

OUR EDUCATION

By

Professor, K P. CHATTOPADHYAY

NATIONAL COUNCIL OF EDUCATION,
BENGAL

Prof. K. P. Chattopadhyay is at present University Professor of Anthropology of the University of Calcutta. But his interest in social and educational work dates back to his early student days. Prof. Chattopadhyay a descendant of a long line of distinguished educationist and fighter for social freedom, was born in Vidyasagar House, Calcutta, in 1897. During his College days in Calcutta he worked as honorary teacher in a school for adult workmen. Having obtained a first class degree in Physics from Calcutta University he joined the Cavendish Laboratory at Cambridge as a research student in 1920, but changed over to social Anthropology and took his degree in 1923. He was awarded the Anthony Wilkie studentship of the Cambridge University in the same year. While in England he started and organised the Lascar Welfare Association in the East End of London, thereby incurring the *wrath* of the India Office.

After returning from abroad, in 1924 he was appointed Education Officer for the City of Calcutta. In 1930 he was elected President of the section of Anthropology, Indian Science Congress. But the next few years saw him in and out of jail, several times, for participation in the Civil Disobedience Movement of 1931-1933. He has carried out systematic social and economic field surveys among the Bengal peasantry, among jute workers in the Industrial Belt of Calcutta, the Municipal Workers in Calcutta and also amongst the Santal tribes of North and West Bengal.

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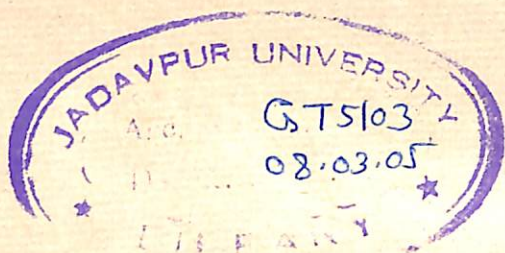
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By
Professor. K.P. CHATTOPADHYAY

NATIONAL COUNCIL OF EDUCATION,
BENGAL

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FOREWORD

We owe an explanation for having given our imprimatur to Prof. Chattopadyay's book. As is well-known Prof. Chattopadyay is not only a scholar of repute but also has done a great deal of research in matters of education. He has also made independent and original research in the statistical side of the economic condition of different 'classes' of people of our country. But we wish to make it very clear that the National Council of Education do not hold identical views with the author though having the greatest regard for his opinion.

The main object in bringing out this volume at this particular juncture is to evolve a proper method of education for our people and we, therefore, hope that Prof. Chattopadhyay's book will not only evoke discussions but will also invite similar work by other eminent educationists.

We have also to thank Prof. Chattopadhyay in donating the total sale proceeds of the first edition to the National Council of Education, Bengal.

S. K. Acharyya

Hony. Secretary,
National Council of Education,

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Preface

The first draft of this work on our educational problems was written during 1943-44. I realised however that a detailed plan on education could not be drawn up until the plan for economic development was sketched. The Survey of Bengal villages during 1944-45 furnished me with the necessary scientific data, while my tours in villages to administer relief, and also to train surveyors enabled me to appreciate the significance of the facts collected. After I had finished the greater part of my "Plan for Rehabilitation in Bengal", I returned to this work, and noted a very brief outline of a program of primary education in the chapter on Long term Planning in the earlier publication. A more detailed scheme was also submitted to friends in the Legislative Assembly.

The earlier chapters of this work were written when the Japanese Empire was still intact. I have not considered it necessary to modify my references to its constitution as a structure which is gone, in as much as nothing Japanese has replaced it.

There are no references in this work to the new Democracies in Europe as my knowledge about them is very recent and very limited. Absence of any reference to the condition of the common people in those countries (when comparing conditions in England and Russia for example) does not mean that I do not appreciate the revolutionary changes that have taken place in those parts of Europe.

The detailed plan for education is for Bengal as a whole. It was drawn up long before Partition

seemed likely. I have not modified these chapters as I believe that planning for economic development, and for education should still be for Bengal as a whole. The two States are politically separate; but in their common interest they should collaborate as friendly powers. A joint board of Economic Planning and a joint board for Education will enable the necessary uniformity in general outline to be secured, while leaving each part of the country entirely free to select the local content. Even if such close collaboration does not take place owing to unforeseen difficulties, joint boards will be helpful in many respects. Also, the plan outlined in this work for Bengal, can be applied to both areas separately, and indeed for the matter to India as a whole. The figures for schools, teachers and training centres, and naturally expenses will have to be modified in proportion to the area and population. A reference to the sections on Training Schools and Colleges will show that I have envisaged a distribution of these in both areas of Bengal. This was done long before partition, as I felt that Training Centres in the dominantly Hindu as well as Muslim areas were needed in the interest of giving due weight to the content of culture of both communities.

I have not discussed two topics in the work, although they are important for a plan on education. The first is (a) care work, the second is (b) the language to be used in our Schools.

Care work is generally carried out in European countries under three heads - (i) Medical inspection and treatment (ii) provision of free meals and milk at School for needy children and (iii) placing in jobs. A brief scheme of general health service needed for Bengal has been outlined in the "Plan for Rehabilitation." Medical inspection of School children at regular intervals as a routine measure will mean the employment of nearly a thousand medical men for this work. Treatment can be arranged in State dis-

pensaries and hospitals if the health services are organised as outlined in the "Plan for Rehabilitation." The provision for meals will depend on the economic reserve of the State. Eventually, after 7 or 8 years it should be little needed—unless all children at School have a meal or some milk there as a matter of general health service. Regarding employment, the plan for education has taken due note of requirements. The future Ministry of Labour will have to work out details. The suggestions made for organising decentralised industries, run on power from the Damodar Valley and other such schemes (chapter 6, Plan for Rehabilitation), if carried out will make this task easier.

Regarding language, the suggestions made are tentative. Bengalee is the common language of the Hindus as well as Muslims of Bengal. But there are certain peculiarities in the language used by the two communities. The educated Hindu who studies Sanskrit as his second language draws on this source for new words. The Muslim looks to Urdu and Persian in its place. In the Bengalee language as spoken by both communities, there are a fair number of Urdu and Persian terms which have been assimilated long ago. But in recent years both communities have laid exaggerated emphasis on their differences, and this is exemplified in the primers and readers drawn up for Maktabas and those drawn up for other Primary Schools. If both communities drop the unnatural emphasis, common primers and readers can be drawn up for Schools where Hindus and Muslims can read together. In the interest of economy and prevention of wastage (we shall have to stop all waste in our New States) the primers and readers should be drawn up by competent persons under State supervision and printed by the State. Either two editions, with only certain words and phrases different but with a common content (illustrating Hindu as well as Muslim

culture) may be issued, or as my friend Prof. Niren Ray has suggested, one single edition may be issued, with the terms not common to both communities explained within brackets in the text with the appropriate alternative word or words enclosed therein. As common Schools for both communities are a desideratum, and have been organised in the past (as for example in Calcutta) where good will and the desire for co-operation has been present, experimental tests are worth while to find a solution to this problem.

I would also like to add that the cost of education has been calculated on the basis of price levels prevailing in 1945, with rice selling in villages at rupees ten per maund. If the various measure recommended for control over production and distribution are adopted, and the people have a genuine share in the Government, the cost of living will not increase any further.

CALCUTTA.
20-7-47

K. P. Chattopadhyay,

CHAPTER I

PROBLEMS OF EDUCATION

Every organism tries to adjust itself to its environment so that it may continue its existence and organisation. Human beings do not form an exception to this rule. Only, man has devised various ways and means to control and regulate the forces of nature, apart from changes in his own body. The experience gathered in this direction, in each generation is passed on by men, not through bodily adjustments but by handing down traditions and experience to the next generation. This process, which is education, in a wide sense of the term, includes various types of training. Among primitive people part of the teaching is imparted in the family group ; some of it comes through initiation rites and subsequent discipline. Formal instruction is also given in the future economic and social life in the organised groups known as Associations, of various types. Modern civilization has continued most of these practices in education in some form or other, though often refined and masked out of recognition. In the simple and democratic tribes like the Santal, or Oraon, the children learn their earliest lessons, through practical training in the family circle. When they reach adolescence, they learn their social and economic duties more from older boys and girls who act as leaders and teachers in their age groups. Among some tribes like the Oraons, all the adolescents are formally admitted to a residential institution, where there are grades, according to age, and also regulated and systematic training. The adolescent boys and girls, in these institutions learn the lessons needed

for their economic and social life, in the family, the village as well as the tribe.(1)

All tribes are not however democratic and children grow up and are educated in them differently. The internal forces in a tribe, and their external contact, including war and conquest often bring about important changes. The early Greeks for example who had been democratic tribal folk, gradually developed into people living in small principalities ruled over by oligarchies. The ruling groups among them, did not grow food, nor work as craftsmen. This was done by farmers and slaves. The job of the ruling class was to be good soldiers and officers, and to make and administer law in the State. The Greeks also had a magnificent literary heritage in the shape of Homer's great epics. In keeping with this cultural setting we find that the aim of education was stated to be the preparation for "a life of reason . . . of mental development and culture". The traditional Greek curriculum of youth in the time of Aristotle and also somewhat earlier accordingly consisted of (a) training in military arts and general physical culture (b) music and poetry (c) rhetoric and dialectic and (d) mathematics. In the elementary schools children of course learnt reading writing and counting as essential preliminaries before further education. But as the practice of industrial arts was connected with slavery, it found no place in the education of the children of the ruling class. (2)

In ancient Hindu India of the Smriti age there was a fairly well organised system of education to fit the different groups of the twice born for their special social duties, besides some elementary schools to teach the three R's to the children of the common people.

1. The Oraons by Rai Bahadur S. C. Roy.
2. The History of Greece by W. Mitford
A History of Educational Thought by P. R. Cole, 1931.

The avowed purpose of higher education was to develop the mind and build up the character of the Brahman and Ksatriya leaders of the social organisation besides imparting to them special training for their vocations, as thinkers teachers and fighters. Children of artisans and cultivators (who actually tilled the land) were not included among the twice born, and were not admitted to these institutions for higher education. (3)

All these three systems of education at different levels of culture, are the outcome of the desire to continue the existing social order. Their principal aim seems to have been to bring the children and adolescent, who represent the succeeding generation, to the point in culture reached by the previous generation. The Hindu and the Greek system also laid stress on cultivation of the mind and development of character. A different objective is implicit in the educational organisation in the ancient Buddhist monasteries and seats of learning. The Buddhist schools, unlike the Brahmanic schools for higher education, were open to all comers and not restricted to the twice born castes. This change in the educational organisation was the result of the different social ideal of Buddhism. When the emperor Asoka helped these institutions, he was obviously doing so with the purpose of changing the then existing social organisation in a definite direction. The social welfare activities of Asoka support this conclusion. (3)

Educational plans or reforms obviously imply one at least of the three objectives noted in these paragraphs. This is brought out also by the following facts: A little over a decade ago, an American educationist toured in all the important countries of Asia, Africa and Europe and asked of the national leaders and the officials the following questions—

3. Cambridge History of India—Vol. I.
The educational system of the Ancient Hindus by Santosh Kumar Das, 1930

1. "Are you trying through education to perfect and perpetuate the existing social order of society" ? or
2. "Are you trying to create a new order of society which you clearly preconceive" ? or
3. "Are you interested primarily in developing each individual as completely as possible in the hope that a generation of individuals so developed may be able to build a social order better than any that we with the limitations of our education can now conceive"

In Japan the answer was "We want Japan to be more perfectly herself, we want evolution; we want gradual change but those changes must be along basic lines already laid down. We do not want any fundamental change in our economic, social or political order"

In Russia the second answer was received. "We want to found a new society a classless society where no man can enrich himself by exploiting his fellowmen. We want an industrialised Russia with every person trained to efficient workmanship and with modern machinery to give the people greater leisure" so that the "cultural lives of the people are adequately developed". The third answer was the commonest in England. The attitude of English educationists was "We are not particularly interested in using education to perpetuate our present forms of society. Neither are we interested in using education to bring about any new kind of society. Education exists to develop each individual as completely as possible". A well known educationist of Oxford, however added, naively "of course we believe that if the individual is developed fully and his reasoning powers well trained he will see that the kind of social organisation that exists in Britain is the best."

Gandhiji is reported to have said "The primary aim of education is the development of character Let us have an education which will develop character, and I do not care what social forms are used"

The Chinese took a middle position between the Russian, and the English as well as Gandhian view. "We certainly do not want to perpetuate our present state of society; that is terrible. And we do not know exactly what form of society we want in the future. We want to develop every individual as well as possible but we also want to give him certain ideals for the future society. Our first President Dr. Sunyat Sen laid down three principles of the people: The Peoples' sovereignty, the Peoples' nationalism and the Peoples' welfare . . . By the Peoples' Welfare he meant some form of socialism by which the people would share in the wealth of the country as a whole. Those three general ideals we want to hold before our children continually. . . We do not know what specific form society should take. . . Let us develop well rounded individuals holding always before them our general ideal, and then let society grow." (4)

CHAPTER II

SOME INTERPRETATIONS

We may now consider some of the answers in the light of social and economic condition in the different countries. The case of Japan will be considered first as in our country the rise of this Asiatic people from a feudal condition to the position of a first class industrial nation ranking as a world power has drawn much attention. The international relations of Japan since her modern development are also of interest in the same connection. Eighty years ago Japan was a feudal country, with a titular emperor, really ruled over by a Prime Minister (Shogun), and by a number of great

4. Congres' international de l'enfance Paris 1931 (paper by C. Washburn).

barons (Daimiyos) enjoying political power over their fiefs. Hostile clash with the British and the Americans convinced the Japanese ruling class of the necessity of change. The country was first unified politically, by abolishing the Shogunate and the great feudal lords and the Sammuri class voluntarily surrendering many of their privileges.

Industrial development was fostered by the State, especially those industries which are needed for defence. The needs of the Japanese nation, to retain its independence, and to take a place in the front rank of world powers was carefully planned. Technical education was widely disseminated among the people. Scholars were sent abroad for special training and foreign experts brought in on contract basis. A large number of State owned factories were organised, shown to be profitable and then made over to business organisers. Large subsidies were also given to private industries approved by the State. The political control was however retained by the old ruling class now ranking as Noblemen and composing the upper house, with the Emperor, now enjoying absolute power, at least in theory. In practice, the Ministry was not responsible to either of the two houses of legislature (House of Peers and the Lower house of elected common tax payers) but to the Emperor. The Cabinet in fact was practically independent of the Diet (Legislature), as even the throwing out of the budget could not lead to the fall of the Ministry. The Government could proceed with expenditure on the basis of the previous budget. The regulation of expenditure on the Army, Navy and the Civil Service was also outside the power of the Diet. Thus although there was a lower house elected on a moderately wide basis of franchise, real power was not enjoyed by these electors, or the people in general. (5) There are indeed amenities like medical

5. Japan and its educational system—by Syed Ross Masood, 1923. This work has been quoted in preference

service, and primary education; technical training is also widely given as noted. But the working class enjoys no power. Trade union movements showing any signs of militancy have been ruthlessly suppressed again and again, and finally smashed up by mass arrests of thousands, in 1928 when the working class and peasantry showed its strength in elections. (6) In the educational syllabus, we find that after elementary education, is completed, large numbers are trained in technical education for work in factories, farms and workshops. In the earlier as well as the later schools, two subjects are compulsory, apart from the usual curriculum followed in such schools elsewhere in the world. One is military training, and the other is "morals". The aims of education are stated to be (a) provision of mental culture with a view to building up culture (b) cultivation and training of leadership—to execute the national ideals..... (c) moulding of national and international spirit . . . (d) to unite the civilization of the East and West into one." The character of the national ideal is clearly formulated in the note on "morals". It is stated "The primary principle of moral education in our country is service to the fatherland, with the Imperial Household at its heart. Loyalty to the Emperor is identical with patriotism, and is one of the national principles Reverence of ancestors and worship at Shinto shrines originate in the same spirit Until as recently as 70 years ago, feudalism was the social order with a clear line of demarcation between classes. This has worked to a certain degree for the formation in our people of a habit of reverence towards the elder and superior". In the middle schools, which include Technical Schools "Labour training" is compulsory, besides vocational train-

to those by European writers as the author (the late Sir Syed Ross Masood) was a great admirer of the Japanese.
6. Inside Fascist Japan by Israel Epstein, 1944.

ing. This subject of "Labour Training" has been given more stress in view of the following "fundamental principle of instruction" promulgated in 1931 by the Government of Japan:—"Stress should be put on inspiring the pupils with a love of physical work as well as the spirit of independence, co-operation and responsibility." As regards education of girls, it is stated that "The general public of Japan does not favour higher education for women . . . Higher education deprives girls of matrimonial opportunities at a suitable age. It destroys the domestic character of the women-in-the house. It divests girls of those fine qualities which typical Japanese women possess. The State must necessarily put forth its major energy for the sake of general education of boys and girls and the higher education of men with the consequence that it has no time left for the consideration of women".(7) Notwithstanding this concern for the old ideal of Japanese womanhood, expressed in 1937 we find that already in 1916 two thirds of the workers employed in the textile and other similar industries in Japan were women. Further, the State had been arranging for their employment in factories on a steadily increasing scale.

The Japanese constitution as noted before gave autocratic powers to the ruling class. The educa-

tionists who informed Washburn in 1930 that they did not want any fundamental changes were clearly upholders of this political organisation which is reflected in the economic and political condition of the masses in Japan compared to its ruling class. The educational system seeks to continue the obedience to the rulers by constant conditioning through "moral" classes and "labour training" in the schools. Deviations which occur in spite of this, due to the operation of economic forces are stamped out by the State. It should be clear that Japanese Imperialism and its alignment with the Fascist powers is not an accident of opportunist political combination but the logical culmination of a planned programme of the ruling class. The educational organisation has been an integral part of it in many respects.

The case of China will be briefly considered. China was also in a feudal condition until recently, although with some important differences, from Japan. It partially emerged from this State through the revolution of 1911-12 led by Dr. Sunyat Sen. Although the monarchy was overthrown, Dr. Sunyat Sen was not successful in carrying out his ideals of "nationalism, democracy, socialism and the Five fold constitution." The reasons for his failure are stated by him thus "The Chinese Revolution in the minds of many was called upon to overthrow the Manchu dynasty and replace it by the tyranny of a group of bandits even more savage and rapacious than the former Tai-sing government. I desired immediately to give effect to my programme in the hope of leading China up the steps of progressive modern Science". But his plans were turned down as Utopian. "The bold mind of the Chinese revolutionaries could not outstrip their courage". The traditional education and social conditioning proved too strong, when supported in addition

7. The quotations are from pronouncements by official spokesmen of Japanese education at the World Education Conference held in Japan in 1937. See the following articles printed in the Bombay Teachers Journal 1937 from the proceedings of this conference.

- (i) Special characteristics of school education in Japan Fusataro Nishimura.
- (ii) Secondary education for girls in Japan by Genzo Ichikwa.
- (iii) Vocational training in Japan schools by Sataro Yamouchi. An earlier summary on "Education in Japan" will be found in the Year Book on Education 1933—(Editor Lord Eustace Percy)—written by professor Kumaji Yoshida of Tokyo Imperial University.

by the powerful vested interests.(8) Since the death of this great leader China has not been able completely to break the "bandits" to whom Dr. Sunyat Sen refers, and official attitudes regarding the social ideal for the country continues to differ from that of the dead leader, although large sections of the people still adhere to it and want it to be translated into action. Dr. Sunyat Sen not only preached the three principles as quoted earlier but he formulated fairly clear cut plans to reach these goals. There was no vagueness in his pre-vision of the future Chinese society to which he wanted to lead his countrymen. The indefiniteness in aim apparent in the statements made to Washburn merely reflect the opposition to those ideals and plans, which hampered him during his life time and have continued to operate, after his death.

England has had a history very different from these two nations of Asia. The struggles of her middle class with the feudal lords have long been over. She has been the earliest country in the world to be industrialised and her record of trade-union work is the oldest. Probably, outside the U.S.S.R. the working class do not enjoy greater privileges anywhere else. She has also a large empire, in which colonial people live at a very low standard of life. These countries, which include our own, furnish markets for the manufactures as well as supply cheap labour for industries organised by the British and their satellites in the colonial countries. Large sections of the working class in Britain share to a limited extent in the profits derived from the colonies. The greater part of the economic benefit however goes to the dominant groups in Britain which is composed partly of the descendants of the old landed feudal aristocracy and partly of the big industrialists who have risen to power in the modern machine age. There is also constant infusion of new blood from

8. Memoirs of a Chinese Revolutionary by Sun-Yat-Sen, 1918.

the abler elements of the working class, who can fight their way up in the economic structure. Primary education has been compulsory since 1880. But until the nineteenth century there was no national education in England. Power was still largely in the hands of the landed gentry, and the House of Lords in particular "strove to keep the poor in ignorance and to maintain the authority of the established church".(9) The industrial revolution, started in 1769, had made it essential to educate the workers to some extent. The need of a larger number of educated persons to help in running the empire which was growing, made this necessity felt even more urgently. Upto this period, education had been organised in Public Schools and Universities mainly for the sons of the ruling classes. The ideal of education was essentially based on that of the Greeks. There was also another aim formulated explicitly by the Japanese, in their case—of building up future leaders of the imperialist organisation. The increase of Franchise brought about by the passing of the Reform Bill of 1832 and the first Parliamentary grants for elementary education of the masses in 1833 mark the beginnings of the new phase. Really important changes however took place only after the extension of the franchise still further in 1868. Two years later, in 1870, an Education Act was passed authorising the establishment of Board Schools wherever there were not sufficient elementary schools, and in 1876 and 1880 compulsory attendance laws were enacted. The national system of education was thus brought into existence. It may be noted here that the great Public Schools of England which had been organised on the lines of education in classics, had no "modern side" i.e. science teaching until after 1868 (with one exception.

9. A history of education in modern times by F. P. Graves. N. Y. 1930.

Since 1880, the structure and content of national education in England has been brought more and more into line with the requirements of a highly industrialised country. There is no direct attempt to teach "the Empire ideal" or to infuse in the students a respect for the dominant groups. But the text books of history, the stories of other lands and peoples, taught in the schools, the magazines for school children and the newspaper propaganda which reaches adolescents tend to build up an attitude of superiority to other races and admiration for the Empire and its administrators. In the Public Schools the old idea of class superiority still seems to be fostered. While the education in the schools will certainly develop the individual and fit him for life in the community, it cannot be said to be free from bias. Education in England has developed much less from planned attempts to reach any special kind of social order, than perhaps any where else. But the end products of schools cannot be said to be merely well rounded individuals free from conditioning towards perpetuation of the existing social and economic structure. In view of the universal franchise enjoyed in Great Britain, and the absence of any direct propaganda in schools or the Universities, the different social elements in the nation, make their conflicts felt, and the resultant forces tend to modify the direction of movement of society as a whole. Progress in England has largely come about in this fashion during the past two centuries.

The educational backwardness of Tsarist Russia does not need any description. Education was neglected, and was only somewhat better than the conditions in India. In the colonies of Tsarist Russia, education was practically non-existent. In Russia proper and Poland, in 1915 there were 8 million children in elementary schools out of a total population of 175 million. (10)

10. History of Russian Educational Policy (1701-1917) by Nicholas Hans, London, 1931.

The whole political system was swept away in 1917 and the power came into the hands of people who believed in equal opportunities for all. As early as 1918, even when the Soviet State was fighting for its life, the decree for spreading universal primary education was promulgated. The teachers of the previous regime were however mostly unsympathetic or even opposed to the communist ideals. The concept of freedom in education which had first made its appearance among the thinkers who had advocated freedom of man at the time of the French Revolution, also found very great support in this new State for similar reasons. These two factors, in combination led to the adoption of various "free" systems of education in which the teachers had little control over the pupils. It was also realised that industrial production must be speeded up if the Soviet State was to survive and fulfil its promises. For this purpose large numbers of technicians were immediately needed. This necessity led the educational authorities to take up "Polytechnisation". Workshops, factories and farms had schools attached to them, where boys and girls received practical training as craftsmen and mechanics. The standard of general education was low but all effort was concentrated on its extensive dissemination.

The position changed after the first five year plan had been fulfilled and the broad foundations of industrial development had been laid down. It became necessary now to have a more skilled type of technician who could think as well as work. Reports of educational authorities had also made it clear that owing to lack of proper training among teachers, and of other facilities the different "free" systems of education were not functioning satisfactorily. The danger to the Soviet State from non-co-operation and hostile propaganda of the former teachers had also largely disappeared. In consequence of this altered position important changes were made. Education was re-or-

ganised to make it more systematic. The "free" systems were dropped and replaced by more orthodox methods as within the powers of the teachers available. (11) "The class lesson, supplemented by independent work, the cinema lesson, and educational visits and helped by visual aids became the basic method of teaching . . . some self government remained but the soviet authorities had arrived at the conclusion that to place children in a position where judgement was demanded of them for which life had as yet given them no kind of preparation or experience was entirely wrong and only led to unhappy results". Political propaganda in school was dropped and "social science that is political education was limited as a subject to two hours a week for one year of the school period Real political education was to be carried on in the Pioneer organisation, a political organisation of youth between 10 to 16." (12)

From birth up to the age of 3-4 the commissariat of Health looks after the child. Thereafter there are the nursery schools or their equivalents. Compulsory primary education starts at 8 years of age and continues till 15 in the middle school where the pupils go automatically, after eleven. Education is free up to this stage. Some children stay on a little more at school and take a six months' course of training in a factory apprentice school before taking up jobs. Others enter upon a two years' course of training. The arrangements will be made clear by the decree of the State. It runs thus "In order to create national reserves of labour for industry the Presidencies of the Supreme Soviet of U.S.S.R. decrees:

To recognise that it is necessary to obtain a yearly labour reserve for industry of from 800000 to 1,000000 by means of teaching urban and rural youth definite in-

11. Education in the U.S.S.R. by M. Epstein in the Year Book of Education 1937.

12. Education in the U.S.S.R.—Beatrice King, 1941.

dustries in Industrial Schools, Railway Schools and Factory Training Schools". The industrial schools trained metal workers, metallurgists, chemists, miners as well as transport workers. Railway schools trained mechanics for the needs of their special line while Factory training schools catered to the needs of the general mass of workers. Training in these schools is free. For higher education in professional or academic subjects, a small fee is charged, but is remitted in the case of students who reach a certain standard of excellence. Factory workers enjoy special facilities for preparation to enter the University. A three years course free of charge is provided for them. This educational structure is not confined to Russia proper but extends over the whole of U.S.S.R. This will be apparent from the figures for literacy for the Asiatic States which had less than one percent literate under Tsarist Russia. Uzbekistan and Turkmenistan had in 1939, over 67% and Kazakhstan 76% literates. The increase in literacy in these areas is actually greater than that in Russia proper. Statistics for other types of education are not quoted as superfluous. It should however be noted that the contribution of Soviet Scientists, in the fields of Mathematics, Physics and Biology, the masterpieces of literature produced by writers like Sholokov, Tolstoy (Alexei) and the achievements of Soviet artists in the theatre, ballet and opera furnish conclusive proof that the cultural life has kept pace with the economic and social development of the Soviet people. Regarding the Russian ideal of life and education Washburn remarked, after quoting the views of Russian educationists "Many American think that the communist's dream is hopelessly Utopian Regardless of our judgement as to the desirability or practicability of their ideal, it is at least definite. They know what they want. And what they want is a new society, a society conceived in rather minute detail by the people who are directing the destinies of Russia to-

day." This brief survey of the Russian system of education makes it clear that the needs of the society that was sought to be built up was carefully noted and provided for at each step, as Russia moved somewhat meteorically from the eighteenth century to the middle of the twentieth in the short space of a little over twenty years. Only the planning in minute detail, and facing of realities even when the price to be paid for it was heavy made this remarkable transformation possible.

