. Land planners should be skilled and experienced leaders in this movement. The profession of land planning can become highly developed and highly useful. This should be the work of the rural university.

The Profession of Social Engineering.

In the old days most disputes or other differences were settled by local Panchayats or village elders. Few cases went to the courts. With the imposition of English law and the rise of urban university law schools the condition has greatly changed. There is litigation everywhere. Small town lawyers thrive chiefly as people quarrel. We are informed by well-

informed advocates that outside large cities, more than 90 per cent of legal practice is due to quarrels and litigation.

For the welfare of rural India the legal profession as it now exists should be largely replaced by the profession of social engineer. His work should be not to win law suits and thereby pile up a fortune, but to prevent the need for litigation and to promote social harmony. He should aim to revive the settlement of differences by informal agreement before Panchayats of rural elders. He should aim to clarify social customs and social relations, so that there would be fewer occasions for disputes. He should encourage the habit of making clear records of important agreements, so that misunderstandings will not result from poor memory. The English law has brought the tradition of equality of rights to a culture in which some persons were to be superior and others menials. This new concept should be preserved, but along with it the old habits of internal harmony and informal solving of differences should be revived. Social engineering should not be a technique for maintaining the status quo of privilege or class stratification. The basic human rights of the new Indian Constitution should be its guide.

The drafting of legislation affecting rural life should not be the hasty work of a politician without skill. It should be the careful, skilful work of the social engineer, who has learned to understand the issue fully and to state it fully, who knows what legislation of the kind in this and other countries has been most successful, and who knows how to provide the simplest, most economical, and most easily understood legislative methods. A vast amount of bad government comes from unskilled drafting of legislation. As a rule the politician wants his legislation to be successful, and would welcome such help. The social engineering profession would also watch proposed legislation to draw public attention to that which would be harmful.

The social engineer should be recognised as no less important to society than the public health officer, and should

similarly be supported by the public. His work will be further discussed under rural research. The training of social engineers should be the work of the rural university.

Rural Sociology and Anthropology.

The field of rural sociology should not be a bookish subject, though a sound background of scholarship is necessary. The culture of India possesses many elements, in great variety. It should be the chief business of the rural sociologist and anthropologist to know what these cultural resources are, and to ensure the preservation and dissemination of their valuable elements.

Rural Arts.

Similarly, the resources of rural arts, crafts, games, music and dancing should be explored and the best preserved and spread, somewhat as is now being accomplished at Santiniketan. Numerous such centres of influence at rural universities, with mutual give and take with primary and secondary schools, would be desirable.

Rural Medical Service.

Most doctors trained in urban medical schools shun rural life. Both in urban and rural medicine there are many physicians who are maintaining a high standard of unselfish public service. But perhaps there are not enough of them to determine the over all attitude of the profession. The medical schools find difficulty in securing able men who will give up large incomes for teaching. The rural university should develop a very different medical tradition.

The rural physician should cast in his lot with the people he serves, taking only a moderate income, such as will give him moderate economic security and enable him to keep fully in touch with developments in his profession. Along with the training of rural physicians the rural university should train physicians' assistants and nurses. These assistants can handle the routine health work of the village from secondary school

centres, while the rural physician can receive the more difficult cases at larger clinics or hospitals properly spaced, where feasible at the sites of medical schools. These need not be in cities. We are informed by the head of a very large clinic in a very small town that distance from the city is an advantage. It sifted out the ordinary routine cases, and leaves those from which the students can learn most.

The Social Attitude of Rural Professions

Rural India should develop very different professional attitudes from those which characterise urban law, medicine and industry. Its different kinds of skilled services will require somewhat similar ability and training. Among the products of urban universities the scholar is relatively an underpaid menial, while the successful physician, lawyer and industrialist are relatively aristocrats living in comparative luxury. The rural university should strive to develop the tradition that whoever does necessary work honourably and well is deserving of an income which will make possible a full, wholesome and effective life, but that a strategic position in society, such as that of the physician, lawyer or industrialist, should not be used to levy heavy tribute, as is sometimes now the case. Men who require unusually long and exacting training, or who have unusual responsibility, should have larger incomes. Their periods of training are longer and more expensive and their earning periods shorter. To do their best work they need freedom from financial stress. They need funds for books, study and travel to keep themselves fully qualified. They must often entertain other professionals, and they assume social responsibilities involving expense. These needs should be recognised, but they should not be made the excuse for great wealth and luxurious living. The tradition should grow that guests are to be entertained with great simplicity. The tradition that the successful person must live like a prince should be avoided in the rebuilding of rural India.

For these reasons among others it seems imperative that rural education should grow upward from the soil, and not

downward from the palace. The rural secondary school should grow out of the basic education elementary school. The rural college should grow out of the rural secondary school; and the rural university out of the rural college. It should not be an extension of the urban university tradition.

What is a "Profession" in Rural Education?

Members of some of the older professions may be inclined to take offence because the word profession is applied to so many fields of work. They have stood on pedestals of dignity, honour and prestings above the mass of men. This special position of the older profession must be given up for two reasons. First, the difference between professions, practiced primarily for human service, and business and industry followed for profit, has largely disappeared. Most of the physicians of India, as in America, are congregated, not where they are most needed, but where the returns are largest. Is not the same true of the other professions?

Second, the time has passed in which scholarship and disciplined preparation are the marks of only a few traditional fields. Any useful calling, for which a high degree of preparation has been needed and has been made, and which is pursued in a spirit of service to the public, deserves the name of profession. The spirit of democracy will not tolerate the monopoly of that term by any privileged group. It is a mistaken idea that there is any field of necessary human effort which will not respond to a high quality of preparation, and so deserve the name of profession. Just as the despised calling of scavenger has emerged as the honoured profession of sanitary engineer, so can every necessary human work become in truth a profession.

This attitude is generally absent in the traditional Indian university. We have found it present in basic education centres. It should be held to as a precious and vital element in the new tradition of rural education.

Rural Education and the Great Traditions.

There are several great traditions in human culture, each the product of a long past. Their existence is one unbroken continuity through the centuries. If the continuity of one of these traditions is completely broken, centuries may be too short a time for its rebirth. A very simple case will illustrate. As men moved out from the Asiatic mainland, and through the countries migrated slowly over the south sea islands, they took with them the art of pottery. When they came to coral islands where there was no clay, the art of pottery was lost and forgotten. When they moved on further to islands where clay was abundant, many centuries with the necessary materials at hand were not enough for the rediscovery of the art of pottery making.

One of the great traditions is that of agriculture. It is the accumulation of many centuries. No man becomes a good farmer in one generation unless he has inherited this tradition. The city-born industrialist who boasts that while he knew nothing of farming he has been successful at it may not realize that he is only giving a business man's competence and orderliness to the age-old agricultural traditions of those who work for him. He has, in fact, united two great traditions, that of agriculture and that of business.

Another great tradition is that of medicine and surgery. It is entirely impossible to think of any man, however brilliant his mind, becoming a competent physician or surgeon without having inherited much of the wisdom, skill and experience of the physicians and surgeons who have gone before.

Another great tradition is that of business. Almost never does one become a successful businessman, though he may think of himself as "self-made", unless he has picked up or otherwise acquired much of the accumulated experience of the business world.

Another great tradition is that of scholarship. One may criticise existing universities, but he must realise that they and other institutions of higher education are almost the sole

custodians and transmitters of that vast fund of organised knowledge and those processes of orderly, disciplined thinking and of disciplined, objective inquiry which go by the name of scholarship. Those disciplines of scholarship cannot be quickly created anew, no matter how great the native intelligence, nor how strong and sustained the enthusiasm.

Here, then, we have the dilemma of the rural university. It would modernise agriculture but must work with farmers, often with men burdened by ignorance, credulity and conservatism, while they possess the wisdom of the ages. The rural university would build rural industry in a spirit of goodwill and mutual helpfulness, but must build on the traditions of a calling shot through with grasping for profits, and of exploiting labour. The rural university would build a health service for the people of rural India in the spirit of social service, moderate income and a sharing of the common lot, but it must begin with doctors, some of whom have been trained in the doctrine that the physician is a superior person, who if he can will live in luxury even at the expense of patients who cannot.

Finally the rural university must have scholarship, and this it can get only from the existing universities which, along with the great tradition of scholarship, are also saturated with unimaginative formalism, pedantry, scholasticism, routine, petty ambition, jealousy, timidity or cowardice, and lack of practical contact with real life.

