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The Educational Review

A MONTHLY RECORD FOR INDIA

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JANUARY 1938.

[No. 1.

CULTURAL UNITY OF NATIONS.

BY PROF. H. E. NICHOLAS DE ROERICH,
Naggar.

OUR times are verily difficult, because of all the commotions of the spirit, all non-understanding and all attacks of darkness against Light. Quite recently there were pictures in magazines showing the autodate of precious books in the streets. It is hard to realize that this could have taken place in the present age, after millions of years of the existence of our planet. But perhaps this terrible tension is the impulse to direct humanity through all storms and over all abysses to peaceful construction and mutual respect.

What an epoch-making day might be before us when over all countries, all centres of spirit, beauty and knowledge could be unfurled the one Banner of Culture! This Sign would call everyone to revere the treasures of human genius, to respect culture and to have a new valuation of labour as the only measure of true values. From childhood people will witness that there exists not only a flag for human health but also there is a sign of peace and culture for the health of the spirit. This sign, unfurled over all treasures

of human genius, will say: "Here are guarded the treasures of all mankind; here above all petty divisions, above illusory frontiers of enmity and hatred, is towering the fiery stronghold of love, labour and all-moving creation."

Real peace is desired by the human heart. It strives to labour creatively and actively. For it labour is a source of joy. It wants to love and to expand in the realization of Sublime Beauty. In the highest perception of Beauty and Knowledge all conventional divisions disappear. The heart speaks its own language; it wants to rejoice at that which is common for all, uplifts all, and leads to the radiant Future. All symbols and tablets of humanity contain one hieroglyph, the sacred prayer—Peace.

It is truly beautiful, if amidst the turmoil of life, in the waves of unsolved social problems, we still may hold up before us the eternal Flambeau-torches of Peace at all ages. It is beautiful through the inexhaustible well of love and tolerance to understand the great movements, which connected the highest

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knowledge with the highest aspirations. Thus, in studying and admiring, we are becoming real cooperators with evolution and out of the brilliant rays of supreme Light may emerge true knowledge. This refined knowledge is based on real comprehension and tolerance. From this source comes the great understanding. And from the great understanding rises the Supremely Beautiful, the enlightening and refining enthusiasm for Peace. Contemporary life is changing rapidly; the signs of a new evolution are knocking at all doors. In real unconventional science we feel the splendid responsibility before the coming generations. We understand gradually the harm of everything negative. We begin to value enlightened positiveness and constructiveness and in this measure, in merciful tolerance, we can prepare for our next generation a vital happiness, turning vague abstractions into beneficent realities.

On the scrolls of command it has been inscribed that a spiritual garden is daily in need of the same watering as a garden of flowers. If we still consider the physical flowers the true adornment of our life, then how much more must we remember and prescribe to the creative values of the spirit the leading place in the life which surrounds us? Let us then with untiring, eternal vigilance, benevolently mark the manifestations of the workers of culture; and let us strive in every possible way to ease this difficult path of heroic achievement.

Let us also mark and find a place in our lives for the Great Ones, remembering that their name no longer is personal, with all the attributes of the limited ego, but has become the property of pan-human culture, and must

be safeguarded and firmly cared for in most benevolent conditions.

We shall thus continue their self-sacrificing labour and we shall cultivate their creative sowing which, as we see, is so often covered with the dirt of non-understanding and overgrown with the weeds of ignorance.

As a caring gardener, the true culture-bearer will not forcefully crush those flowers which entered life not from the main road, if they belong to the same precious kinds, which he safeguards. The manifestations of culture are just as manifold as are the manifestations of the endless varieties of life itself. They ennoble Be-ness. They are the true branches of the one sacred Tree, whose roots sustain the Universe.

If you shall be asked, of what kind of country and of what a future constitution you dream, you can answer in full dignity: "We visualize the country of Great Culture." The country of Great Culture shall be your noble motto. You shall know that in that country will be peace, where Knowledge and Beauty will be revered.

Everything created by hostility is impractical and perishable. The history of mankind gave us remarkable examples of how necessary just peaceful creativeness was for progress. The hand will tire from the sword but the creating hand sustained by the might of the Spirit is untiring and unconquerable. No sword can destroy the heritage of culture. The human mind may temporarily deviate from the primary courses, but at the predestined hour will have to recur to them with renovated powers of the spirit.

Culture and Peace make man verily invincible and realising all spiritual conditions he

becomes tolerant and all-embracing. Each intolerance is but a sign of weakness. If we understand that every lie, every fallacy shall be exposed, it means that first of all a lie is stupid and impractical. But what has he to hide who has consecrated himself to Peace and Culture? Helping his near he helps general welfare which at all ages was appreciated. Striving to Peace he becomes a pillar of a progressing State. Not slandering the near, we increase the productiveness of the common creativeness. Not quarrelling we shall prove that we possess the knowledge of the foundations. Not wasting the time in idleness we shall prove that we are true co-workers in the ploughfield of Culture. Finding joy in every day's labour we show that the conception of Infinity is not alien to us. Not harming others we do not harm ourselves and eternally giving we realize that in giving we receive. And this blessed receiving is not a hidden treasure of a miser. We understand how creative is affirmation and how destructive is negation. Amidst basic conceptions those of Peace and Culture are the conceptions which even a complete ignoramus will not dare to attack. There where is Culture, is Peace. There where is the right solution for the difficult social problems, is achievement. Culture is the cumulation of highest Bliss, of highest Beauty, of highest Knowledge.

We are tired of destructions and negations. Positive creativeness is the fundamental quality of the human spirit. Let us welcome all those who surmounting personal difficul-

ties, casting aside petty selfishness, propel their spirits to the task of preserving Culture, thus insuring a radiant future.

We must not fear enthusiasm. Only the ignorant and the spiritually impotent would scoff at this noble feeling. Such scoffing is but the sign of inspiration for the true Legion of Honour. Nothing can impede us from dedicating ourselves to the service of Culture, so long as we believe in it and give to it our most flaming thoughts.

Do not disparage! The great Agni sings the drooping wings. Only in harmony with evolution can we ascend! And nothing can extinguish the selfless and flaming wings of enthusiasm!

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The Editor, "MIRA",

ST. MIRA'S HIGH SCHOOL,
Hyderabad (Sind), INDIA,

THE INDIAN SCIENCE CONGRESS SILVER JUBILEE SESSION, 1938.

BY MR. A. A. KRISHNASWAMI AYYANGAR, M.A., L.T.,
Mysore.

THE first week of this year, 1938, witnessed a very memorable event and inaugurated a new epoch in the history of modern Indian Scientific achievement. A joint meeting of the Twenty-fifth Session of the Indian Science Congress and the British Association for the Advancement of Science was held at Calcutta between the dates, 3rd and 9th January, a period too short for the multitudinous papers, discussions and lectures of the distinguished men of science who had gathered there not only from the various parts of this Indian sub-continent but also from the various parts of the rest of the world. This meeting is bound to serve as a source of great inspiration to all seekers of knowledge and searchers of truth, who had the privilege and unique opportunity of rubbing shoulders with so many of the greatest scholars of the day taking part in the great festival of science. As remarked by the Vice-Chancellor of the Calcutta University, it is of no little significance that the Congress was presided over by one who had proclaimed to us that the world of science reveals the mind of the Supreme One and men of this type should be able to contribute towards the establishment of peace on earth and good-will towards men.