CHAPTER III EDUCATION IN INDIA

The case of our own country will now be considered. Politically, India is dependent; economically, the masses are ground by poverty. Socially, the people are divided. Educationally we are more backward than Tsarist Russia. No one desires the continuation of the existing conditions, save the few who have attained to wealth and power or have retained their domination over some sections of the populace, through the utilisation of these conditions.

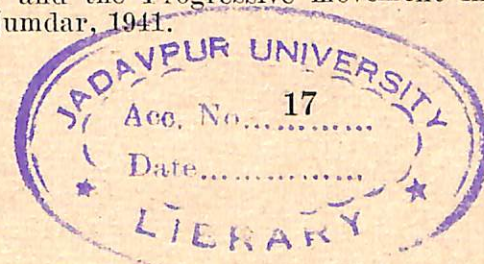
Political freedom is desired by all the major political organisations. The kind of society which a free India should seek to build up has however not been clearly defined by most of them. The simplest enunciation of the ideals of the major political organisation, the Indian National Congress, which includes within its folds, not only vast numbers of the two great religious communities of India but also of the different economic classes, will be found in the famous resolution of 8th August 1942. It is stated there that the National Government shall be composed of representatives of all sections of the people and that it will function for the "welfare of the workers in fields, factories and elsewhere, to whom all power must essentially belong". The same ideal is foreshadowed in the constructive programme of Mahatma Gandhi. Regarding his last

item in the Programme, "Working for Economic Equality" he states "This last is the master-key to non-violent Independence. Working for economic equality means abolishing the eternal conflict between capital and labour. It means the levelling down of the few rich in whose hands is concentrated the bulk of the nation's wealth on the one hand, a levelling up of the semi-starved naked millions on the other. . . . Those who think that the major reforms will come after the advent of Swaraj are deceiving themselves. . . . It will not drop from heaven all of a sudden one fine morning. But it has to be built up brick by brick by corporate selfeffort. . . . Every Congressman has to ask himself what he has done towards the attainment of economic equality". (13) Regarding the social division in our country the Congress laid stress on the necessity of communal harmony and of removal of disabilities of the backward classes. These items are given prominence also in the Constructive Programme.

Any scheme of national education must therefore be judged by the test as to how far it prepares the people for attainment of these ideals. The present system of education is admittedly inadequate for this purpose. It has developed under the action of three forces:—

- (a) The desire of the intellectual leaders of this country in the nineteenth century (like Rammohan Roy) to reorient the mental and cultural outlook of the intelligentsia by dissemination of scientific knowledge. (14)

13. Constructive Programme by M. K. Gandhi, 1941.
14. C. F. Address of Raja Rammohan Roy to the Governor General, Dec. 1823 quoted in "Selections from Educational Records"—By Sharp. See also Raja Rammohan Roy and the Progressive movement in India by J. K. Majumdar, 1941.



- (b) The necessity of the British administrators of securing assistants who could perform the less important official duties. This is stated to have been the object of founding the Calcutta Madrassa in 1781 and the Benares Sanskrit College in 1792. (15)
- (c) The desire on the part of some liberal Englishmen to spread their culture and of Christian Missionaries to spread their religion among the intelligentsia of Hindusthan.

English educationists in those days were themselves admirers of classical education. The cultured people among administrators had been brought up in a society in which the need of mass education had not made itself felt. The leaders of Indian thought were also anxious to get their intelligentsia away from the rut of old metaphysical lines of thought so that they might be able to help in their efforts to change Indian society (16). The East India Company which had at first paid no attention to education, were not also willing to spend large sums of money on elementary education of the mass of the people. The rapid growth of the Indian empire had however necessitated some attention being paid to higher and necessarily also to elementary education; but the improvement was very slow. After 1857 the position changed owing to the increased importance of the educated Indian middle class, that now displaced the feudal class which had lost power. In 1861-62 non-official Indians were for the first time taken into the Councils of the provincial and central Governments. Indians were also appointed in the Civil Service.

15. Education in British India by Arthur Howell.

16. This was specifically stated in notes to the Government both by Rammohan Roy and later by Pandit .Iswar-chandra Vidyasagar.

During the regime of the Liberal Viceroy, Lord Ripon, the Indian educated community consisting of zemindars, lawyers, businessmen as well as educationists organised themselves to be able to press their demands with greater force. English public opinion in England also proved favourable to the expansion of education in this country, owing to the political changes that had taken place in Britain. As a result there was expansion of education in general. The old Panchayet system of local selfgovernment was also partially revived. Education in the villages being elementary education for the masses, developed in consequence. There was however no transfer of political power to the Indians nor any attempt to organise a national system of education. On the contrary, when in 1910-12 attempts were made by nationalist leaders like Gokhale to legislate for compulsory primary education, the officials who constituted a majority in the council threw out the Bill. It was only when some transfer of power was made in 1919, due to the greater political consciousness of the masses, that primary education was seriously taken up. Although the Hindus as well as Muhammadans had come together during this period, and the political movements had reached the masses, there was no clear cut ideal of future society in the minds of the leaders. The great problems of rights of the peasantry, and of workers in industry were not seriously taken up. These questions however obtruded themselves on the notice of the political leaders more and more owing to the growing consciousness of the masses, and during the political movement of 1930-31, it was realised that a clear statement of their future rights by the Congress was essential. Unlike the period 1919-21, Muhammadans had partly kept aloof from this movement. In consequence some of their special problems were overlooked in the declaration of rights made in this period. Since then, the charter of rights has been made even clearer by later pronounce-

ments of the Congress. Along with such declarations, it was only fit that a scheme of National basic education should be drawn up by the Congress leaders and a National Planning Committee should also be set up for an economic programme. Recently the Government of India have also published plans of Post War Industrial Development, and of universal education, necessitated by the changed political conditions.

CHAPTER IV

THE CONDITION OF THE INDIAN PEOPLE

Before discussing either of these two plans it is necessary that we should examine the condition of those for whom the plans are being made,

A reference to the figures of the 1931 Census shows that two fifths of our people were labelled as earners. At present the proportion is lower being barely a fourth. Of the earners, in 1931, nearly 64% were engaged in agriculture, and 2% in cattle and poultry raising—or if we add up, about 66% in farming. Only 10% were engaged in crafts and industries. Among artisans and industrial workmen, a fourth worked on textiles; nearly another fourth were engaged in dress making and allied work and a little over one tenth made their living by working on wood and bamboo. About five per cent. of the earners were found in trade and commerce while the professions followed by the middle class—of the doctor, the lawyer, the teacher and the clerk—furnished livelihood to less than 3% of the income earning public. Transport absorbed 2% and domestic service 7% of the wage earners. The remaining 7% were engaged in occupations which do not promote social welfare. The aim of national education is undoubtedly to fit the children for these different vocations along with development of their mind and other training. But we have to consider whether these vocations are bringing livelihood to the “earners” and their

dependents. If in a stable economic condition the people earned enough by pursuing their vocations as noted above, and were above want, then the national system of education would have to arrange for equipping two thirds of the children of school going age for farming. Similarly for supplying artisans and factory workers only ten per cent. of the children would require special training in crafts and industry. In a paper contributed some years ago (17), the writer discussed a scheme of education on the basis of training children for the society as it was then organised.

The necessity of change was mentioned there but this point was not discussed as the paper was mainly concerned with organisation of methods of teaching. A discussion of this point is however essential in a comprehensive survey.

In the Punjab, the peasantry, (according to the report of the Floud Commission), seem to be better off than in most of the other provinces. Even in this area we find from official statements that 20 per cent. of the peasants own less than one acre of land, about 40% a little over two acres and 26% between 8 and 9 acres. The rest own higher acreages. Out of a population 23.6 millions only 13.6 millions i.e. about 57% are agriculturists. The area per head comes to well over 2 acres and per family about 10 acres. Although the pressure on land (totalling 31 million acres of cultivated area) is less in this province, proportionate to the population, it is clear that there is “a considerable section of the proprietors who do not own sufficient land for the maintenance of their families and have therefore to take settlement of additional land as tenants under landholders who have a surplus area” (18).

17. Education for the people by K. P. Chattopadhyay, Science & Culture, 1939.
18. Report of the Land Revenue Commission, Bengal, Vol. II, The tour of the Land Revenue Commission in the Punjab.

The result of such a distribution of land is reflected in the fact that "only 17 per cent of the landholders are not in debt". In Madras, the conditions are worse. About 70% of the population are agriculturists and the area per head is "slightly less than one acre". The average area owned per family is $4\frac{1}{2}$ acres which is nearly the minimum economic holding. Seventy four per cent of the ryotwari holdings were however found to be of average area of 2.4 acres. In consonance with this fact we find that the number of agricultural labourers is 44% of the total agriculturists. In Bengal the same report notes, the total area in cultivation is about 29 million acres, with 3 million cultivable waste in reserve. The agricultural population in 1931 was 31 millions so that the area per head comes to a little less than one acre as in Madras. The average per family is 4.84 acres. But 57% of the families own less than 3 acres and of these 46% own less than 2 acres. Only 25 to 26% families own acreages above the minimum economic holding of 5 acres. A recent survey (19) reveals that in 1944 the percentage of families with economic holdings had dropped to 8% only. Details regarding the peasants of the United Provinces are not noted but their condition is reported by the Land Revenue Commission not to be better than that of the Bengal peasant, although the average holding is slightly higher. It is clear that vast numbers of agriculturists live on the brink of starvation in almost all the provinces of India. The solitary exception is the Punjab, where the pressure of agricultural population on land is less, and the population itself is smaller compared to the area of cultivated land.

Regarding the economic condition of artisans in villages, it may be noted that it has been unsatisfactory for a long time. The simple fact that a large proportion of artisan castes do not follow traditional occupa-

19. A plan for Rehabilitation in Bengal by K. P. Chattopadhyay and Ramkrishna Mukherji, Calcutta 1946.

tions but depend on agriculture and labour is adequate proof of the difficulties of this group in making a living. It may also be mentioned that in the sample survey recently carried out by the writer in Bengal (mentioned above), the artisans were found to be indebted to the same extent as agricultural labourers. The unsatisfactory condition of factory workers in Bombay as well as Calcutta and the Industrial Belt has also been commented upon by official commissions, and in reports of non-official surveys (20). The lower middle class is also in an economically insecure position. A detailed survey of this group in Bengal carried out recently, makes this clear (21).

The entire population of India with the exception of a small fraction who constitute the upper middle class and the rich, suffer from a lack of nourishing food. This is due as much to insufficient production as to inadequate distribution of the necessary commodities.

The nature of the problem that has to be tackled can be better understood from the following statement of the Kharegat Committee (22). Discussing the average production of principal foods in normal times in India, the Committee state "Large though the production appears, it is inadequate to provide the nutrition experts' requirements for a suitably balanced diet in *minimum* quantity for the 400 millions people in India". To make up the deficiency it is noted that production "must be increased as follows :—

20. c.f. Report of the Royal Commission of Labour in India 1931.
See also (a) How Jute workers live by K. P. Chattopadhyay, and H. K. Chaturvedi- Science and Culture 1946.
(b) The Indian working class by Prof. Radhakumud Mookherjee Bombay 1945.
21. World War II and the Consumption pattern of the Calcutta middleclass by S. Bhattacharya: Sankhya, March 1947.
22. Memorandum on the Development of Agriculture and Animal Husbandry in India, 1944. (Govt. of India Publication).

“Cereals by 10 per cent.
 Pulses by 20 per cent.
 Fats and oils by 250 per cent.
 Fruits by 50 per cent.
 Vegetables by 100 per cent.
 Milk by 300 per cent.
 Fish and eggs by 300 per cent”.

From the facts noted by the Committee it is clear that this deficiency is not an overestimate. Normal requirements, with some surplus, needs an increase of production to an even larger extent. The Committee points out that the productivity of land is much greater in other countries, such as Italy, China, Japan and Egypt. The technological possibilities have been examined carefully by Dr. Burns (23). “In agricultural development two objectives must be held clearly in view (i) the abolition of the poverty of the cultivator and (ii) the abolition of poverty of the soil.....A good beginning can be made by cutting out several kinds of waste and substituting parallel kinds of savings It is becoming increasingly clear that most of the antiwaste measures can only be carried out by collective action. The following are some examples : Soil conservation is a whole sale business. The bigger the area tackled, the better”. Protection from vermin, small and large, and from weeds is in a similar position. Individual action is useless. “In the proper conservation of vegetable waste material as manure and in the utilisation of improved seed there are great advantages in collective action”. The introduction of modern “technological improvements are impossible without at least collective action by aggregation of units. This point is so clear that it must be made an essential part of any improvement drive”. On the positive side, manuring and irrigation are the most important points to be not-

23. Technological possibilities of agricultural development in India by W. Burns, D.Sc., officer on special duty, 1944. (Govt. of India Publication).

ed. Collective action is essential for success in these respects. One aspect of the matter has not however been touched upon by these reports; it is the distribution of land, and absence of adequate protection to the peasant by Land Laws. These points have been discussed in a short note by the writer especially for Bengal but the defects pointed out therein exist in other provinces as well (24). Here again, the remedy is collective organisation.

The figures noted also make it clear that the agriculturist families cannot have economic holdings in most areas, unless the pressure on land is reduced. This can be attained only if other sources of income are opened up. For possible sources of balanced occupational distribution, we may examine the figures for a few European and American countries which have no colonies. The figures for Sweden, Czechoslovakia and Canada are noted below in a table (25).

Country	Year	Agriculture fishing forestry	Industry Handicraft Mining	Commerce Shipping Transport etc.	Public Service and Profession	Household work and Miscellaneous
Sweden	1930	35.6	31.7	17.5	6.3	8.9
Czechoslovakia	„	28.3	33.4	18.3	6.9	15.1
Canada	1931	31.2	26.6	23.4	9.1	9.7
India	„	67.2	10.2	6.7	2.6	13.3

24. The Problem of Rehabilitation by K. P. Chattopadhyay, Science and Culture, 1944. See also “Plan for Rehabilitation” *ibid.*

25. Extracted from League of Nation figures, incorporated in a note by Sir M. Visvesaraya to the National Planning Committee and published in Science and Culture 1939.

The lack of balance between occupations in our country is obvious. A shift of about 20% of the agricultural population to industry and another 10% to transport and commerce seems to be indicated for a properly balanced economy. A simple calculation will show that a redistribution of population in this manner will enable all the agricultural families to economic holdings.

The necessity of improvements on these lines have been realised by many of our thinkers and leaders. But their accomplishment has been held up by our political backwardness.

Any plan of national education must therefore aim at (a) improving existing conditions, even while we remain politically dependent, and without power to employ the full resources of the State for the necessary changes (b) providing for the requirements of rapid change as soon as political power comes into our hand. In both the stages, certain common principles will have to be followed. These will now be discussed.

CHAPTER V

GENERAL PRINCIPLES

It has been pointed out earlier that the ancient Greeks believed in "cultural" education and that a similar though somewhat different attitude towards education was held by the Brahmin of antiquity. The English ruling class in England gave practical effect to the Hellenic ideas in the Public Schools for their children. Training for agriculture, arts and crafts was imparted in England formerly, as elsewhere, by the apprentice system. Later on special schools for crafts developed. In general such training in specialised type of work for making a living is described

by the term "vocational education" as opposed to "cultural" or "liberal education".

The traditional association of "cultural" education with the ruling and socially superior classes, and of vocational training with the economically lower strata in society has created an impression that the former type of education is superior, to the other. Educationists have however gradually come to realise the fallacy of such a conclusion in modern conditions of society. Anthropologists had long ago recognised the importance of hand and eye co-ordination in the development of the brain. The human brain is believed to have diverged from the simian level when the protohuman ancestors of man departed from arboreal existence towards life on the ground thereby freeing the hands for acquisition of manual skill. The invention and the use of tools made of stone and bone, and the activities in the glacial pluvial and dry periods further quickened the upward surge of intelligence in man. The early human brain was largely developed as the result of co-ordinated activity of the hand, the eyes and the body. The later and modern human brain is inherited from ancestors who built up their cultures on co-ordinated and co-operative activity called forth and made possible by the domestication of plants and animals. The pooling of human experience and knowledge rendered possible by the invention of writing has supplied the latest stimulus to human intelligence. Its fruit is modern civilization with its infinite wealth of knowledge and potentiality for further progress. The view that a child recapitulates briefly but in its entirety, the infancy of the race is not supported by any scientific evidence. Nevertheless the importance of early human experience especially those which appear to have built up the brain, is undoubted, in devising a proper course of studies. For the intellect can be most economically stimulated in the earlier stages of

its growth, through the same processes by which its development has taken place (26).

So long as the means of production remained primitive, the peasant and the craftsman had very little time left after their work to think about "culture". Also, for carrying out their daily work, the training that was received at home or as apprentices was sufficient. It was not possible to educate the peasant and the craftsman on the basis of their methods of production, prior to the Industrial Revolution. The study of Prehistoric Man and his culture had made no progress until 1850, and the comparative study of the material culture and social organisation of modern primitive tribes was equally behindhand. Until modern means of transport developed and the more advanced nations penetrated into the realms of ruder people, scientific recording of data of cultural anthropology was not possible. The position has however definitely changed in the present century. We now possess comparative data regarding different stages in the evolution of material arts and we can link them with social and economic changes. A historical study of these developments can stimulate the intellect and furnishes a good introduction to the study of modern technological processes, which involve scientific knowledge, generally imparted in modern institutions for higher education. It is therefore possible now to build up a fully graded course of teaching on the basis of these facts. It would however be a mistake to lay undue stress on obsolete technical processes and concentrate on teaching those methods of production instead of stressing their educative value. Historically it is of interest to note that the home of hand work teaching in schools—the Naas Sloyd training Institute in Sweden—was originally founded in 1872

26. Summarised from the Presidential Address of K. P. Chattopadhyay, Section of Primary Education, Tenth All-India Educational Conference, Delhi, 1934.

as a manual training school for the development of home industries. The gifted Otto Solomon, realised however the importance of handwork in education and the systematic pedagogic adaptation to which he submitted manual training in collaboration with experienced teachers is one of the best known of the early methods of hand and eye training in schools. The Naas Sloyd Institute, which assumed its present form in 1874 abandoning teaching of Home Industries attracted notice all over Western Europe and led to the adoption of handwork (woodwork) in schools even in conservative England, after some initial opposition (27).

The question may however be raised whether a "cultural education" on the basis of handwork and technical processes of modern production is of any special value from the point of view of equipping a man for earning his livelihood. It should be admitted that a narrow specialised training in craft or trade may prove quite valuable in its limited sphere; but such an equipment will not enable the citizen of a modern state to meet with success in the rapidly changing economic and technological environment.

"The most salient fact in the evolutionary history of life is the succession of—dominant types. These are characterised not only by a high degree of complexity for the epoch in which they lived but by a capacity for branching out into a multiplicity of forms. . . . All new types which themselves are capable of adaptive radiation seem to have been produced by relatively un-specialised ancestral lines". An examination of data regarding evolutionary progress leads to the definition that it consists "in a raising of the upper level of biological efficiency, this being defined as increased

27. Details will be found in the "Report of the Education Officer on his tour of visit to some schools in Europe" by K. P. Chattopadhyay, Calcutta, 1935.

control over and independence of the environment" (28). Our educational system should therefore aim at giving greater independence over the environment to our future citizens, and at the same time impart the generalised training essential to survival. This can be done by making the training for vocation a real equivalent for cultural education. It will not be enough for this purpose to confer equality on the basis of University Regulations although this is also necessary. The apprehension that vocational schools not linked with the general educational system might be shunned as tracks leading away from the University has led the Toronto University and other Canadian authorities to recognise such courses for matriculation. A similar difficulty led the Scottish educational authorities to introduce what are termed "Omnibus" type of schools. In these institutions all types of post primary work, cultural and vocational—are done as parallel courses in the same educational unit. While devices like these meet the difficulty halfway, they do not go to the core of the matter. It is overlooked that a person lives the type of life by which he earns his bread. The imparting of prestige to vocational training will satisfy his amour propre but will not necessarily furnish the means whereby he can cultivate the mind. This equipment can be ensured only if the cultural training of our future peasants and craftsmen are organised through these vocations as its integral part i.e. education is centered round these crafts. Only in such cases will the students learn to think in terms of the technical processes of their occupation and keep their mind alive in the midst of their different kinds of specialised work. The success of the Danish Peasantry in surmounting the economic crisis caused by the large drop in the price of wheat in the middle of the 19th century was due as much to their special training

28. Evolution by Julian Huxley, 1942.

as to the mental alertness and adaptability developed by their education in Folk High Schools through the historical approach (29).

Modern industrial and economic conditions have made it increasingly necessary to study and apply the facts and conclusions of anthropology, biology and psychology to education. The monotony of modern industrial occupations to the individual workman makes it necessary to supply a stimulus to his mind through a comprehension of the technique of the processes of production. In our country, the pressure of age old customs and social conditioning have reduced our behaviour pattern in our social life to a mechanical repetition of set forms. It should however be remembered that the average endowment of brain power is likely to decrease through disuse, and death, in the course of generations, in such communities. Due to competitions inside the social group, the man of higher intellect who exercised his brain and broke away from the rut of mechanical behaviour in such dead-alive communities, would find himself isolated, hence unprotected, and would be eliminated more easily than the less gifted individuals. The stimulation of the mind through education, imparted in such fashion that it endures in later life is therefore an essential requirement in our country as it is now, and also in future when it will be industrialised.

AGE GROUPS FOR EDUCATION.

From birth up to puberty there are two periods of rapid growth, one in babyhood, and the other after 11 or 12, until onset of puberty at about fifteen. There is another, less apparent but still important period of

29. Adult Education by K. P. Chattopadhyay, Indian Journal of Education, 1936 (Presidential Address, Adult Education Section, All-India Educational, Conference, 1935).

rapid growth from five to seven years. The periods 2-5, and 7-11 are filling out i.e. consolidation periods. Physically therefore, the periods 2-5 and 7-11 are separated by certain important differences. Between 5 and 7 the individual changes a chubby babyish appearance for the boyish grown up type of face. Mentally also there are differences. During the earlier period the range of variation in intelligence is not very large and it is possible to group boys at different levels of intellect together. Later on however the divergence increases greatly. By the age of 8 or 9 it is so great that a class of unsorted children would be too heterogeneous for proper progress of all. These are therefore good reasons for the separation of educational arrangements for children below 5 years and those above 7 years of age. The children of the intervening period may loosely be linked to either group according to convenience. This is the general basis on which the separation of children in pre-primary and Primary Schools rests in Great Britain.⁽³⁰⁾ The break at eleven years is also regulated on these grounds, although originally, in all these cases the exact reasons were not so apparent.

Education is compulsory in England (and Scotland) from the age 5 to 14. Children are however admitted to infant schools from three year of age and a year earlier in nursery schools. In the Central Schools, children continue their studies for one year after the compulsory age, and sometimes for two years. The education of children up to the age of 14 is divided into three stages and separate schools have

30. The report of the Consultative Committee of the Board of Education on "The Primary School" London, 1931. Appendices II and III by Dr. Harris and Prof. Cyril Burt on Anatomical and Physiological characteristics and Mental characteristics of children between seven and eleven years of age; see also the reports on "The Education of the Adolescent" and "The Infant and Nursery Schools" by the same Committee 1939.

been organised in recent years to deal adequately with the different educational requirements for the three age grades. The Infant Schools admit children from the age of 3 and keep them up to 7 years of age. From 7 up to 11 the children read in Junior Schools and at 11 plus teaching in primary schools proper is ended. At this stage, the children are selected by a Scholarship Examination, and also on the basis of the school record, for admission to the "secondary" and "Central" Schools. The former are post primary schools imparting what is termed "liberal" or "cultural education" according to the older definition of these terms. The Central Schools furnish at least a four year's course of post-primary education on modern lines. The remaining children continue their schooling in Senior Schools or Senior Classes for another two to three years. There is close co-operation between the different types of Schools for the succeeding age grades and often they are housed in separate buildings in the same compound. There is no break in continuity or lack of co-ordination.

The age of compulsory attendance in France, Germany, Vienna, Belgium and Czechoslovakia is six. It is seven in most States of the U.S.A. and in the Scandinavian countries. Compulsory education however ceases at 14 as in England. In all the countries mentioned except the Scandinavia group, there are special institutions for pre-primary education. We may therefore accept 6 to 7 as the age of commencement of compulsory attendance at schools and extend such attendance over a period of seven years.

Curriculum:—

We can form an idea of the type of work suitable for children of different ages from the subjects studied by them in the democratic countries. The details noted below are taken from the Danish Schools and are typical of Scandinavia.

Age	7	8	9	10	11+	12	13
Subjects to:							
Mother Tongue	+	+	+	+	+	+	+
Writing	+	+	+	+	+	+	+
Arithmetic etc	+	+	+	+	+	+	+
Scripture	+	+	+	+	+	+	+
Physical Training and Swimming	+	+	+	+	+	+	+
Needle work (girls)	+	+	+	+	+	+	+
Object lesson	+	+	-	-	-	-	-
Nature study and Natural Science.	-	-	+	+	+	+	+
History	-	+	+	+	+	+	+
Geography	-	-	+	+	+	+	+
Singing	-	+	+	+	+	+	+
Drawing	-	-	+	+	+	+	+
Small sloyd	+	+	+	+	-	-	-
Woodwork (boys) and Gardening	-	-	-	-	+	+	+
Cookery and Laundry (girls)	-	-	-	-	-	+	+

In England, manual training starts in the Infant School, with Reading and Writing but craft work proper is taken up ordinarily after finishing the Junior School. Only the beginnings of such craft as are allied to what is termed as small sloyd in Scandinavia i.e. handwork involving use of paper, strings, wire or clay are allowed. Craft training proper begins at the age of twelve for boys as well as girls. This division is in keeping with the biological and psychological requirements. Hand and eye training through sewing, knitting, paper weaving and small sloyd in general is valuable and can be imparted to the child of age five in direct continuation of earlier sense-training and habit training. Such an arrange-

ment for manual training is usual in the English Infant Schools and the French Ecoles Maternelle. Actual training in crafts cannot be taken seriously on a factory or workshop basis in the schools on physiological grounds. The shoulder blade is not united into one piece by fusion of the component bones until puberty. The hipbones unite even a little later, at the age 15 in girls and 16 or 17 in boys. These bones are important supports of the bodily frame. "No boy or girl with ununited parts of the shoulder blade or hipbone should be subjected to such heavy muscular strain as is involved in the delivery of heavy parcels or standing for long hours in domestic service" (Harris—ibid). What is however possible, is to impart the training for a limited number of hours at a stretch, two hours at most daily, reproducing in the school, as far as possible, the requirements of the workshop or the home. In Scandinavia, two hours classes in craft, twice a week are usual. In England the time given to this work is less. In Denmark co-operative gardening during summer was found by the writer to be combined with sloyd during winter in some of the Schools visited by him in 1934. The hours of work were similar to those in Sweden for hand work.

CHAPTER VI TYPES OF SCHOOLS

We may now consider the different kinds of institutions that will be necessary for a comprehensive system of education for our people.