Out of these materials, how is the rural university to realise its aim of building a new fine rural India and of releasing the vast creative energies of Indian life, now so tightly bound in the chains of privilege, prejudice, exploitation and ignorance? There are two things the rural university movement can do. First, it can define and clearly express its own purposes. This is one of the primary duties of those who would build a new rural India. Second, it can constantly search all India and all the world for those exceptional persons who, while making themselves masters of one of the great traditions such as agriculture or medicine or business or

scholarship, have nevertheless held to the greatest of all the great traditions, that of committing their lives and all they have to the service of their fellow-men. As such men find each other and work together they can create the basic elementary school, the rural secondary school and the rural university, and through them the new India.

The Great Tradition of Common Life.

In primitive societies children learned chiefly from watching, listening to, and imitating their parents, their neighbours, older children, and from their own experiences. They gained two kinds of knowledge and skill from this kind of living. First were definite knowledge and skills. A boy or girl learned by heart the history and folklore of his people by hearing them repeated many times. He or she learned the exact way to make a pot or a boat or a piece of cloth by watching and working with those who knew how. This kind of learning has always been recognised.

There was another kind of learning which came so naturally that often it was not recognised, and often was mistaken for inborn human nature. We refer to those general habits, attitudes and outlooks which a child or youth unconsciously acquires from those around him. He thus learns how his parents, neighbours and older playmates meet situations, how they become toughened and disciplined, how they reach their judgments, how they face difficulties. This informal, unconscious learning is most important in the child's development, more important even than the definite skills and knowledge which he acquires.

Little by little people learned that some special skills or knowledge can best be taught by formal organised education. Thus schools and universities came into existence. For a long time this formal teaching was limited to a few special subjects, such as reading and writing, priestcraft and healing. The rest of the child's or youth's development was left to informal experiences of everyday life. Gradually more and more of

living was brought under the domain of formal teaching, until in some countries to-day formal education covers many phases of living.

Yet always there remain the informal skills, disciplines and judgments of everyday life, which are not included in formal education, but must be picked up by the child from informal everyday experience. The parts of the child's development which are formally planned came to seem important to those who plan and administer the schools, while the parts which are left to informal contacts are overlooked as of small importance, or are forgotten. Yet they continue to be very important, perhaps more important than all the matter included in general education.

In many modern conditions children are largely cut off from the rich variety of common life and affairs from which children formerly got this most important though least formal education. Very often the children of successful parents, sheltered from everyday contact with the world, never develop the clear practical judgment which led to their parents' success. Many persons who have lost much of this tradition of common life become easy converts to abstract political ideologies which would not stand the test of practical judgment and experience. This is often true of college students with narrow home experience.

The industrialist in his office, who by financial success has become cut off from the common life, begins to imagine his employees to be indolent, disloyal conspirators. Workmen with their traditions of common life narrowed and impoverished, begin to imagine their employer as a ruthless exploiter. Thus impoverishment of the tradition of common life breeds conflict. An impoverished village, from which all educated and cultivated people have fled, where the range of experience is mean and poor, will also produce children who are largely robbed of the tradition of common life and who are easy prey for unsound but plausible political ideologies.

Rural education should not limit itself to the processes of the school room, but at every stage from the primary school to the university should insist that the pupils should learn also from the great tradition of common life. Basic education should keep that fact in mind.

Lewis Mumford gave excellent expression to this idea in his book "The Culture of Cities":

Our educational systems are only beginning to use the local community and the region for exploratory activities. Before the resources and activities of a region are treated as abstract subjects, they should be understood and felt and lived through as concrete experiences. Beginning with the creeping of an infant in his home the systematic contact with the environment should broaden out until it reaches the furthest horizon of mountain top and sea. Every child should have first-hand acquaintance with the primitive substratum of economic life. The geography and geology of the text-book should be annotations to these experiences, not substitutes. So, with work in the garden, the vegetable patch, the hay-field and the grain field, here is the very substance of regional life, and no system of education, no urban environment, can be considered even remotely satisfactory that does not include these experiences as a vital element. Child labour, as Karl Marx pointed out, will be an essential element in education once the element of exploitation is removed from it.

The tradition of common life varies greatly in quality. Sometimes it is mean and poor, sometimes rich and fine. One of the advantages of creating self-supporting villages for residence secondary schools, as discussed elsewhere, is that in one of them a boy or girl may have a fairly wide and rich range of common life, with associates of more than average intelligence, judgment and refinement. For such a school village to be self-supporting from industry or other income-producing work will add a very desirable quality of realism to the common life experience.

By the time boys and girls are in a rural college they should be mature enough in character to justify their being sent to well-selected jobs at a considerable distance for their working experiences, as discussed elsewhere. University students should also alternate study with practical working experience, so that they will be in first-hand touch with reality, and so that they will be learning to maintain their personal and professional standards in practical life. Post-graduate research, except perhaps for some pure research, should be even more closely associated with practical life.

Beyond the Rural University Research in Rural Education

Research should be taken down from its pedestal, as a calling for only the elite of advanced scholars, supported by government grants or by big industry. Genuine advanced pure research, by sincere interested men with disciplined minds and a spirit of public service, is something to reverence, respect and support. However, as we have listened to a vast amount of discussion and suggestion on this subject in Indian universities we have received the impression that in some degree what passes for research does not always meet these exacting standards. To some extent it seems to be a retreat for scholarly aristocracy at public expense, a modern substitute for a life of dilettante philosophy, or for chess, or polo, or tiger-hunting. To a still larger extent it may be a somewhat routine process which must be gone through by graduate students as a condition for professional advancement. (In a large number of cases it is effective inquiry into subjects of importance.) Rural education should set standards for research to eliminate the dilettante and the routinist.

Research is not an abstruse field suitable only for graduate students. It is a spirit and attitude of open-minded inquiry which should infuse and guide thought and action from early childhood to old age. If the spirit of trying to understand why, and of trying to find a better way to do things should generally prevail it would add to the zest and interest of life.

for everyone concerned, and would have revolutionary effects on the economy of living. This is not to suggest that rigorous scholarship and disciplined training are not highly important in research, but that the spirit of inquiry can begin to find expression very early, and at almost any stage of education can find problems to work at that are within its powers, and which supply good training for those powers.

To no small extent the poverty of India is due to the general absence of the spirit of free inquiry. Many of the common processes of life are performed generation after generation without question, though they are susceptible to great improvement. This lack is not due to any inborn limitation, but to long-standing traditions of conformity. Indian children have curiosity and active interest. Indian scientists have demonstrated their capacity for vigorous creative originality. If the spirit of free critical objective inquiry can become a prevailing national trait, India would neither blindly give up the great values of her past, nor would she blindly cling to beliefs which cannot stand critical inquiry, or to customs which obstruct her progress. More important than the teaching of any particular subject is the need for inculcating the spirit of free inquiry in every field.

Research need not wait for university education. Langstreth, who advanced the art of bee-keeping more than all men before him for two thousand years, was a preacher who had to give up his work because of a spinal difficulty, and used the fragments of his life for research. James Watt, George Stephenson, Robert Owen and other pioneers of the industrial revolution, had little schooling.

Gregor Mendel, next to Darwin the greatest of all biologists, was a village monk. His case illustrates the fact that absence of formal education may be an actual advantage. The great biologists of his day were thinking of other subjects, and would not even pay attention when he wrote to them about his discoveries. Had he been trained in the conventional universities he probably would have followed the lines then

in style, and probably never would have made his great discoveries. As we go about Indian universities and observe the projects that research students are working at we see a general tendency to imitate the western world. Most research men are engaged in subjects of research that are in style in Europe or America. If they should care less for the western styles in research and look about them for interesting and important subjects, they might be opening new fields which the rest of the world would come to respect and follow.

With this introduction, let us suggest a few lines of research which would be suitable to rural education, and which would have great importance to India and to the world.

Ethical Research

India has given hospitality to many religions and to many ethical codes. Partly this hospitality is due to a deep spiritual understanding and to universal sympathies. Partly it may be due to spiritual cowardice and laziness. When we say "All religions are equally true", are we speaking from deep insight or from lack of vigour and courage to examine critically those varied beliefs and codes, to discover the elements of each one that give strength, dignity and meaning to human life, and to see which elements are degrading and blinding to people's minds, or which are arbitrarily intolerant? Out of all the spiritual values and ethical codes in India would it not be feasible to gather those fundamentals of truth and value which are most common to them all, and which stand the test of critical inquiry? Cannot the spirit of research challenge that old fable that science is concerned only with statistical facts, and not with values? Where is there better opportunity than in India to use the methods of science to explore both the means and the ends of living?