On Monday, 3rd January, His Excellency the Most Honourable Lord Victor Alexander John Hope, P.C., K.T., G.M.S.I., G.M.I.E., O.B.E., D.L., T.D., the Marquess of Linlithgow, Viceroy and Governor-General of India, opened the Silver Jubilee Session at

10 A.M. at the University College of Science, Calcutta, after the Address of Welcome by Mr. Syamaprasad Mookerjee, Vice-Chancellor, Calcutta University, and Chairman, Reception Committee. There was a large gathering of distinguished delegates and visitors.

Sir James Hopwood Jeans, D.Sc., Sc.D., LL. D., F.I.C., F. R. S., the President-elect, delivered a short introductory speech before he proceeded to read the Presidential Address prepared by the late Lord Rutherford. It was a singularly unfortunate circumstance that the death of Rutherford and Jagadish Chander Bose, two of the greatest scientific luminaries of the world, should have occurred just a few months before this session so as to leave a wide gap in the present gathering. However, it must be considered a good omen, indeed, that the blending of the two Scientific Associations, Indian and British, should happen to fall at a time when India is entering upon a new and important era of responsible co-operative government in the success of which both India and England are deeply concerned.

The Presidential Address was sympathetic and inspiring and gave a brief outline of the contributions to scientific knowledge made in India by such workers of distinction as Sir J. C. Bose, Sir P. C. Ray, Sir Venkataraman, Prof. M. N. Saha, Prof. B. Sahnai, the great mathematical genius Ramanujan, and S. Chandrasekhar. Reference was also made to the work of the Indian Cotton Committee and the Agricultural Research Council, and to

the needs of the immediate future if science is to play its part in the national welfare of India. The personal touch in the Address came with the Transmutation of Matter, the discovery of the Neutron, and the vision of a new and startling sub-atomic world where atoms break up spontaneously with an enormous release of energy, quite uninfluenced by the most powerful agencies at one's disposal.

After the Presidential Address and the usual vote of thanks, the gathering dispersed. In the afternoon, the members enjoyed a pleasant river-trip on the Hooghly, and a fine At Home of the local Reception Committee on board the steamers. In the evening at 6-30 P.M., there was a popular lecture illustrated by lantern slides, at the Senate Hall on the 'Idea of the Nation in Europe' by Prof. H. J. Fleure, F.R.S. At 10 P.M., the members were entertained with what is known as a Bratachari demonstration by G. S. Dutt, its founder-president. This demonstration was a unique admixture of vigorous dancing, inspiring music and energetic acting. Thus the first day ended.

The programmes of the other days were rather strenuous except on Thursday, a day of respite devoted to whole-day excursions to Tatanagar, Ranchi, Bolepur and Puri. Every day's work began with a three-hour reading of papers, followed by afternoon joint discussions either with collateral Societies or among the several sections of the Congress itself entering into various ad hoc combinations, and finally rounded off by a popular lecture by a British delegate. The programme of the Congress included also annual meetings of as many as ten different Societies, Associa-

tions, and Institutes, which form the background of the Congress. As a diversion from the crowded intellectual programme, short and cheap afternoon excursions to places of local interest and importance, such as the Indian Society of Oriental Arts, Victoria Memorial, India Electric Works, and Radha Film Company, were arranged.

It is impossible to give in brief compass any adequate picture of the volume of science that flowed from morning to evening for six days in the several rooms of the Baker Laboratory, the Presidency College Buildings, the Institute of Hygiene, the Tropical School of Medicine and the Senate Hall, all located very close to one another. The Science Congress was an aggregate of thirteen scientific sections with various sub-sections arranged according to subject-matter :

Mathematics and Physics (98), Chemistry (221), Geology (40), Geography and Geodesy (21), Botany (42), Zoology (52), Entomology (57), Anthropology (44), Agriculture (56), Medical Research (89), Veterinary Research (56), Physiology (62), Psychology (37), the figures in brackets indicating the number of papers in a section. The printed Abstracts of the total number of 875 papers cover 309 pages of Part III of the Proceedings. The most crowded of all the sections was the first section, Mathematics and Physics, though in the matter of papers contributed, the Chemistry Section was the most prolific.

Besides the reading of papers, there were as many as thirty-two joint sessions, on various topics ranging from River Physics to Blood groupings and Racial classification. Among the most important of the joint sessions may be mentioned that on Theore-

tical Statistics on the afternoon of Friday, the 7th January, when the statistical papers of the Physics and Mathematics section were discussed along with those contributed to the First Indian Statistical Conference. This Conference was opened a few hours earlier by His Excellency the Right Honourable Lord Brabourne, G.C.I.E., M.C., Governor of Bengal, and was presided over by R. A. Fisher, Sc.D., F.R.S., Galton Professor, University of London. It held its sessions from the 7th to 9th January. It may be added here that the new Statistical Conference will henceforth hold its sessions simultaneously with the Indian Science Congress and the Indian Economics Association in alternate years. This is a sort of polyandric arrangement by means of which Statistics may keep in touch with Science on the one hand and Economics on the other.

The overseas delegates took a leading part in all the discussions and popular lectures. The most noteworthy contributions came from Sir Arthur Eddington on 'Sub-Atomic Energy in Stars' and the 'Scattering of Protons by Protons,' Dr. F. W. Aston on 'Isotopic Weights,' Prof. F. J. M. Stratton on the 'Complex Spectra of Novae' and 'Recent Eclipse-Results,' Dr. C. G. Darwin on the 'Dielectric Constants of Solid Bodies,' Prof. R. A. Fisher on the 'Functions of Physical Anthropology,' Prof. C. Spearman on 'Intelligence' and Prof. F. A. E. Crew on the 'Influence of Heredity on Resistance to Disease.'

There were about one hundred delegates from abroad, including a few ladies, who attended the Congress under special invitation. A large number belonged to the British Universities, while a few came from South Africa, Germany and America. Among

the distinguished representatives of non-British Science, we have to make special mention of Prof. C. G. Jung of the University of Zurich, and Prof. L. F. de Beaufort on whom was conferred the honour of the Honorary Silver Jubilee membership, and W. Straub, Professor of Physiology in the University of Munich.

An unforgettable feature of the Jubilee session is the brilliant series of popular lectures by Sir James Jeans, Sir Arthur Eddington (who may be called the Vasishta and Viswamitra of the present day), Prof. Ernest Barker, Prof. C. G. Darwin, Dr. J. A. Venn, Dr. F. W. Aston, Prof. H. J. Fleure, and Prof. F. A. E. Crew.

The members at the Jubilee session enjoyed not merely all the above treats but carried with them a lot of useful literature, including a sumptuously bound volume containing an outline picture of the varied life of the second city of the Empire and the history of its growth, and another brochure which is an outline of the Field Sciences of India. They are further promised another book on the Progress of Science in India.

The great success of the Silver Jubilee session was in no small measure due to the scientific perfection of the organisation. It was, indeed, a marvel how the mammoth Science Juggernaut of thirteen wheels moved so harmoniously and without the least trace of hitch through the seven days of the session, ending with the Farewell Party by the University of Calcutta.

May the young Scientific India having come of age, walk hand in hand in pride and glory beside her veteran brothers of Scientific Europe in the world's march towards a new civilization, fairer, juster, and more peaceful!

H. E. THE VICEROY'S OPENING SPEECH.

HIS Excellency the Viceroy opened the Silver Jubilee Session of the Indian Science Congress at Calcutta on January 3 in the presence of a distinguished gathering of British and Indian scientists and prominent foreign visitors.