So long as the bulk of our earners remain cultivators, it is evident that provision will have to be made for equipping the greater number of their children to be agriculturists. Some people seem to think that no training in school is needed for the common agriculturist, who tills a few acres of his own or other

people's land—some persons even think that primary education is not needed by them. This attitude towards primary education of the common people was made evident even among Councillors of the Calcutta Corporation in 1927 when the present writer invited their opinions, (31) regarding the introduction of compulsory primary education in the city. It is therefore not superfluous to point out the necessity of literacy and also of some education centering round agriculture for the ordinary peasant. Co-operative agriculture and collective organisation for this purpose has been noted earlier as essential for ensuring even the minimum of livelihood to the cultivators in general. But collective organisation can be built up successfully only if the units realise its necessity and are able to work together. "The Danish peasantry at the beginning of the nineteenth century was an under class—without culture and technical skill,—and seldom able to rise above the level of bare existence. In the early nineteenth century endeavours were made to start agricultural schools for the peasantry. But they did not succeed as the pupils did not possess the universal education necessary". Nevertheless, after primary education had been widely disseminated among the Danish peasants and further stimulation of the mind supplied by Folk High Schools, this former serf-like class was able to produce "a sufficient number of young liberal minded men to take up responsible position as leaders of the new co-operative organisations" which were built up in the latter half of the nineteenth century. The peasants thereby averted the economic disaster that was overtaking Denmark owing to import of corn from

31. The Minutes of the Proceedings of the Primary Education Committee for the year record that barely one tenth of the Councillors sent any report. Only a bare majority among them were in favour of compulsory primary education. The Scheme was passed under pressure from the Provincial Congress leaders.

the two Americas (32). In subsequent decades, the Danish Peasantry gradually came to control the Danish Cabinet.

We may now consider the content of teaching in some detail as this is essential to a discussion of the type. It has been concluded earlier that education should be centered round a craft or crafts and that agriculture being the principal occupation of our people, this should be the central craft in the large majority of our schools for the Indian people. But it should be remembered that the agriculturist does not live in the village in a completely separate world of his own apart from other craftsmen. For the repair of his agricultural tools he needs the help of the carpenter and the smith. He must himself be a bit of an artisan, for looking after his implements in current use and to execute odd repairs. Care of cattle and other domestic animals is also part of his job. Again, for his clothing, and his pots and pans for cooking he has to come in contact with other craftsmen. It is true, mill cloth has ousted the weaver in many village. But for his loongi, his gamcha (thin towel used also as loin cloth when in the field especially in the rains) and other simpler articles, he still depends partly on the handloom. We may therefore say that the central craft should be Farming, and that auxillary crafts like Carpentry, Smithy, Spinning and Weaving should help in constructing a wellknit syllabus.

The training in the earlier period of age 7-11 will naturally be somewhat general, although centered round a craft or crafts. It is in the later years, from 12 onwards that special training will begin to come in. For the ordinary cultivator, one more year of general education, with beginnings of craft work, leading to more formal training in the last two years will be adequate. There will however be a group of cultiva-

32. The Folk High Schools of Denmark by H. Begtrup
Education in Denmark by Andrew Boje and others.

tors who will want to grow special and valuable crops and will need better training. At present such men would correspond to plantation managers. With the development of co-operative and collective organisation in agriculture, the work of management will need men of ability and equipment above the average. Brains will count here more than the ability to put in strenuous physical labour. The training for such work cannot be undertaken in ordinary post-primary Schools teaching upto the age of fourteen. A longer and more advanced course of training is needed for such men. Such special schools will be in the nature of Technical institutions of University standard. They may, for economy and convenience be combined with or linked to several units of the ordinary Schools. More advanced work will be in the nature of research work in higher branches of the subject.

COMMERCE

Business in our country is intimately connected with agriculture. Fifty percent of our businessmen are engaged in occupations connected with the grain trade and commerce in other raw materials produced by the agriculturist. Six percent (1931 Census) live by supply of cooked food while five percent are engaged in the textile business. Nearly four percent work in banks and insurance houses.

Work connected with commerce and trade comes under three categories:—

- (1) Export and import and sale of raw materials and finished products.
- (2) keeping accounts and papers of such transactions and
- (3) financing such undertakings.

Young men who enter business after some training and experience towards the end of the post-primary

stage in education are likely to do quite well in the ordinary rank of traders. For the earlier part of the work in the primary stage—the general training built up round Farming and the other productive crafts will be adequate owing to the present intimate connection in our country between agriculture and the crafts noted, and the major avenues of trade and commerce. Post-primary schools in cities and even the smaller towns should therefore provide facilities for training in commercial work in the last year of the ordinary course. Arrangements should also be made for training the more promising pupils for another year or two, in the more advanced branches of commercial practice. As grain trade is the basis of half the business in our country, these schools should link up their work with the economic organisation of the surrounding rural areas. When agriculture in the villages develops due to progress of co-operative organisation, it should be possible to link up the work in the rural centres in touch with the co-operatives, with the structure of the channels of distribution in the central towns. More advanced students, necessarily fewer in number should also have facilities for work as apprentices to business houses, supplemented by courses of instruction in such subjects as (1) variety and quality of grain and other agricultural raw materials (2) factors regulating production (3) details regarding export and import and factors controlling the same (4) grain markets and factors determining price levels. The last type of work can with profit be undertaken by higher institutions, having University rank. The more specialised types of work, in banking and insurance also require careful training with long apprenticeship. Advanced statistical and other equipment are also needed. Special institutions, as now, preferably imparting theoretical knowledge in the evening, while the day is spent in practical experience, can best meet the need of such advanced students.

CRAFTSMEN, FACTORY WORKERS AND ENGINEERS

The number of men engaged in handicraft and factories is double that of businessmen. Hence the facilities for training should be correspondingly greater. Modern transport also will require training of the type needed for work in many factories. With greater industrialisation of the country, the proportion of men engaged in agriculture proper will decrease but those engaged in distribution and in looking after the mechanical side of production will increase. The division into the main types of schools will therefore remain, although the relative numbers will vary.

As noted earlier, a good portion of those classed as artisans are really factory workers. Most of them are engaged in the cotton and jute textile industry. Textiles take also a very important position among handicrafts and cottage industries. Next in order of importance, comes work in wood and bamboo. Dress making may be considered an adjunct of the textile group and is also important. Obviously these are the handicrafts to which manual training in the earlier years at school should lead to, for more intensive work in the post-primary stage.

We may now consider the special education needed for factory work of ordinary and advanced grades. The training in handwork given in the primary and in craft work in the post-primary stages will be sufficient for the requirements of only a certain proportion of such men. It has been found in Great Britain that the training given in the various types of post-primary schools is sufficient to produce good factory workers. The arrangements there, are to teach "cultural subjects along with handwork. Ordinarily, the course is for two to three years as noted but the more intelligent students may stay on for another year or two. There are similar arrangements (were before the war) in

France, for vocational education in post-primary schools (*ecole primaire superieure*). More advanced training of regular students who are capable of benefiting by such education can with advantage be undertaken by Junior Technical Schools which may also offer part-time continuation courses to those who actually work in factories owing to financial need, even when capable of further education. The training of higher grades of technical staff requires careful planning in co-operation with industry. Such work can only be undertaken at the level of University teaching. On the side of industry the best form of co-operation would perhaps be to organise separate "nursery" workshops by the firms (or the State for nationalised industries) linked with University laboratories. This device has been widely employed in Europe with success. One point requires elucidation at this stage. Some industries, like the heavy industries, such as steel production or ship building will of necessity be centralised; others may be developed through industrial co-operatives. In either case, the technical knowledge for high grade mass production will be necessary. Further, the co-ordination of industrial co-operatives—for example, for making precision machine tools, or for weaving textiles of a fairly uniform standard—will require an even more clear grasp of the technical processes and requirements than for centralised production. Administrative ability to integrate such scattered units into an organic whole productive structure will also require careful training to develop. Success in such co-operatives—as also in artisans' co-operatives at a lower level of production requires further, that the men in charge of the units also function efficiently, with intelligence. This implies a general higher level of technical training for every one concerned—training which will also stimulate the intellect along the lines of work.

EDUCATION FOR WOMEN

The general training in the primary stage should not differ for boys and girls as there are no valid reasons for a separation. As girls are less strong than boys, the selection of handwork and crafts training should take note of this fact. Earlier manual training may not differ much; but it is broadly recognised that wood and metal work are more suited to boys, being in line with their future occupations. Weaving, dyeing, textiles, embroidery and dress making has been found more agreeable for girls. There cannot be any hard and fast rule for such division. It may be noted however, that women in our country never use the plough for cultivation. Gardening, with the hoe, weeding and reaping are however done by them in many communities. The details of the syllabus should therefore vary in these respects. The development of the brain, as well as the skeleton differs in rate, according to age, between boys and girls. "The bones of the skeleton are knitted together earlier in the girls . . . The growth of the brain is also precocious in the girl as compared with that of the boy." These facts suggest that while co-education may be possible and beneficial in early childhood, a separation after the primary stage proper is in the interests of education.

It is also necessary to remember that the principal vocation which is followed by most women, certainly in our country—is that of the house manager or housewife. Such work is not classified under the head "earner" in the Census Reports. But obviously it is a definite contribution to national welfare and wealth. The importance of this vocation is apt to be overlooked, as its performance is taken for granted. The necessity of training for it is also not generally realised in this country, and has led to the idea that housecraft is not of the category skilled occupations. The family is however the fundamental social unit all over the world;

and on the efficient management of the affairs of the family—represented by the home—depends the health, happiness and welfare of the nation. The traditional training given at home is not adequate or suitable under modern social and economic conditions, nor do they take note of modern scientific discoveries. Instruction in housecraft is therefore essential in girls' schools, being perhaps even more important than handwork for boys in its practical bearing. The courses should be planned so as to equip the girls on leaving school, to carry out intelligently various household duties which most women are expected to perform. The care of the baby and its needs, and its pre-school education it is hardly necessary to add, should form important items in the syllabus of the subjects in their schools. For girls who may go into industry, or trade, the appropriate training can be imparted in the final classes of the post-primary school (or continuation schools of advanced type) as in the case of boys. A separate type of training for girls is not necessary at this stage of education. Experience of employment of women on a large scale in factories in England during the war, and in Russia support this view. With greater industrialisation in future, a larger number of women will be employed in these occupations. Housecraft and child education will however continue for the majority of them to be an essential subject for training round which teaching may largely center.

RELIGIOUS AND SOCIAL EDUCATION

Some communities in our country desire religious education, in the sense of teaching of theological belief, and associated rites, to be imparted at schools. Others do not want such teaching in school and leave it to the home. The teaching of any belief or practice, uncritically, cannot be defended on educational grounds. If however the guardians of children want

it and consider it a part of the essentials of education, arrangements can be made for the same, without modifying the general basis of teaching of other subjects. It will be much more useful to stress the ideal of equal treatment to all men, and of social co-operation for the benefit of all, in the school teaching. In these respects, all the great religions of the world—Buddhism, Hinduism, Christianity and Islam—essentially agree, although decadent or misconceived variants of them may appear to support a different view. A study of the history of development of human culture indicates that progress has been attained on the whole through co-operation, and not through conflict. A course of studies in social history—in elementary form—can be employed to lay emphasis on the need of collective action. The actual training in handwork and gardening as well as general class work may also be so devised as to bring out the importance of co-operation. Two examples of this possibility will be noted here.

1. The garden land set apart for training in food growing by the students may be divided into a large number of plots, not actually separated, but indicated by marks at outer edges. The actual preparation of the ground and sowing will occur in an unbroken plot, all the boys co-operating to turn up the soil, to manure, weed and irrigate the field. No outside labour should be permitted, and the boys made to realise by work in batches that the whole work in any plot cannot be performed well by an individual alone or by a single batch working by itself. The crops, when harvested are to be allotted according to the area held by each individual, and labour put in less expenses incurred on seeds, manure and equipment. Arrangement for co-operative cultivation in school is common in Denmark and will be found described in some detail in the writer's Report (as Education Officer, Calcutta Corporation) already mentioned. The eli-

mination of outside labour is essential to make the work real and to enable calculation of the yield from a particular plot, in comparison to the labour required for it. Organised co-operation alone will make such elimination of outside help possible, without undue strain on the pupils, whose age will vary from eleven to thirteen.

II. The second example is from class teaching. In the old Indian village pathsalas (Schools) there was generally a "leader" among the pupils who helped the teacher, who usually ran his school without other aid. This use of an advanced pupil to help was borrowed and developed by Bell and Lancaster into the monitorial system in England. In Calcutta in the early days of English education, a more important development took place in the old school, originally founded through the efforts of Ram Mohan Roy, David Hare, and other educationists. In this school, in the time when Madhusudan Dutt, Bhudeb Mukherji and others were students, there was a teacher named Ram Chandra Mitra. He conceived and executed in practice, the plan of dividing his class into several groups, placing each in charge of a brilliant and more advanced pupil, and making him responsible for the proper preparation of school work of his group. There were also competitions between the groups. The plan is stated by one of the students, who later on became an Inspector of Schools, to have been a success (33). Co-operative work on somewhat similar lines has been used in modern educational institutions. Ramchandra Mitra's plan has the merit that it made the natural leaders of the class its real leaders, and at the same time taught them the valuable lesson that their superior gifts were to be used—not for individual excellence alone, but for helping their less intelligent or less equipped fellows, in order to keep the average level of performance of the group satisfactory.

33. Biography of Bhudeb Mukherji (in Bengalee).

CHAPTER VII

THE WARDHA SCHEME

The two schemes of education which have been put forward in recent years will now be considered and certain details of the syllabus will be discussed in that connection.

The basis of the Wardha Scheme can be best set out in terms of the resolutions passed at the Wardha National Education Conference in October 1937. The resolutions run thus :

1. "That in the opinion of this Conference free and compulsory education be provided for seven years on a nation wide scale.
2. That the medium of instruction be the mother tongue.
3. That the Conference endorses the proposal made by Mahatma Gandhi that the process of education throughout this period should centre round some form of manual and productive work, and that all other abilities to be developed or training to be given, should as far as possible be integrally related to the central handicraft chosen, with due regard to the environment of the child.
4. That the Conference expect that this system of education will be gradually able to cover the remuneration of the teachers". The Indian National Congress at its Haripura Session endorsed only the first three resolutions.

In drafting the syllabus, the Committee entrusted with the work clarified the principles underlying the proposed system of national education. "Socially considered, the introduction of such practical produc-

tive work in education, to be participated in by all the children of the nation will tend to break down the existing barriers of prejudice between manual and intellectual workers, harmful for both....."Economically considered.....the scheme will increase the productive capacity of our workers and will also enable them to utilise their leisure advantageously".

"The scheme envisages the idea of a co-operative community, in which the motive of social service will dominate all the activities of the children during the plastic years of childhood and youth". "From the... educational point of view greater concreteness and reality can be given to the knowledge acquired by children by making some significant craft the basis of education". The Committee note that "the craft or productive work chosen should be rich in educative possibilities. It should find natural points of correlation with important human activities and interests and should extend into the whole content of the curriculum.....Stress should be laid on the principles of co-operative activity, planning, accuracy, initiative and individual responsibility in learning". The Committee quote Mahatma Gandhi: "Every handicraft has to be taught not merely mechanically as is done to-day, but scientifically. That is the child should learn the why and wherefor of every process".

The Committee also stated that "this good education will also incidentally cover the major portion of its running expenses". Calculations are noted for the basic craft of spinning and weaving at the standard wages fixed by the All India Spinners' Association, Maharashtra. The Committee also endorsed Mahatma Gandhi's statement that "every school can be made self-supporting, the condition being that the State takes over the manufactures of these Schools". (34)

It has been already noted that, the Indian Nation-

34. Basic National Education, Wardha 1938.

al Congress endorsed the first three recommendations of the Wardha Conference. The general principles that were put forward, to clarify the basis of the educational system proposed, and the main points of which have been given as extracts, will be endorsed by all educationists. In the course of discussion of the educational problem in our country, earlier in this essay, certain general principles emerged from social, economic, biological and psychological considerations. These are in excellent concordance with the three objectives noted. The position is different with regard to the fourth resolution which aims to make education "self-supporting". This point is discussed later. The general Wardha Scheme will be considered now. As the present conditions are abnormal and the plan is for long term national education, the facts and figures for the normal period prior to 1940 will be principally considered.

In the "main outlines of the seven years' course", the following crafts are suggested by the Zakir Husain Committee (Wardha Scheme) in the order noted :—

- "a Spinning and weaving
- b Carpentry
- c Agriculture
- d Fruit and vegetable gardening
- e Leather work
- f Any other craft" suited to local conditions.

"Even where an industry other than spinning and weaving or agriculture is the basic craft, the pupils will be expected to attain a minimum knowledge of carding and spinning with the takli, and a practical acquaintance of elementary agricultural work in the local area". Besides the basic craft, they are to study (a) the Mother Tongue (b) Mathematics—co-ordinated to the basic craft (c) Social studies—which will cover history, geography and Civics (d) General Science

which is to cover Nature Study, Botany, Zoology, physiology, Hygiene, physical Culture, Chemistry, knowledge of the stars, and stories of great Scientists (e) Drawing (f) Music (g) Hindustani.

"In general outlines, the syllabus of studies will be the same for boys and girls up to the 5th grade of the School. In grades 4 and 5, the syllabus in general science should be so modified as to include Domestic Science for girls. In grades 6 and 7 the girls will be allowed to take an advanced course in domestic science in place of the basic craft".

In the original report, mention is made of "a detailed syllabus only for the craft of spinning and weaving". Subsequently "detailed grade placements of two other basic crafts, Agriculture and Woodwork" were included.

The following distribution of hours of work were suggested :—

"The basic craft	3 hours 20 minutes
"Music, drawing and arithmetic	40 ,,
"The mother tongue	40 ,,
"Social studies and general science	30 ,,
"Physical Training	10 ,,
"Recess	10 ,,

"5 hours and 30 minutes"

In making this estimate we have kept spinning and weaving as the basic craft.....The School is expected to work 288 days in a year, average of 24 days in a month.....With regard to teachers' salaries we endorse Gandhiji's suggestion that 'it should if possible be Rs. 26 and never less than Rs. 20'..... The average number of students in any class should not exceed thirty".

Although three basic crafts were thus selected for preparation of the detailed syllabus, the place of honour was reserved for spinning and weaving . This

was done presumably because of the long experience in this type of work available at first hand to the Committee, and also because of the importance attached to spinning and weaving in villages by Mahatma Gandhi for regeneration of national life. A reference to the report of Basic Schools at the conference held at Poona in 1939, suggests that practically all the Schools adopted spinning and weaving as the principal basic craft, although agriculture and woodwork were also recognised (35). The Special Officer for basic education, Bombay Presidency for example stated at the conference "Spinning and carding is the main craft we have introduced in our Schools."

Although the Zakir Husain Committee stated that the craft selected must be rich in educative possibilities, and one of the main resolutions lays down that the central handicraft should be "chosen with due regard to the environment of the child", a craft which is comparatively poor in its educational possibilities, and which is not followed as a vocation by more than five per cent. of our people has been selected as the central craft. The approach to the problem of national education by the Wardha Committee is very close to that of John Dewey the great American educationist in linking education to the social and economic background of the child yet in selection of the Basic craft, there is definite disregard of the future economic environment of the child. Although about 70% of the boys will grow up to work as agriculturists, the Basic Schools want them to learn the mother tongue, arithmetic, history and geography, all in terms of spinning. This process is to be carried on for successive grades. One speaker at the Conference stated that the "child's first reading material can be and should be built up round his first year's experience of the selected basic craft. A very good primer can

35. One Step forward, Wardha 1940.

be prepared round spinning with the takli and the corollary processes. The very first lessons with the takli will teach the correct use of about seventy five words e.g. nouns such as takli, winder, rod, disc, carding bow, gut, striker, plank, handle, mat" and so on for verbs and adjectives. It does not seem to have been realised that the child possesses a fair vocabulary before he goes to School and is familiar with many objects and processes and the words used to denote them. Teaching of reading and writing should be based on what is already familiar to the child. The process of learning to write ought in fact to accompany reading, which should not be allowed to proceed ahead. The proper procedure to follow in teaching writing and reading, is to collect vocabularies of children, to sort out the words that occur most frequently therein and then start with teaching the symbols for them i.e. how to write them. New words and processes learnt at school should come later. Experiments conducted by the present writer on these lines will be found described elsewhere (36). As the child has a home life and also a life as a village boy (which are not separated), the lessons should centre round these as well as the craft selected. This craft as we have noted earlier, should be for most of our children, Farming. Some or perhaps most of the educationists who went to the Conference at Poona probably agreed with Shri Jaju, when he stated that "of all the crafts or industries which can be used as vehicles of education, the most suitable and educative is certainly agriculture". But this craft was not selected

36. Some problems of Primary Education by K. P. Chattopadhyay, All India Educational Conference Karachi 1933. The Primers Lekhapada Parts I & II published in 1933 were published by the writer to give practical effect to this method of teaching for children of age 5 to 6. About twenty thousand copies of each were supplied at cost price to several hundred primary schools. The results reported were very encouraging.

as it "requires hard manual work beyond the strength of children". The Special Officer for Bombay stated that "children between 6 and 11 could not do major operations of agriculture. Even children of the age of 14 and 15 could not be expected to handle the plough and draw water from wells". By agriculture the members understood plough cultivation. Mr. Bhise who championed the introduction of agriculture also accepted this view. He added further that "unlike craft work, in agriculture there is very little scope for the acquisition of hand skill". He stressed however its value for co-operative training and observation and experiment. As a result agriculture ceased to be a basic craft; or more correctly it was never accepted as such, although placed in the list. For we find it stated in the syllabus that "from Grade I to Grade V . . . agriculture will not be taken as a basic craft. It will form part of the syllabus in General Science".

Cardboard work and wood and metal work have been left out as basic crafts as the products will not have a ready sale. This leaves only spinning as the basic craft, in the Wardha Scheme. For this craft, the students are expected to clean cotton, prepare slivers from carded cotton and learn to spin with the takli in the earlier part of Grade I. In the later part the only new thing to be learnt will be carding. In the next year only ginning is to be learnt in addition, in the first term and use of the charkha in the second term. In the third Grade the students should be taught to recognise the different types of cotton, estimate the length of the fibre and the count of yarn which can be produced from it. In the fourth grade the students are to learn how to repair charkhas and make bamboo taklis. In grade V the student is to be introduced to other methods of ginning and carding and other type of charkha. In the last two grades (VI & VII) weaving is to be learnt.

If we contrast this syllabus with that for garden-

ing and small sloyd in the first four years leading on to craft work from the fifth grade the variety and rich educative possibility of these subjects will be apparent. It will probably be objected that gardening is not a craft, like spinning. It is however forgotten that spinning with the takli as well as the charkha stand on the same primitive level of productive crafts, as growing food plants with the digging stick and the hoe, in modern times. The discussion regarding agriculture at the Poona Conference and the note on the syllabus, in the original report, clearly show that the authors understand by that term only plough cultivation. Since however the aim of national education is to develop the potentialities in the child by centering it "around some form of manual and productive work" (as per resolutions quoted earlier), this interpretation and limitation is not valid.

Children can turn up the soil with the garden spade, and later on with the hoe. As methods of food production such work will be quite satisfactory. There are many tribes in India who live by agriculture, without using the plough. The Newars of Nepal, who attained a high level of general culture about two thousand years ago for example, did not use the plough, but only employed the hoe even in the present century (37). Outside Asia, Europe and the northern fringe of Africa, the plough was unknown all over the world until modern times, although cultivation of plant food for livelihood was known over the greater part of the old as well as New World. We can therefore justifiably include growing of plant food with the hoe or the spade under the head of a craft. The manner in which correlated or co-ordinated teaching round this basic craft is possible is illustrated for a few grades in the next chapter.

37. Essay on the history of Newar Culture by K. P. Chattopadhyay (Monograph published in the Journal of the Asiatic Society of Bengal 1923).

CHAPTER VIII
A SUGGESTED SYLLABUS

Grade I. General and social studies may commence with talks on 1. human needs (as shown in daily life) of food clothing and shelter. The staple food—Rice, or wheat or millet; pulses; a few vegetables including yams, one or two important fruits, milk, fish and flesh. The village layout is to be shown to teach directions with reference to the sun. The cultivated fields with crops and the houses, orchards, domestic animals etc. should be shown. 2. Early man's ignorance of food growing and cattle rearing. His food collection by digging up roots, collecting fruits, catching fish and killing game. Illustration of his simple tool to dig the earth—A pointed branch of a tree sharpened and flattened at one end by slicing off a portion. With a little change, it is also a simple spear for hunting. A thicker branch, with the heavier end trimmed is a club—to hit or throw. Examples of such tribes in modern times in our country—Birhors, of Chota Nagpur the Juangs of Orissa States, and Kadirs of South India. Other people of this type—Andamanese of the Andaman islands and Veddahs of Ceylon. Their life should be illustrated by pictures. Actual tools can be made by bigger boys (Grade IV) and shown to Grade I. Games can be organised of "hunters and animals". The children can also play at collecting plant food—by digging up a small plot of potato or yam ready for turning up. The yam or tuber may be cooked in hot ashes to illustrate primitive cooking without pottery; for none of these people originally had pots. The provinces of the tribes or their location should be mentioned merely as to East, West, North or South of the area and very far or otherwise. For the first term word building and sen-

tences on the basis of terms already familiar should suffice. For the second term, besides simple tales, reading matter about food, about homelife, about life of one of these tribes can be included. For nature study the food plants may be recognised, including their parts. Their changes in different parts of the year may also be observed very generally. Arithmetic at this stage being mere counting and use of the simple rules up to a total of not more than twenty at first and one hundred at the end of the year should be linked up with all these class activities. Drawing in this class will have to be limited to filling in outlines by rubbing.

Grade II. The discovery of domestication of plants may now be incorporated in the talks. Some one had thrown away a root; or the seeds of a fruit had been dropped after eating the pulp. A plant has come out. Some early genius realises from these facts that plants can be made to grow and food rendered available at will. Probably it was a woman—the mother who remained at home. She experiments and succeeds and others follow suit. The tool for planting and turning up the soil is still the simple sharp pointed branch of a tree—the digging stick as it is called by anthropologists. The Mal Paharias of Rajmahal Hills use a digging stick of this type to plant maize and other grain (even though they know the use of the plough). Juangs also probably used such a stick earlier. The digging stick may however be flattened more at the tip and become a spade. Another useful and simple tool used by primitive tribes is a forked branch of a tree, with one fork sharpened. It is a wooden pick. If the edge is flattened it becomes a hoe (kodalee). Such tools are used by the Red Kaffir tribe on our Northwestern frontier for turning up soft soil and were formerly employed by the Swedes in forest areas for cultivation, in fairly recent times and by Egyptians in the very ancient past. The children

may be told simple stories of the life of these people of our homeland as well as outside it.

A wooden tool cannot however have its tip broadened or sharpened much as it will break and only a little earth can be turned up by it. When metal was discovered—especially iron, the tip was broadened and protected with iron or replaced by iron. A broad spade of wood faced with iron is used by the Kashmir peasant; the Baluchi uses a spade made entirely of iron. The Kharia of Chotanagpur uses a digging stick with an iron point. The Savara employes a narrow Kudalee with an iron blade. A broad iron hoe is use by the Khasi of Assam and the Newar of Nepal. It is also the main tool of cultivation of the Negro tribes of Africa, of the Polynesians and the Amer-Indians (until European penetration). In Oceania iron could not be smelted and turtle shell or stone was used in its place. Stories may be told of shifting and settled cultivation and how both types require close co-operation of the different families. Stress may thus be laid on the value of collective work in agriculture for common welfare and how our simpler folk have always done it. The children can use the garden spade (khurpi and khanta) and turn up the soil and plant seeds. They may also prepare seed beds in small adjacent plots (co-operative basis) and perform the simpler agricultural processes like watering the seedlings, weeding and transplanting. Nature study may proceed on the basis of more detailed observation of germination, growth and maturity of the food plants and the effects of the season on them. The making of an iron point for a digging stick, or of a khanta blade may be demonstrated in the smith's shop by boys of the highest class (VII). In this grade II the children may be shown how the Birhors make fibre rope and they may do it from prepared fibres. From twisting fibres, an easy transition is possible to continuous twisting by

means of the takli and making of thread. The children should be told about life of Juangs and how they had no clothes until recently. The men wore a strip of bark between the thigh and the women a girdle of fresh leafy branches. The children can play at Juangs by putting such dresses over short ijars. Bark cloth was also used by Garos. Reference may be made to the mention of use of bark cloth by Rama and Sita in the Ramayana tales. In summer, when gardening will be strenuous for children of 8 years, handwork with light materials can be done, including (a) spinning with the takli and (b) plaiting palm leaves in simple check and twilled patterns. The yarn and the leaf mats will be useful products.