Ethical research can address itself to the practical problems of rural India. What personal and social customs tend to encumber and degrade life? What conditions lead to those habits? Can clear statements of ethical policy be

made, based on disciplined scientific observation and therefore subject to test and verification, which will define desirable personal and social attitudes and therefore lay a basis for removing harmful human relationships?

Such ethical research might well cover all the motives and customs which so obstruct harmonious and effective living. It can explore the conditions which produce those undesirable attitudes and the conditions which favour goodwill, integrity and wholesome human relations. In such inquiry ethical research will call for the help of biology, psychology, sociology and anthropology. Seldom does any one field of research stand alone. The chief hindrance to such research is moral cowardice. It takes courage objectively to examine a custom which is general and long-lived.

Psychological Research

What prevents the rural Indian mind from constantly inquiring and exploring for better ways of living? Is it true that the rural Indian mind is naturally as keen and vigorous as any other? In what way can old sets of mind be broken and an attitude of keen inquiry be awakened? The methods used by C. H. Robertson in China in arousing whole areas of seemingly lethargic villagers to a high pitch of interest in modern science, might well be studied. The psychologists have the rare opportunity of critically exploring the processes of the rural Indian mind, and of learning how on a vast scale to arouse and awaken those minds without coercing and dominating or exploiting them. As a rule, psychologists who are from the villages and who know and respect the village mind, can do this job best.

Sociological, Anthropological and Cultural Research

The social background of India is exceptionally rich in what is very good, but also contains elements that account for much of her troubles. Research in rural sociology, anthropology and culture should prevent any impulsive rejection of India's past as being out of date, and may help to bring to an end

blind acceptance of harmful or useless elements, now retained because they are old and deeply entrenched. Such research will objectively and critically examine, explore, test and appraise in order to disseminate what is good, and to purify the cultural inheritance from what has prevented fulfilment of its possibilities. The method of disciplined critical, objective inquiry, applied to a study of rural India, may bring about greater changes in decades that otherwise might occur in as many centuries, and the changes can be wise and discriminating, rather than drifting with the prevailing currents.

Research in Population

The impoverishment of rural life in India has had many and varied ill effects. One of these is excessive increase in population. It is nearly always the people who have least to live for who have the most children. When life is rich and varied there are many interests to share attention, of which procreation is only one. When life is reduced to ignorance, poverty and the bare rudiments of existence, procreation is left as almost the only medium of expression and the birth-rate is then high.

In the villages of ancient India, even though large families were the ideal, there were various customs and standards which had the effect of limiting population increase. In old times of joint families it was customary for the expectant mother to leave her husband and go to her own mother's house, where she remained until the baby was from six months to two years old, thus spacing births. Babies would be nursed from two to three years, which was said to have a similar effect. Some of the ancient Indian classics advised late marriages. In some societies infant girls were put to death. With the social disintegration of village life desirable forms of control have largely disappeared, though crude methods of abortion are said to greatly increase.

But there is a more underlying cause of over-population in India. The high regard for large families, which may have

been appropriate when infant death rates were very high, may be inappropriate in modern society. In the very long run the process of evolution tends to restrict the birth-rate of any species to that which will maintain population under conditions which generally prevail. Eagles and humming birds which have few enemies and a low infant death rate, lay only two eggs during a season. Ground birds like pheasants, that lose a large part of their offspring by natural enemies, lay one or two dozen eggs at a sitting. Field mice, which have many natural enemies, are so prolific that if there were no violent deaths and if each generation should have a full litter, a single pair of mice could theoretically increase to a million in a single year.

Mankind developed somewhat in the circumstances of the pheasant and the mouse and so high birth rates were desirable. With the development of modern sanitation men are moving toward the situation of the eagle, and high birth rates may be disastrous. If every woman living should have four children between her eighteenth and thirtieth years, and if this rate of increase should be unbroken, in less than two thousand years there would be one person for every square foot of land on earth. It becomes very desirable that this problem be met otherwise than by war or famine or pestilence.

With the destruction of forests and improvement of fire-arms eagles are disappearing from America. Their low birth-rate is inadequate to make up for losses. Population policy should be a live study, adjusting to whatever conditions actually exist.

Here is a very important field of research, especially in India where the population is increasing by more than 30,00,000 a year. The fundamental inquiries are yet to be made. What density of population will bring the greatest total value of living? Should the population increase to the very limit of subsistence? If India could produce four times as much food should the population be three times as great, or are there other desirable limits than capacity for subsistence?

What aesthetic values are concerned in population policy? Is it desirable to have a smaller population, so that each person may have space for self-expression and freedom of motion, such as economically favoured persons nearly always desire for themselves? Should space be saved for those who crave for quiet and solitude? Should parks and areas of natural beauty be preferred to filling those spaces with more population? What degree of contact and intimacy makes for the best quality of living? What has science to say about religious demands for large families? Do such demands have other basis than mythology or thinly disguised desires for dominance?

How can population policy be based on any factors except limits of subsistence or the need for armies for defence or conquest, unless a basis for policy is laid by sound research? Very little such research is now under way anywhere in the world.

Even while such fundamental research is carried on, practical consideration may call for policies which will check population growth. What has been the experience with such policies? How long a natural lag will there be between reduction of the infant death rate, and reduction of the birth rate? What are the effects of contraceptives? How can the public best be educated in birth control, and what forms of birth control are desirable?

What eugenic practices and policies can help to raise the average quality of the population while checking its uncontrolled increase? What basis have we for eugenic judgment, and how can that basis be enlarged? How far can eugenic policy be furthered by education? Does not India have in the cultural background of certain elements of her population some of the best eugenic policies the world has known? If so, how can such policies be appraised, strengthened and transmitted to the whole people.

Such population problems as these await competent research. The rural university can be the locus of such studies.

Research in Rural Public Administration

There is a tendency for public administration to continually pile up "red tape", routine and bureaucracy. During our study we have made it a point to observe the amount of routine and formality involved in many public operations. The total of waste motion is colossal. For instance one of the ablest of Indian educational administrators told us that of their total working time more than half was spent in entirely needless "red tape". If each particular operation in the public business were carried through with the full reasonable possibilities of economy and expedition, it is not beyond reason that the whole public business of India could be carried through with less than half the present budget. If a large part of such saving should be made, the money and manpower saved could make prodigious advance in irrigation, power development, education, public health and in general public welfare.

Public administration research, from the village administration through the whole of public life, can explicitly point out where the waste occurs, and how it could be eliminated. This research could be everywhere active. Elementary basic school children, by personal observation and by questioning parents, could discover waste in village administration and could devise ways for reducing it. The facts learned could be passed on to secondary schools, colleges and universities, and to research institutes. The fact that many persons at all stages of education were thinking about elimination of public waste would be a powerful influence for bringing about desirable change.

In many a modern industry which was honestly and seemingly competently run, careful, detailed and throughgoing study of processes have even then more than cut in two the cost of production. That process is scarcely begun in government. It is by no means a rash statement that probably more than half of all the cost of present government could be saved by throughgoing competent research, and application of its findings. Along with the survey of waste should go

studies of the best ways of using the manpower released, by projects which will increase the public wealth, education and culture. Ethical and psychological research and education would need to go along with that which is chiefly administrative.

Rural Economic Research

The poverty of India is not in the inborn quality of her people, nor in limitation of natural resources, but in the traditional pattern of her life and thought. The creation of good ethical, social and economic pattern would release such a flood of creative energy as would lift India well above the level of economic want. Critical research in the economic structure of rural India, in land tenure, taxation, marketing, finance and money, and the administration of natural resources and public property, might pave the way for the introduction of economic policies which remove the barriers to productive work and provide incentive for the creation of social wealth.

Research in Rural Natural Resources

Modern science turns waste into wealth, finds value where none was expected, and finds new and better ways for using familiar materials. The region of the Dead Sea, for thousands of years a forbidding useless desert, becomes a great treasure-house of chemical resources. Waste wood processed into wall-board becomes excellent building material. The waste of the sea becomes fertility for the land. The black Thorium sands of the west coast of India become one of the world's great potential sources of power. Abrasives, refractories, insulating material, anti-friction materials, industrial chemicals, cements, fuels, building materials, paint materials, and many other products are awaiting research and development. Much of this research must be the work of highly trained, graduate scientists, yet a large part of the development of natural resources up to the present has been the work of far less scientifically qualified men, who made the best of their opportunities.