A delegation of the British Association, who are visiting India for the Congress, formed a large part of the audience which heard the Viceroy's Address and the Inaugural Speech delivered by Sir James Jeans, leader of the British delegation.

His Excellency congratulated the Indian Science Congress on the successful completion of its first twenty-five years. He felt it had been a happy decision to make the special character of the session the extension of invitations to representatives of the British Association and to scientists of other countries to join in the discussions and celebrations.

His Excellency also commented on the appropriate choice in selecting Calcutta as the venue of the Congress. The Indian Science Congress owed a deep debt of gratitude to the Royal Asiatic Society of Bengal which had been, in fact, foster-parent to the Congress in its early days.

The Viceroy referred to the death of the late Lord Rotherford, who was to have presided, and of the late Sir Jagdish Chandra Bose, and extended a special welcome to the President of the Congress, Sir James Jeans, to whose work in popularizing knowledge of astronomy, His Excellency paid tribute.

In the course of his speech, His Excellency said:—

INDIANS' VENTURES.

"Since the early seventies of the last century, young Indians began to interest

themselves in science and to proceed abroad on what then constituted brave ventures for many of them, to learn science.

"With the consequent increasing scientific activities in India the want was felt of an institution which would organize meetings of workers in different branches of science; to further the cause of science; and to bring its needs and services to the notice of those who have are in a position to help in its objectives.

"The aims with which the Indian Science Congress Association was founded were three-fold. First, to encourage research and to publish the results amongst scientific workers in India; secondly, to give opportunities for personal intercourse and scientific companionship; thirdly, to promote public interest in science. These aims have been magnificently fulfilled.

"At the first meeting of the Association there were five sections, chemistry, physics, geology, botany and ethnology. The membership was 109 and 31 papers were read.

"At this year's Conference there are 13 sections, a membership of more than 1,600 and 800 papers have been notified for reading. There are to be 22 discussions within individual sections and 10 joint discussions on programmes which concern more than one section.

INDIA'S SCIENTISTS.

"India to-day can claim not a few scientists, the originality of whose contributions in different branches of science have won for them international recognition, and I feel the presence of so many eminent scientists from abroad sets the seal of international recognition upon the position to which science in India has now attained.

"The future of science in India is full of encouragement. India has demonstrated that she possesses men of capacity with the will to labour, and if we have workers equipped to take their place amongst those who to-day in every continent are engaged, whether in pure or in applied science, in advancing the frontiers of human knowledge, it is evident that India affords limitless opportunities for the harnessing of that knowledge for the betterment of mankind.

"By universal accord the first and foremost object of our endeavour in the material field must be to better the lot of the agricultural population, to raise the standard of living of the cultivator.

FASCINATING CHALLENGE.

"I can imagine no more fascinating challenge to young scientists in this country than the employment of their brains and the application of the latest scientific knowledge to the attempt to solve the manifold problems of material advancement that confront us on every side.

"But encouraging though the prospect may be in theory, India is faced with the same practical difficulties that other countries experience of making provision for research and scientific activities.

GOVERNMENT'S BURDEN.

"But the financial burden of this research falls either immediately or in the long run on Government. Research institutions are almost exclusively maintained either by the Central or Provincial Governments. The work of the Universities is substantially subsidized by the Governments of the Provinces in which they are situated.

"It is to my mind an unsatisfactory state of affairs that Government, with the manifold calls on its financial resources, should

have to bear the main burden also in this respect.

"The scope for scientific research, whether pure or applied, is practically unlimited and no small obligation exists on private munificence to supplement what Governments are now doing in work which Government has for so long so anxiously supported, and to which it continues today directly or indirectly to contribute on no mean scale.

SCIENCE'S OPPORTUNITIES.

"The opportunities of science are great—the field remaining to be explored immense. I am confident that in asking for a still further development of the substantial assistance which over so many years, has been afforded by generous donors, I can rely on a response comparable in some degree with the needs to be met.

"The presence of this distinguished gathering constitutes a manifestation of the interest taken by the intellectual world of the West in the trend of developments in India. Interest from such a source is of inestimable value to India at the present time. It will, I feel, continue to be of value in the future.

"India is in a transitional stage; she is on the threshold of a new era. We may anticipate that the recent political reforms will inevitably find their reflection in an increased determination among Indians that India should continue in increasing degree to make her own individual contribution to world history and world concepts.

"What will be the nature of that contribution and what its scale, it is difficult to foresee clearly at this period.

"The history of Indian civilization goes further back than any history of Western countries. The great name of India has throughout that long history at all times

been associated with religion, with mysticism, with philosophy and with the arts.

"Throughout the centuries her economy has been, as indeed it is likely to continue to be, fundamentally agricultural, with the simple, patient, methodical and thrifty life for the people which that implies.

CHALLENGE TO ACCEPTED THOUGHT.

"With the march of the years there has come the inevitable impact of the west and India today is engaged in welding on to her old structures the newer political and economic forms of the west, in finding in her intellectual life a place for the discoveries of science with all their challenge to accepted modes of thought and practice.

"This is a time, therefore, when interest, understanding and sympathy are vital from those especially who are leaders in science and in those kindred activities which have been so dominant a characteristic of western development in recent years.

"When talking of civilizations it is difficult to dissociate a scientist from the background against which he works and from the effect of his work on the development of his times. The scientist has his place not only in the world of science but in society as a whole.

"The backgrounds against which scientists in India and the west pursue their activities are vastly different and the possible effects on society from the impact of their discoveries on everyday life must inevitably vary.

INDIA'S SPIRITUALITY GIVES HOPE.

"But that difference in no way diminishes the value to us in India of the informed

interest, advice and wide and varied experience of those who have seen the possibilities and the limitations of scientific activity in other spheres.

"Your knowledge, your experience, your very aloofness from the Indian background will impart a special value to any analysis of the problems which confront us here, and to any suggestions, which, in the light of your deliberations, you may feel able to advance as to the directions in which investigation and examination can most fruitfully be pursued.

"But the value of the visit will not be felt on one side only.

"Even the most enthusiastic believer in western civilization must feel today a certain despondency at the apparent failure of the west to dominate its scientific discoveries and to evolve a form of society in which material progress and spiritual freedom march comfortably together.

"Perhaps the west will find in India's more general emphasis on simplicity and the ultimate spirituality of things a more positive example of the truths which the most advanced minds of the west are now discovering.

"Is it too much to hope that you, gentlemen, will be a channel through which India will make in increasing degree that contribution to western and to world thought which those of us who know and love India are confident that she can make in so full a degree?"

AN IDEAL EDUCATIONAL LIBRARY OF AMERICA (WASHINGTON)

By MR. R. GOPALAN, M.A., F.L.A.,

New Delhi.

IT is impossible to over-estimate the services of the Educational Library to the community. With the exception of the tiny library of the Central Bureau of Education at the head-quarters of the Government of India there is nowhere in this country a library which may be compared to that of the Washington Department of Education. It is one of the largest of the pedagogical libraries of the world and the material catalogued includes not only all the publications of the Office of Education, books and pamphlets published in the United States of America, but all those bearing on education, published abroad. It also includes analytics for the sports and biennial surveys of the Educational Commissioner, the proceedings of the National Educational Association and the Year-Book of the National Society for the Study of Education and many other official surveys.

This invaluable collection has been regularly built up over the nucleus of books brought by the first Educational Commissioner many years ago when he assumed office. In 1936 it numbered more than two lakhs of books catalogued in 360,000 on various educational matters, reports, journals, catalogues, monographs, pamphlets, in fact all the source material from which every phase of education in the United States of America and other countries may be studied. Carefully preserved and catalogued it now forms one, if not the greatest, store-house for the educational history of the world.