Along with these studies the children will be shown the actual food growing process in the village and some details of the number of acres etc. under different crops, with average production. The details should be within the limits of Arithmetic work possible in this class. It should be borne in mind that "Mixed" additions, subtractions, multiplications and divisions can be started early, provided the sums are very simple and the computations do not exceed the limit for the class. Some idea should also be given of the history of the places of note, such as mosques, temples, markets in the neighbourhood in terms of age counted in generations or decades as found suitable.

Part of the material used for talks on social life of other people and of the agricultural processes, folk tales of tribes, tales of notable persons of the province will meet the need of material for a reader. For oral self expression, the children may describe what they observe or perform. In this form children should also be shown how villages lanes and fields may be indicated on a sketch plan and what a map means explained to them. The habitat of the tribes may be indicated on a map of India, merely mentioning the province and indicat-

ing its location with reference to the site of the School.

Grade III. In this grade, the talks may start with Veddahs who formerly lived in rock shelters. Children may be told of other people who lived in very rude lean-tos or breakwinds—such as Australians. A leafy branch of a tree may be put on another branch or a natural shelter under a leafy shrub shown to illustrate it. Next a palm leaf mat (or several such, if small) may be supported on a rude structure of one or two poles to illustrate the type of shelter early man used. Children can use these in games of the type earlier mentioned. Next they may make a small model gabled hut with wall and thatch of mats, on a frame work of sticks. A mat may also be bent into a half cylinder and fixed by pins and sticks to show how this makes a shelter—as on bullock carts, and also in the Toda house. The children may then be told how Birhors and Veddahs are now taking to plough cultivation. Along with this there should be a talk on the origin of the plough. In countries where the ground is soft it is easier to drag a narrow bladed hoe to make a continuous furrow than to dig it by repeated strokes. In some parts of the ancient civilized world, where conditions were of this kind, man got the idea of dragging a hoe (or a spade with a beam) behind him. Ancient Egyptian sculptures show men dragging such tools. The soil on the banks of the Nile is inundated annually and remains very soft and fit for such cultivation thereafter. Children may be told about our inundated areas which are cultivated for rice and should be shown the effects of such inundation in the rains. How such natural inundation forms the basis of irrigated cultivation can be demonstrated by visits to village fields. The ridges for retaining water and for controlled irrigation may also be made in the school garden by boys of higher forms and boys of grade III may observe the process. Talks may be

given how the Mundas and Newars use irrigated cultivation, make terraces in their hill sides and lead the water from long distances in co-operation. Similar co-operative efforts at irrigation by an entire village may be quoted from among Santals. The importance of irrigation for welfare of the peasantry may be pointed out here. A tale of Chandra Gupta Maurya who had such dams for irrigation made in Gujerat may be mentioned. Rough idea may be given of date of Chandra Gupta in centuries. Also tale of his triumph over Greeks, to stress that a King who looks after welfare of the people is victorious against enemies. Talk on irrigation projects of Firoz Tughlak and of the modern Sukkur barrage and other suitable local examples.

Nature study may be extended to variety of crops and different modes of cultivation—dry and wet. These may be shown in the village. Manuring and its effects may be mentioned and observed. Life cycle of simple insects, some of which are crop or plant pests may be observed e.g. the caterpillar (and butterfly). The mosquito may also be studied and talks given on the way it spreads malaria and how this can be stopped. The children may turn up the soil with the hoe in small plots one for each group, besides weeding, transplanting, and helping in other ways. They can grow winter vegetables like sag, or beans, cauliflower etc. on co-operative system. For hand and eye training, the children may pass on to spinning with the charkha along with preparation of cotton for slivers. They may also do simple jute weaving, on a small fixed frame, where the warp is fixed—merely extending the palm leaf plaiting technique of the earlier grade to jute weaving. Linked up with this work may come talks on weaving and how simple looms of this type are used by Tibetans. A talk on life in Tibet may follow. Its different geographical condition and adjustments may be described. In contrast, rain swept Bengal and arid Rajputana may also be described.

There is no need—as many of our official and non-official syllabus makers have done—to teach the Indian boy about the Esquimaux for life in snow bound areas or of people of Sahara or Kalahari for desert life. As regards geography, the study of the locality may be linked with the nearest important trade centre railway station, river and the administrative headquarters. Idea of thana, sub-division and district may be formed in this way and the different districts of the province shown on a map.

Grade IV. Talks may be given on domestication of cattle. The teacher will describe how domestication become possible through keeping of pets. Children may not have pets in the school but most village children keep pets at home. So it will be a subject of interest to them. The earliest pets were probably birds or young of animals which had been captured but not killed and were not eaten up later. Some animals breed in captivity (as dogs, cattle, horse or poultry); others (as elephant) do not. Some are also more useful than others. Through a process of selection of pets man got the dog as his hunting companion, and cattle for flesh food at first and later for milk. The horse was used for flesh and transport (riding) in some areas but also for milk in Central Asia, the land of the wild horse, where it was probably first tamed. Once the big animals like the bull, the buffalo or the horse were tamed, the development of animal drawn ploughs followed quickly. The Amerindians had crossed over to America before such domestication took place and they had no such suitable animal in the New World. The Polynesians who originally went from India and Indonesia could not keep plough cultivation although their ancestors had migrated after its discovery, as they had no domestic animals in their islands. Talks on lives of these people in different lands may follow and some idea of Chronology of the New Stone Age, and of Modern Culture may easily be

given in millenia, explained in terms of generation. Talk on the ancient area of civilization—the “fertile crescent” extending from Egypt, through Babylon to the Indus Valley. The Mohenjadaró people and their culture. Their lack of knowledge of iron and their use of copper tools.

The children may observe ploughs of common type and other agricultural implements like clodcrusher, the leveller and the harrow, all drawn by cattle. The actual operations are also to be shown to them in village fields, explaining their significance. They may continue their cultivation of vegetables in small plots;—one group looking after one small plot as in the earlier grade and extend the crop to vegetables of summer and the rainy season as well. For additional hand work they may weave on fixed frames things like ijarbands and small towels. As such looms are of light construction, those parts which require sawing and planing may be done in the two top grades but the children of grade IV may help in hammering and fitting. Small repairs to charkha may also be learnt at this stage, as also fitting of handles (not making them) to various tools.

For Geography teaching, the children should be shown on maps, the location of Egypt, Greece, Indonesia, Australia and America and lands of which they have heard names in connection with their social studies. Inside India, greater details regarding production centres—of crops and of industries—should be given to the children, linking up the studies with things in actual use in the villages. Means of communication and transport should also come in naturally, while the study of movements of the sun causing seasons will also be made in connection with agriculture.

Special notes on hygiene, civic training, Grammar, Arithmetic and Geometry have not been put down as the teaching of these subjects do not form special

problems. For the mother tongue the social studies and other activities will furnish enough material. Very detailed notes have however been given about craft-linked social studies, with co-ordinated geography teaching as this is not properly understood especially for agriculture. The necessity of such details will be obvious if a reference is made to the Basic Syllabus for Agriculture published in the Wardha Report. We find that in Grade I the children are to be told the "Story of Primitive man—His shelter.....His clothing.....use of leaves, barks and skins etc leading gradually to wool cotton and silk. His means of livelihood—hunting pastoral life and primitive agriculture.....His weapons and tools—wood stone, bronze and iron. His means of self expression—speech, primitive writing, drawing." In fact the child is to learn almost all about early evolution of culture in a few talks. Next the child is to be told in the same Grade I about Ancient Egypt, Ancient China and Ancient India through stories of a slave building the pyramids, the stories of the first five Chinese Emperors, the story of a boy in Mohenjodaro and story of Shunah shepa (Vedic period). Next, in the same year he will have to learn about Arab Bedouins, Eskimos, African Pygmies, and Red Indians.

In the second grade there is a similar jumble of African aborigines, Australian Bushmen, Ceylon Veddahs, and Indian aboriginal tribes, with stories about Moses, Abraham, Marcus Aurelius, Regulus, Nachiketa and Gargi, besides stories of a boy among Afridis, among the Swiss, in Persia and in Japan.

The examples need not be multiplied. They do not reveal any grasp on the part of the authors of the syllabus of the necessity of social studies through a well integrated or co-ordinated syllabus linked with craft and the teaching of other subjects. Shorter notes on the syllabus in other classes are now given but special details are noted for history and geography

teaching as these are generally taken up on wrong lines in the higher classes such as V & VI.

Grade V.—Greater details regarding advance of culture through plough cultivation—due to more plentiful food for all and the need of co-operation in the village and the centre of several villages may now be narrated. Some idea of structure of the primitive state—illustrated by the Munda village and Parha days, or the Khasi State. How land was held in those days. The present condition. The importance of milk and milk products as food may now be indicated, and also how herds were wealth before agriculture developed properly. Herds need large pasturage. An Indian pastoral tribe—the Todas—their life (without referring to polyandry which children will not understand). Examples may be given of pastoral tribes of ancient times. Desiccation of Central Asia forced some such tribes to seek pastures further south and led to the Vedic Indo-Aryans' entry into India. The later irruptions of Sakas, Pahlavas and others into India were also the result of similar economic drives. Approximate dates may be given in centuries and the economic adjustments in Central Asia among herders may be described. In summer when water and fodder is available in plenty in that cold area, there is common holding of grazing ground. In winter when there is shortage quarrels occur for individual holdings. The need of a plentiful supply of essentials and comforts for promoting co-operation and reducing competition and quarrels may be stressed in this connection. The teacher may also indicate why people leave their country. He may note as examples:

An island people with limited area for foodgrowing like the British.

A desert folk like Arabs with limited food growing areas in a subcontinent. The teacher may pass on to the spread of Arabs over Asia and Europe in the middle ages, and of the British in modern times, all

over the hemisphere. These historico-geographical studies will have to be completed probably in the next grade (VI).

On the historical side proper, the teacher may point out that while co-operation among people developed an early high culture like that of Mohenjo-daro, there were wars too between these peoples and others who coveted their wealth. Stories of struggles of various nationalities and tribes in India are found in the Vedas, in the Ramayana and the Mahabharata. Mohenjo Daro was wiped out and some portions of the old culture vanished through quarrels and lack of co-operation. The people divided themselves into high castes and untouchables. None would eat or intermarry outside the caste. But now a great teacher—Buddha—arose and taught men to love each other and help each other in distress. Stories of Buddha and of Ashoka are to be narrated. A similar love of humanity is preached in the earlier Upanisadas. An illustrative tale. The humanitarian spirit of the age and the desire to help people in other lands—as exemplified by sending missionaries to spread this culture all over Asia and also to parts of Europe (Greece) and Africa (Egypt). Some idea of the spread of Indian culture in Java, Sumatra, Siam, Cambodia and China. Soon however Buddha's teachings were forgotten in India and people again quarrelled.

Whenever they learnt toleration and mutual aid, culture flourished. Example of Harsha. The foundation of the Pala empire through voluntary co-operation of feudal lords. Some achievements of these ages.

Outside India also, the people of other lands had achieved a high level of culture in Egypt, Babylon and later in Greece and Rome. But wars and quarrels brought them all to ruin. In Palestine, a great teacher was born, Christ, whose religion of brotherhood of man gradually spread to Europe. Some tales of Christ and great Christian teachers may be told. In

Arabia another great teacher was born, several centuries later. He also preached the brotherhood of man. The Arabs learnt Unity under him and his successors and sought to spread this religion of equality of man in other lands. In co-operation with the old Persian people, they built a great University and culture centre at Baghdad. Another great culture centre was established in Spain where Muslims from Africa had settled. Stories of Islam and its achievements may now be narrated.

The Muslims brought their ideas of equality of men to India when they invaded this country. The Hindus recollected the older teaching of equality when they heard the Muslim preachers. Chaitanya, Kabir, Nanak and others preached the same gospel of brotherhood of man among Hindus, in their own way. Tales from their lives and teachings may here be narrated.

Whenever the new comers,—the Muslims—and the older people, the Hindus co-operated in friendly fashion, culture flourished. Examples: Husain Shah in Bengal who encouraged Bengalee literature and culture. Akbar the great Moghul who sought to unite the two people. Shah Jehan the great builder, and his friendship with Rajputs. But later Hindus and Moslems quarrelled bitterly and fought each other and among themselves. Examples:—Wars of Aurangzeb and fall of the Moghul Empire. Rise of the Marathas. Later disunity among them and their downfall.

Instead of uniting, to live better, the Indians invited outsiders the English and the French to destroy their opponents. The English cleverly seized power.

The English and their homeland had earlier been mentioned to the students, as also the need of their growing population. Being islanders they are expert seamen and adventurous. They came to India for trade and finding the country disorganised, gradually occupied it. They have incidentally brought us modern Scientific tools and machinery and modern

knowledge but kept us in bondage as they do not want to lose their privileges. We have failed so far to regain our freedom as we have not given up our quarrels.

This teaching of history will also have to be spread over two Grades, V and VI. Political Geography can easily be linked with this teaching of history and movement of peoples. The children will learn of contacts of India with Babylon and Egypt in the Mohenjo-daro epoch, with Greece and Egypt, later and Ceylon, Indonesia and China in the time of Ashoka; also with Rome in the time of the Satakarnis, and with Arabia and Persia in the Muslim period, and through Arabs, with the Mediterranean countries. There is no need suddenly to baffle the child in class V by telling him that a European sailor "discovered" India some four hundred years ago as if it were the South Pole or some outlandish place under the sun. This unfortunately is what our approved text books on Geography teach our children. An English, French or other West or South European boy may certainly with justice learn of contact with India through the voyages of European sailors round the Cape of Good Hope. But it is the height of absurdity to attempt to extend the knowledge of an Indian boy in Geography to countries outside his own through this end. (38)

CRAFT WORK IN GRADES V, VI AND VII

Regular cultivation of garden plots for various crops and vegetables, on co-operative basis, combining individual plots as in the Danish example, should be carried out. Different and detailed uses of the cattle drawn tools should be observed in Grade V, and in Grade VI actual yoking cattle and fitting up of these implements learnt. Actual ploughing, harrowing etc

38. These and other anomalies in the Geography syllabus were pointed out by the writer in detail in his Presidential address—Calcutta Teachers' Conference 1935.

should be done in Class VII but only for a limited period of say an hour a day per pupils. The class should take turns to operate the implement for the day as needed. Peasants do not put their sons to actual ploughing at 13 even though they may have strength enough for driving the plough straight or in ellipses as needed.

From Grade V wood work should start formally with the use of simple tools for making useful things and for petty repairs of implements. Making a takli, repairing the charkha, making handles for the khurpi, making a simple frame for the simple model loom (referred to earlier) are mentioned as a few examples. Useful models for graded use of tools are probably available in the archives at Wardha from reports submitted there by experts on this subject. In Grades VI and VII use of metal parts may be combined with wood work. A limited number may do forging along with this work.

GRADE VII-OTHER WORK

In Grade VII, children who are now familiar with different aspects of early human culture and its relation to modern life, may be told about our primitive iron smelters—the Agaria of C.P. and Asura of Chotanagpore. Iron smelting was probably discovered in India and spread thence to all over the world. The usefulness of iron led to its replacing copper—the metal of Mohenjo-daro culture. Talks may be given on the "modern" metal Aluminium its extraction and uses, in this connection. Through these two metals, the children may be told about modern blast furnaces and modern industry. The development of the spinning Jenny from charkha, in England, and of the machine looms from the handloom may be told and their advantages in large scale production stressed. It should be made clear that such increased production is

to help men to decrease their hours of work for making a living, not for making them go on with the same old hours of work to give bigger profits to others. The great scientific discoveries and the inventions of labour saving machines have been rendered possible through the pooling of human knowledge accumulated through thousands of years in all parts of the world. Indians, Chinese, Africans (including Egyptians), Arabs and Persians, Greeks, Romans, modern Europeans, have all helped at some time or other in the history of culture. No individual or social group or geographical entity (nation) can claim a monopoly of the benefits at any moment of time in this onward flow. This lesson should be clearly taught to the children as the final conclusion of their social studies.

HISTORY—The history of India during the past hundred and fifty years, the rise of nationalism and gradual dawning of mass consciousness should be studied in Grade VIII. Lives of the great leaders of thought and action should form part of the course. The study of the mother tongue, social study and history should exhaust this material.

GEOGRAPHY—A summing up of the knowledge obtained in the earlier grades with some details of economic and commercial geography of the province in particular and India in general will be sufficient.

CHAPTER IX

SELF SUPPORTING SCHOOLS

In their explanatory note on the fourth resolution passed at the Wardha Conference, the authors of the report on Basic National Education state "this good education will also incidentally cover the major portion of its running expenses". Gandhiji had originally stated that "self support is the acid test of all

reality". But shortly after the Wardha Conference, the writer had the privilege of discussing the Basic Scheme with the Gandhiji in the light of his own differences with the scheme sponsored at the Wardha Conference. Gandhiji expressed the opinion that even if education did not become self-supporting, he would be satisfied (to what degree was not stated) if the boys earned something by their work. This view is stated by Shri Kripalani as that finally accepted by the advocates of Basic Education. "They have declared that the craft must not necessarily pay the entire tuition expenses but effort must be made that the work done has some economic value . . . Gandhiji also seems to have no objection to the modification of the principle of economic value of the work turned out. He thinks that if the principle of making work done in the class economically paying is recognised, the rest will depend on the teacher and the management. Shri Kripalani however adds "Recently every educational conference . . . has recognised the principle of imparting education through craft work. But if there is any divorce between this and the principle of economic self sufficiency, the scheme is bound to fail . . . Slowly the handicraft will be abandoned even if as it has been in many experimental institutions in Europe and America. The principles has been recognised but its cost has been prohibitive" (39). The statement that European and American Schools have recognised but abandoned craft teaching as expensive is inaccurate. Hand work and some craft training is an integral part of all modern schools in Europe and many schools in America. The question of "prohibitive expenses" has not arisen in these cases. But craft centered teaching has not been fully accepted for social reasons.

39. The latest fad (Basic Education) by J. B. Kripalani, Allabad 1939.

It is clear that the attitude that there should be economic self sufficiency in the schools has persisted among advocates of Basic education. It is therefore considered necessary to point out certain facts which are often ignored in these discussions. The criticism which was placed before Gandhiji and the Hindusthan-Talimi Sangha in 1938-39 was elaborated and published later. It is quoted below (from the writer's article, already mentioned, in the Indian Journal of Education, 1941). "The fact that in my limited experience, Calcutta Corporation Schools have produced practically no returns" (over expense), "need not be counted as evidence against this scheme. It is however different, when we find that well organised industrial schools in the city, attended by adults—and not by children as in Corporation Schools—require subsidies to the extent of forty to sixty percent from public funds in one shape or another. The experience of Schools in Western Europe where the organisations are older and better linked up with sales agencies, also do not go against these facts. I took the trouble to enquire of teachers of the L.C.C. (London County Council) Schools on this point when I visited them in 1934, (similar enquires were made in Scandinavia and France). Everyone agreed that such manual or vocational work is not self-supporting. The wastage involved in teaching was less in areas where the children came from middle class homes and greater in working class areas", (i.e. in areas where the children did not get any materials for craft practice at home). "The scheduled rate of wastage allowed by the Council was exceeded in the last named areas which certainly are not more backward than our rural or urban working class areas . . . The Hindusthani Talimi Sangha has calculated that each child will have to work daily for three hours to three hours and a half at the craft selected, to earn the necessary amount. As I have pointed out, such sustained labour is injurious to bodily

development. This aspect of the matter has been overlooked by the sponsors of the scheme. In actual practice, even this period of three hours and a half will be found insufficient, "as actual statistics indicate. The difficulty of marketing the yarn, even when the All India Spinners' Association extends its co-operation, has been recognised by the Wardha Board. What they have overlooked is that the price of hand spun yarn as paid for by the All India Spinners' Association is artificial. Congressmen all over India pay voluntarily what may be termed a Khadi tax to maintain this price level. This will not be possible if the output of khadi is very largely increased. A scheme of national education cannot be based on such voluntary taxation. It is also a misnomer to call it self-supporting in as much as the element of payment or contribution by khadi wearers cannot be ignored".

The report on basic education in the Bombay Presidency for 1938-43, quoted in the latest report of the Hindusthani Talimi Sangha (40) states "The disposal of yarn is a vexed question. The handspun yarn does not get ready market and the only agency that can utilise the yarn is the All India Spinners' Association. As the Association is not prepared to buy off the yarn and pay Government the yarn has to be sent to jails for weaving into chair mats." We are also told that "The reports from C.P. and the State of Jammu and Kashmir make no reference to the economic aspect of the experiment"! In the best Basic area (outside Seva-gram), Bihar "an earnest attempt is being made to work out systematically the experiment in all its aspects according to the main outlines laid down in the syllabus of Basic National Education." In a small compact area in Champaran District—a district remembered for Gandhiji's first Satyagraha movement in India-27 basic Schools have been organised. The first

40. Sixth Annual Report, 1938-44.

five grades in all of them have spinning and weaving as Basic Craft and gardening, cardboard, wood, and metal work as subsidiary crafts. "The total number of pupils on the roll in April '44 was 3639 and the staff consisted of 150 teachers, with two supervisors and one organiser." The income from these 27 Schools in 1940 and 1941 are noted. For 1940, the total "realised value during the year of the work of the children in the basic Schools" was Rs. 1124-9-9, after deducting cost of materials. During 1941-42 the net total (deducting cost of materials) earnings were Rs. 2640-4-6, including the price of yarn spun, cloth woven out of it and the garden produce. The relative income under different heads is not given but an idea may perhaps be formed from the fact that cotton and its weaving, cost Rs. 2000/- approximately and seeds account for Rs. 124/6/- in the total budget. It will be obvious that the earning of the children do not form more than a very small fraction of the total expenses on salary of the teachers of 27 basic schools.

The reasons for the failure to make spinning and weaving by the children at School to pay for the major part of the running cost have already been noted in a general way. A few additional details are put down here to remove any misconceptions that may still remain. The present abnormal cloth situation and inflated and changing price of all commodities make it impossible to calculate costs on the basis of recent prices. The only reliable figures are for the period prior to 1941, or even earlier. In those days a mill made dhoti about 9 cubits long would cost less than a rupee and a coarse Khadi dhoti of that size about Rs. 2/4/- or a few annas more. The price of khadi was standardised (more or less) by guaranteeing a certain minimum wage to the spinner. This is undoubtedly very sound and foreshadows the guarantee of minimum wages to all workers under a National Government. But the basic price of all major crops

grown by cultivators and the wages of other workers have also to be fixed at least approximately in any national scheme of basic income guarantee. Otherwise there will be uneven weightage in favour of one group against another.

Another question naturally arises, namely, who will bear the burden of the guarantee of basic wages of the spinner at school or to put it differently, the difference between the price of the khadi and mill made cloth. The Special Officer for Basic Education for C.P. and Berar (under the Congress Ministry), stated at the Poona Conference that "to-day khadi is not current coin . . . and the question how we are to dispose of the khadi produced in basic schools still remains to be solved". The only possible solution has been pointed out by Gandhiji namely that the State should purchase it. This however is tantamount to a khadi subsidy by the Government and must be met eventually by taxation. The amount of subsidy may be roughly estimated as follows:—

According to the Special Officer for Basic Education C.P. and Berar ("One Step Forward") we may expect 450 sq yds of khadi cloth to be woven from yarn produced in Grade I by 30 children per annum if the calculations of the Wardha Committee are right. If we take this as the unit, we find from the different estimates given at the Poona Conference and elsewhere that in Grades I to V the total production will be 15 units approximately. In the Sevagram School, the actual figures for earning by spinning and weaving in Grade I to V are noted for a work period of 2 hours in Grade I 2½ hours in Grades II and III and 3 hours in Grades IV and V. If we reduce them all to a common period of work, the total output with that of Grade I as unit, comes to fifteen. If the figures for production (estimates) given at the Poona Conference are fulfilled, then the unit production will be, per child per annum, the equivalent of

nearly three dhotis (2 $\frac{2}{3}$) about 9 cubits long and 45" wide. Since however the total for five grades is 15 units, the average will be three units i.e. 8 dhotis per annum. This amount of khadi cloth, whether woven at school or by the A.I.S.A. or directly by the Government after purchase of yarn from Schools, will require a subsidy of rupees ten per child on an average. For a class of thirty children this means paying the salary of the teacher by the State.

It is possible to make all the Schools "pay" for the salary of the teachers on this basis; but it means that the State will bear, and hence the people of the country will have to pay in taxes, a sum of 50 crores of rupees for educating 50 million children of age 7-14 in Basic Schools centered round spinning. The cloth produced, about 400 million pieces will naturally have to be sold to the public at the same price as mill made cloth, since it will not be absorbed otherwise in normal times. The actual amount of money that the Govt. will have to pay for purchase of the khadi will be much greater—126 crores—, and it is probable that some expense will be incurred in the process of sale and distribution. But if the State can be controlled to this extent, what is the necessity of this indirect subsidy, and forcing of an educationally less desirable craft on Schools? The real achievement of such a scheme of education will be that every Indian will be wearing khadi in one form or other. This is however irrelevant to Primary Education and can be secured better by making one member of each of the 80 million families spin for two hours a day (41). It would be preferable from an educational stand point to adopt a composite type of syllabus, like that noted in an earlier chapter, and to distribute the products of the school to the children who produce the commodities,

41. Khadi Manual Vol. II, Part IV by Satischandra Dasgupta. The estimate is based on Sj. Satish Dasgupta's figures.

after deduction of the cost of materials. This will emphasise the idea of necessity of economic production as an essential element in the preparation for life. It will also make the children feel that they are getting an adequate return for their work. Complete appropriation of the products of their labour will on the other hand condition them early to exploitation.

The other benefits of Basic Education which its advocates have claimed—such as enthusiasm of children for study, better progress in all subjects, an increased alertness of mind, and on the side of teacher, the preparation of educational material at school,—are all due to the modern methods of education through hand work and social approach, which the Basic Scheme has incorporated. Even if for some reason craft centering is not possible, its substitute handwork and social studies in the purely primary stage is adequate for all these desirable developments. The writer of this paper organised Primary Education in the city of Calcutta, taking up this task when Deshbandhu Chittaranjan Das as the first Mayor of this city laid down in 1924 primary education as the first item in his programme of national welfare work. Owing to the legal position that in Calcutta primary education had to follow in main outlines the syllabus laid down by the Govt. of Bengal, craft centering was not possible. But modern methods of teaching, physical culture, handwork and social studies to a limited extent, were introduced. The teachers were trained in physical Culture, Drawing, Handwork, Child Psychology and Methods of teaching the Mother Tongue and other subjects, and included a fair proportion of national welfare workers. The salary was only Rs. 35/- per month, which amount for Calcutta is equivalent to Rs. 20/1 to Rs. 25/- in any village in normal times. The results achieved in five years time (1925-29) can be best understood in the reports of inspection by officers of the Education Department, Government of

Bengal, and of various English visitors are examined. The Corporation Council was then almost incessantly in a state of war with the Provincial Government. The Chief Executive Officer was in jail for 3 years. Successive Mayors had been incarcerated. The City Fathers directed the Education Officer not to meet the Hartog Committee when they expressed a desire to visit the Corporation Schools. The Education Officer and a large number of teachers also went to jail and were on the black list of the Police. The testimony of the officials and others may in these circumstances be taken as not biased in favour of the Corporation Schools. Nevertheless, the officials found a good deal to praise in these institutions similar to what has been quoted for Basic Schools in the Sixth Annual Report of the Hindusthan Talimi Sangh. The foreign (English) visitors admitted that our best Schools were comparable to the best in their country, and children who passed through such Schools would be able to face any problem later on in life with success (42).