Rural Industrial Research

Of industrial research there is no end. With the present backward condition of Indian rural life and industry it will be found that much of the desirable modernization has already had the necessary research in other countries, which needs only application to Indian conditions. Enough has been written of this subject under another heading to make further comment unnecessary.

Research in Housing and in Building Materials

The rebuilding of Indian villages requires a large amount of research. In India, as in America and Europe, some expensive and pretentious housing undertakings have been so superficially planned that the buildings were obsolete before they were occupied. The conventional architect has thought and planned in the grand manner, after the palace tradition. He cannot plan an attractive, beautiful, convenient, and economical villager's house because his training and experience have been in a different world.

Research in the design of village homes should assemble all that is known of good home design in every land. It would be thoroughly and intimately familiar with Indian village life. It should be scientifically and critically minded, and should have creative genius. All these qualities should be trained to the end of designing village homes that will combine great economy, great convenience and usefulness, and the full possibilities of beauty. This is a new world of research for the Indian university.

The methods of building village houses have remained practically unchanged for thousands of years. Today new methods and new materials are available. The appearance of general disintegration of the Indian village is no longer necessary. Crumbling walls and decaying roofs are no longer inevitable. Research in methods and materials of building may give new villages new qualities of suitability and durability. The need for reconstructing five crores of Indian

village homes justifies the best contributions of able minds. This is peculiarly a field for the rural university and rural research center.

Agricultural Research.

Agriculture in basic education should not only teach the raising of crops in the old ways. It should lead boys and girls to be interested in the nature of soils and how they can be improved. It should interest them in improving varieties of crops, and in learning how to work the soil so as to get the best crops with the least effort. The long-time aim should be that teachers of agriculture should be persons from villages who have gone through basic primary schools, basic secondary schools and basic education universities, and who are at home on the land. As knowledge, skill and experience in agriculture, spread over the land from basic education schools, India will no longer need to fear famine, or to import food.

Research in agriculture can begin in basic education elementary schools. Where a crop is injured by disease, are there a few plants that do not get the disease, and that can be saved from seed? Of all the plants in the garden are there a few that bear unusually well, and that could be saved for seed? Nature is constantly producing changes in nearly all species of plants. Some of these are improvements. If these useful changes are noticed and are saved for seed, there is improvement in crop. If there are only a few university men who have their eyes open to such favourable change most of them will pass unnoticed, and will be lost. If all boys and girls doing farm and garden work in basic education should know that nature is constantly making changes, and should get the habit of noticing them and of saving the most promising for seed, improvement of varieties of crops might take place a hundred times as fast.

The same is true in many other ways, as in the improvement of farm tools, quicker and easier methods of cultivating, irrigating or gathering crops. This matter is discussed in

detail to show that research is not a strange process that only university graduates can know about. Every boy and girl can be a research worker, and can get much interest and fun in the process.

In a good basic education programme, the phenomenon which the boy or girl cannot understand will go to the teacher for explanation. The question which is beyond the ability of the teacher will go to the basic education university. The discovery which is beyond the abilities of the university teacher will go to the research center. If the specialist at the research center wants to find something which may occur in nature he can, through the basic schools, have a thousand pairs of eyes on the watch for it. The spirit of research can and should become as widespread as the love of music. As the widespread love of music sometimes results in discovery of a great musician, so widespread interest in research will from time to time produce the genius in research.

Pure and Applied Research in the Rural University.

There is a common opinion that pure research, which aims solely at the extension of knowledge for its own sake, is somehow more honourable, and in the long run more productive, than that which aims directly at meeting some human need. This view is not justified. Each helps the other, and no boundary line can be drawn between them.

There is the classic case of geometry being developed from the practical necessity of re-locating the boundaries of lands overflowed by the Nile, as an illustration of the fact that the meeting of practical needs may extend the boundaries of human understanding. One wonders, however, whether this "practical" development was not helped by the musings of some "idle" person who thought through the principles involved simply because he wanted to understand.

Considerable "pure" research is being done in the field of photo-synthesis—the process by which the green leaves of plants use the sun's energy to make starch and sugar. The

men who are doing this work and are financing it do not expect financial profit, yet one of the chief reasons for their interest is the realization that if men can fully understand this process and reproduce it on an industrial basis they may banish hunger from the earth. Is such research "pure" or "applied"? Much of the work on atomic energy, while not carried on for financial profit, must have had greater interest for the researcher because he realised its possible importance in human affairs.

The research workers in rural universities need not feel any inferiority because their work is aimed at meeting the vast practical needs of Indian rural life. No sooner does a masterful worker in any field try to thoroughly understand his problem than he finds himself needing to penetrate beyond the present limits of human knowledge. Good, clear head work in any field will soon, in the effort to understand its problems, be engaged in research, and very often the problems which must be answered are the same ones which have the attention of "pure" research workers. With the tremendous need for India to make its life and work effective it seems reasonable to hope that most research men in rural institutions will direct themselves to solving practical problems.

However, as men appear who have a burning desire to understand just for the sake of understanding, they should be encouraged and supported. If, in the course of practical research a man gets a hint of some significant scientific principle, he should not be discouraged from pursuing it. But just as the pure spirit of religion tends to deteriorate into forms and ceremonies in the hands of those who embrace it but do not catch its spirit, so the spirit of research tends to become a cult and a retreat from the vital issues of life. The rural university or research institute, by addressing itself to meeting the practical needs and to discovering the possibilities of Indian rural life, may discourage ceremonial research.

Standardizing Rural Education

The basic education movement from the earliest years through the university should free itself from the passion for

standardization and uniformity which now is almost a disease of Indian education, and greatly lowers its quality. For a considerable period the methods of the rural university will be in the process of evolution. No matter how sound the underlying principles are, the development of techniques will take time. While the philosophy and methods are being developed, the rural university will be a place of pioneering experiment. Each institution should be autonomous, free to work out its own programme in its own way. Heads of Departments at least should prepare their own syllabi and should test the achievement of their students in their own way. Each institution should determine what credits or certificates or other evidence of completion of work its students should receive. There should be no external examinations. Only in that way can the superficial education, the evasion, intrigue, regimentation and manipulation of the present examination system be avoided, and a real educational process be established.

To encourage high standards of education, it would be desirable for each level of the rural education programme, primary, secondary, undergraduate college and graduate university, to have one or more appraisal committees which would make periodical examinations and appraisals of each institution in its class, and issue a report describing the quality of work being done at each institution. Such a report should state with reference to each institution

1. Just what it claims to be doing.
2. How it is succeeding in doing it.
3. What the facilities are in plant, faculty, finance, etc.
4. What other quality or lack of quality is evident.

The report concerning each institution, before it is published, should be submitted to that institution so that any errors of fact may be corrected.

In the long run the periodical publishing of such appraisals would furnish strong incentive for improvement without

killing creative initiative in the institution, if an institution should be doing poor work, and if that fact should be indicated in the reports, students would not choose to attend there, and graduates from such an institution would be less acceptable to employers. A poor institution would have to quickly improve or die. Political manipulation of an institution would be exposed by this method of appraisal, and severely penalized by loss of standing.

Such an appraisal system would require regional and national over-all rural education associations on the primary school level, and others for secondary schools, colleges, universities, and perhaps for research institutions. An appraisal committee would be an agency of such an association. In America such agencies have been very effective in stimulating institutions to improve standards. Some of them, which were organised perhaps a century ago, have rather arbitrary standards of appraisal, but they are improving in that respect. The rural education movement in India should not blindly imitate such appraisal agencies, but should endeavour to set what it is in essence that they are trying to accomplish, and then should try to adopt methods, whether new or old, which would result in the fairest, most realistic and least arbitrary appraisal.

A great nation like India can well afford to allow great freedom for development of a variety of educational institutions. In the long run, as these varying institutions are compared and appraised, the methods which prove best will be freely adopted, and in that way from general free experience, a general unforced uniformity will tend to emerge. The way will be left open for experiment, but crude uninformed experiment will be recognized as such. The unity which emerges by this free process is better and truer than that which is imposed by regulation and forced standardisation. There will be no overall disadvantage to students in being part of a pioneering, experimental project. The added interest of teacher and student in sharing in such an undertaking generally more than overcomes any adverse influence.