PUBLICATIONS

During the last ten years the Educational Library has been busy collecting information on educational research and published annually a "Bibliography of Research Studies in Education". It has a vast and comprehensive collection of Doctors' Theses, Masters' Dissertations, and Faculty Studies. In recent years all higher educational institutions have agreed to deposit in this library their copies of published and unpublished theses and this invaluable collection numbering over 2000 is now available for inter-library loans in all parts of the United States of America.

INTER-LIBRARY LOANS

Although primarily intended to function as a first class reference library for educational research, in recent years a large part of its services has been turned to supplementing the resources of the college, university and public libraries by inter-library loans to students and research workers in education.

INFORMATION

Information pertaining to various aspects of education from students and teachers of education are received and are promptly answered, accompanied by a list of books on the subject that are available. Another very valuable service rendered by this library is that it undertakes to act as the clearing house for duplicate publications of the Office of Education receiving and filling those that are sent in by the librarians and supplying those which may be asked for to complete sets,

The library also serves as a model for educational libraries, and very often helps them in administration, organisation and book selection. Since 1912 the library has been publishing a Record of Current Educational Publications and since then annotated bibliographies on current educational subjects to serve as guides to book selection and as suggestions for reading courses.

Another branch in which the Educational Library at Washington has rendered valuable service is the survey of library activities that it has undertaken. Since 1930 it has devoted much time to the study of school libraries in their relations to public libraries, and their services to teachers and pupils and brought out hundreds of bulletins for the selection of books as also pamphlets dealing with library service in rural areas.

THE CATALOGUE OF THE EDUCATIONAL LIBRARY

This huge catalogue which numbers 360,000 was created primarily to serve the specialists in the Office of Education at Washington. It is modelled on that of the Library of Congress. It is a dictionary catalogue intended to be used as easily as any dictionary or encyclopaedia, and is designed to give the reader accurate information regarding the entire collection—what is available on any given subject, works of any given author, with descriptive notes and biographical data. It is constantly used by the library staff, by specialists in the Education Office and by students and teachers of all degrees of experience. The catalogue cards are carefully and accurately prepared. Full author entry, correct official entry, series and edition, and changes in titles and bibliographical notes are furnished in the case of each book. The subject headings which form a valuable

feature of this catalogue are specific, concise and scientific. If the reader is interested for example in "Juvenile Delinquency" he will find the whole literature under the subject of "Juvenile Delinquency". The subject headings are kept up to date in respect of scientific terminology as new discoveries are made. If a reader is interested in Kindergarten he will find the material under the heading "Nursery schools" instead of under Kindergarten, another welcome feature of this minute sub-division.

The library-cards for this institution are printed at the printing press of the Congress Library. These are distributed to more than 6,000 libraries throughout the world making it possible for many smaller libraries to have ready-made catalogue cards for educational literature which they could not otherwise have, besides saving them a great deal of labour and expenditure involved in original cataloguing. According to Agnes Lee, the Chief of the Cataloguing Division, the catalogue of this library is practically a complete bibliography of pedagogical literature all over the world, for in it are filed all Library of Congress cards on education whether they are in the library or not. It includes in addition cards which the cooperating libraries have prepared as well as those prepared at the Congress Library. This catalogue is looked upon by the educationists as the most important part of the library for it is the key by which all its treasures are "unlocked to the many who are asking for them so often and so earnestly."

(Based on two accounts written by Sabra W. Vought and Agnes Lee of the Library Division Educational Library, Washington, in "School Life" for 1936.)

ENGLISH CHURCH AND RELIGION IN THE DAYS OF CHAUCER.

BY MR. A. R. BHAGWAT,
Poona.

THE subject of this discourse belongs more to the domain of social history than to literature proper. The study of an author, however, is not complete without a knowledge of the times in which he lived. "To judge rightly of an author," says Dr. Johnson, "we must transport ourselves to his time." It is impossible to appreciate the different institutions or influences of his age. In the case of modern authors the influences of their literature can be traced to such institutions as the Universities or the public schools or in some cases to political upheavals like the Great War. In the days of Chaucer only one influence counted to a great extent—the influence of religion. Religion in his day was the most vital part of a person's every-day life. It was an age of faith—faith in the Divine Word, as interpreted by the priest, for no English translation of the Bible was known until the end of the fourteenth century.

The only form of religion was Catholicism and even the slightest deviation from it was considered to be schism and the punishment was usually very severe—in certain cases even burning alive of the victim. Side by side with this faith, there was too much of superstition. It was difficult, as a matter of fact, to draw a clear line of demarcation between religion and superstition. Black magic and witchcraft were frequent occurrences and even the legislators had to pass laws against witches and witchcraft.

The religious institutions in the days of Chaucer may be divided into three classes.

The first were the monastic orders—professional religious men and women, who later on developed the second class—the mendicant orders and thirdly the ordinary secular clergy. We shall deal with these three institutions one by one. It is necessary to note here that the age of Chaucer was an age of transition. Catholic unity was near the beginning of its end. There were, therefore, two sides to the religious question in this age. The older things were fast dying out and new ones were fast taking their place, as is always the case in a period of transition. During the earlier decades of the fourteenth century, therefore, the monasteries and other religious institutions were in an ideal state of things; but by the time Chaucer had begun his literary career, they had begun to deteriorate and were becoming corrupt. It was therefore a mixed state of things. In certain parts of the country the monasteries were still rigorously pure in their duties, while in certain other parts, they had become degenerate. It is necessary in the first place to see how these institutions existed ideally and then to see them in their corrupted state, as Chaucer portrays in his *Prologue*.

To begin with the monasteries, Monasticism had its origin in the deserts of Egypt, to which men fled from the cities to pursue an ideal of absolute renunciation and self-surrender. The monastery meant an abode or a society of men and women who lived together in common, who were supposed to partake of common meals, to sleep together in one common dormitory, to attend certain

services together in their common church, to transact certain business or pursue certain employments in the sight and hearing of one another in the common cloister and, when the end came, to be laid side by side in the common grave-yard. The monks and the nuns, as the inmates of the monasteries were called, were men and women weary of the hard struggle with sin and fleeing from the wraths to come, joining together to give themselves up to the higher life out of the reach of temptation and safe from the witcheries of Mammon.

The founder of Western Monasticism was St. Benedict, a Nursian by birth. He was sent at an early age to study at a school in Rome. Disgusted with the licentious life of the city, he established a monastery in Sabine Hills. He laid down many elaborate rules for the conduct of the monks and nuns. He introduced a vow of stability by which the monk bound himself for life to the monastery in which he made his profession. Other orders like those of St. Dominic, St. Francis or La Chartreuse were chiefly based on that of St. Benedict.

These were all cloistered orders, i.e., the monks were not allowed to go out and mix with the multitude but lived in cells called cloisters. A monk could not live out of his cloister without falling into deadly sins, any more than a fish can live out of water without dying. "Whoever would find them, let him seek them in their cloister; for they do not pride the World at the value of an Oyster," says Chaucer in his description of the monk. The monk was nothing to, and did nothing for, the townsmen, he fled away to his solitude. The rapture of silent adoration was his joy and exceeding great reward, his nights and days he spent in praises and prayer, sometimes in study and research,

sometimes throwing himself heart and soul into art which it was easy to persuade himself that he was doing only for the glory of God, but all this must go on far away from the busy haunts of the madding crowd. In return the townsmen hated him cordially as a high-handed aristocrat. This mutual hatred gave rise to conflicts between the monastics and the towns-people, which were similar to those later on between the University students of Oxford and Cambridge and the town-folk which were summed up in the famous phrase "Town and Gown."