This reference to the work done in the Calcutta Schools has been made in order that there may not be a confusion between the real benefits of the modern elements in the Wardha Scheme, and those aspects of it which do not help education. There is also a danger that some of those who are teaching in Basic Schools or organising them are likely to consider their own experiments as unique and neglect the vast number of educational experiments that have been carried out in different parts of the world at different times including a few in their own country.

Since the success of the Scheme of Basic National Education depends on a very complete control of the State (since otherwise the big subsidy and acceptance of the ideas on which the scheme is based will not be

42. Some details about the excellence of these Schools will be found in *Rebel India* by H. N. Brailsford.

possible), it may be observed that the Controlled State may with equal advantage be used to increase production. With National Government alone can we have such a Controlled State. In such a Government the plans for economic development in agriculture, commerce and industry can be put through at great speed. During the period of transition, until more of everything is available, all national welfare workers will necessarily have to work at a sacrifice. The Education Department of the Corporation of Calcutta was built up with the help of such men. They were given a graded system of pay only in 1930, after the critical creative period had passed. But even in their case, it was not possible to ask all the teachers to work for all times for a mere pittance when everybody else was drawing higher pay and living above bare necessity. Similarly for those who will take up National Education, there will be need of sacrifice, as in other fields of national welfare work. But those who hold the destinies of the nation in their hands should realise that a fixed allowance of Rs. 25/- per month for all times is not desirable; nor will it be found workable for large numbers over a long period. Production as a whole should be increased so that more of all commodities and services may be available to each member of the community. Unless this is ensured within a reasonable period of time attempts to build up through education a spirit of co-operation and of love for fellow men in place of aggression will fail. Prolonged lack of necessities of life without hope of change will break down any attempt at conditioning in the School or elsewhere. To what extent people may be demoralised by need is illustrated only too terribly in Bengal which has suffered from an intense dose of want of every kind for the past two years, following in the wake of chronic poverty.

CHAPTER X

THE WARDHA SCHEME & HIGHER EDUCATION.

“Basic National Education does not concern itself for the present with the pre-school stage or the post basic stage” (The latest Fad—*ibid*). It is not however clear how any system of national education can be planned ignoring the need for higher education. It has been shown earlier (Chapter VI) that the occupations followed by a certain proportion of our earners require special training which cannot be imparted in the primary stage. There are among village children, large numbers with intellectual powers above the average who can contribute considerably to the progress of human culture, if they get the necessary opportunity. Should they not have the necessary openings for a better flowering of their innate powers? We have noted that a more comprehensive education is needed for those who will have to co-ordinate the work of units in co-operative organisations as well as for those who will study the more advanced and complex types of productive work. Since Basic National Education for its success depends on control of the State; and was in fact introduced in certain provinces when Congressmen accepted office as Ministers, the responsibility for such higher types of education cannot be avoided. For reasons which are not clear, however, higher education and its connection with the universal Basic (primary and post primary) education to be made available to all children, have not been discussed by the authors of the Wardha Scheme. Originally, it had been suggested by Gandhiji that Universities and technological institutions should under present conditions be left to private enterprise. The reason given

for this attitude towards higher education was that “those who want the luxury must pay for it and must not oblige the toiling and half starved masses to foot the bill for them” (The latest Fad). The criticism levelled at this aspect of the scheme by our Poet, whom Gandhiji also addressed as Gurudev, is quoted in this connection. “As the scheme stands on paper it seems to assume that education in the true sense of the word may be still available for a chosen few who can afford to pay for it.....It is unfortunate that even in our ideal scheme education should be doled out in insufficient rations to the poor while the feast remains reserved for the rich.....But these defects seem such only on paper for no man loves the children of the poor more than “Mahatma” (43). In actual practice, the Congress Ministries did not stop the grants to institutions for higher education. Secondary education and the earlier stages of University school education (where education up to the Intermediate Standard has not been separated from such work) however have not been attempted to be co-ordinated with Basic Primary Education by the.

Some indication has been given in chapter VI as to how the teaching in primary schools may be followed up to fit the student for his occupation in life besides giving him a general education. Additional details are noted here for the second stage which is usually termed Post-Primary in Europe and in our country as Secondary education. In London this work is done for the more intelligent students in what are known as Central schools. The course extends from four to five years. The pupils are selected at the age of eleven as soon as the junior classes of primary schools are completed. The general educational course includes English (mother tongue), History, Geogra-

43. Message from Rabindranath Tagore to the New Education Fellowship session of the 13th All India Educational Conference.—Indian Journal of Education 1938.

phy, Mathematics, one Foreign language (French or German or Spanish) Practical Science, Art, Handicraft, Music, Physical Training and Scripture. In girl's schools Needlework is an additional subject. Schools which are meant for boys who are likely to do well in technical occupations have a bias in this direction and lay stress on Wood work, Metal work, Applied science, Practical Mathematics and Technical Drawing. In such girl's schools Art, Needlework and Housecraft training is given importance. For Central schools intended to equip children for Commerce, there are arrangements for teaching Shorthand Typewriting Book keeping and Commercial Practice. The type of work done may be illustrated from the actuals in one subject, Drawing :—

Ordinary drawing is done for two years and then technical drawing is taken up. In the third year pupils do letterings, geometrical designs and elementary mechanical drawings (nuts and bolts etc). In the fourth year, advanced mechanical drawings (screw threads etc) and simple architectural designs (arches etc) are done followed by designs of stone and steel building structures. In the fifth year, free advanced work selected by the pupil from designs in stone is done. In one such school visited by the writer in 1934, it was also learnt that formerly the boys used to be trained in the practical class (work shop) specially for a local industry—a big pianoforte industry which had however declined latterly and necessitated changes in the school work. In fact, the local conditions in each part of London and the different circumstances of the pupils are carefully examined in determining the nature of the bias to be given in education. Such training is thorough and practical and given along with the cultural education as noted. It enables the boy or girl to pass directly into a factory, work-shop or business house without serving a further period of apprenticeship.

In France, similar education is given in the Ecole Primaire superieure. These schools teach :—

(a) French language and literature. (b) History (c) Geography (d) Civics and economics (e) One foreign language (f) Applied Mathematics (g) Science (h) Hygiene (i) Drawing and designing (j) Physical education including military training and (k) what may be termed specialised courses in the highest classes in :—

(a) Theoretical and practical work on some industry suited to the locality..
or (b) Shorthand and typewriting, Book keeping, Commercial practice and Accounting.

In these two countries schools meant for fitting the student for entrance to a University are kept separate. It is however being gradually realised in these countries that a multiple bias school is superior to an institution with arrangement for teaching with one kind of bias only. This fact seems to have been realised by the Swedish educationists long ago. One such school in Stockholm inspected by the writer in 1934 was found to have a Physics Laboratory fitted on a standard equal to our B. Sc. pass course Laboratory. The Chemistry Laboratory was equivalent to a well equipped Intermediate Practical Laboratory. There was a fine Natural History Museum equipped on a scale not found even in our colleges affiliated to the B. Sc., standard in Zoology. The Botanical Laboratory was also on this scale. The Geography department had a museum to illustrate the culture of Northern Europe. There were also well equipped workshops where students, without the aid of others built such things as canoes 16' long and fit for use in inland creeks. The institution visited was intended to prepare students for the University, and not merely for entering any particular technical occupation. This point needs special stressing as the Central Advisory Board for Education at one time (before the Sargent Report was

drawn up) proposed to organise Secondary Education on the basis of separate schools for :—

- (a) preparing students for admission to universities in arts and sciences.
- (b) for training teachers in rural areas.
- (c) for agricultural training.
- (d) for training as clerks.
- and (e) for training in selected technical subjects.

The Sargent scheme for primary and higher education seeks to link the two stages in a comprehensive manner, on the same lines as those adopted in Central schools in London. Its merits and demerits are discussed in the next chapter.

CHAPTER XI

THE SCHEME OF THE CENTRAL ADVISORY BOARD

The Central Advisory Board of Education at Delhi appointed two committees, in 1938 and 1939, to report on the Wardha Education Scheme. The Committee sought to slur over certain features of the scheme which educationists had condemned, and adopted those items which appeared in line with modern principles in education. Certain additional and completely different principles were also accepted for the same reason.

The First Committee (1938) thus summarises the Wardha Scheme (44) :—

- It (a) “emphasises education through activity and is not primarily concerned with the production of saleable material”.

44. Reports of the Committees appointed by Central Advisory Board of Education in India—Delhi 1944.

- (b) does not state or imply that the salary of teachers must be directly met from the sale of material made in the School”.

We have seen in an earlier chapter that the Wardha Scheme definitely pivots round the School work producing saleable material which will make the School economically self sufficient. The Committee seem also to have considered “education through activity” as the same as centering education round a craft, although the two are somewhat different. The discussion of general principles in Chapter V has shown that a well integrated curriculum linked with the type of activities in the future life of the student is best suited for his intellectual development and welfare.

The final recommendations of this Committee were (only the major items are quoted).

- (a) “The scheme of basic education should first be introduced in rural areas”.
- (b) “The age range for compulsion should be 6 to 14 years but children can be admitted to the basic school at the age of 5”.
- (c) “Division of students from the basic school should be allowed after the 5th class or about the age of 11 plus”.
- (d) “The medium of instruction should be the vernacular of the pupils”.
- (e) “A common language for India is desirable. This should be Hindustani with both the Urdu and Hindi scripts”.
- (h) The training of teachers should be re-organised and their status raised.
- (i) No teacher should receive less than Rs. 20/ per mensem.
- (k) Basic Schools should be started only when suitable trained teachers are available”.
- (l) to (9) —

In their report, the second Wardha Education Committee (of the Central Board at Delhi) stated even more clearly that the course extending over 6—14 years should be divided into two parts—"the first stage, the junior stage covering a period of 5 years, and the second stage, the 'senior' 3 years". The terminology is borrowed from that in use in the London County Council Schools.

The Committee added further—"that the various types of post-primary Schools (other than the "senior basic" School) to which suitable children may be transferred at the end of the "junior basic" stage, should provide a variety of courses extending over a period of at least five years after the age of 11. These courses while preserving an essentially cultural character should be designed to prepare pupils for entry to Industrial and Commercial occupations as well as to Universities". The Committee also recommended "that suitable courses should be framed for girls attending "senior basic" schools which should include such subjects as cookery, laundry work, needle work, home crafts, the care of children and first aid."

These recommendations make it clear that the Committee envisaged a scheme of education with subjects, age groups, and bias in the end schools, similar to that operated by the London County Council on the basis of various educational experience. Nominally it is still termed "Basic education" but as pointed out earlier, the elements of the Wardha Scheme which are incongruous in such a system are removed by the process known as "rationalisation" in psychology.

In a later report (45) the Central Advisory Board of Education have clarified the position still further—"Basic (Primary and Middle) education as envisaged

45. Post war Educational Development in India—second edition, Delhi 1944.

by the Central Advisory Board embodies many of the educational ideas contained in the original Wardha Scheme, though it differs from it in certain important particulars. The main principles of "learning through activity" has been endorsed by educationists all over the world The Board however are unable to endorse the view that education at any stage and particularly in the lowest stages can or should be expected to pay for itself through the sale of articles produced by the pupils. The most which can be expected in this respect is that sales should cover the cost of the additional materials and equipment required for additional work". "Basic education while preserving its essential unity will consist of two stages The main reason for this division is that at about the age of eleven or twelve with the onset of adolescence certain mental and physical changes occur in boys and girls which necessitates a corresponding adjustment both in the content of the curriculum and in the method of instruction".

Regarding High Schools, where "children who are well above the average in ability" will study, the Board recommends that the break should be at 11 plus. at the end of the Junior Basic Course". The High School course will cover six years". Regarding the function of the High School the Board takes the view that education in it "should on no account be considered simply as a preliminary to University education but as a stage complete in itself".

"The re-organised High Schools should be of two main types (1) the Academic High Schools and (2) the Technical Schools . . . Academic High Schools will impart instruction in the arts and pure sciences, while the Technical High Schools will provide training in the applied sciences and in industrial and commercial subjects".

We have already noted reasons against the division of High Schools into those meant for "Cultural"

studies and those for "Technical" studies in Chapter V. They apply with greater force in this country. Here the age long prestige of the twice born castes (who are economically also better off than the others) associated with their abstention from manual work (such as craft, agriculture etc) has bred a social tradition against technical training especially if it leads away from higher "cultural" education. If institutions for "Academic" and "Technical" High Schools are kept separate, the latter will be shunned to some extent by those who ought to go to them, and there will be a rush for admission to "Academic" Schools. We have also seen earlier that even at higher levels of education, craft work and commercial training are as capable of educative potentialities as pure arts or pure science (c.f. Swedish Schools for University entrance). In this respect the members of the Central Advisory Board seem to have concurred with and followed the lead of the Educational Adviser who naturally turned to the system prevalent in his country, England. It has been pointed out in Chapter I how the English system of education arose on the basis of the social and economic structure of England. It is not however desirable to perpetuate in our educational system our old distinction of the superior and possessing twice borns and the dominated artisan and worker castes. Nor should we continue it in a modified guise by reserving "cultural" education for the so-called elite of society and imparting "technical" (including commercial) education to others. It will nullify one of the most valuable features of the Wardha educational scheme which through introduction of craft in education aims to "break down the existing barriers of prejudice between manual and intellectual workers". (Chapter VII).

The correct plan should be to have in the same High School at least two special courses:—

(a) one meant for those who wish to go in for

Law, or Teaching or advanced research work in Scientific subjects or in Arts and Literature.

(b) the other, for those who wish to go in for a future occupation involving knowledge of applied Science or connected with Commerce.

Naturally most rural High Schools will have arrangements for training in elements of Agriculture and Farming which will include some teaching of wood and metal work. The Certificate at the end should entitle the holder to entrance to Agriculture and Farming courses at the University level. Urban areas will naturally have a greater frequency of institutions with arrangements for training in Commercial and Technical subjects suited to occupations available in such areas. It should however be remembered that the future prosperity of our country will depend on rapid development of power, and industrialisation, and the absorption of 30% of earners now engaged in agriculture, in occupations like Commerce, Industry and Transport. The frequency of Schools with bias towards such vocations should therefore be higher than what we need now in proportion to workers in different occupations.

CHAPTER XII

THE TIME FACTOR

We have noted in the preceding chapter that the First Committee of the Central Advisory Board of Education, presided over by Mr. B. G. Kher (Congress Premier of Bombay at the time) and including educationists of standing like, Dr. Zakir Husain and Dr. S. P. Mookerjee, re-commended that "Basic Schools should be started only when suitable trained teachers

are available'. From this proposition the Central Advisory Board of Education presided over by Sardar Sir Jogendra Singh and guided by Mr. John Sargent, had deduced the following corollary: "In view of the practical difficulty of recruiting the requisite supply of trained teachers, it may not be possible to complete it" (universal compulsory and free education for all children between the ages of six and fourteen) "in less than forty years". This statement is all the more remarkable as the report of the Board opens with the following quotation from the White paper containing proposals for post war expansion of education in Britain :

"Upon the education of the people of this country the fate of this country depends". This was written with regard to Britain with nearly 100 per cent literacy and a well organised system of national education.

We have noted in Chapter II that in 1915, the state of education in Tsarist Russia was only slightly better than in our country in 1944-45. Also in the Central Asiatic dependencies of the Russian Empire, literacy was barely one per cent. In 1939 however, not only were all children of school going age in Russia proper at School, but literacy in areas like Uzbekistan, Turkmenistan and Kazakhstan had risen as high as 60% to 76 per cent. This progress has been achieved in the course of twenty years, at the commencement of which Russia had less industrial resources or national wealth than India at present. Nevertheless we find no attempt on the part of any of the signatories to the report to expedite the spread of education in the light of such experience in far more backward countries in Central Asia.

Experiments to train teachers while actually at work and thereby expedite expansion of primary education in the city, even in the absence of trained teachers were carried out in Calcutta, with success,

during 1925-35. The method adopted has been described in reports of the Education Department of the Calcutta Municipality, in an address delivered at the All India Educational Conference in 1933 and published in its report, and finally in the Report of the Education Officer on reorganisation of education. It would appear that those who conferred to decide the "fate" of our country, were equally ignorant of these experiments carried out at home. These are described below (46). For training "the ordinary practice is to grant leave on full or reduced pay for a year to the teacher and send him to a normal School or College where he gets a course of theoretical and laboratory training along with a certain number of demonstration and criticism lessons. The defect of this system of training apart from its heavy cost is that the period of training is spent away from School teaching for which it is supposed to prepare. Practising Schools are intended to remedy this defect. But as has found in the case of Government Guru training Schools, they have a tendency to melt away under the influence of too many Gurus in training. For this reason Normal and other training Schools take a very limited number of pupils. This of course increases the cost of training still more, and makes it impossible to extend training facilities". "In Calcutta we were faced with this difficulty and got over it by running the training School so as to allow the School teachers to attend it while working in Schools. As the hours of work in our Schools are from 10-30 A. M. to 4 P. M. the hours of the training School were fixed from 6 P. M. to 8-30 P. M. Only theoretical work and practical work other than teaching is done during this period. Demonstration lessons and other lessons requiring practice in an actual class of children are given in the

46. Quoted from Some problems of primary education by K. P. Chattopadhyay 1933 (ibid).

afternoon in the Schools to which the teachers are attached."

"It is suggested that in each province, training Schools on similar lines be started in every district headquarter, and important town.....As however such attendance will not be possible for teachers working in Schools in rural areas not within a short bus or railway journey to the training School after School hours, certain special arrangements will have to be made." The lines on which such arrangements were to be made were also indicated to some extent in the same article.

As the plan for training teachers will depend on the number needed for work in Schools, and the earlier paper was written for primary Schools only, revised figures for detailed work are noted in the next section, for the province of Bengal. Other areas can also work on the same lines and the necessary calculations can be easily made by any interested person.

NUMBER OF SCHOOLS

The population of Bengal in 1941 was 60 millions. It remained near that figure by the end of 1944 owing to the heavy mortality of the famine of 1943 and its aftermath of epidemics in the same year and early in 1944. In the absence of exact figures for 1946, we may use this number of 60 millions as the basis of our calculation.

The proportion of children of age 6-11 is a little less than 12 per cent of the total population. We may take the total number of such children as 7 millions. Of this number probably 3 millions are at School now (in recognised primary Schools and primary sections of other Schools). The distribution of population and hence of children at School is not however uniform. In some of the border tracts and tribal areas, the density is much less than elsewhere. In the 77 thousand

square miles of Bengal there are 84 thousand villages. This works out at one village of average population of 714 in every 11/12 square mile and 91 children of age 6-11 per square mile (with a density of 778 individuals).

In each School we should have the full complement of scholars in all five classes drawn from the age group 6-11. If 40 is taken as the limit of a class, we need 200 children per school. We have therefore to start one School for every 1700 of population approximately or two Schools for every 5 villages. There will be needed 35000 Schools of this size for the entire population. In such a distribution, the Schools will be about 2 miles apart or less. In the urban areas the Schools will be closer and larger. But about 10 per cent of the area is thinly populated, having a density of less than 400 individuals per square mile.

In Jalpaiguri in North Bengal and in the forest tract of Khulna in Central Bengal for example, the density is of this order. In such areas a full sized School will require a much larger area, and the units will therefore be too far apart for children in the lowest classes. In such places, smaller Schools with three classes of 40 pupils each may be organised for every 1000 of the population. These will be about 2 miles apart. Of these Schools again, each alternate one may have the full complement of five classes. The older children will be able to walk the extra distance without difficulty.

TEACHERS—

For 35000 Schools we need 175000 teachers. Since in sparsely populated areas we shall need smaller units and hence more teachers, for the same number of pupils, we have to add this figure to the total for teachers. Since 10 per cent of the areas will need such an arrangement, a little calculation

will show that this extra number will be 6300. Hence the total of teachers required will be a little more than 181 thousand. Adding a 10 per cent leave reserve, we obtain the approximate figure of *two lakhs* (actually 700 less) for 37500 Schools.

The number of trained teachers employed in primary Schools in Bengal in 1942, according to the Report of the Education Department of the Government of Bengal, was about 40 thousand. If we appoint all these trained men under the new arrangements proposed, we shall have on an average one trained teacher per School. We can arrange to train the remaining 160 thousand in 20 years at the rate of 8 thousand per annum.

For success in training, it will be necessary

- (a) to appoint Intermediate Examination passed men as Head Masters.
- (b) to appoint as assistant teachers persons who passed the Matriculation or an equivalent examination or read up to the Matriculation standard and have had some experience in teaching.

It will also be necessary to start a large number of Training Centres, to enable us to train 8000 persons annually.

A convenient unit for a Training School (=Centre) is one with 100 students in training. In order to be able to organise compulsory primary education in five to six years time, it will be necessary to appoint teachers at a much higher rate—actually at four times the pace at which teachers will be trained. The first preference will have to be given to Schools round Training Centres in the matter of trained teachers until a certain number of them have two trained men of calibre above the average out of five members on staff. This is essential for success of the Scheme of training, as will be apparent from the details noted in the next paragraph.

Since each primary School in the neighbourhood of a Centre will send only 3 teachers to receive training, we shall need to use 34 Schools to get our required number of 100 students at the Centre. The limit of distance from which a teacher can come to the Centre after School, or before it (as convenient) is 4 miles at most. This means that the 34 Schools should be situated within an area of (11×4^2) 50 square miles. On the basis of a population of 1700 for a School of 200 children, we need about 57 thousand people in this area with a density of 1156 per square mile.

Apart from Calcutta, three other cities—Howrah, Dacca and Bhatpara have over a lakh people. Besides those there are 47 towns in Bengal with a population of over 20 thousand but below 50 thousand and 14 with populations over 50 thousand and below 100 thousand.

The area of the small towns usually do not exceed 10 or 12 square miles, so that the density is 2500 per square mile or more. We can therefore conveniently locate a Centre in each of the 62 towns referred to (the average density over 50 square miles is of the order noted) and also a much larger number in Dacca and Howrah, and above all in Calcutta. The smallest size of a Centre will be one for 100 students. But in Howrah, and Dacca we may have units for 200 teachers in training, as the density of population is sufficiently high. In Calcutta we may have seven such big Centres. We may prepare our estimates however on the basis of 100 per Centre. The larger units will be more economical and hence it is permissible to adopt this simplified calculation which will give a slight overestimate.

A Centre for 100 teachers will require twelve trained Teachers three of whom may be termed trained Supervisors. Counting larger Centres as equal to two units, we shall need 80 such units. The curriculum to be followed is described at the end of the

next chapter along with that for other Training Institutions.

The teachers in training will work in the primary Schools (34 Schools per Centre) near the Centres during the period of training in permanent as well as leave vacancies. On completion of the period of training, these teachers will be sent out to distant areas, and a new batch of untrained men taken in their place. The teachers (in training) will get their lessons in teaching by Practice lessons under supervision and Demonstration lessons also, at their own Schools by the trained staff of the Centre, including the trained Supervisors. As the maximum distance to be covered each way will be 4 miles for only a few teachers living near the periphery of the 50 square miles limit, most of the students in training will experience no difficulty of attendance. Since the 100 teachers will be divided into batches for convenience, some special arrangements may be made for those coming from greater distances. By proper adjustment it may not be necessary for them to come more than three or four times a week to the Centre. These 34 Primary Schools for each Centre may also start a little later than others of their kind, if the Training classes are held in the morning, or they may start a little earlier and close earlier, if the Centre requires the attendance in the afternoon.

As noted earlier such a system has been worked with success in the case of Primary Schools in Calcutta since 1925. Starting with very few trained teachers and only 2 Schools run by the Municipality, it was possible, in five years time to reach the limit of voluntary attendance for the city and to train enough men and women for the effective introduction of modern methods of teaching in all the Corporation Free Primary Schools which then numbered 214 with 26560 pupils on rolls (Corporation Schools had one teacher per 30 pupils which was the size of a class).

It is obvious that the Training School Staff will

have to pay regular visits to the Schools linked to each Centre. If each teacher and Supervisor (excluding the Principal and one other teacher) pays only two visits a week to School they will secure thereby a fortnightly Demonstration lesson or Supervision of a lesson for each School where a teacher is employed (usually 3 per School). Roughly, half a day will be spent in a School on each occasion. It will not therefore cause any strain on the staff at the Centre. Actually, the hours of work at the Centre will be about 18 per week. This means 2 hours a week for the 9 teachers and none for the Supervisors. Hence it will be possible for the 7 teachers (excluding the Principal and another) to pay visits to Schools on three days in a week and for the Supervisors for 5 days in the week. This will enable a weekly lesson to be supervised or given in the Schools. Another fact requires to be noted about the schemes of training. It is obvious that near each centre 34 Schools will have annual changes of three fourths of the staff. As this is likely to cause some loss in efficiency, compensation should be afforded by attaching an extra teacher to each such School. The basis on which the total of 2 lakh teachers has been calculated leaves a margin for meeting such needs. At the most another 1500 teachers will have to be appointed. For training this extra number of teachers, over 20 years in 80 centres, we shall need to take only one extra student per centre in training each session. So, no extra arrangements will be needed. The fact that 20 years will be required on this basis to train all the teachers in all the primary schools does not mean that the program of universal and compulsory primary education should be spread over such a long period. A primary school with 2 trained teachers and 3 others can run quite well. We shall have this proportion of trained and untrained teachers in all schools at the end of five years. We can therefore plan for the introduction of universal and compulsory primary edu-

cation in five years instead of forty years envisaged in the Sargent plan on the ground of lack of trained teachers.

PRIORITY

While for success in training the teachers, the areas near Subdivisional headquarters will have to be given their full quota of schools immediately, it does not follow that backward and sparsely populated areas will come last. On the contrary, after say 3200 schools have been organised round the 80 Training Centres (40 per centre to leave a little margin) - and most of these areas already have a high percentage of the required number of Schools—we are left with over 4000 Schools in the first year for other areas, and the full annual quota of 7500 in each succeeding year.

Since there are already a large number of Schools already in existence, the programme will consist of

- (a) taking up a certain number of existing Schools and remodelling them on modern lines.
- (b) starting new Schools.

Areas inhabited by educationally backward communities will naturally receive preference. There should however be no segregation of pupils of any community in Schools. The special requirements of each community should at the same time be arranged for in all Schools. Thus Religion classes when demanded by guardians (usually it is asked for by Muslims) should be arranged. Since however there will be no segregation of Scholars by community, such teaching should be imparted in the first period (full or short period as needed) at School. Students of other communities who will not attend these Religion classes will receive tea-

ching in traditional lore of their community (Hindu in most cases) (47).