The approximate monopoly which the old line universities have on the higher government positions may not be easily surrendered. The requirement of a university degree as a condition of appointment to responsible posts is harmful in two respects.

First, it makes a privileged class out of persons with university degrees. Provincial and national governments should have their own examination and admission procedures, independent of university degrees, except in the case of technical callings such as medicine where informal preparation is practically impossible. A person who has qualified himself or herself by other means should not be barred because of lack of a university degree.

Secondly, requirement of a university degree as a condition of desirable public employment leads to overcrowding of universities by persons not interested in education, but only in passing the particular hurdle for qualifying for public appointment. The commission has been overwhelmed with evidence that with a large number of students the process of passing examinations for degrees is a cramming process. Like remembering a telephone number just long enough to make a connection, the student's memory is intended to last only till after examination.

The development of vigorous rural life will open many positions in rural public service. No requirement of degrees based on external examinations should prevent men trained in rural universities from being available to such positions, or to any others in the entire public service. Many vested interests will fight for the monopoly of public positions by holders of degrees acquired through external examination. The rural university must not, because of such pressure, surrender to the system which has so corrupted and degraded Indian university education. It must insist on fair opportunity while maintaining its tradition of freedom.

The Curriculum of the Rural University

Present Indian universities have rigid curricula based upon obsolete ideas of professions and other callings. To a large degree these prevent well-balanced education. In the rural university, while there might be many common elements, the curriculum should be made to fit the needs of individual students, and not the students made to conform to an arbitrary curriculum.

By the time students reach the university, if they have been well advised and have had the practical work experience described elsewhere in this memorandum, many of them will have definite ideas of the particular work they want to do. With the help of their teachers they can combine courses to meet their particular needs. A few cases will illustrate this principle.

A student wishes to prepare to be director of a rural hospital or health centre. In addition to general medical courses he may take courses in business management, in accounting, in local and regional government, and in the architectural design of hospitals and health centres. If he is to be concerned with public health education he may want courses in psychology and in writing and speaking. His studies will take him into fields of the sciences, medicine, business and the arts, and may serve his particular needs better than any standardised course.

A man planning to direct public water control projects may combine engineering, law, business and public administration. Lawyers as a rule are quite unable to understand technical engineering matters, while engineers are commonly ignorant of law. Both are frequently ignorant of business methods. Yet all these elements are needed for effective management of such projects. A combination of law, engineering and business in some cases has made men exceptionally able to handle important work which involved them all. None of these courses would be standard and conventional, but those elements in each field would be included which

taken together would make well-proportioned preparation for the person concerned.

We know of a person who wished to be a librarian in a science library. She took introductory courses in a large number of sciences, and also studied languages and library practice. This unusual combination proved to be excellent preparation for that field.

A student wishing to plan the reclamation of waste lands might well combine physics, chemistry and biology with elementary engineering, the law of land ownership, principles of local government and business administration.

A student planning to manufacture improved looms for small industries, in addition to general education in the physical sciences might include elementary mechanical engineering, a study of textiles and textile manufacture, a study of looms, and courses in business management, marketing and rural life in general.

Many students without such definite aims would follow a more general programme. However, to become competent in all the chief activities associated with some field is a great help to personal success and to social usefulness. The rural universities should encourage students in the habit of examining existing social needs and opportunities and of planning their preparation with a clear end in view.

Rural secondary and higher education should constantly explore the changing needs and opportunities of Indian life, and should make sure that their programmes are planned for the conditions of to-day and to-morrow and not for those of yesterday. Both the general programme and the combinations of studies of individual students would be influenced by such continuing inquiry.

The flexibility and adaptability of programme outlined above would be a radical revolution from prevailing methods, and from prevailing ideas as to what constitutes a profession or other calling. Such a programme will require that students

develop initiative in educating themselves. That habit must begin in basic elementary schools, and continue through all grades of education to the university and research institute. The teachers should be available for counsel and for help at difficult points. Otherwise the student should be largely educating himself, using the facilities of the institution.

Such flexibility would be destroyed by any system of uniform, external examinations. The prevailing, nearly universal idea, that standard external examinations are inevitably necessary, must be broken in favour of freedom for creative education.

The wisely educated man will largely cease to be in stark competition with others who have nearly identical training. Rather he will be prepared for some useful and necessary place in society, where his preparation will be nearly unique. In case he outgrows his specific field into something larger, or finds it necessary and desirable to change fields, his underlying all-round education will give him a basis for adjusting himself to changing circumstances.

Comparing this proposed programme with the present mass production of university students, the question arises, how can the more individualised programme be paid for ?

The rural university, located in its own village, should maintain great simplicity of living standards. The part-time work elsewhere described would contribute substantially to the expenses of the student and of the university. The habit of self-directed study, which should permeate rural education throughout, will tend to lighten faculty load. All the labour about the institution, both physical and clerical, should be performed by students or faculty. The university plant should be as simple as possible, with small overhead. A new picture of simplicity and self-help should control.

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To touch upon another element in the rural university curriculum, there is a tendency in university circles to look upon "practical courses" especially those calling for manual

craftsmanship, as suited to inferior minds while professional courses are for intellectuals. This separation of skill of hand from skill of mind has greatly retarded the mastery of the physical world and has been a major cause of poverty, especially in India. "Practical" work should not leave the worker in a "blind alley" without continued opportunity for advancement.

"Practical" skill should be looked upon as equal in dignity and worth to purely intellectual skill. Some great contributors to astronomy have based their work on their unusual mechanical skill. Charles F. Kettering, famous research man, head of research for General Motors, and recent President of the American Association for the Advancement of Science, in his early years worked out his own ideas with his own hands as a mechanic. So did Henry Ford.

"Practical" work should be recognized with ascending grades of achievement, so that a man who develops high ability with hand and eye may have an open road to advancement equal to that of the purely intellectual worker.

The Establishment of Rural Education.

Considering the present extreme poverty of rural India, is the picture of rural higher education which we have presented anything more than an idle fancy, impossible of achievement? How can the transition be made from the present poverty to the varied productive life we have pictured?

India is not inherently poor. It has all the necessary fundamentals of natural resources and human energies necessary for the production of vast wealth. India is poor, partly because the wealth taken from her soil and her people has been chiefly spent, not to bring about the production of more wealth, but in sterile and unproductive wealth-consuming expenditures, such as vast, elaborate palaces and large houses which required large expense for building and further large and unproductive expense for maintenance and operation.

In part, too, India is poor because her methods of farming and doing other work are primitive and call for the work of several men to do what one man might accomplish by modern methods. In some kinds of work a hundred men are necessary to do what one man could do by modern methods. Thus in effect a large part of the population is withdrawn from wealth production, and the wealth they might have produced does not exist.

If by magic we could suddenly change the economy of the country, so that modern productive methods were generally used, many millions of people would be released from agriculture and other callings. Well-to-do homes would be administered more conveniently with a quarter as many servants. If the millions so released should be engaged in making fertilizer, greatly increasing the supply of irrigation water, reclaiming waste land, producing electric power, and making the tools, equipment and other necessities for effective living, they could greatly increase the food supply of India, greatly increase the economic security, and raise the general standard of living to far higher levels. If such a change were once well under way it would create the food, clothing, houses, electric power and other forms of wealth on which it would grow. Yet today India may seem too poor even to start that process. In her extreme poverty the first steps may seem impossible.

How then can India begin to make the transition from present extreme poverty to a condition in which it can increase wealth on a continually increasing scale? Where and how can the process begin which will make possible the secondary schools, colleges, universities and research institutions we have pictured?

Though at first sight the undertaking may seem to be impossible, yet as we look about us we do see here and there cases where poor boys have become well established and well-to-do by honest productive work and management. We see cases in which poor nations have become strong, though

facing great handicaps and possessing no magic powers. The important fact is that very often there is a little margin between what we do have and what we must have to survive. If that narrow margin above sheer necessity is wisely used under reasonably good conditions, such as a free India can provide, the margin of surplus may be rapidly increased. The great co-operative movement of England was started by a neighbourhood of very poor factory workers living at Toad Lane in Rochdale. Between them they raised about a hundred rupees and began their operations, with no encouragement from government or from people of wealth.