As time went on, the monastics did not like to keep themselves aloof from the world and the Carthusians introduced the service of men with the service of God and thus the mendicant orders came to be established. These were more intimately connected with the populace and held better relations with them. But we shall see about these later on after describing a typical mediaeval monastery and its discipline.

The monastery, as we have already seen, was built far away from towns. A good site with plenty of water-supply was chosen and here the monastic buildings were constructed. The essential buildings of a monastery were (1) the church, (2) the cloister, (3) the dormitory, (4) the refectory, (5) the chapter-house.

The most important part of a monastery was its church. The church was not built for the monastery. On the other hand the monastery existed for the church. In the church of a monastery, extravagant amounts of money and labour were spent and the different monasteries vied with one another in the splendour of their decoration or lavish ornament. Sculpture and painting, jewels and gold, gorgeous hangings and stained glass, the fine linen of the priestly vestments, em-

broidery uniquely delicate and perfectly harmonious in its colours—all these were to be found in almost incredible profusion in the churches. Constant repairs, constructions and improvements were going on in these churches.

The structure of the church formed the sign of the cross, facing east and west. The longer limb of the cross was called the nave and the cross limbs were known as the transepts. The shorter limb or head of the cross was called the choir. The choir was occupied by the monks or nuns of the monastery. The servants and other minor worshippers were not admitted in the choir.

The cloister was a great quadrangle, inclosed on all sides by the high walls of the monastic buildings. It was on the south of the church, situated in a way to gain as much of the sun and prevention of colder draught and rain. All round this quadrangle ran a covered arcade whose roof, leaning against the high walls, was supported on the inner side by an open trellis work in stone, of great architectural beauty, through which light and air could be admitted. The open space was called the garth and was sometimes a grass plot, sometimes a small artistic garden in the middle of which stood a beautiful fountain. The cloister was the living place of the monks. Here they pursued their avocations in the open air without any sort of privacy. Later on, when the monks became more and more self-indulgent, they glazed the old fashioned open arcades and the open walks were turned into splendid, luxurious and comfortable lounges.

The cloister arcade had four walks. The south walk ran along the south wall of the nave, the north was bounded by the refectory or the dining hall, the east walk extended along the south transept and ended in the

chapter-house which was the council chamber of the monastery. Extending far beyond the chapter-house there was the dormitory which made the form of a T with the refectory. The dormitory was the common sleeping house of the monastery. There was a flight of stairs leading to the dormitory built on small vaults, which served the purpose of operation theatres. The operation consisted of bleeding which every monk or nun had compulsorily to undergo every month. At the end opposite the flight of stairs were the washing places, open to the air. On the west side there was a small building known as the cell in which there were the officers of the kitchen or the pitancier. There was also a guest-house in this building.

These were the main buildings of the monastery. If the monastery was rich enough there were the infirmary and the hospital, the cale factory or warming apparatus, the recreation hall and the winter hall, the locutorium and the common hall and what not.

Hospitality was considered to be a prime duty of the monastery. The Benedictine monasteries were famous for the cordial way in which they received their guests. Travelers, merchants, and pilgrims were courteously received by the hostellers at the guest-house, which was often a very splendid house with a great hall and chambers attached to it. The hostler was bidden to remember that "by showing cheerful hospitality to guests the reputation of the monastery is increased, and a plenteous reward in heaven is promised." It was usual to give free hospitality for two days but the custom was much abused. In the fourteenth century the monasteries demanded a share from the revenue of a parish on the plea that they had entertained a number of guests. Poorer folk

were entertained in the almonry near the gate-house. It was the duty of the almoner to find out the sick poor in the neighbourhood, to visit them with his servants and to give them food and drink.

Richer monasteries possessed scriptoriums or writing rooms and libraries. The monks were in the habit of writing down their diaries and these chronicles and the account books were kept in the scriptorium. The libraries were not only for the private use of the monks but there was a circulating system also. Books were lent to outsiders on an adequate security. There were schools for boys and girls who wanted to join the monasteries in their future life. Grammar schools were afterwards established, out of an abbot's revenue or from endowments, where children of the towns-people were also admitted. The masters of the grammar schools included distinguished scholars.

The head of the monastery, who regulated all discipline, was called the abbot. All the monks were expected to obey his orders and abide by his decisions. The general discipline and rules of conduct were very strict, and breach of these called for corporal punishment. The *Acta Sanctorum* tells us how prosaic and monotonous was the life of a monastic. Humour was totally forbidden to the monks and it was believed that if they uttered words of jests they were sure to appear in monstrous forms after death. The following passage from the diary of St. Stephen would give an idea of the discipline of a monastery: "If any raised his eyes but highly or negligently let fall the book which he held, or made any heedless sound or chanted too fast or too slow or made any undisciplined movement he received forthwith either a rod on the head or an open hand upon his cheek, so loud that the sound

of the blow rang in all men's ears. It was the devil who dwelt in the body of the offender who received the blow and was driven away." There were other elaborate rules regarding the etiquettes and table manners, etc.

The daily life of the monks began at 6 o'clock in the morning and there were definite instructions for all the hours of the day. Various duties were allotted to the different monks and the monasteries furnished a fine example of self-supporting institutions. Everything that was necessary was produced within the property of the monastery. The grain grew in their own land, the corn was ground in their own mill, their clothes were made from the wool of their own sheep, they had their own tailors, shoemakers, carpenters or blacksmiths almost within call, they kept their own bees, they grew their own garden-stuff and their own fruit, nay, they had their own vine yards and made their own wine. They rigorously followed the rules of St. Augustine. "If any will not work neither let him eat." Manual labour was, therefore, an essential part of their duty. Seynt Austyn says Wycliff "teechith munkies to labour with here hondis and so doth Seynt Benet and Seynt Bernard." The main function of the monastics according to St. Augustine was "to devote themselves to prayers and psalms and reading the word of God." The disciplinary rules of the nuns were even stricter. Though they dwelt together in the same building the monks and the nuns were forbidden to speak to each other, except at certain times when they could employ a very elaborate gesture language. For instance, putting the right thumb with two fore-fingers joined to the mouth signified eating, joining the fingers of the right hand and moving them downward droppingly meant water and

holding the head in the right hand signified "man." Chastity and virginity were the prime conditions which a nun had to observe. The ideal nun was looked upon as the betrothed of Christ. Here is St. Jerome's advice to an ideal nun:—

"Hear, Oh daughter, and consider and incline thine ear; forget also thine own people and thy father's house and the king shall desire thy beauty. Spouse of God, wherefore dost thou wait upon as a wife of a man? Go seldom in public, let those be thy companions whom thou seest lean with fasting and pale of face, approved by age and by life. If thou seekest martyrs, seek them in thine own chamber. Seek not the reputation of eloquence nor play with lyrics verse. Let thy dress be neither unwontedly neat nor slovenly, nor notable for any singularity, lest the crowds of passers-by stand still and point fingers at thee. Avoid the fault of avarice. Nowadays we see many women load their dresses with garments, changing their gown daily, they are yet unable to get the better of the moths. She who is more religious than the rest weareth a single garment threadbare and trails in rags while her chests are full of raiment."