BUDGET FOR THE "JUNIOR" OR PRIMARY SCHOOLS PROPER

In rural areas in Bengal, at the present price level (excluding sudden fluctuation) a family of 5 to 6 persons requires Rs. 40/- per month for bare subsistence. Accepting this as the minimum wages of teachers, we need Rs. 480 X 2 lakhs i.e. Rs. 9.6 crores for staff. If we add the 1500 teachers required for Schools linked to centres the total will rise to Rs. 9.67 crores. The Central Board of Education consider that the salary bill constitutes 70 per cent of their estimates of gross expenditure on primary education, the remaining 30 per cent being sufficient to cover interest (at 5 per cent) on cost of buildings, medical service, equipment, and also for School servants and other requirements. Our estimates for Bengal are as follows :—

Building for 34000 School for 200 pupils at Rs. 6000 each (Kutch buildings).	Rs. 20.4 crores
Building for 2000 Schools for 100 pupils @ Rs. 3000 each.	Rs. 0.6 crores

RECURRING CHARGES—

Interest on Rs. 21 crores at 5 per cent.	Rs. 1. 05 crores annually
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- (47) A little attention to details can get over the difficulty of separate schools for Hindus and Muslims. In Calcutta we had Schools attended principally by Hindus in certain areas where Hindus lived and principally by Muslims in their locality but without segregation. Friday was a half day in the latter group of Schools and Saturday a full day instead of the usual arrangement. Holidays were also similarly distributed.

Equipment at Rs. 5/- per pupils (to be renewed in 5 years. Hence one fifth of the amount of Rs. 3.5 crores is shown).

	Rs. 0. 70 crores
	annually
Teachers salaries.	Rs. 9. 67 crores
School servants @ Rs. 25 per School (Part time)	Rs. 1. 08 crores
Total	Rs. 12. 5 crores

If we adopt the basis noted by the Central Board, we have to increase the annual charge by another crore of rupees.

TRAINING CENTERS—

Each Centre will cost us in stipends to teachers in training @ Rs. 4/- per month, to cover incidental expenses—

	Rs. 4800 annually
1 Principal @ Rs. 250/- per month	Rs. 3000 „
11 trained teachers and supervisors @ Rs. 150/- per month	Rs. 19800 „
Two servants @ Rs. 25/- per month	Rs. 600 „
Other expenses (Workshop, laboratory, contingency etc).	Rs. 700 „
House rent of Centre or 5% interest on capital outlay on building	Rs. 600 „
Equipment (to be renewed in 10 years) of Rs. 2000. Hence allowing 5% interest and 10% depreciation.	Rs. 300 „
or say Rs. 30000. per annum	Rs. 29800

For 80 Training Centres ——— Rs. 0.24 crores.

A good portion of the 960 Teachers and Supervisors needed for the Training Centres will be available from the existing B.T. trained teachers. The training facilities now available in Calcutta and Dacca should be immediately expanded and at least two other such Colleges organised in Northern Bengal and Western Bengal. We can then train the full number of men needed for Training Centres in one year. The course will need some modification on the lines followed in the Calcutta Corporation Teachers Training College. A refresher course may also be held during the summer vacation for these men and they may be deputed to it once every three or five years as found necessary. The extra training facilities created in these Colleges will not be rendered superfluous after the first year, as other trained men will be needed for Post Primary Schools. Actually a much larger number of Training Colleges will have to be rapidly built up.

The total charge including all expenses will therefore be about Rs. 13 crores annually.

CHAPTER XIII

POST—PRIMARY SCHOOLS

In the preceding chapter, the organisation of junior Schools has been discussed. We have already noted earlier that the “Junior” classes should be followed by teaching in post-primary classes for a period varying from 3 to 5 or 6 years in schools of multilateral type. The first three years should give a bias towards commercial, general, or technical training as needed in the local conditions surrounding the School. After these three classes should come a final special training for about 3 years for the more advanced and intelligent pupils, ending at 17 years of age.

Number of pupils :—

At first even with the introduction of compulsion.

it is not likely that we shall have immediately more than 80 per cent of the total number of children of age 11 to 14 at school. The poverty of the country side will take a little time to remove and make all such children available at school. Until then we can expect at best 28 lakhs of children in these schools in the first three classes. If we assume that between one fifth to one sixth of these boys and girls will go on for the additional special training, we shall have to arrange for about 5 lakhs of students in this section.

Size of Schools :—

There should be at least two sections in each Post-primary "Senior" class, with 45 students each in an institution of multilateral type. This is therefore the smallest size for such a school. With one section of 50 students in each of the three special classes, we get a unit of 420 pupils. Roughly, we may say that a Post-primary school should have 300 students (if without the special course) and one with a secondary top (the special course) about 450 pupils.

To get 300 students of age 11 to 14 we need a population of 6000 or more. In other words we have to start one Post-primary school for every 8 or 9 villages, for every 8 square miles approximately. This means that at most a student of such schools will have to walk 1.7 miles each way. No hostels will therefore be ordinarily needed for residential pupils. In the thinly populated areas however, a population of 6000 may be spread over 20 square miles or more. In such case the maximum distance to be walked will be higher, about $2\frac{1}{2}$ miles each way which also is not very great for children above 11 years of age.

We have assumed that one out of every 5 or 6 pupils leaving the Post-Primary school will at first go in for Secondary education. This means that to get 50 students in the lowest class of this "top" section, we must have students coming from 3 post primary

schools i.e. over an area of 24 square miles. These adolescent pupils can walk if necessary the limit of 2.4/5th miles each way. Most of them will however have to walk much less distances. But in thinly populated areas there will be one secondary top at first only in every 60 square miles. Half of the pupils of this section will therefore have to be provided with a Hostel. The accommodation needed will be for 75 students in each such school.

Number of Schools and teachers :—

Since (except in the 10 per cent. sparsely populated areas) we shall have each post-primary school with 300 pupils, and every third institution with an extra 150 students the average comes to 350 only. For 28 lakhs of students of age 11 to 14 and 5 lakh older pupils we need accordingly about 9300 schools, of which 3100 should have secondary tops. For the 65100 classes in them we shall need an equal number of teachers and two more per school for special subjects i.e. 18600 extra teachers. Allowing for teachers going on leave etc we shall need in all about 90 thousand teachers.

Budget for Post-primary and Secondary schools :—

On an average the pay in post-primary schools may be Rs. 75/- per month. This means an annual charge of Rs. 8.1 crores. School servants @ Rs. 30/- per month and two per school will cost Rs. 0.66 crores. The total salary bill will therefore be within Rs. 9 crores per annum. The cost of training teachers is given later on; it brings the total to Rs. 9 crores.

The school buildings need have only a pucca floor: the rest may be kutcha. Each such school for 300 pupils will cost Rs. 12000/- in building and about Rs. 3000/- in equipment.

The secondary tops will cost an extra Rs. 9000 for the structure and Rs. 3000 in equipment. Since only

one out of three Post-primary Schools will have a secondary section, this will raise the average per School to Rs. 15 thousand for building and Rs. 4 thousand for equipment. A hostel for 75 pupils will cost Rs. 9 thousand. But only 5 per cent. of the Secondary School students will need them. They will number in all 25 thousand. The total capital outlay thus works out as

School buildings	...	...	Rs. 13.95 crores
Equipment	...	...	Rs. 3.72 crores
Hostels	...	...	Rs. 0.30 crores

The actual capital outlay will be much less as there are nearly 4000 so-called secondary Schools in existence in Bengal. These will have to be taken over and improved. We may exclude the cost of building and part of the equipment in their case. Roughly we shall require full expenses for 5000 new Schools. For these the capital outlay will be Rs. 7.5 crores on building of Schools, and 0.3 crores for all Hostels—Rs. 7.8 crores. Equipment figures may be retained at Rs. 3 crores. The interest charge of 3 per cent. and depreciation and repair at 4 per cent for buildings will call for an annual outlay of 0.55 crores. As the equipment will wear out more quickly and will have to be renewed on an average in 12 years, interest and depreciation will come to about 11 per cent i.e. 0.4 crores per annum. The two amounts together come to about rupees one crore. Adding the salary bill the recurring cost comes to rupees ten crores per annum.

THE PROGRAM—

Our program should be to improve the existing 4 thousand and to start 5 thousand new Schools in the course of the next ten years. We cannot proceed faster, as primary Schools proper must first of all be started for universal compulsory education.

There are now 18 thousand teachers in the existing "secondary" Schools. Of these, a fair number, teaching in lower forms are not even matriculates. We can take over 12 thousand of the teachers now working in "secondary" Schools in the units to be organised for Post-primary and Secondary education, and absorb the rest in various capacities in the Primary Schools. The total number of teachers needed, over and above these 12 thousand will be available from our Universities in Bengal. The annual supply of matriculates and those who pass the Intermediate and Degree examination from Calcutta and Dacca will be quite adequate.

But only 2 thousand of the teachers now in service in "secondary" Schools are trained. We shall have to arrange for training the rest of the staff gradually. As 90 thousand teachers will have to be recruited in 10 years, and only 12 thousand are in service in Schools, our job will be to train 78 thousand fresh recruits coming in at the rate of 7.8 thousands per year, and also 10 thousand of the existing teachers taken over at the rate of 1 thousand per annum. Since a Post-primary School will run quite well if half its staff including the Headmaster are trained, we can spread our program for this work over 20 years. This means that we have to train annually half of the 8.8 thousands appointed each year i.e. 4.4 thousands. We must train each year 3200 teachers already appointed, and 1200 to be appointed after giving them training for one year. In the bigger towns we may have training Colleges of 200 teachers and in smaller areas, of 100 teachers. As the course will be more elaborate than for the staff of junior primary Schools, the distance from the institutions from which working teachers will have to come should be less. As there will be nearly 10 teachers per School on an average, and 8 post-primary and secondary Schools in a town of 40-50 thousand inhabitants, including its suburbs (and distributed over 16 to 20 square miles) we can take 40

working teachers in a Training College in each such town. In cities with 60-70 thousand people we can take 60 working teachers. With a population of a lakh or more in a town, the full unit of 100 may be run on this part-time attendance basis.

We shall need to organise 4 big Training Colleges in Calcutta each with 200 such students. For economy in capital outlay, they may work in two batches one coming in the morning and another in the evening. Howrah and Dacca may also train 200 such students in each city. It is possible to select at least four other big towns with a population of near about 1 lakh where training units with 100 students (working as teachers) can be organised on this basis. In each of these 10 Colleges the buildings can also be utilised in taking 100 other trainees each in the daytime, from among new recruits, selected for future appointments.

Besides these 10 institutions, we can organise Colleges in 10 other towns where 60 working teachers can be taken, along with 40 recruits to be appointed after training. We can also organise 25 other Colleges in smaller towns including District Headquarters (see Census of Bengal, 1941 for a list of these). Each of them will train 100 students annually, of whom 40 will be School teachers working in the neighbourhood. The other 60 will consist of candidates selected for appointment. As all these places will already have had Training Centres organised for Primary School teachers, it will be mutually helpful for both the types of training institutions to be located close together and to collaborate in the use of workshops and laboratories.

Most of the moderate sized towns of Bengal are growing and it will gradually be possible to develop these Colleges in another 10 years to train larger numbers of working teachers and raise this figure to 4400 per annum. This will supply the demand for more teachers for Post-Primary Schools who will be needed, after Primary education has become universal and

compulsory, and Post Primary education having reached the 80 per cent. limit passes it. As it is, the scheme of training leaves a reserve of 700 per annum available for appointment in Post Primary Schools (and to cover failures).

BUDGET—

Staff needed for a Training College for 100 students.

1 Principal	...	Rs. 500
7 Teachers of subjects		
@ Rs. 200 each.	...	Rs. 1400
1 Drawing teacher	...	Rs. 200
1 Crafts instructor	...	Rs. 200
1 Physical instructor	...	Rs. 200
Servants 3)	}	...
Sweeper 1)		
Other expenses	...	Rs. 80/- per month.

Rs. 2700/- per month

Capital expenses ... Rs. 70 thousand

Interest and depreciation charges at

7 (interest 3) per cent ... Rs. 4900/- per annum

The expenditure comes to Rs. 373 per student per annum. To this we have to add a sum of Rs. 120 per annum for a small stipend of Rs. 10/- per month to the students for incidental expenses. Roughly we may take the cost as Rs. 500/- per head per annum. Hence for 5600 students in all types of Training Colleges, the cost will be Rs. 28 lakhs. We shall also have to find 45 first class men for Principals of our Training Colleges and 510 other good teachers to help him. First rate Drawing and Crafts instructors are also not easy to obtain. The four Training Colleges in Calcutta and the two in Howrah and Dacca may devote special attention in the first year to train the nucleus of the other Training Institutions with the help of existing talent in this country. It may also be found necessary later on to

send some of the Principals to visit similar institutions abroad for a short period of three months. An experienced worker can learn far more in a brief term like this than a young student who goes to Europe or America just after taking his degree here, in a whole year or even more. In fact the younger man due to his lack of acquaintance of the practical details and difficulties of day to day work here, will never note many important improvements which would otherwise have been observed by him in such institutions in the educationally advanced countries. We should not however wait for such experience before starting work.

Arrangements may be made in collaboration with the Government School of Art to train immediately near about a hundred Drawing and Crafts teachers over a six months course. The Drawing teachers should preferably learn also handwork of the type known as small sloyd. The Crafts teachers should learn Wood work and Metal work or Textile weaving, Dress making and Embroidery. Either the Government School of Art should be expanded by adding special sections or a separate College for Crafts teaching organised. The lines on which the most famous Training College of this type—the August Abrahamson foundation of Naas—is run may be described for guidance.

“The training courses are meant as continuation courses for special training of teachers. They are held from June to August; one or two subjects are also taught in winter”. At the time of visit to the Institution in August 1934 by the writer, the courses included (a) “Pasteboard work (b) Wood work (c) Metal Work (d) Drawing, (e) sloyd work for girls—Weaving, Housecraft, Embroidery—(f) Games and athletics, (g) Pedagogy and Psychology. Students have to take the classes in handwork—one at a session and also the physical training course”. . . . “Essentially, the Naas system of sloyd training is worked out

through a series of objects technically termed “Models”. These begin with some exceedingly simple object or objects” such as an oblong frame, with a screw hook for hanging keys or tooth brushes. No special skill beyond planing and sawing is needed to make it. “The models are so arranged that each represents some slight advance upon the one that preceded it in the course—either some new tool, or some new use of a tool previously employed being introduced in the making of it. It is also strictly ensured that each object is completely the work of one pupil. Help in construction of the model is not permitted on the actual piece on which the pupil is working. Whenever it is necessary for the teacher to show the pupils how any part of the work is to be done, he demonstrates this, not by doing a portion of the pupil’s work for him but by showing it on another piece of the same material. Another point insisted upon is the accuracy of the work. The model constructed must be exactly to scale.” “To ensure that the models do not degenerate into formal pieces of work and that they really lead up to genuine crafts, contact is maintained with actual craft work. It is ensured that every article made is worth making and by rotation the style or works in different parts of Sweden are introduced through and incorporated in the models.” In later developments in Training Colleges elsewhere in Sweden, notably at Upsala and in Lund more stress is laid on free work. Here also the standard was very high. The Upsala and Lund training colleges are however not meant for training Crafts teachers only; but this subject is an important part of the training course. For physical Training also, the existing Government School of Physical culture may be expanded and reorganised. Some idea of the type of training needed may be obtained from following description of the Gymnastikhojskolen of Niels Bukhs at Ollerup in Denmark well known in Northern and Western Eu-

rope for its modification of the Swedish system of physical culture. The Swedish system of Ling with modifications still forms the basis of physical training in these parts of Europe. "Broadly, it follows the Swedish system but there is less apparatus and less formal exercises "Curriculum: Anatomy, physiology, Theory of Gymnastics, Games and Swimming." "The terms are

For men—Winter 5 months

For women—Summer 3 months."

"Apart from Physical Culture there are some arrangements for general education. It may in fact be called a Physical Culture Institute which has incorporated some of the ideas of a Danish Folk High School, and seeks to stimulate the mind as well as the body" (48).

It may be noted in connection with the training of physical instructors, that great difficulty was experienced also in this respect when the scheme of primary education was taken up in Calcutta. The teachers who were trained in Government Schools knew only commands in English and the Zulu games and cries then used in the Baden Powell system of Boy scouting. Experiments had however been conducted by a teacher who was also a political worker of influence, Mr. T Ganguly, on commands in Bengalee and scouting on national lines. The Seva Samiti system had not appealed to him as it also needed modification. In collaboration with the writer a good workable system of commands and signalling in Bengalee was developed by Mr. Ganguly under the auspices of his own scout organisation the Tarun Sangha. The first Director of Physical Education Government of Bengal Mr. Buchanan also experienced the same difficulties on his appointment and came to the Training Centre organised by the Calcutta Corporation for help and

(48) The quotations for the Institutes at Naas and Ollerup are from the writer's Report on Schools in Europe mentioned earlier.

guidance. Some of Mr. Ganguly's ideas and improvements have been incorporated in the Government school and also in many physical culture organisations in Calcutta and its suburbs. More however remains to be done. (49)

The simpler forms of exercise practised in our own country, Physical drill suited to children and adapted from the Western European system, and Scouting on the lines developed by Mr. Ganguly formed the major portion of the course of training for the teachers in Corporation Schools. Some of the useful elements in the Bratachari drills and dances were also incorporated later on for work in schools by such trained men. There were no separate physical instructors in those institutions.

These details are noted as it has been observed again and again that blind copying of physical drill and Scouting as prevalent in England or America is still widely prevalent in Secondary schools and physical culture clubs.

Curriculum of Training Centres and Colleges:—

In the Training centres for primary schools, it will be found necessary to include the following subjects:—

- (a) Mother tongue
- (b) History of social organisation and evolution of culture
- (c) Child study and methods of teaching
- (d) Handwork
- (e) Physical training
- (f) Drawing
- (g) Nature study (Biology) and Hygiene
- (h) One other academic subject as needed.

(49) A description of the methods of drill, signalling and games will be found in (a) Drill sekha by Tinkari Ganguly, Calcutta 1928 and (b) Katha sekha khela. For reasons which are obvious the Government Department has never formally acknowledged their debt to Mr. Ganguly or the Education Dept. of the Calcutta Corporation.

The subjects will need, each, a separate instructor, and also one as reserve. The teacher in Child Study has been shown as taking the lead with regard to Methods of teaching. But in this respect each of the other men will also have to be quite competent. The Drawing and crafts teachers and the Physical Instructor should also be men who have received general education in pedagogy. The details given with regard to crafts Training and physical training make it clear that this is considered to be the aim of such Institutes in our country. The present practice of employing much less educated men, who know Drawing or Drill or some Craft in our schools is borrowed from the corresponding antiquated English practice, and results in unsound teaching, of these subjects. This pernicious system developed in England and also in this country owing to the same reasons—the looking down upon manual work by the “upper classes”. In Scandinavia, especially Sweden, the outlook with regard to Crafts teaching and Physical training is very different. There it is not unusual for the Headmaster of a Primary school to take classes in both these subjects, besides one “academic” subject. The prejudice against Physical Training and Crafts teaching was fairly strong among teachers in the Calcutta Municipal Schools at first and was overcome only by rousing the teachers’ intelligence by a special series of talks at conferences indicating the importance of these subjects in developing the child in body and mind. Eventually it was not uncommon to find the Headmaster taking the physical Training class and proudly leading his school troop in the big central rallies that were organised from time to time.

Training Colleges:—

In the Training colleges the curriculum should include as compulsory subjects (a) Mother tongue in-

cluding literature (b) Cultural Anthropology (Social history and evolution of culture) (c) History of India and Political Geography (d) Psychology and Pedagogy (e) Drawing (f) Handwork (g) Physical training and any one of the following:—

- (h) Physics and Chemistry
- (k) Biology and Hygiene
- (l) School gardening and Agriculture
- (m) Physical and economic Geography.
- (n) Civics and Economics
- (p) Commercial practice.

For women Housecraft will be an alternative to part of Handwork. Music may be included among additional subjects to them. Obviously all Training colleges will not teach *all the additional subjects but usually three of them*. The Training colleges will have to establish contacts with (a) Agricultural farms and co-operatives in rural areas and (b) Commercial firms in towns, for practical training of the teachers for a short period. A month during summer holidays should be spent advantageously in special intensive practical work of this type.

We have not noted any provision for the expansion of the Government School of Art and the School of Physical Training as a margin of Rs. 7 lakhs per annum has been left in the budget Rs. 10 crores. It will cover also the expenses of special training of the staff of the Training Colleges here and abroad.

For Convenience, a summary curriculum of the Primary, Post Primary and Secondary Schools is noted in the Appendix in a tabular form.

CHAPTER XIV

The Economic Plan

The end of the Post primary Course for the bulk of the children and of the Secondary course for the more intelligent, brings in the special problem of entering a vocation. For the bulk of the girls who will enter married life two or three years later, practical training and actual practice at home in domestic duties and work round the farm (in rural areas) will be useful. For those who will enter industry, the problem is similar to that of boys. At the end of the Senior stage in post primary education for boys and girls, facilities should exist for a six months course in the particular occupation in which they will be placed.

While the general lines on which occupational allotment of the population will take place has been indicated in an earlier chapter, and the general educational plan harmonised with it, details cannot be given on such a basis. For a detailed plan of education it is necessary to have a detailed plan of economic development based on a survey of the whole of India. Such economic surveys have been carried out in some areas. In Bengal, surveys, on a random sample basis have been carried out by the Department of Anthropology in collaboration with others of (a) Rural Bengal to ascertain the condition of the peasantry. (b) of workers in the jute mills in the Industrial Belt to the north of Calcutta (c) of Municipal Labour in Calcutta and (d) of the Santals, an aboriginal tribe numbering about a million, and living in certain partially excluded areas in Western and Northern Bengal. Certain other surveys have been carried out by the Indian Statistical Institute and the Government directly. Data is therefor available for Bengal on a fairly ade-

quate scale. A plan for development on the basis of Immediate, Interim and Long Term measures has also been published by the writer on the basis of such data (Plan for Rehabilitation—*ibid*). Clearly, the plan for educational development should also fit in with it. Summary of the plan:—

In Bengal barely 8 per cent of Agriculturists now have economic holdings. It has been suggested that some interim relief should be afforded by the State to the peasants who have lost a good part of their land recently through the famine and are now in the group below that owning economic holdings. The specific recommendations were that

“(a) The peasants owning 0—2 acres of land should get back their land entirely at State cost”...

(b) “The peasants of the middle group who own 2-5 acres of land should also receive the capital needed for repurchase from the Government. But it should be treated as an interest free loan repayable over ten years and secured on Land”...

“The land made over to the poor peasants will be considered as belonging to the State although no interest is to be charged for it. It will therefore be inalienable, nor will it be permissible to let it out on share cropping or any other basis”...

“The peasants in any village for whom land is thus restored should be organised into co-operatives with the help of local welfare workers and holdings consolidated by readjustment”.....

“The state should have the right to repurchase for settlement of poor peasants land” from “cultivating owners who had prior to the famine, 100 acres of land” and purchased more during 1943 and afterwards.

There has also been a shortage of several million of plough cattle and very unequal distribution of those available. It was suggested that we might "replace this lack of traction power (a) by importing Cattle (b) stopping slaughter of bulls, bullocks calves and of cows capable of breeding and (c) introducing machinery in place of animals. Neither the normal increase due to breeding nor imports can quickly fill up this big shortage. Machine traction which will be more in keeping with modern methods may be introduced in these circumstances to remedy the cattle shortage. The introduction of tractor cultivation however can be possible only if there is a sufficiently large plot of land, say over 100 acres available. Such large plots of land may be obtained in co-operatives formed by peasants and where facilities exist, in large State farms.

There is also a moderate area of reclaimable land which local peasantry, with some State help, can take up if properly organised. Such work has actually been done by a number of peasants' organisations with some help in cash from Relief Committees. Work on a larger scale will depend on improvement of water ways and building up of irrigation dams which are shown as part of the Long Term Plan.

In connection with the Short Term and Interim Plan, it has been pointed out that the large number of poor peasants—about three fourths of the total of agriculturists,—take land of large owners as share croppers and pay to these persons half the gross crop. The writer recommended that the owner's share (owner who merely lets out the land) should be one fourth of the crop. In that case the actual tiller, after setting aside expenses of cultivation will get 40 to 50 per cent of the gross harvest as his share. Actually the Peasants' Organisations have agreed to accept one third share for the land owner as a compromise. So far however the State has not supported this stand but ruthlessly put down agitation on these lines. Unless

however such protection is accorded, the lot of the bulk of the peasantry cannot be improved, even if a big shift of 30 per cent is made.

With regard to another rural community—the fishermen—it was recommended that "Arrangements be made for restoration of fishery rights" and it was noted that "The fishing community as a whole lives in a precarious economic condition in Bengal, owing to the lack of legal protection It is essential that fishery rents should be settled by legislation. Further, it should be made compulsory to settle fishery rights on actual fishermen and preferably to organised groups of them." It was also pointed out that "boats, nets and other materials must be given (to the impoverished families) either as relief grants or interest free loans repayable over a number of years, according to circumstances. Where the fishermen live in groups of families in their own hamlets, quarters or villages, attempts should be made to organise them into co-operatives or unions Co-operatives may develop in this fashion and will help in purchase and distribution of raw materials as well as in marketing of the catch of fish".

The position of two groups of village artisans was also considered. The largest group—that of weavers—had been the subject of an official survey in 1940. The findings were that "some of them worked on their own looms while others were merely paid craftsmen using looms owned by *mahajans* (money lenders and capitalists). Even among those who work their own looms the greater number receive advances of raw materials or even actual cash to meet their expenses on food and other essentials and have to suffer through high price of yarn or low rate of wages (Bani or piece rate). . . . Hardly 25 per cent are in a position to carry on production independent of the mahajans". The entire extract is from the official report (quoted in the Plan for Rehabilitation) and it adds "In con-

sequence the weaver, lives from hand to mouth." The famine of 1943 accelerated this impoverishment of weavers, as revealed by the survey carried out in 1944-45. It was recommended by the writer that "A proper scheme of rehabilitation must include (a) arrangements for restoring looms to the weavers who have parted with these under stress of necessity (b) organising them into co-operatives in the larger centres for purchase of yarn, and sale of finished products (c) relief grants to enable weavers to live until they have woven enough cloths to earn a month's keep and (d) supply of yarn from Government stores direct to weavers." Where co-operatives of genuine weavers (as apart from Mahajans) exist, the supply should be made through such organisations. It was further pointed out that artisans in general are in such position and that it is essential "to arrange for proper marketing of the finished products in rural and urban areas. In the absence of marketing facilities, the artisan will find his capital locked up and be forced to sell his product to some middlemen at a loss". Here again the remedy indicated, was producers' co-operatives.

It will be clear that for reconstruction of the country side village co-operatives of various types are essential. In the Report referred to it has also been pointed out that for success in planning, we must arrange for complete control of the entire supply of grain grown in the province. Normally, the big land owners, including the jotedars, control the harvested crop. "Poor peasants do not grow enough grain to meet the needs of the family in the matter of food" after selling a part of the crop to purchase cloth, salt and similar necessities, meeting the rent charges and paying off interest dues on debt. The grain loan needed to enable them to live comes from the larger land owners, whose land the others usually cultivate on a share basis. Due to this position, the price of grain has often been sent up abnormally high by the Maha-

jans and Jotedars (often one and the same person) acting in collaboration with traders. The remedy suggested in the Plan for Rehabilitation (tested in a few localities and found to be workable) was to set up co-operative or "State grain golas (granaries) for paddy loans at a low rate of interest.....The grain golas can also serve as centres of seed loans and collective seed storage. In order that rich peasants, jotedars and mahajans and the corrupt element among Government officials may not counteract the effect of these grain reserve stations and the purchasing policy, it is necessary to set up Committees in each village to check up stock and to pool the entire surplus. The Committees should be set up on the advice of the entire adult village population to safeguard against domination by the worst elements. These Committees should allow export of the surplus after the needs of the village have been met. The destination of the grain sold should be notified to the local Committee of the area where it is being sent. The grain golas can have a section for arranging cash loans for agriculturists mainly but also for other rural families. The exact need of the family for example, for raw materials or for cattle may be assessed" by them far more exactly than by others. "Peasants co-operatives in the locality will naturally be linked with such Committees," and cattle and tractor hire overseen by these bodies.