An example from America may illustrate the process which can be taken. The state of Massachusetts was one of the poorest of all the states of America. Probably no Indian province is nearly so poor in resources. The land was mostly unproductive sand or very rocky hillsides of mountain sides, or useless swamps, often strewn with big boulders. The winters were long and severe. Winter snows blocked the roads somewhat as monsoon rains cut off many villages from the world. Many a Massachusetts farmer spent as much time just in cutting wood to warm his house during the long winter as many an Indian farmer spends in raising a crop. For a long period the pay of a factory worker, required to work 72 hours a week, was three to six rupees a week. Yet even this was so much better than trying to raise crops on the rocky mountain sides that many men were available at these wages.

Yet out of their extremely hard-earned living the people saved a little and invested it in little industries, small water-power projects, in fishing and trading boats, and in various other ways. Out of their hard-earned living the Massachusetts people built schools, colleges and universities, some by private means, some by towns and cities, and some by public taxation. A factory worker in Massachusetts today gets as much pay for an hour's work as was paid for a week's work in the early days. The thrift, educated intelligence and hard

work of Massachusetts carried it out of poverty and into great wealth. Several years ago it was stated that ten percent of the wealth of the United States was owned within fifty miles of Boston which is the capital of Massachusetts.

Yet the state of Massachusetts had no magic. Its people used whatever they had, and worked hard and lived carefully.

By such a process and not by magic, the new rural education for India will develop. It will begin, not in some specific way which we can describe here in detail, but wherever a chance appears. Private funds may start a small secondary school village and a small industry. A province may undertake to create several secondary school villages and a rural college village for some of their graduates. It may also set up a training school of the new type of secondary school and college teachers and leaders.

An educational foundation may do the same. An individual, instead of trying to establish his status and prestige by building a large and expensive house will continue to live very modestly and use his income to make possible a rural secondary school or rural college or rural university. A firm may build a rural secondary school to serve its villages, and a district may start a rural college. The central government might give financial assistance to the starting of one or two rural universities.

The productive processes set in motion by a rural education system would create the wealth necessary for its own growth. The process is too complex for any formal analysis. It would be difficult to trace the steps by which the hard-pressed inhabitants of Massachusetts made their state a place of wealth and general prosperity, while receiving millions of the poor and oppressed of Europe who came to share wealth and freedom, somewhat as parts of India have received millions of refugees. If clear picture exists of new rural India and of well-developed rural educational system, extending from the earliest school years through secondary school, college,

university and research institutes, ways of making that picture a reality will be found.

It is less than twelve years since the basic education programme took form. Yet already there are several training schools for basic education workers, and some of the basic schools now in operation would be recognised anywhere in the world as educational institution of high quality, though they need to guard against becoming standardised and routine.

It will be an actual advantage to the rural education programme for it to have varied independent beginnings. Different men, working independently, emphasize different aspects of rural life, and out of this variety a fulness and richness of programme will develop. We saw one organisation working in very simple and inexpensive buildings, training fifty or a hundred young men in the various elements of village life, with the particular purpose of preparing them to become secretaries of panchayats. Here was the beginning of an idea that village or firka development needs not only an elected panchayat, but a full time trained employee to keep records and to give order and efficiency to local government.

At another institution we saw young men and women in training for work in basic education schools. At another institution we saw village workers in training. They would serve as sanitary officers, nurses, midwives, agricultural advisers, teachers of weaving and handicrafts, etc.

It would be out of place to attempt to prescribe the specific steps by which institutions of rural education shall be undertaken and financed. If a general picture of what is wanted becomes clear, a variety of undertakings, both public and private, will give expression to that picture.

Education in Hope and Courage

Of all the barriers to a great development for rural India, almost none is as great as the prevailing vogue of pessimism and futility. On every hand one gets the same response, "Oh, but India is different, and that could not be done here." The

greatest and most pernicious myth in all India is this myth of futility and helplessness. India is throbbing with creative life and power which is ready to burst into action if this myth is exploded.

A very successful Indian banker stated with finality that India could not successfully industrialize because Indian workers have no skill of hand. This statement has been repeated by many other Indians and by missionaries. Yet we have watched Indian workers in metal casting, glass working, textiles, exacting machine shop work, fishing, automobile driving, etc., and nowhere in America or Europe have we seen greater skill of hand and eye, nor better mechanical judgment. Quite true, some castes omitted physical work from their experience, and their children are clumsy but that is a matter of education.

Repeatedly we are told that India cannot compete industrially because Indian workers cannot sustain hard physical effort. Yet everywhere we see Indian bearers carrying loads that would stagger most European labourers. We have seen them carrying heavy sand baskets on their heads doing an amount of work seldom exceeded by European or American heavy labourers. Indian fisherman do an amount of work only possible to physically sturdy men.

We have been told that Indian villages have been so robbed of quality by the cityward migration that there is no quality left on which to build a new rural India. Perhaps most wealth, education, and sophisticated culture has fled the villages, but anyone who visits villagers intimately, must recognize the presence of generally quick minds and good intelligence. Some of the powerful and prominent nations of the world are far more nearly exhausted in their rural human resources. India is rich in this.

We are told that India cannot advance rapidly because Indians are good followers but have no self-reliance and ultimate initiative. The social structure of India has made this all too true, yet it seems that this is a trait and not an inborn

limitation, and social purpose. We get the feeling that as the ethical issues are made clear, and their importance to the future of India is realised, the response will justify those who have faith in India. Until about a century ago England was burdened with public and private corruption and privilege. Then came an awakening and the purification, and for half a century or more the public affairs of English cities and countries have been handled with a general level of honour and integrity which have won the respect of the world. What was possible in England should be possible in India. The country suffers, not chiefly from innate bad character, but from bad social habits growing out of conquest and servitude. Such habits can be thrown off.

Lastly, the most difficult of these qualities to achieve is courage. Men living under dictatorships seek safety in acquiescing to the powers that be. At the time Napoleon escaped from Elba and started for Paris he was being universally execrated by the Paris press. In the week or two it took him to reach Paris, the Paris press changed in one from violent abuse to disapproval, then to neutrality, then to approval. The same editors that had been most violent in abuse while he was at Elba burst into peons of praise when he triumphantly reached Paris ten days later.

That spirit of cringing cowardice is fatal to good government and to good society. Nothing can make India genuinely strong except men who have the courage to stand for what they think is in the public interest, rather than to guess cleverly as to who is going to win and then to get on his side.

Courage does not mean intolerance nor refusal to work with people with whom we differ, and who may be nearer right than we. Cooperation and concession should represent a humble search for truth and harmony, and not a cringing before power, or a strategy of being on the side of the winner. Rural education from bottom to top should be an education in courage without egotism.

One of the chief duties of rural education from the earliest years to post-graduation is to dispel the prevailing attitude of futility and hopelessness and to educate the young people of India in hope and in courage. The chief limitation of India is what she expects of herself. Life in the present world and in India is so complex that no one can make an analysis and plot a sure course. The outcome in India will not depend on external circumstance, but upon the spirit of the people. Faith, hope, goodwill and courage are themselves among the most powerful causes of events.

“Since what we choose is what we are, and what we love we yet shall be”. For rural education to arouse those qualities in the people will be a greater gift, and a greater factor in national destiny, than would the discovery of vast oil fields or sources of atomic power.

Programme for the Reconstruction of Indian Villages

In trying to understand the problem of secondary and higher education for the eighty-five per cent of the people of India who live in its 600,000 villages, we seem at first to come up against a stone wall which makes progress all but impossible. That “stone wall” is the present condition of the Indian village. Anything in the nature of broad, liberal education in the modern spirit will surely make villagers more keenly aware of the total inadequacy of the Indian village, and of the futility of trying to improve the present village to make it livable. Except as some generally effective way is found for dealing with this condition any plans for rural higher education will in effect be plans for driving more people from the village, and therefore for the further impoverishment of the rural life in India. A clear cut, comprehensive and adequate solution of this problem is imperative. The following statement, we believe, outlines such a solution.