Every nun was expected to keep before her the vision of Tennyson's 'St. Agnes':

"He lifts me to the golden doors,
The flashes come and go.
All heaven bursts her starry floors,
And strows her lights below,
And deepens on and up! the gates
Roll back and far within
For me the Heavenly Bridegroom waits
To make me pure of sin!"

It is interesting to observe here that Chaucer's lady prioress, Madame Eglentyne, though so tender-hearted, virtuous and noble, does not come up to the standard of

St. Jerome's ideal nun. St. Jerome definitely forbade nuns from going out in the public and we see here the lady going out on a pilgrimage in the company of a motley crowd of high and low persons. The nuns were not allowed to keep pets, but this lady seems to be very fond of her puppies. She takes delight in singing the divine service in a seemly fashion, intuned in her nose. The ideal nun has her cloak threadbare while the Prioress's cloak is very neat and handsome.

Chaucer's monk offers a vivid contrast to the ideal monk. With their connection with the town-folk the monks became more and more worldly. The close contact with the secular clergy and the civil authorities gave rise to quarrels and litigations. The monks began to amass wealth and totally disregarded the order of the Saints. Formerly they were not necessarily ordained, but in the days of Chaucer, they insisted on holding some ecclesiastical office, so that they could go about on pleasure trips, on the pretext of their work. Chaucer's monk cares a straw for the rule of St. Benedict and goes after the new state of things. He is a hunter and a horse lover and loves dainty dishes. Love of eating was particularly abhorred by the saints but this monk loves a roasted swan very much and was thus poles asunder from an ideal monk. The underhand, villainous dealings of the monasteries became so scandalous that reformers like John Wycliff demanded a speedy abolition of all monasteries. Some of the monasteries suffered heavy financial losses due to the extravagances of some of the monastics who were incompetent and totally unfit to manage their own affairs. There were also great damages due to fires which occurred quite frequently. The heavy rates of interest taken by Italian and Jew

money-lenders and the heavy taxation reduced the monasteries to a state of poverty and want. Thus this great institution which had so admirably performed its function in the past was in a dilapidated condition.

The four famous mendicant orders of Chaucer's days were: (1) The Dominicans or Friars Preachers—better known in England as Black Friars, (2) the Franciscans or the Grey Friars, sometimes called the Barefoot Friars, (3) the Carmelites or White Friars and (4) the Austin Friars or Friars Hermits of St. Augustin.

These orders were greatly influenced by the Crusades which they interpreted as a divine will to reconcile religion with the world. The friars differed from the monks in that they associated the service of man with the service of God.

The Dominicans came to England in the year 1220 and began to preach theology to young men. The founder of this order, St. Dominic, was of high birth and had passed his boyhood among the ecclesiastics and the academics of Rome. He determined to war with ignorance, heresy and schisms. He stood as the determined champion of orthodoxy. Eloquence, earnestness, absorbing enthusiasm, matchless dialectic skill and perfect scholastic training were some of his qualities which his disciples inherited.

St. Francis of Assissi, founder of the Franciscan order, was twelve years older than St. Dominic. It was at the Chapel of St. Mary at Assissi that St. Francis heard the livine voice urge him "Go and build my Church again." It was no ordinary temple that needed raising, the dust of corruption was to be swept. Matchless simplicity and sublime self-surrender were the two principles in which St. Francis stood. He discarded books, for he argued: "Whoever had heard

of Christ reading books?" The Franciscans came to England in 1224. Both St. Francis and St. Dominic were apostles of voluntary poverty and supported themselves on alms. Poverty, so to say, was in the air just as to-day rationalism is in the air.

The Carmelites were first monks of the order of Our Lady of Mount Carmel in Syria, founded in 1156. They were made a mendicant order in 1247. They desired to avoid pride and observed very rigorous simplicity in all the details of daily life, beds, diet and dress.

The Augustan Friars named after St. Augustin of Hippo were the most influential friars on account of their readiness to do all sorts of work for the people. Manual labour was an essential part of their daily life. When the friars landed in England, penniless, meek and simple, the monasteries had vast amounts of wealth with them and hence the reception of these servants of God and devotees of voluntary poverty was not very cordial. St. Francis's hatred of book-learning was never shared by his followers and the English Franciscans had academic learning. Hence, though despised at first, ultimately they inspired admiration in the populace by their devotion and eloquent preachings. The Friars-Preachers were the first religious order to give up manual labour as one of the duties of religious life and put study in the forefront of their activities. By and by they became influential religionists, travelling their circuits on foot, supported by alms. They refused to take big endowments but as they depended entirely on begging, they built their friaries near the towns. They were able administrators, and organised themselves on an electoral and representative basis. The Master General and the Executive Committee, known as the diffinitors were elected

annually and managed the business of the friaries.

In the thirteenth century the western world was reintroduced to the works of Aristotle and his philosophy and this event coincided with the landing of the friars on the coast of Great Britain. The friars studied Aristotle diligently and soon became famous for learning as for holiness. The student orders, the Franciscans and the Dominicans, sent students to schools of art and trained them in the Universities. Chaucer's clerk or University student is a typical, studious and holy disciple of either of these orders. He took 'most care and most hede of studie' and liked twenty books of Aristotle, bound in black or red than even gold. He maintained himself by begging and prayed earnestly for those who supported him. The friars wrote many books for the benefit of the secular clergy and the training of preachers. Men like Alexander Hales, Roger Bacon, Dun Scotus, Thomas Aquinas and Athertus Magnus who gave new life to the two Universities came from the Friars-Preachers.

The begging friars or the limitours came more directly into contact with the ordinary layman and played the most conspicuous part in his life. The friar was very popular with the mercantile classes on account of his varied attainments and experiences. "Who else," writes Prof. Brewer, "so welcome at the houses of men to whom scientific skill and information, scanty as they might be, were yet of no inconsiderable service and attraction? He alone of learned and unlearned possessed some knowledge of foreign countries and their production; he alone was acquainted with the composition and decomposition of bodies, with the art of distillation, with the construction of machinery and with the use of the laboratory." They served the

needy poor and attended the lepers and other sick and neglected persons. Mathew Paris writes: "The preachers lived a life of poverty and great sanctity.....embracing voluntary poverty for God's sake, not even reserving themselves food for the morrow."

However this ideal state of things did not continue for long. The corruption of the best is probably the worst and so it was with the friars. The friar combined with the spiritual functions the occupations of pedlar, hunter, mountebank and quack doctor. We see Chaucer's limitour Hubard doing all these things in as roguish a manner as possible. The lives of the preachers became shielded and as their wealth grew, they became greedy and avaricious. They became corrupt by the very world, which they promised to purify and deliver from the domain of Mammon. Chaucer's limitour is the prototype of such degenerate friars. He was given to gossip and flattery, kept concubines and was not above bribes and always filled his own purse by telling white lies. He was clever in obtaining money from all persons and wherever there should be profit he was very courteous and humble. "A friar and hence a liar," says Langland and this adequately sums up the mischievous conduct of the friars.

We now come to the secular clergy, who were greatly influenced by the monasteries and the mendicant orders. The head of the English secular church, in theory at least, was the Pope, who resided at Rome. He appointed the higher officials like the Bishops, and Archbishops and exercised his authority by sending Papal Bulls from time to time. It was the Pope who granted indulgences to repentant sinners. In return for this the English Church had to pay a fixed sum of money for their allegiance to the Papal see,

The Pope was sent annually 20,000 marks, i.e., £ 150,000 of present money. It was indeed a prodigious sum and Englishmen had begun to resent it. The Pope's revenues from England alone were larger than those of any Prince in Europe. John Wycliff was the first English reformer who raised the standard of protest against Papal authority and raised the slogan: "The Pope hath no power in secular matters." The position of the Pope himself was not very secure. During the fourteenth century a split occurred at Rome, known as the Great Schism, as a result of which there were two or three rival Popes, whom various nations accepted. The Pope whom the English nation accepted was under the influence of the French King and carried out his dictates. It was obvious that the Pope's authority was very nominal and the Papal sees had become a tremendous scandal.