These details of the lines on which the economy of peasants, fishermen, and artisans should be rebuilt have been noted, as also the plan for control over procurement and distribution of food grains as neither educational nor industrial development can take place and hence real political progress be attained unless such changes are made. Plans cannot be made for (a) growth of industries or (b) introduction of primary, secondary and technical education without ensuring that people get enough food and some clothing to ena-

ble them to live while progress in these directions is being made.

LONG TERM PLAN

The Long Term Plan, a part of which has been recommended to be introduced immediately, is now summarised. First come the steps to be taken to increase production of more food. Dr. Burns has pointed out that various kinds of saving of wastage "can only be carried out by collective action." On the positive side production can be increased by (a) irrigation and (b) manuring. In Western Bengal, the rivers are practically now seasonal rain water drainage channels. In Central Bengal the rivers are silted up and drying in most cases. In both cases the need for irrigation as well as power development have to be met by putting through hydro-electric schemes (50). In Northern and Eastern Bengal the rivers need taming and slightly different measures have to be adopted. There also irrigation and power development on a large scale have to be organised. It has been pointed out in the Plan, that such irrigation will "place 4 million families owning land among 'Agriculture, and Agriculture and Labour' group in comfort. The 2.7 lakh families of agricultural labourers who own (some) land will then have.....22 lakh acres of land of non-cultivating owners, available to them for share cropping. This will furnish them more than subsistence as part of their land will also be irrigated. The other agricultural and ordinary labourers will have to be shifted to industry. The population to be so transferred to industry" and transport from rural areas "will num-

(50) The necessary references will be found in the "Plan for Rehabilitation". The potentialities of the Damodar river for power development was discussed by Dr. Meghnad Saha as early as 1943. The official scheme drawn up by the T. V. A. expert Mr. Voorduin is on the same lines.

ber about 30 lakh families i.e. about 16 million individuals with 4 million earners." The number remaining in agriculture has already been noted as 4.27 million families i.e. about 23 million individuals, with over 5 million earners. There are also, probably one million or less of men earning their livelihood as craftsmen, and a little over a million in industry. An equal number are occupied in trade and commerce. Fishing furnishes livelihood to about a quarter of a million earners. Transport of all kinds including that by bullock cart and small country boats used to keep nearly this number in food. But the loss of boats under the Denial Policy and the famine, has sharply reduced this number. With the development of better roads, the balance may be expected to be restored. The professions and public services, including the post of a village watchman under the term, give occupation to another million.

The type of industry and work in which the large surplus population now forced to live on land on starvation basis can be absorbed, and the question of utilisation of power generated, has also been discussed. Textile mills can be built up throughout Bengal and run by electric power. The recommendation was specifically to organise small standardised units to avoid overcrowding.

Iron smelting will have to be increased, naturally in centralised furnaces; "but the making of agricultural implements and machine tools, sewing machines and bicycles, can be decentralised. Even high grade small arms can be produced in such factories. Aluminium extraction may similarly be central but its use in manufacture decentralised." "Chemical manure and chemicals of certain kinds can be produced by use of electric power.....A large number of paper mills will have to be started to meet the demands of universal primary education, for books and for class work.

The sabai grass of Western and Central Bengal and bamboo from the border districts of East and North Bengal will furnish excellent raw material.....The coal distillation products may be used to build up dye factories and fine chemical works in West Bengal. In Eastern Bengal and other areas cotton seed from cotton (of Garo hills) and ground nuts may be used for extraction of edible oil on modern lines. In the coastal belt copra (coconut Kernel) may take their place. Sugar factories and alcohol distilleries may be developed in the central area from Ranaghat to Rajshahi and round about it."

"Sea fisheries can be developed to add to the food supply of the country and welfare of fishermen. Boat building and ship building should go hand in hand with it and will form an important industry in Bengal with her river and coastal transport facilities."

Besides these, labour will be needed for carrying out "a well planned road development scheme to link up rural areas with all weather roads to the administrative industrial and educational areas."

CHAPTER XV

Higher Education.

It is evident from the summary of the Economic plan, noted in the preceding chapter, that co-operative societies of producers will play a very large part in the future village economy. Also, roughly 40 per cent of our Rural population will live by agriculture, 10 per cent as craftsmen and 5 per cent by following the occupation of fishermen and transport workers. Nearly 30 per cent will have to be absorbed in industrial occupations, and connected commercial and transport developments.

Our post-primary schools in Rural areas will therefore have to include bias towards Agriculture in about half their number. The handwork training in wood and metal work will also be useful for farming. The planning of school gardens, crop raising and division on co-operative basis as described in an earlier chapter will have familiarised the student with the concept and working of co-operatives in a general way. At the end of the Post-primary (senior) school, half the boys should be sent to co-operative centres for helping in agricultural operations there and receiving instruction in organisation. Before however this can be arranged it will be necessary to have enough Co-operatives. If political workers of all parties in the villages help to rouse the consciousness of the villagers and indicate the lines on which such economic units should be built we may get together nuclei of such co-operatives in perhaps one village out of ten or twelve. The restoration of land sold and other rehabilitation measures will also be accompanied by such growth. Since there will be one Post-primary school in every 8 villages, and this will also be accomplished in 10 years time, we may concentrate our first batch of these institutions in areas where there is greater political consciousness. If possible these should be near about urban areas where there are more schools. The teachers in Post-primary schools may be used to help in rousing political consciousness. The Training colleges may arrange a short course of economic political training for one or two of these men per school. In this way we can build up small islands dotted all over the countryside, round the first lot of co-operatives, where the peasantry will be familiar with the concept of such societies. We can then improve the quality of the somewhat weak organisations that will have been set up in other villages near those where the first beginnings were made by whole time political workers. Eventually in a few years time, students out of schools will

be able to work in these organisations and spread the idea in their home villages more effectively. (51)

Out of 90 students in the top classes of Senior basic schools about 15-18 will proceed to Secondary sections. The remaining 72-75 will have to be absorbed in vocations. Normally with fairly developed industries we shall have 40% taken on land: at present more—say 36 will pass on to agriculture fishing and such occupations. The training received in practical agriculture in the last six months of the Senior school should be supplemented by some more practice with the help of the co-operative Societies. There will naturally be some difference in the type of work for boys and girls. Also the more promising, numbering perhaps 3 or 4 may receive some special training in the actual working of the co-operative. Even if one boy per school really benefits by this last type of training, we shall have one trained young man in all the villages in 10 years time.

An equal number will proceed to crafts and industry. For crafts, the training in school workshops will be very useful. A short six months intensive course in a Trades school or crafts school will enable the boy or girl to practise the craft with success. For factory work, some familiarity with the type of job is needed. Normally highgrade skill is not necessary in most occupations. Thus in spinning and weaving (cotton as well as jute) mills, what is needed is a deftness of the hand. The training in the school workshop, co-ordinating hand and eye and the habit of sustained work developed there, will be of great value in this respect. The really skilled work is done by machines. The unskilled operatives merely repeat again and again a cycle of quick movements of the hand, supplementing the work of the machine. The ordinary workers do not at present understand the operation of the machine;

(51) The problem of students above the minimum school age is discussed in connection with Adult Education.

if any thing goes wrong the mechanic or supervisor looks after it. So far as doing the unskilled job is concerned, a short course of three months in a workshop-school attached to the actual factories will be adequate. For those working on land, for crafts men, as well as industrial workers it is however essential to continue to have the mind stimulated. The earlier education centering round craft will now demonstrate its value. If arrangements are made for these men to attend continuation schools the intellectual development will proceed further and raise the general cultural level of the country as a whole, through their achievements in all walks of life.

The smaller number of more intelligent pupils studying in Secondary multilateral schools will furnish the future Co-operative managers, Nurses, Compounders, Commercial clerks, and mechanics. At the end of their three year course, they should spend six months as apprentices attached to Co-operatives, Hospitals, Commercial houses and factories. A certain proportion will take to the profession of teachers in junior Basic schools. About 20 per cent i.e. 40 thousand will each year proceed to the University level of training by the time that the program of starting Senior and Secondary schools is completed. Probably 10 per cent i.e. 20 thousand will take to University education at the end of five years and it will rise to the 40 thousand mark by steps of 5 thousand annually. The education at University level will be for Advanced training in Arts, Science, Commerce, Pedagogy, Engineering and Medicine. Normally the course should be for three years leading to a Pass or Honours degree. With the training in Geometrical Drawing and in Woodwork, Metal work etc. given in the Secondary Schools, the Engineering degree will fit into a three years' course. The last year should be linked to a nursery workshop attached to large industrial establishment. For Medicine a four year's course will be needed. A certain

number of secondary Schools will have to specialise in advanced training in Physics and Chemistry for the Science Course; others will have to see to such education in Biology for the future doctors and nurses. If this specialisation is properly carried out a medical student will be able to finish his course mainly in three years and carry on his work in the fourth year in close connection with the Hospitals needed for health service (see chapter III of Plan for Rehabilitation).

Expenses :—

Each place in the University stage will probably cost Rs. 100/- in Arts subjects and Rs. 250/- for Science subjects and Rs. 500/- for Technical and Medical education. As greater emphasis will have to be placed on teaching of Science, Engineering and Medicine, the average may be taken as Rs. 350/- per student per annum. At the end of 13 year's (10+3) the total recurring cost will therefore be Rs. 4.2 crores per annum.

Types of continuation schools :—

Some idea may be gained of the kind of institution needed, from details of work in schools for craftsmen and factory workers in Europe.

The Monbijonskola in Malmo, (Sweden) for example has two sections (quoted from the writer's Report etc. *ibid*).

(a) "Day classes which are attended by boys and girls of age 15—16 working in factories, one day in the week only, which they get off in batches."

(b) "Evening classes held twice a week,"

"Language, Gymnastics, Music and Typewriting are taught in this section" which is meant mainly for adults.

"The day classes are held from 8 A.M. to 4-30 P.M. with break from 11-30 A.M. to 1 P.M." "Half the time is allotted to theoretical work and the other half to practical work."

"The girls are given the following courses of instruction"

(a) "Mother tongue (b) Citizenship (c) Cooking (d) Housework."

"Boys can take up any one of the three lines noted below."

(a) A course on same lines as for girls.

(b) Business training including shorthand, typewriting and bookkeeping.

(c) Electrical and mechanical training.

(d) Carpentry, Smithy and metal work."

"The course extends over two years and is attended by children who have just left the folk skola," corresponding to Senior basic schools and are not in Secondary or similar schools.

"The training was found to be on severely practical lines, and the pupils are expected to work with a good deal of application. Work was watched in all sections. In the electrical workshop-I found electric irons, stoves, cookers of different types, as well as lamp brackets, all made by boys after training six months to one year. In the Metal workshop tools like chisels, screw drivers or ornamental lamp hangings were found done by boys who have worked only one term of six months."

"In the Carpentry shop quite well made cabinets and chair—with ornamental designs on panels or backs were found." "The sloyd training undergone in primary Schools is obviously of enormous value in making rapid progress here. Every boy makes his own drawings from the set of sketches supplied, introducing variations for free work, and uses lathes machine saws etc as in a factory. All finished products are marketable and sold". . . . "Each group of learners consists of about 300-400 pupils. In all 2000 boys and girls get instruction here". Such Schools are to be found in every advanced country in Europe.

For a completely different type of occupation—of printing and kindred trade—there is a big School in London where "part time day classes for apprentices

are held one half day in each week, in composing, letter press machine, lithography, binding, stereotyping and electrotyping. The students get a day off from the factory or printing house to attend the course."

Evening classes are held for more senior workers. At the time of visit by the writer, there were 3000 worker apprentices on rolls.

It will be obvious from the achievement of part time students working for half-a-day each week, over a year or less that the time period noted for intensive training in a craft for boys and girls out of the Senior Schools is adequate. Actually, two months' time should be enough if 8 hours work is put in each day. But as this will be too much for young lads, the training has been spread out over 6 months. The pupil apprentices may put in practical work for 2½ hours and theoretical work for 1½ hours, thrice a week. The Schools may be utilised for four batches in the day time. If each group consists of 250 students, one such Trade School will train 1000 apprentices. In one year 2000 pupils will be trained. Another 500 can be trained in shorter evening classes, held thrice a week for each batch, and intended to impart training in hand work along with some cultural instruction. This course may be for a whole year. The period of 3 months training for factory workers will also be adequate on a similar basis, as no specialised manipulative skill will have to be acquired. The theoretical classes should not only explain the technique but give a general idea of the work in the factory as a whole. The familiarity with the type of work done should not be restricted to one aspect only of it,—that of the department in which the worker will enter—but extend at least to some of the general processes in operation. The student may spend six weeks in the workshop where he will be trained for the actual work he will do; the other six weeks may be distributed over three other processes.

Technical Schools for actual factory workers may with similar equipment work 6 days in the week, and train 6 batches of 250 students each coming once a week, in the day time. Another 500 may be educated in handwork and general subjects in the evening. In both types of Schools practical classes will be in groups of 25 under a teacher and both kinds of Schools have classes of 125 for theoretical work.

The staff of both types of Technical Schools (for factory workers and for training apprentices) may be as follows:—

One Principal	...	Rs. 500/-	
5 Crafts instructors (Senior)	@	Rs. 200/-	Rs. 1000/-
5 Crafts instructors (Junior)	@	Rs. 100/-	Rs. 500/-
2 Teachers of other subjects	@	Rs. 200/-	Rs. 400/-
Storekeeper, clerk, bearer etc		Rs. 200/-	
Workshop expenses (less recoupment by sale)		Rs. 500/-	
Interest on building equipment		Rs. 300/-	

For 2000 students apprentices Rs. 3400/- per month
or Rs. 20/- per student, for the whole course,

For the evening classes it will be less. For the continuation classes (one year course), the cost will be Rs. 27/- per student. For 50 thousand apprentices and another 50 thousand factory workers of age 15 and one lakh seniors, the total will be Rs. 40 lakhs.

CHAPTER XVI

CHILDREN OVER SCHOOL AGE AND ADULTS.

Children over School entrance age:—

It is evident that when primary and Post primary education is introduced, there will be a large number of boys and girls who are illiterate but of age above 8 or 9. For those up to 8 some readjustment is pos-

sible by attaching a few "helping classes" for these children to get through 5 year's work in 3 years and continue them normally in the Senior school. For children of age 9 and 10 without previous education, evening classes will have to be held on an intensive basis for two years to complete the equipment given in Junior schools. As the children will finish the course while still below 13 years, they may be put in the Senior School and go through at least a part of its course with the help of extra "helping classes". Evening classes of the type described in the previous chapter may be utilised to complete the education up to the Senior stage at least of all these children. The extra cost for this special education will be very small, as there will be saving for such places in the ordinary schools.

For children of age 11 and above as well as for adults, who are illiterate, it will not be possible to attempt securing anything beyond mere literacy for the present. For the adolescents of age 11 to 14 this may be combined with training in the appropriate occupation. They may be given some training in Handwork only and language and Arithmetic, in evening classes held in buildings of senior schools. Later they may be organised into separate batches in the part time and whole time Trade and Continuation schools. Instead of advanced training in crafts, they will be taught the simpler aspects of the same. Also the general classes will be mainly literacy continuation classes.

For persons above 14, adult education proper may be taken up.

Adult Education:—A survey of some parts of Bengal, Bihar and Bombay carried out between 1830 and 1842 revealed that nearly 6 per cent of the populace was literate. The Census of 1931 gave the percentage as 8.2 in that year. The elected Ministers who for the first time enjoyed some real power from 1937, tried to make up for this age long neglect of

education by their predecessors (either British Officials or carefully selected Indian hirelings who accepted portfolios without power). The provisional estimates for 1941 state that 14.6 per cent of all persons between the ages of 10-40 were literate. Whether this is a big "jump in literacy figures" or is merely the result of adroit juggling with figures to present a lower percentage as a higher value by reducing the age limits of the population, need not be discussed. There was undoubtedly greater progress than in any previous quinquennium. The case of adolescents of age 10-14 has already been considered. Deducting their number, the total of persons of age 15-40 comes to about 11 crores. (1941 Census basis). In Bengal the number will be a little less than 2 crores. If the age group 40-50 is included the number will increase.

The best way of helping such adults, who will be mostly workers and house wives, will be to arrange part time schools. The labourers in fields and factories will be able to attend only in the evening. Some educationists seem to think that for rural areas, such instruction should be given in the off season. But for adequate production of food, the plans for irrigation and improvement of agriculture in other ways, besides development of co-operatives, will leave very little such spare seasons. The evening only will suit them.

The 2 lakh teachers of primary schools and 90 thousand teachers in Post primary and Secondary schools, helped by students in the Secondary schools and Colleges can tackle this task in evening classes. By using primers and charts based on modern methods, two year's work will take the adults through what may be considered the equivalent of education in the Junior Basic school (minus craft centering). For adults, classes of 35 students should be the limit per teacher. If all the teachers and some students can be mobilised, one crore can be rendered literate in two years. We

can start on a 6 year's programme, commencing two years after our primary education drive for children. In the first year 2 million adults may be admitted, in the second 3 millions, in the third 4 millions and there after 5.5 million for two years. This will spread the work over 6 years or counting from the commencement of the general educational drive for children, 8 years.

If the teachers are given Rs. 20/- each per month for the extra work and other expenses come to Rs. 40/- per class per annum including primers etc, the cost will be Rs. 16/- per student for the complete course. The total comes to Rs. 32/- crores spread over 6 years i.e. Rs. 5.3 crores annually for this limited period. The actual distribution will be different—1st year Rs. 1.6 crores, 2nd year Rs. 4 crores, 3rd year Rs. 5.6 crores, 4th year Rs. 7.6 crores, 5th year Rs. 8 crores 6th year Rs. 4.4 crores.

A similar non-recurring charge will be required for helping classes for the illiterate children of age 9-10 and part time training of those of age 11-14. The total number of such children (of age 9-14) will be about 5 millions. For the bulk of them two years training will be adequate; for 2 millions another year will be needed. At Rs. 8/- per child per year, the total cost will be Rs. 9.6 crores, distributed over 3 years thus:— First and Second Rs. 4 crores each Third year Rs. 1.6 crores.

Special problems of adults :—

A special difficulty which will have to be overcome with regard to Adult Education, is the comparative apathy of the older people. These men and women have got into settled ways of life and their thought also moves in a narrow rut. Unless they can be mentally stirred up, and an incentive furnished to work and study after the day's labour, attendance in night schools is likely to be irregular. The device of compulsion, adopted for young children will prove unpo-

pular among the adults. With the extension of franchise to all grown up persons such a device will be rejected by those for whom it is meant and who will be in the majority.

The poor attendance in evening classes in India under present conditions may be illustrated by the figures for Calcutta. (52) The average attendance per night schools in 1934 in this city was about 20. Only in one institution where the illiterate adults were also taught a craft, the attendance was over 60. On the other hand, attendance in certain types of night schools was fairly regular, even though the economic value of the education imparted was negligible. Adult Muhammadans for example attended evening classes in mosques regularly to acquire the ability to read their Holy Quran. Night schools proper, for imparting literacy were much less regularly attended by them. The phenomenon is comparable to that observed in the early days of spread of primary education in Britain and America. One of the strongest incentives to adults to acquire literacy was the desire to read the Bible. At the present day the force of religion is waning. Also it will not help to impel the adults to go through the Junior Basic course in two years. Now that transfer of political power to Indians is in sight, the acquisition of literacy may be encouraged by making it a qualification for election to local political bodies. As the adults have remained illiterate through no fault of their own, the bar should be imposed at the end of five years from the start of the educational programme, with wide spread notice at the commencement of the same. Admission to Trade and crafts schools should also be made to depend on this qualification.

One point deserves to be stressed regarding sub-

(52) The figures and facts are taken from the writer's Presidential Address, Adult Education section, All India Educational Conference, 1935.

jects of teaching. The vocabulary in use in villages is very limited. If a collection is made of words in common use by village adults and a primer drawn up giving priority to these, actual literacy for working purposes may be secured in six month's time and lapses from it back into illiteracy guarded by a further drill for another six months. Imparting of literacy, and instruction in Arithmetic needed in daily life may occupy the first term. The other subjects may receive their share of attention from this second term.

As regards stimulation of the mind, the best method is still that first emphasised by Bishop Grundtvig in Denmark and introduced in the Danish Folk schools for adults. "Life and learning," according to Grundtvig "were to go together in such a manner that life came first and learning was to follow." "The positive knowledge they (the Folk schools) give the students during one or two courses of five months is not extensive.....Their object is to enable pupils to return to their daily work with a deeper understanding of human life and its problems" (53). For stimulation of the mind of the older people, the best way is to place their economic problems before them on the basis of facts and figures and indicate the solutions, such as the need of forming producers' co-operatives and local committees for supervision. Examples should be given from local surveys of economic condition and then generalised for the province. A historical study of agriculture and its evolution, and how co-operation has helped to build up human culture from early days will be found to be of great value in rousing the mind. The evil effects of our social and political disunity in the past should also be emphasised. The importance of acquiring literacy to adult villagers for keeping proper accounts of their dues and liabilities, for the ability to read instructions to help them to better their

(53) H. Begtrup *ibid.*

economic conditions, to check up marketing of produce, and reporting of their problems to district or other centres should be stressed in special talks to adults as part of this educational scheme. Finally, as noted before, the right to serve as office bearers on certain committees, and admission to Trade and craft schools should be restricted after a time limit, only to literates.

In actual running of Adult education centres, the writer found it useful to organise as an adjunct to the school, occasional (less regular) bhajan or devotional music, story telling (mainly historical) illustrated by lantern slides, a room for quiet games during the break in classes or on off days, and scouting and physical drill accompanied by a band, for the more active and younger members. Some or all of these devices may be adopted for adult schools. Another factor which was found to encourage adults to go on with their education was appreciation of it by outsiders of position. In the future, when radios are likely to become cheap and electrification will spread all over the country adults in villages may have an hour or so once a week set apart for addresses by prominent people. It is doubtful however if any but a small member of adults in villages can have the benefit of this device, as our aim should be to eradicate Adult illiteracy before a decade. Electrification on a wide scale cannot however come within less than five years.

A different solution has been suggested for eradication of Adult illiteracy, by the National Planning Committee. The calculations made therein are for the whole of India; but this will not render comparison difficult with the suggestions made in this chapter, as the figures for expenses and for staff will have to be modified in proportion to the change in the number of pupils.

The National planning Committee takes the number of illiterate adults in the whole of India as 25

crores. "An intensive drive for mass literacy of adults in units of 50 each in towns of 5,000 population or more; and in smaller units in rural areas, will require the services of at least a million persons giving full time attendance to this job for one year each." "If working hours are staggered, a full working day of 6 hours may be provided for every instructor.....and the programme can be very materially expedited, perhaps completed in one year.....at most 2 years..... Evening classes after working hours or early morning classes before work starts must be the normal practice." "The personnel for giving effect to this item in the National Plan must be found in some system of school conscription of those already educated up to a given standard, say men who have completed the secondary stage of Education. Whether they intend to go up for higher education or take to some occupation, these persons numbering about 2,50,000 in all India drafted into the national social service, as conscripts have hitherto been drafted for military service..... Instructors thus required will have to be given some training for their task in the last year of their High school career. This must be a compulsory course though no examination need be held.....The feeding clothing, housing and transport of these conscript social servants must be found at public expense. This cost should not exceed Rs. 5/- per head per month" (54).

The scheme outlined by the National Planning Committee suffers from the following defects:—

- (a) The removal of adult illiteracy is stated to require the full time services of a million persons; but the personnel needed is later shown as only a quarter of a million, and calculation of expenses has also been

(54) Priorities in Planning by K. T. Shah., The National Planning committee Bombay, October, 1946.

made on this basis. The discrepancy has not been removed or explained.

- (b) By suitable adjustment of working hours, an instructor it is said will be able to take classes six hours a day even in villages. Actual experiments are lacking in support of this speculative suggestion, intended to cover the work all over India.
- (c) The students completing Secondary education are to be given some Training for adult education. At present in Bengal, barely 11 per cent of Secondary school teachers are trained. The bulk of the proposed Adult instructors will therefore have to be trained by persons without training. The position in the matter of trained staff is not much better elsewhere. The quality of teaching in Adult education centres will therefore be very poor. The necessary instruction will not reach the adults in the course of a year or two. Also, every Secondary school will have to arrange for some special classes and hence extra cost will be involved. To use this "conscript" system properly, we shall have to wait until our Secondary schools are reorganised with a large proportion of trained teachers.
- (d) No arrangement is made for helping the Adults to do their work better after such schooling; nor is any mention made of inducements to such persons. The importance of these from practical study of Adult schools by the writer has been noted earlier in this chapter.
- (e) The cost for feeding, clothing and housing of each instructor is estimated to cost

Rs. 5/- per month. As the report was drawn up late in 1945 or early in 1946, it is not understood how this figure was arrived at. Enquiry in village schools and orphanages in rural areas in Bengal indicate that the minimum cost per head during this period, excluding housing was Rs. 16/- per month. For a family it will be less probably Rs. 12/- per capita per adult. It is not likely to be much less on an average for India as a whole. The scheme suggested by the writer in this chapter aims at arranging for proper education of adults, and will cost only a little more than Rs. 16/- per instructor. The teachers in schools working in the day time will find it a satisfactory source of additional income and do the job much better than inexperienced youth conscripted for such work irrespective of their capacity to work as teachers. The suggestions made by the Secretary, National Planning Committee are therefore somewhat unpractical.

CHAPTER XVII

EDUCATION OF TRIBAL PEOPLE

There are at a modest estimate twenty five millions of tribal people in the whole of India. The actual number is larger; but the exact figure depends on the definition accepted for the term "Aboriginal". Many tribal folk have adopted a few Hindu deities in their pantheon, but have kept their social structure substantially unchanged. Strictly speaking a good many of these "Hindu" deities are really very old objects of

worship by the aboriginal or earlier Indian population, incorporated later on by the more advanced groups into Hinduism. The Thakuranis of Orissa villages worshipped by the Santals as well as Oriya Hindus in Mayurbhanj are a case in point (55). The worship of Manasa by Hos of Chotanagpore represents a slightly different phase of the same process (56). It is not proposed to enter into a discussion of the problem of these aboriginals, on the basis of their exact numbers. There is however serious need of attention being paid to their problems, which are somewhat different from the rest of the population in details, though not in general outline.

Although the Wardha Committee as well as the Delhi Committee (Sargent Plan) have drawn up their reports for the whole of India, there is no reference to this special problem, which is not however negligible as it concerns a population larger than that of Maharashtra or of Gujrat and Orissa put together. It is probable that the special needs of tribals had not been realised by the authors of the reports.

The British Parliament when it enacted the Government of India Act of 1935, professed to be deeply concerned about the tribal population of India and provided in sections 52 and 91 of the Act for the exercise of special powers by the provincial Governors in the interest of tribes. Certain areas could be declared "excluded" and "partially excluded" and special administrative arrangements made therein. Earlier the British officials including Governors had enjoyed much greater power in all respects. Nevertheless, beyond taking some steps to render a high rate of interest illegal, and subjecting cases of alienation of land to the scrutiny of higher officials and restricting

(55) Unpublished monograph on Santals by K. P. Chattopadhyay.