Over a great part of India the village is obsolete, not fit for human habitation. This is the general conviction of persons born in villages who have gone away for education. Rarely does a student from a village graduate from a univer-

sity and then return to a village. In going about India we have made it a point to ask many people who came from villages why they did not return. Stripping their replies of indirection and sentiment, the answer is nearly everywhere the same: that the village is not fit for human habitation. After visiting villages in various parts of India we can see the reason for this opinion. Of the six hundred thousand villages in India, there are probably many thousands to which this statement does not apply. In some localities villages are reasonably fair places of residence. But in the main it seems to be true. For a century and a half there has been a steady stream of the more intelligent, the better educated, the more well-to-do, and the more ambitious, away from the villages. They were people who acted on the belief that for them the village is unfit, though they may not have put that conviction into words.

Only if the realities are faced will there be a chance to guide the course of events toward a great destiny for the nation. For the destiny of India depends on the vigour, the health, the culture and the intelligence of the villages. Yet the village has declined and is declining. One of the greatest handicaps of the Indian village is the lack on the part of the villager of any clear, full picture of what a good village might be like. His present village is all he knows. If he should be called upon to build a new village it would be little better than the one he now lives in. Like most human beings, the villager learns best by observation and experience. If there should be a fine modern village here and there, if the villager should get a clear picture of what a good village would be like, and if he should learn by practical example of the steps he could reasonably take to have such a village, then his day-by-day comparison of that village with his own would lead him to have a powerful desire to get what he has learned to be practical and desirable. As to every phase of village life it should be the business of education to develop clear pictures of what are desirable and practical living conditions, and to provide examples of such conditions.

This picture of village life should not be limited to well-planned physical layout and to varied opportunity to make good living. Of no less importance are habits of neighbourliness and goodwill, of cooperation, and of dependable, fair dealing with one another.

The situation of the Indian villages is not hopeless. In fact, we are constantly impressed by the vast potential human resources ready to become alive and to spring into action if they are but freed and encouraged by public policy and by private example. So far as material resources and human energies are concerned, the wholesale reconstruction of Indian villages and village life, is entirely feasible. The process need not be too heavy a burden on the central and provincial governments. In fact such rebuilding would so stimulate national life and industry as to give added strength to the country.

The great material wealth of mankind is not its stored wealth, its hoarded gold, its cities, railroads, shops and factories, but the current year by year production of wealth, by the people. The potential wealth producing capacity of men is almost incredibly great. What are lacking are not natural resources or human energy, but a clear mental picture of what is desirable and possible, and the character, skill, experience and culture necessary to realize such possibilities. These qualities it is the main business of rural education to provide.

India has such vast natural and human resources that, given these qualities, the average Indian might have ten or twenty times as much wealth at his disposal as he now possesses. If even ten per cent of her potential resources should be realized, India and all her people would be rich.

Fairly conservative estimates have indicated that of the productive possibilities of America, more than three quarters are lost through avoidable waste and internal friction. Yet the remaining production has made America the richest country in the world. The greater part of this vast wealth is not the slow accumulation of centuries. More than half of all the material

wealth of the United States in capital, manufacturing plant, roads, buildings and other improvements, has been created in the last thirty years. The wealth inherited from an earlier day is not so much in money or structures as in skill and experience in possession of basic tools and techniques, and in a gradually achieved mental picture of what is possible. But for the internal waste and inefficiency which still remain and for the lack of a clearer picture of what is possible and desirable, the wealth and well-being of America could be several times as much.

If sound public policy can be established, and if typical cases of good villages and village life can be distributed over India, the mind and spirit of the people will be aroused. Seeing that such a way of living is easily within their powers, they will do what is necessary to realize those possibilities. Once a change of spirit gets under way, a change in living standards may take place with surprising rapidity. After the movement should get into full swing, only a few decades would be necessary to rebuild the villages of India so that they would be fit homes for men, women and children of dignity and of self-respect, and this without overtaxing the general human or economic resources. The limitations are not in natural resources, but in the spirits and outlooks of men, and in freedom from the governmental inhibitions with which they are surrounded.

No centralized dictation, with "five year plans" imposed upon the people, is necessary or desirable, but chiefly the arousing and freeing of the outlook and the spirits of people, and providing them with suitable legislative machinery. In most respects local initiative and self-help will be far more fruitful than any imposed programmes, and will result in independence, self-respect, and variety of development which is far superior to the monotony, uniformity and lack of freedom and initiative which are the characteristics of an enforced socialized regime. Good government can teach, encourage, enlighten, and provide examples, and supply permissive legislation, but it needs very little of regimentation and coercion.

The tradition of regimentation, uniformity, coercion, and blind, wasteful bureaucracy which in the past has been forced upon India has become a deadening and an impoverishing inheritance. The university system largely creates in the minds of its students the patterns of their lives. It is greatly burdened by the tradition of suspicion, uniformity, regimentation and bureaucracy. Liberation from that tradition is a pressing need.

In the absence of a great mental picture of what a village might be there may be no powerful incentive to achieve good village conditions. That picture should be of a clean, commodious village, with good, wide streets, a good surface drainage for rain water, an underground sewer system, with a septic tank or other sewerage disposal system, electricity, human habitation, a community meeting place, playgrounds for children, and other similar advantages. To the villager these may seem to be unnecessary, unreal and visionary, or hopelessly beyond possibility, until actual cases are seen.

If there should be actual examples of such villages distributed over the country, if such sample villages should be simply and commodiously planned and built so as to be reasonably within the villagers' resources, then there would develop such an intensity of desire for the improved conditions as would cause a quiet but effective revolution in living habits. If the younger members of the village community should discover that a clean, convenient and attractive village is within their reach, the achieving of those conditions would absorb their interest and energy, and the incentive to violent and destructive change would be lessened.

If honesty in public life and on the part of those dealing with public affairs can develop, then the construction of new and fine villages throughout India may become a great national movement. Moreover it may be carried through for the most part without the financial help of the central or provincial government, except that public money received from the tax-

tion of rural lands should mostly be returned for the use of rural education and for village improvement.

There are some great public projects which are too large and too general in their nature to be carried through by local or regional initiative. Among such undertakings may be the control of great rivers for flood control, navigation, irrigation and power development; the building of railroads and main-line highways. But except for such great undertakings, the carrying through of public projects may usually be more economical and more productive by local initiative. Also, whereas the handling of such work by the central government tends to bureaucracy, waste, and totalitarian government, their handling by local initiative may become a school for democracy, thrift and responsibility.

As an example to be generally followed, the T.V.A. (Tennessee Valley Authority, in America) may be misleading. In the main field of river control, and considering the special political conditions in that area, it probably was necessary, and has done a fine job. Yet even in such a case a wisely planned regional democratic organization might have been better. Despite the skillful and widespread publicity of the T.V.A., and the use of such express one as "democracy on the march", the T.V.A. is not in the line of the democratic tradition. It is such an undertaking as a powerful and benevolent monarch might have carried through for the benefit of his subjects. The people most directly concerned had almost nothing to do with its initiation, and have not controlled its operation. This is not entirely a criticism of the T.V.A. Equalitarian democracy may not always be the most immediately effective form of government.

There is another social tradition in the United States which is in the democratic tradition, and which has worked and spread so quietly that its vast achievements have been scarcely realized, even at home, and which might be an ever better precedent for village reconstruction in India. This is the habit of creating local or regional limited governments for

special purposes. These little special purpose governments are commonly created by the people interested, for such purposes as reclaiming wet lands, creating parks and recreation districts, and in some cases for developing water supplies for groups of towns. In some regions these districts are organised for cleaning large areas of bad weeds which interfere with crops, and which cannot be got rid of by individual farmers. New uses are constantly being found for this general type of organization.

This democratic way of improving conditions grew up in the Middle West of America where the most typically democratic institutions developed. The T.V.A., on the other hand, was chiefly a creation of men from the East, where democratic methods were not so well developed, and where old time methods of handling public improvements still are relied on.

One of the most common uses for this kind of democratic process has been in the reclamation of wet and overflowed land. America formerly had vast areas of such land, where crops could not be grown or were frequently destroyed by flood, or were reduced by excess water. Also there were streams which overflowed and destroyed city property. Many millions of acres have been reclaimed by these local or regional democratic improvement districts, with no financial help from the state or federal government. One of our members speaks from the experience of having served as chief engineer on more than fifty such undertakings, involving the reclamation or improvement of more than two million acres of land. Some of these projects were so small that they represented only the cooperative efforts of a few neighbours, with a total cost of only Rs. 10,000 or 20,000. The largest was for the reclamation or protection of more than 75,000 tracts of land, and cost about 10 crores of rupees. All of these undertakings were carried through without financial help from the central or state governments.