To the ordinary Englishman the Pope was always as remote and shrouded in vague mystery as the Almighty Himself. The Pardoner was the only visible link between the Pope and the people. It was the business of the Pardoner to sell Papal pardons to people and hence was constantly travelling to and from Rome. Originally these indulgences were granted only through the clergy but later on the Pardoner himself held an ecclesiastical post. Chaucer's Pardoner appears to have held some position in the holy orders and had the authority of preaching. The Pardoner, entrusted as he was with such important duties, was naturally the first to exploit the ignorant and credulous masses. Chaucer's Pardoner carries in his bag spurious relics—a piece of cloth which he said was the portion of the sail of St. Peter and also a pillow-case which he affirmed as Our Lady's kerchief. "With

these relics," says Chaucer, "when he came across a poor person dwelling in the country he obtained from him more money in a day than that person obtained in two months' time. And thus with lying flatteries and tricks he made the parson and the people his dupes." It was quite possible that the Pardoner's pardons had not actually come from Rome at all, but were spurious as were the relics.

There was in England what is known as the Diocesan system, the head of which was the Bishop. The country was divided into different sees and a Bishop was to be constantly resident in his diocese, feeding the hungry, clothing the poor, educating scholars. He was not expected to look a woman in the face or to allow his own sister to kiss him. The diocese sometimes being too wide it was not possible for one Bishop to travel to all parts and hence he appointed "suffagan Bishops" to do his duty. The Bishops of Chaucer's days, like their regular monastic brethren, had begun to amass wealth and neglect their duty. Wycliff calls them sarcastically "Emperor Bishops."

The unit of administration was the parish. A group of parishes formed the rural deanery presided over by the rural Dean. Above him was the Arch-deacon, who was the Bishop's delegate and exercised authority over the orders of the Dean. The Dean dealt with all matrimonial and probate cases and exercised discipline by fines. The summoner was the bailiff of the Dean's court. It was his duty first to announce that the church meant to call an evil-doer to account. He next sent a report of the case and a sufficient bribe would make this a favourable one. Chaucer's summoner had shortcomings of his own. He was as passionate and lustful as a sparrow and loved to drink strong wine, red as blood,

For a quart of wine he would allow a chum of his to have his mistress for twelve months and entirely excuse him for the same. He knew the guilty secrets of all the young persons of either sex in the town and he released them from the Archdeacon's curse if they paid him a good round sum.

The parish clergy were divided into three groups—(1) The Rectors, (2) the Perpetual Vicars, and (3) the Chaplains or the Stipendiaries. During the earlier part of the thirteenth century the secular clergy were under the sway of the monastic orders. The monasteries endowed lands to the secular clergy and the clergymen were allowed a fixed allowance or stipend. The Rector was the individual who received the whole income of the benefice and the Perpetual Vicar "appropriated the parishes and received a stipend from the benefice." These clergymen lived in the clergy-house built in the churchyard of the parish church.

The main source of income of a parish priest came from the produce of the 'glebe,' the land belonging to the parish churches and tithes—the tenth part of the produce of the lands. Their ordinary duties included preaching of the word and the administration of the sacraments, administering baptisms, hearing confessions, and granting absolutions. They were responsible for the general conduct and moral character of their parishioners. "Ye churchmen of the parish, ye be fathers of your parishioners," advises Langland and we see a very pleasant picture of an ideal parish priest in the *Prologue*. He is a man of high academic learning—a clerk who first followed and then taught Christ's gospel to his parishioners. His parish was wide and still he did not shirk his duty but visited even his farthest parishioners in rain or in thunder, in sickness or in disaster. He dwelt at home

and looked after his flock and was a real shepherd. He did not run to London under false pretences. "A bettere priest," says Chaucer, "I trowe, that nowhere noon is." He waited after no pomp and reverence nor had he a hypocritical conscience. He was very holy and virtuous and drew people to heaven by firmness and by a good noble example.

The relations between the secular and regular clergy were never cordial. The mendicant orders were exempted from the diocesan jurisdiction and also from the law of the land. Naturally enough, the Archdeacon and the Deans resented the authority of the friars and their quarrels were traditional. On account of their duties, they came into constant contact with one another and spent most of their time in quarrels and litigations.

Pilgrimages to holy places were considered to be very important and every person visited the holy places at least once in his life. The pilgrims were provided with excellent facilities of food and lodging by the rich monasteries all over the land. At the time of Chaucer, the religious character of the pilgrims was changed and they became a party of hikers, going on pleasure trips. Very few of the pilgrims of Chaucer appear to have any fervent religious thought in going on their pilgrimage and Canterbury W. Thorpe complains of the pilgrims, saying: "They will ordain to have with them both men and women that can well sing wanton songs and some of the pilgrims will have with them bagpipes (as Chaucer's miller, for instance;) so that every town that they came through, what with the noise of their singing and with the sound of their piping, and with the jingling of their Canterbury bells, and with the barking out of the dogs after them, they

make more noise than if the king came there away with all his clarions and many other minstrels."

The general impression of the clergy in Chaucer's days was that he was an easy-going man of the world, shrugging his shoulders at a state of things which he took for granted. The one obvious cause of this was the illiteracy of the masses and the absence of an English translation of the Bible. There is also another circumstance which helped to bring

about a complete downfall of the righteousness of the religious institutions and it was the Black Death of 1348. Many priests who had stayed nobly by their parishioners, nursing them in their sickness were carried away and inferior men filled their places. Thus we see not a very healthy picture of Church and Religion in the days of Chaucer and Chaucer indeed does a great service by portraying sarcastic and ironical portraits of the degenerate religious officials.

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THE SONNETS OF PROFESSOR P. SESHADRI.

BY MR. MOHANLAL KASHYAP, Lucknow.

CURIOSLY enough, Professor P. Seshadri, the sunny-natured veteran scholar, also revealed his poetic qualities in his early years, apart from his academic talents. He has been aptly laurelled as a champion of the cause of Indian education due to his unending and enthusiastic endeavours in this direction.

But his literary activities should not be cast in the shade because of his reputation in other departments of life. Professor Seshadri has to his credit no less than four volumes of poetry.

Bilhana, a romance adapted from Sanskrit, forms the theme of one of them and chronicles the life and activities of the famous poet of Kashmir with the same name. It is overbrimmed with exquisite beauty and poetic charm. Hence it deserves separate treatment, not within the province of this appreciation.

Professor Seshadri's published sonnets extending over three slender volumes entirely devoted to the particular verse-form number about one hundred. Many of them were published in the *Modern Review*, the *Poetry Review*, the *Indian Review*, the *East and West* and so on. For years readers looked for his sonnets in these periodicals and were regaled with delightful exercises in the sonnet-form which had not yet been established with any firmness in India. He also had the distinction of having his work referred to more than once in the *London Times Literary Supplement*.