(56) A Tribe in Transition by D. N. Majumdar.

such sale not much was done. In those areas where the primitive tribes were still clearing virgin forest and bringing fresh land under cultivation, the Government declared certain areas as Reserves for tribes. Thereby the Government secured the additional revenue which would have formed part of the unearned income of a superior landholder. But like the latter, they remained indifferent to the economic and educational needs of the tribesmen. Thus, while recognising that the Santal cultivator needed occasional loans to help him to tide over crises and the money lender was exploiting this necessity, the State did not organise any Banks or Co-operative or grain gola to help him. No attempt was made also by the State to educate them at a more rapid rate by granting special facilities. Actually the Santal in the reservation Daminikoh was isolated by legislation from his more advanced neighbours. Only the missionaries were given free scope for their proselytising and philanthropic activities. In adjacent areas where such reserve of forest or fallow was not available, the State merely arranged for the appointment of some special officers for tribal administration. None of these men were however given any training as to how tribal cultures might be studied and the administration carried out on Scientific lines. A fair number did not even know the language of the tribes for whose welfare they were supposed to work (57). In the Garo area in Eastern Bengal, the Government officials were so uncertain about the law of inheritance and land tenure that the Department of Anthropology of the Calcutta University was requested to help. A report was drawn up by a member of its staff after necessary field work (58). All this time there had been a Special officer for the tribal folk, mainly Garo, in that area.

(57) Report on Santals in Bengal by K. P. Chattopadhyay (Calcutta 1947).

(58) Garo Law of Inheritance by J. K. Bose, in Anthropological papers Vol. No. VI. Calcutta University.

The Ministers who took up office on behalf of the Congress or the League in 1937, do not also seem to have had any conception of the special problem of the tribes. Thus, in formulating a scheme of primary education for the people of Central Provinces and Berar, no special arrangements were made to meet the difficulties of language and the low level of economic production prevailing among the tribes.

It was found by the writer that the Korku children of Melghat forest were being taught in primary Schools through the medium of Hindi, which is not spoken by these pupils at home. It is the language of the Hindus in the neighbouring areas. Progress in class work was tested by the writer in two such Schools and found to be slow compared to those who spoke Hindi at home. This was not due to lower intellectual capacity of the Korku children. There were also no arrangements for teaching adolescents or primary school leavers the use of modern tools in carpentry, although the Korkus live by timber cutting and fashioning, besides agriculture and are ignorant of the saw or more advanced tools. (59) There was the same ignorance about the economic life of these people. Although the Congress Ministry wanted to improve the condition of the people in the province, they did not apparently realise to what extent the forest regulations were pressing hard on the Korkus. These had no doubt been framed by their predecessors but they had not been changed by the new men (60).

In Bengal, the Santals have been a good deal behind the other people, in the matter of education. In 1946, the writer found less than 4 per cent of the

(59) Unpublished notes of field work among Korkus by K. P. Chattopadhyay.

(60) Economic condition of the Korkus by K. P. Chattopadhyay, 1946.

Santal population in Maldah, excluding children below five, to be literate. It was stated by the Special Officer for the area "that a grant for Santal education was sanctioned some years ago and a number of free Schools started in Santal areas with this money. But this grant has been merged in the funds of the new School Board set up under the Bengal Primary Education Act. This Board is following a uniform policy for the whole of Maldah", without giving any special weightage to areas inhabited by educationally more backward people like Santals (61). The distribution of Schools was also said to be fixed irrespective of density of population. Naturally this also acts disadvantageously in the less densely populated Barind where the Santals live.

The reason for such neglect or oversight of need of tribal people is mainly due to the failure to realise that it is essential to bring these people up to the level of the other folk, so that they may thereafter move along with them as the country marches forward towards a higher level of civilization.

There is an influential School of thought which advocates the view that the tribal folk are culturally part of the Hindus, and should be absorbed. In their view "the so-called Animists and Aborigines are best described as backward Hindus" (62). They admit that the contact with people of advanced culture has not been an unmixed blessing but are of opinion that "Divested of the potentiality of land grabbing, Hindu contact would have been nothing but an unadulterated boon to the so-called aboriginal tribes". Almost diametrically opposed to this conclusion are the views of those who hold that the tribal folk can only be saved by keeping them in isolation. Speaking of the Baigas,

(61) Report on Santals, *ibid.*

(62) The Aborigines so-called by Prof. G. S. Ghurye, Bombay 1943.

a tribe of the Central Provinces, it is stated "The first necessity is the establishment of a sort of National Park in which not only the Baiga but the thousands of simple Gond in their neighbourhood might take refuge" (63). The isolation is to continue "until modern life itself is reformed Perhaps in twenty, fifty or a hundred years a race of men may arise who are qualified to assimilate these fine people into their Society without doing them harm" (64). Obviously, the type of education to be spread among the tribal folk will depend on the hypothesis accepted with regard to these people and their future. If they are just backward Hindus, one should not have any special arrangements for them but perhaps give them more Schools and help them by passing laws of land tenure which will protect them from the greed of money lenders. This School of thought wants education even in the primary stage to be given through "the language of the surrounding people" where the tribes are more or less bilingual. In areas where children do not understand the "local" language, they agree that the tribal language will have to be used. But the upholders of this view believe that soon these tribes "will drop their tribal languages" in as much as "there is very little of value to be preserved in the tribal languages". The other School believes "that the romance and gaiety of tribal life is necessary for its preservation" and would prefer to leave them as they are, until a race of supermen come into existence.

In criticising the outlook of both Schools of thought, the present writer pointed out (65) that "our duty as sociologists and well wishers of all sections of our countrymen, should be to place the best that

(63) The Baiga by Verrier Elwin London 1939.

(64) The aborigines by Verrier Elwin, July 1943.

(65) Science & Culture—February 1945—Review of "The Aborigines, so-called".

T. C. Das—The Purunes—see also Calcutta 1945, Chapter X for a discussion of the problem—

world knowledge has to offer at the service of all; to approach the humbler and backward without any motive of profit or of inflicting our tutelage; neither to look at them with patronage nor admire them through romantically coloured glasses but to treat them as normal human beings who are entitled to live according to their ways of life. We should remember that economically they need safeguards, much more than what they are getting now.'

Any attempt to keep the culture of primitive people completely stationary in a changing world will inevitably lead to their destruction. Every period of transition is bound to cause hardships to those who stick to the old ways. This fact should not however lead the sociologists to speak against social change. On the contrary, it should be their duty to indicate the best way to accomplish their transformation with the minimum amount of travail.

"It would be a mistake at the same time to ignore the immense amount of harm done by persons of advanced culture who seek out the primitive folk only with the intention of making a profit out of them. The injury such a person inflicts is of the same type; on a miniature scale as that brought on colonial people by imperial rulers in the course of their economic exploitation. Any benefit that may accrue incidentally, such as the spread of more advanced methods of material culture, does not justify the harmful effects, in either case and cannot lead any scientific student of culture to approve of the continuation of such modes of contact, whether on an imperial scale or in the domain of contact of advanced people with primitive folk".

Certain special steps have therefore to be taken to organise education of tribal folk:—

(a) Irrespective of whether a tribe is bilingual or not, teachers in Schools for these people wherever they live in sufficiently compact blocks to fill up one

or more institutions entirely with their children should obtain a good working knowledge of the tribal language. This should be the medium of instruction. The local language should be the second language in higher forms.

(b) The economic and social structure of the tribe should be carefully studied, and traditions, songs, dances, details of ritual as well as games etc collected. Text books should be drawn up incorporating relevant details of their life and the links with the surrounding culture. The syllabus suggested in chapter VIII makes it clear that this will not at all be a difficult job for tribal areas.

(c) Wherever archaic and primitive tools are employed instead of much more efficient simple modern tools, the less productive implements and methods should be replaced by improved versions of the same.

(d) Care should be taken to encourage socialised forms of production and distribution which are still prevalent or were so until recently among many tribes. The Santals for example used to hunt (now prevalent in a few areas) in organised fashion in certain seasons and distribute the game killed in a very praiseworthy fashion, to all the units in the village. The actual hunter had a special share, as also those who helped him. But those families which could not send men due to death of adults or sickness were not forgotten. It was customary also to share the kill with certain kinsfolk. Somewhat similar customs are still prevalent or were so until lately among tribes of the same cultural group in the neighbouring areas. It is desirable to encourage retention or revival of such customs and strengthen such an outlook on economic matters.

It is evident that some special training will have to be given to teachers for aboriginal tracts. A reference to the syllabus suggested for primary and training Schools will however make it clear, that a good deal of the culture of such folk will have to be studied and

will be incorporated in the lessons in text books to be prepared for all areas. Hence the extra cost will be a small fraction of that for training teachers and therefore a negligible addition to the total bill for education.

The introduction of more advanced tools and techniques should be mainly carried out through adult Schools, although the primary and post-primary institutions will also have to do their bit. Impetus may be given to this change over by pointing out the greater productive capacity of the modern methods and implements. If the extra gain is not grabbed by somebody else, the primitive tribal folk will not be found to offer much resistance, in most cases to such innovations. Such education will not in any way reduce the joy of life of these folk, as the Schools themselves will have taught them to value the recreative and artistic elements of their culture. Such Schools can be organised here and now, if the teachers are selected and trained properly and have the love of their fellow men at heart.

CHAPTER XVII WAYS AND MEANS.

It is now necessary to discuss the financial aspect of the plan for education. A summary of expenditure required when the complete program of education has been carried out is noted below.

- I Primary education, including training, and showing only interest and depreciation on capital expenses. ... Rs. 13 crores per annum at the end of 5 years.
- II Post primary education including training and interest and depreciation charges. Rs. 10 crores. per annum at the end of 10 years.

- III University education. ... Rs. 4.2 crores. per annum at the end of 10 to 12 years.
- IV Continuation classes for school leavers working in factories etc.. ... Rs. 0.4 crores. per annum at the end of 10 years.
- V Education of children partly over school age. ... Rs. 9.6 crores. total in 3 years.
- VI Education of adult illiterates. ... Rs. 32 crores. total in 7 years. Starting 2 years after the Primary Education drive.

Roughly, this amounts to the following scale of expense at the end of successive years. The expenditure is shown in crores of rupees.

Year	1	2	3	4	5	6	7	8	9	10	Total
I Primary											
Education.	2.6	5.2	7.8	10.4	13	13	13	13	13	13	104
II Post primary											
Education	1	2	3	4	5	6	7	8	9	10	55
III & IV											
University & Workers.	.46	.92	1.38	1.84	2.30	2.76	3.22	3.68	4.14	4.6	25.30
V Overage											
children	4	4	1.6	...	...	...	...	...	...	...	9.6
VI Adult											
	...	...	1.6	4	5.6	7.6	8.8	4.4	...	...	32
Total	8.06	12.12	15.98	20.24	25.90	29.36	32.02	29.08	26.14	27.6	225.90

It is apparent that by the beginning of the 10th year a sum of Rs. 200 crores will have to be spent and provision made for a further recurring expense of Rs. 27 crores approximately per annum. There will be a small return from fees at the University and corresponding stage in other fields of higher education. This is neglected in the calculations as not affecting the plan.

The total population for India is in the neighbourhood of 40 crores. Hence the total expenses for all types of education will come to about $\frac{(225 \times 40)}{6}$ Rs. 1500 crores in ten years and the recurring charge will be near about Rs. 180 crores.

The National Planning Committee has suggested (66) that this money should be found by the state taking over the Rs. 2,000 crores debt of the peasants and charging an interest of 10 per cent while repaying the mahajan 5 per cent as simple interest. Mr. K. T. Shah has estimated the total cost per annum for basic (including post primary) education and adult literacy etc at "Somewhere near 200 crores per annum." My detailed calculations, including the cost of University education comes to near about this figure. We have therefore to find this amount.

The suggestions of the National Planning Committee may first be examined. Here again, the case of Bengal will be taken up for discussion. It has been shown in an earlier chapter that the bulk of our peasantry—as many as 85% either live at a level below that of subsistence or just at it. None of them have any margin left over for repayment of debts. On the contrary, most of them live to some extent on their capital. This is proved by the steady alienation of land from poorer peasants to the rich jotedar and the non-agricultural money lender. To ask the peasant in these circumstances to pay 10 per cent interest on his debt, is

(66) Priorities in Planning *ibid.*

impracticable and undesirable. Many of these men have already paid as interest an amount larger than the principal, and by legislation it has been provided that the creditors shall not be entitled to any further interest. It would be a very reactionary measure for a National Government to rescind this decision and pay 5 per cent as interest to the mahajan and charge another 5 per cent for itself. It has been indicated earlier that it will be necessary for the State to purchase land lost by the poor peasantry and make a gift of it to the tiller, with certain reservations. Rehabilitation of the countryside is not possible on other terms.

It seems to have been overlooked by the National Planning Committee that in Agriculture as well as Industry vast sums of money are being drawn as unearned income and by all canons of justice, these resources should be fully tapped for national welfare. The textile industry with a capital of about Rs. 60 crores for the whole of India, made a profit of over Rs. 365 crores during the past five years 1941-46 (67). This is only one instance of the enormous sums of money which the common people of the India have had to pay to a microscopic fraction of its total population, who are our big business men, and a still smaller number of British industrialists. The Zemindar and jotedar now enjoys a huge unearned income from agriculture. The State now gets 2.5 per cent of the gross income from land. The zemindar gets 6.5 per cent on an average as his net income. The jotedar obtains 41 per cent net as his portion from the share cropper. As early as 1936 the Land Revenue Commission had noted that 21% of the total cultivated land in Bengal was under tillage on *barga* basis. The proportion increased rapidly during the famine year and has continued at a high level since

67. The Indian Textile Industry, by K. K. Desai, M.L.A.

that time. From figures furnished by the Inspector General of Registration to the writer, it appears that three times as many land sales were recorded during the famine year, as in earlier years. During the year 1943-1944, about 7 lakh acres of paddy land being 3 per cent or so of the total was sold presumably due to need. Normally, it seems a little less than one per cent of land changes hand. The Land Revenue Commission has noted that during the ten years prior to 1936, over half of the land sold was cultivated not by the purchasers but by bargadars and undertenants. The share croppers actually occupied a third of the land transferred. If it is valid to use this ratio (and it will certainly give a lower value than the actual), we can obtain a conservative estimate of the revenue which goes to the jotedar in Bengal. During 1936-1946, on these assumptions, there has been sale of 12 per cent of the total land. Of this 4 per cent at least is under bargadars cultivation. This gives a total of 25 per cent of the total paddy land under share cropping. On a modest estimate this area is 64 lakh acres. The average crop per acre being 16 maunds, as much as (8X64) 5.12 crore maunds of paddy valued at Rs. 31 crores goes to the jotedar. His net share of profit is normally 82 per cent of it. As he pays the Zemindar a cash rent the actual net profit is nearly Rs. 29 crores.

The Zemindars now get nearly three times what the State obtains as revenue from land. When the Permanent Settlement was imposed the zemindars had a much smaller share of the income. At first it was fixed at about 9% of the revenue to be paid to the state i.e. 1/11th of it. In his note to the Report of the Land Revenue Commission, Dr. Radhakumud Mukherji estimates that "the zemindars must have taken at least 50 years to increase their share of the collections from 1/11 to 2/3 or 1/2" (68). We shall not be far wrong if

we assume that for about a century the zemindars have had on an average a nett income of about 1.5 times what they paid to the state. At present they have a nett income of about Rs. 8 crores to Rs. 9 crores per annum.

There is no reason why this unearned income of the Zemindars and the profit made by the jotedar should not go to the State. Compensation will of course have to be paid, even though there is no moral justification for it. Part of the profit of the *jotedar* should go to the actual cultivator who now gets on an average 20 per cent of the gross produce, after deducting the cost of cultivation. A fair apportionment of the income would be one fourth for the State and three fourth for the cultivator. This will mean allotting Rs. 15 crores approximately, out of the profit of Rs. 29 crores to the peasant. The State will then have a nett extra income of Rs. 14 crores from this source. Land on which crop other than paddy is raised will also bring in further income. On the whole the extra income from land will be well over Rs. 20 crores per annum including Rs. 8 crores of the Zemindar.

We have indicated earlier that Long Term plans for irrigation and industrialisation should be proceeded with at the same time as other plans. The additional land that will then come under cultivation and also allow of double or treble cropping will increase the State's share of revenue adequately to meet the entire cost of education, after six years. In the earlier period there will be a surplus which will enable the extra expenses of the later part of the six years to be covered.

The question will be raised that there will be other expenses, for Health services for example, for adequate Housing, and for Defence. Also where will the money come for (a) purchasing zemindar's and jotedar's rights and (b) executing projects like the Damodar Valley or Mor river schemes (c) building up new in-

dustries to supply consumer goods and fully utilise the power developed.

In the "Plan for Rehabilitation," two other sources of capital and revenue have been indicated.

I—The Sterling Balance—

This amounts to about Rs. 1676 crores and Bengal can rightly claim a somewhat larger share than other areas, as this province suffered from the impact of the war on its eastern frontier more than any other area, except Assam hills. This share may be estimated at Rs. 335 crores at least (since Bengal has one fifth of the total population excluding feudatory States).

If it is objected that the Sterling Balance has been frozen and is not likely to be available, the remedy is obvious. British assets in the shape of capital investments in India amount to over Rs. 1200 crores. The exact figure is unknown even to the Government of India. This total amount may be frozen as a Rupee Balance of England, and adjusted against the Sterling Balance of India.

In such case it will be necessary to stop at once any sale of such assets.

On an average British capital in India earns well over 10 per cent as profit. In many instances, it is fabulously high, exceeding 100 per cent. If shares given as bonus to share holders and similar devices to show a low rate of profit are scrutinised, it will be found that many concerns which in free countries are classed under the head Public Utility and there not allowed to earn more than 5 per cent as profit, get a nett return of over 25 to 30 per cent here.

The Government of India should purchase these assets outright by adjusting against the Sterling Balance and hand over part of it to our industrialists, on specific conditions, and keep those forming key industries in their own hands. Out of the profits of such State undertakings and also of sale in part to Indian businessmen, the necessary capital can be raised. Such

freezing is necessary for another reason. Indian businessmen who have made huge fortunes during the war not often through impeccable means, are paying fancy prices to purchase British concerns in India. This if permitted will lead to an adjustment of the Sterling Balance against a small amount of British capital in India.

II. Profits of industry.

During the war, an Excess profits Tax was imposed on all concerns. In our war against poverty, ignorance and ill health, we should impose a similar tax. It should in fact go further. The State should define "normal profit" as that which safe guards the stability of the industry, and exercise control over payment to higher staff (which is often exorbitant) ensure living wages to workers and then appropriate the balance as "war" tax.

Reference has been made to the fabulous profits of the Textile industry during the last five years (69). It is evident that even allowing for a profit of 5 per cent, reserve and depreciation of 10 per cent and another 15 per cent for increase in wages, a balance of Rs. 51 crores per annum is left out of the profits. This ought to go to the State for national welfare work and not to a few greedy capitalists. There are other industries like jute, tea, coal, as also banking and insurance where big profits have been and are being made.

In the beginning some of these industries may be controlled and others nationalised but eventually with progress of education and when adequate personnel of the right type imbued with new ideas of national services, are available, it will be found more convenient to nationalise all of them. Experience of attempts to

69. In Madras most of the textile mills made profits varying from 400 to 500 per cent on paid up capital in 1943: Award of the Industrial Tribunal on the condition of Labour in the Textile Industry (Government of Madras Press 1947).

control profits and ensure development of such big industries, without nationalisation, in countries like America and of pre-war France leaves little room for doubt on this point.

The Moral Incentive needed:—

Apart from the urgency of such measures to raise the funds required for implementing the plans for education of the people, there is an equally powerful reason for them. In the plan, the teachers have been asked to work in villages, on what is a minimum subsistence wage. Teachers in higher schools have also been asked to be content with wages which allow of little comfort. How can we expect these people to do their best to educate our coming generation on such terms, if businessmen, zemindars and others are allowed to live in luxury and exercise the power of their wealth? Where the main incentive is the profit motive, only a limited number of men and women come forward for selfless work. Where however the national wealth is equitably distributed for welfare of the people, this type of incentive increases in strength. If the rich can by virtue of their wealth disregard human welfare, as owners of jute mills, of coal mines, of tea gardens, of textile factories, and the big grain dealers have done in this country in the past, and yet be respected and feared, and therefore welcomed as persons of influence and might, the ordinary man who has impulses to serve others on a limited scale, feels dejected and eventually sacrifices his ideals to adopt that of the exploiter, the profiteer and the blackmarketeer. No amount of preaching of idealism can stop the rot if the source of infection is not removed.

The most urgent need of the country at present is to increase its food supply, grown at home. Can we ask and expect the peasant to work harder and raise a better crop, while allowing the jotedar or Zemindar to grab his share of more plentiful harvest? Or, when

he knows that it will go to his mahajan and he will live in chronic poverty? Is any appeal to factory workers likely to succeed, if longer hours and harder work for them means mainly extra profit to the share holders. It will be different if the food grown and goods produced constitute an addition to the national wealth, to be shared by the people as a whole. Our peasantry has organised themselves in Bengal, and in Andhra, irrespective of race and creed and shown how they can reclaim new land, clear and excavate irrigation channels and add to the national dividend by growing more food. The role of the jotedar and zemindar has been, on the other hand to let land lie fallow and to persecute the peasant, rather than concede to the peasant, rights which the Congress as well as the League has acknowledged to be just. Our workers also have come forward in many places willingly to do their bit for public welfare. In the Textile industry, workers in Bombay volunteered to increase production, provided that such cloth went to the public. The necessary condition was not however satisfied. In Calcutta, the Tramway men volunteered to put in extra work to run more cars for the convenience of the public. But the carriages were not available. The common people understand plain and simple talk, and obvious facts. If the State takes obvious steps to ensure that the wealth produced in the country is kept for the people as a whole, it will be possible to ask every one to make sacrifices in the interest of national welfare. The success of the scheme for educational development (as also of economic improvement and health services outlined in the earlier work) depends therefore not merely for finances (which is essential) but also for the driving power which is essential to put it through, upon the various definite proposals for control and nationalisation made earlier in the chapter.

Such control and planning by the State for production and distribution does not constitute an infringe-

ment of the liberty of the people. They will not keep them in idleness nor in tutelage. On the contrary such measures will put an end to the predatory activities of the small minority who have so far unjustly appropriated the products of labour of the rest of the population and thereby deprived them of economic freedom. If the proposals for setting up Peoples' Committees in villages and towns are given effect to, the people will be closely associated with their own National Government which will then really be a Government of the People, by the People, for the People, Only such a State can carry through the necessary economic and educational programs essential for building up a free and happy India.

APPENDIX ON WEST BENGAL

The area of West Bengal is 28 thousand square miles being 36.2 per cent of the whole of Bengal and its population is 2.12 crores being 35.14 per cent of the total of 6.03 crores. The density of population is 756 per square mile as against 779 for the whole of Bengal. The relevant figures for West Bengal for its educational program are:

No. of children of age 6-11	No. of Primary Schools needed to be appointed	No. of Teachers	Distribution
2.5 millions	13200	70 thousand	As for Bengal, since average density is nearly same

The latest reports available in the Education Department of the Govt. of Bengal do not contain exact figures for West Bengal in 1947. They show however that the number of trained teachers in Primary Schools in Bengal as a whole has remained at 40 thousand. Assuming that they are distributed uniformly through both parts of Bengal, we may plan for

Teachers to be appointed annually	Teachers to be trained annually	Training Centres needed @ 100 per centre
14000	2800	28

Details of Training Centres.

Calcutta	Howrah	Other Towns
7 centres for 200 each	1 Centre for 200	12 Centres for 100 each.

Expenditure at end of fifth year — Rs. 4.6 crores.

Post Primary Schools:—

No. of children of age 11-14 likely to attend Post Primary Schools	9.5 lakhs
No. of children likely to attend Secondary Tops	1.5 lakhs
No. of Schools (Post Primary) 3100 Schools and 1000 with Secondary tops	31000
Teachers needed	31000

Teachers to be appointed annually.	Teachers to be trained annually	Training Colleges needed	Calcutta	Howrah	Other towns
3100	1500	4	1	6 for	
		with 200 students each.	with 200 students	100 students	each,

Expenditure at end of 10th year — Rs. 3.5 crores.

University Education—Students will number 45000 eventually in the three-four years course, excluding Research workers and the cost will be Rs. 1.6 crores at the end of 12-13 years. As the bulk of the industrial population is in West Bengal and industrialisation is expected to proceed rapidly here, the expenditure may be taken as Rs. 30 lakhs annually for crafts, continuation and similar Schools for workmen.

Adult Education Rs. 11.5 crores in 6 years non-recurring

Children above School age (extra helping classes) Rs. 3.4 crores in 3 years non-recurring.

Total: Rs. 10 crores for recurring expenses when the entire scheme is in operation.

Expenditure to be incurred in 10 years prior to this.....about Rs. 70 crores.

The statistics for area, and population have been furnished by the Indian Statistical Institute.

Primary Course

Age at entrance	Class	Mother tongue	Writing	Outline filling etc	Drawing	Arithmetic	Habit training	Drill & games	Cub training	Object lesson and Nature study	Gardening	Hand and eye training	Handwork	Sewing (girls)	Cookery (girls)	Music	Practical Geometry	History	Geography	Hygiene	Religion	
9+	I	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A
7+	II	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A
8+	III	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A
9+	IV	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	R	+	+	+	+	A
10+	V	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	R	+	+	+	+	A

Remarks and expanations.

A—As required by guar-
dians.
R—As required for the
Handwork class and
illustrated through it.

Break at 11 + for Post primary and Secondary Schools---

Post Primary Course

Age	Class	Language	Composition	Second language	Mathematics	Drawing	Drill and Games	Scouting	Citizenship	History	Geography	Natural science	Cooperative Cultiva- tion (Boys)	Handwork (Boys)	Handwork and Sewing (Girls)	Cookery (Girls)	Housecraft (Girls)	Music				
11+	VI	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
12+	VII	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
13+	VII	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Cooperativie Cultivation
should be mainly on the
basis of Gardening for the
first two years and lead to
actual Agriculture in the
last year where boys will
take Handwork as alterna-
tive course.
Music should be an extra
subject laying emphasis on
folksongs, marching and
dance songs, to be sung
mostly in chorus.

Advanced Secondary Course

14+	XI	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
15+	X	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
16+	XI	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
17+		Three years' University Course (Medical degree one year more)																						

Approx. Number in School:—

Class	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	University	Postgraduate
No in	14	14	14	14	14	11	2	11	2	2	2	2	2
lakhs (average)						0	4	0	4	0	4	M	R

The actual distribution will be slightly different as shown in the text

In "*Our Education*", the writer first of all indicates the social determinants of educational ideals—analysing for this purpose tribal systems, ancient Hindu and Greek education, and modern conditions in England, China and Russia. The educational requirements of Indian society are next analysed. The economic changes needed are indicated and also consequent alterations in the educational system. The Wardha scheme and the Sargent scheme are discussed in detail and Prof. Chattopadhyay offers his own philosophy of education synthesising some of the conflicting ideologies. This is followed by planning on severely practical lines, indicating the number of schools needed, their spatial distribution and types, teachers required and their training, and the ways and means to meet the expenses. There is also a chapter on tribal education, based largely on his own field work where the tribal problem is discussed in some detail.

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