By a somewhat similar method a great system of public schools, both primary and secondary, has spread over America.

It is by far the biggest school system in the world. The buildings and the schools systems were provided by local initiative in a democratic manner, with little or no help from the national or state governments. (Now, because of inequality of wealth in different parts of America, there is a movement to have the central government levy taxes so that the richer parts of the country can contribute to the poorer parts and thus insure equality of opportunity for education. But there is great concern that in giving such help the central government shall not undertake the control of education. Control will still be local.)

What the central or provincial government did in America for the purposes mentioned, and what it can do in India to promote the rebuilding of villages, is to provide the laws necessary for such local, democratic initiative, so that villages or groups of villages may work out their own salvation. Indian provincial governments can and should use the greater part of the funds received from land taxes to improve the conditions of the villages. The central government may provide samples of good development, so that the people can see what is possible. To get such a movement started, in any district, the central or provincial government might agree to pay half the cost of the first undertakings, and perhaps a quarter or a third of the cost of their undertakings. Also the central or provincial government, and especially the rural university, can carry on research as to the best methods. That can develop a variety of plans and suggestions, and provide skilled advice which might be beyond the reach of local organizations. The central or provincial government may well provide a certain amount of supervision, not in the way of dictating to localities what they must do, but to prevent wasteful or mistaken plans from being carried out by communities which are enthusiastic, but which have lacked skillful advice and counsel.

The far-flung work of reclaiming wet lands in America was not carried out by a wealthy people, but by farmers who

were struggling to make their livings. With the use of favourable, legislative codes provided by the state legislatures they organized such local improvement districts and mortgaged their lands and homes to pay for the work. Similar methods were used for building centralized schools.

Neither were these great systems of improvements initiated by highly educated people who had long experience in cooperation. In many cases the undertakings were carried through by communities of emigrants only one generation from Europe. They came to America poor, ignorant and not knowing the language or the laws of the new land. Compared with these people, the villagers of India are at little or no disadvantage. What they did have were legislative codes which enabled them to work together to achieve their own salvation. With most of them that kind of cooperation was a new experience, just as it would be in India. Often they were people from several different nations, speaking several different languages, who had never worked together for any purpose. There was a generally honest local and regional government to provide counsel and guidance for their undertakings.

It was believed by many people that these conservative, suspicious, inexperienced farmers could not be persuaded to mortgage their lands to borrow money to carry through their improvements. However, a few localities did take the risk and carry through pioneer developments, at first on a small scale. When other villages or small regions saw how well this kind of action worked out, they began to want to do the same. Through the years many thousands of such improvement districts were organized.

In fact, the local villages and towns became so enthusiastic about carrying through developments that the state governments in many cases found it wise to set limits to the borrowing of money for village or other local improvements, so that the local communities would not over-reach themselves in expenditures.

With proper safeguards and with guidance by the central or provincial government, the general methods so widely used in America, and with such success, could be used for village construction in India. In America many mistakes were made in the process of developing this method. In particular there was much waste of money because at first many localities were not aware of the need for careful planning of improvements. India might learn from the mistakes of America and avoid such waste.

As has been stated, a great part of Indian villages are obsolete and unfit for human habitation. They are dirty filthy, insanitary. Human waste is carried away in open drains, or lies about with flies feeding on it and carrying disease. Dysentery, typhoid, and malaria are common. It used to be so also in large areas in America. But in states like Ohio and Indiana, where malaria was once as common as it is now in India, where typhoid took many lives and where dysentery was usual, most persons today who are under thirty years of age have never seen a case of malaria or a case of typhoid, and dysentery is becoming uncommon. These results were largely achieved by the methods that have been described. (There are other parts of the United States that are not so far advanced.)

In most cases it would be less expensive, and would take less time, to build an entirely new village, with good streets, good drainage, good sewerage, with pure water and with economical but satisfactory and desirable houses, than to try hopelessly to repair the old.

With proper legislation providing for village districts for such reconstruction, a village could rebuild itself quickly and the added tax, spread through twenty years, probably would be no more than is now paid for various poor services. The land of the villagers would be security for the cost. Much of the work they could do themselves under skilled direction. An outline for such legislation is included as an appendix to this memorandum.

If such a movement is made possible by wise legislation and by a limited number of sample cases, it will spread so fast that for many years there will not be enough planners, sanitary engineers, house builders, etc., to meet the demand. The very process of planning and rebuilding the villages can be made a programme of basic education for the whole village population. Here the counsel of rural universities and of the central and provincial governments will be desirable. Many meetings will be necessary to discuss village plans. The needs of sanitation must be understood. The best design of homes must be worked out. The width of streets must be decided. The space needed for a basic school must be talked over. Locations for village industries must be provided.

The village people should not be coerced or dictated to, but they should be helped by competent specialists. So far as possible these specialists should be men and women from villages who have been trained in rural secondary schools, rural colleges and rural universities. Some should have opportunity to travel in other countries to see what ideas in town planning and house planning could be used in India. It would be better for mistakes to be made than for villages to be coerced into using any standard government plans. However, the central or village government might well have power to prevent borrowing money for any plan which is not honestly or competently developed, or which would probably be a loss or a disappointment to the people.

Such a movement would grow slowly at first. This would be necessary for there would not be an adequate supply of men and women trained for planning and building. A decade or two might well be spent in getting well underway, learning from the first cases how to be more competent. Because the first cases will be somewhat like laboratories or training schools, the central or provincial government might, as heretofore suggested, share in the cost, but the habit of self-help should be encouraged at the beginning.

Because it will require some time for investors to learn that it is better to put their money to work at interest than to

hoard it, the central or provincial government at first might guarantee the payment of the bonds sold to provide money for construction. With honest and competent administration, the bonds sold to raise money for rebuilding would come to be regarded as excellent investments, better than hoarded gold or jewellery.

The development of such a movement would be a great stimulation to the life of India. Many young people would have opened for them new opportunities for their life work. Much practical research would be necessary. Many young village men and women, by such opportunities to develop their full powers, will rise to mastery and skill, and sometimes to greatness, in some field. Many will be able to get that feeling of being worthwhile which is a fundamental craving of humanity.

Many new industries would be needed for the process of rebuilding. By this general process, the villages in a fairly short period, by using only a small part of the human energy and time now going to waste, could become centers of cultural interest and of economic opportunity. The quickening life would energize the whole country.

It is important that the standards of buildings, both public and private, and the planning of villages, shall be democratic in spirit. In the past the structures in India have been hovels or palaces, with nothing in between. The palace tradition is ingrained in the minds of architects. It will be difficult to escape from that tradition. The new villager should grow upward from the best village traditions, and not downward from palace traditions. Every trace of dominance, of ostentation, and of competitive expenditure, should be eliminated. For that reason, the planners of new villages should be the products of basic education schools, high schools, and colleges, located for the most part in villages and towns, and not the products of existing urban universities.

Each year in the natural course of events numerous Indian villages are relocated and rebuilt. This is made necessary by the construction of large tanks or reservoirs in river

control projects, by the carving of river banks, by removal to escape malarial conditions, and for a variety of other reasons. Each such change can be made the occasion for replanning and rebuilding villages on modern lines.

The central government and each provincial government should provide in one of its departments a person, or a small staff, to keep in touch with all such cases, and to advise on plans and methods of relocation. The central government staff should include a research center for community planning, methods of construction, and methods of administering relocation and reconstruction.

By this means the natural course of events can be used to provide cases and illustrations of good village planning. If such work is well done, other nearby villages will be influenced to follow the examples provided.

Conclusion

The Indian village is obsolete. Almost every young person who leaves a typical village and gets an education under favourable conditions, feels revulsion for the dirt, filth and squalor he left behind, and refuses to return. Yet the village has been and must continue to be the life of India. Eighty five per cent of its people live in villages. Only as the village prospers can India prosper. The Indian village can be made a beautiful and attractive place in which to live, with wide variety of economic opportunity far superior to the Indian city.

The villages of India are a vast reservoir of human energy, intelligence and aspiration, now wasting in futility. Indian boys and girls start out in life alert, curious, eager to live and to learn. The dull hopelessness of their environment kills this spirit in many, so that as men and women they are conservative and unchanging. Give the Indian villager a picture of a good life, with health, cleanliness, variety of occupation, place and time for recreation, and a feeling that his hopes may be fulfilled, and the energies of the people will make a new rural India, a fit and noble dwelling place for a great people.