At the time of publication his sonnets caused a stir and a delightful sensation in the literary firmament of India and were undoubtedly considered the best which had been writ-

ten in India. Showing the influence of Dante Rossetti, they received the special appreciation of his brother, Mr. W. M. Rossetti, who did much in his life-time for the elucidation of beauty in many writers of verse. His sonnets were greeted with warmth and many of them were translated into Hindi and Tamil. The wide attraction they caused is evident from the fact that several of his pieces were also translated into some European languages including Danish, the latter by a writer called Karl Glasenup.

Seldom has an Indian poet the privilege of being mentioned in British anthologies and securing a place in University text-books. Professor Seshadri has had that too. Some of his sonnets are among those prescribed for University examinations. It is therefore in the fitness of things that his sonnets should find appreciative treatment.

The first volume of his sonnets was published under a modest caption, 'Sonnets' in 1914, when the poet was the Principal of a college in Madras at a very early age, though his sonnets were written when he was almost fresh from the college. This book is divided under two heads, 'Love's Garland' and 'Miscellaneous'. The former contains some of his excellent pieces, which attracted attention in English anthologies. 'Longings' is one of the finest sonnets of this type written in recent years. It embodies exquisite harmony, precision and it has living beauty. The special secret of success in the sonnet-form is there. Purple patches of fine phrases like 'a part of God's creative light', 'life-infusing air', 'thy rapturous sweetness' shine like choicest pearls bedecked in a garland. What a sprightly longing sways the poet to say

'Shall I encrowned with laurel, sing for
Time,
Eternity and Universe, enshrine
Thy name for ages, scorning storm and
stress?'

Another sonnet 'Thoughts' is an ideal piece of poetic unity. In fact, almost all of his work embodies the salient characteristics of unity, gradual flow and ebb. 'Kiss' forms an interesting theme for many an oriental poet. Professor Seshadri is no exception. It leads him to form a fine fancy—

'The magic touch that thrills the mind
and soul,
Awakes a boundless universe of bliss!
To glow in raptures with the fervent
kiss

Of loving hearts is feeling life a whole.'

'Absence' has been another theme to hit upon for many poets; and Professor Seshadri has dealt with it with fire and faith. His optimistic conscience awakes and breaks into raptures, when he says

'But winged messengers, unknown to
view,
Shall see our raptures ever glow anew.'

He has also contributed seven brilliant sonnets of rare artistic merit on some of the outstanding personalities in the field of life and letters, like Toru Dutt, Queen Victoria, Milton and Rossetti. They are artistically adored and skilfully enshrined in these pages. Milton, for instance, has been aptly mentioned as "the bard who soared aloft in aerial spheres attuned in harmony." Rossetti has been commemorated in more than one charming way—

'A prophet with a message—Beauty's
creed'
'A Lord of Light and Art and Song',
'A thrice-ennobled soul!'

This volume abounds in sonnets of an invariably high order. A single emotion or thought dominates each of these, culminating always in some striking line of great epigrammatic beauty. His sonnets are verily 'impearled and orient in their crests.'

The second volume of his sonnets was placed in our hands in 1923, entitled *Chambak Leaves*. The poet retains here chaste diction and melodious rhythm combined with flawless metre. In fact, here he displays a marked advance in the evolution of his thought. He seems to have drunk the wholesome juice of life and accumulated the poetry from within. He hits upon pictorial events and scenes in life. The very first "At the Temple" is a pattern of consummate craftsmanship besides the grace and charm of the thought itself. The *motif* is simple and splendid. Three young girls waiting for worship at the shrine, on a temple-stair, invest the theme with the desired effect and verily, provide for a congenial background. But the sunset is remarkable in its conclusion, especially, when the third girl yearns for (unlike her other friends)

"A lovely partner on life's ways."

This poem has been frequently honoured in several anthologies. Picturesque visions unmistakably loom into vision, poring over fanciful pieces like—"Sorrow," "A Question," "Love," "A Prophecy." The latter is striking in its promise—

'Mantled in prouder beauty will you
glow;
Of blissful visions will your fancy dream;
A nobler womanhood will crown your
brow;
And face and limbs with newer graces
beam.'

The predominance of a genuinely oriental air is the unique charm of this volume. Hardly more eloquent and expressive visions

of India can be discovered in the best of volumes written on it. When we read of 'the wilds of Sarnath' and 'trees on Ganga's shore,' they all at once crowd in our vision.

The poet has also been deeply impressed by some of the striking social evils of India. His sonnet on the "Orphan", for instance, is immensely pathetic and moves the heart. How heaps of gloom spread ahead of the pen, when the poet talks of

'Parents' love forlorn, he stood,
A friendless orphan at the fair.'

'Evil' is a really magnificent piece. Bending over this book, one meets a charming sonnet entitled 'Rakshabandhan' which is, no doubt, one of the finest sonnets. A sister's heart has been stored in here and these fourteen lines running at an evenly iambic pace are nothing short of fourteen tender throbbings of her heart transmitted here. It is exclusively oriental in its stuff and substance and no better texture could have adorned the thought so well. It exhibits a rare artistic skill in the poet. It has often made a worthy contribution from the bulk of Indo-English poetry to

volumes representing the works of Indian litterateurs.

The third volume, *Vanished Hours*, is a valued dedication to the memory of the poet's deceased wife. Fanciful and artistic glamour is disseminated throughout. In these pieces, the keen and sure perception of the poet's 'inward eye' is remarkable. The love-sonnets in this volume are distinctly unrivalled in India. It is a pageant beaming with rich romance and remarkable artistry. 'Zehunnisa's Lover' is fine. 'A Sonnet' and 'the Teacher' are rather self-revealing and hence tending to wide interest. The sonnets on 'Kacha' and 'Jaydeva' in the concluding pages revive the glories of the ancient literature.

To our alarm and anxiety, we find that Professor Seshadri has not contributed further from the immense bouquet of his poetic thoughts. He is decidedly a highly gifted sonneteer and can be unhesitatingly declared as the best sonnet-writer India has produced. Should we hope he will resume his pleasant pastime and add grace to Indo-English Poetry?

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THE PROFESSION OF LITERATURE.

BY MR. SHEIKH IFTEKHAR RASOOL,

Multan Cantt.

SCARCELY half a century has elapsed since the profession of literature was regarded much in the same light as those itinerant callings which contribute to the pleasure and amusement of a nation, rather than to its dignity or prosperity. It is true that previous to the beginning of the nineteenth century, some of the names most illustrious in history had won high honours in the realm of literature; but they all followed other callings and pursuits, worshipping only during stolen hours at the shrine of the deity with the starry diadem. Poetry and poverty were regarded as synonymous terms; and so stern and immutable seemed the decrees of destiny, with regard to men who devoted their days to literature, that, on looking over the records of time, there is scarcely a name to be found to which a melancholy history is not attached. In earlier times, the wandering minstrels gained a precarious livelihood; but they sang the words they had themselves composed; and although they were invariably welcome guests in cottage and in castle, their purses were always as light as their hearts.

The profession, nevertheless, appears to have had charms for every one whose mind could reflect even but a single ray of genius. When Cæsar landed upon the shores of Britian, he found the inhabitants a nation of savages, it is true, according to his ideas of civilisation; but they were at the time a poetic people, true to their traditions, and headed by men who were as valued for their valour as they were esteemed for their eloquence.

XLIV—4

From the Roman invasions, a period of nearly fifteen hundred years passed away, without the advent of a single star to radiate through the darkness. The Danes and the Anglo-Saxons, who succeeded the Romans, chanted war-songs from the dawn to the darkness; the Scalds of the former being men who not only followed literature as a profession, but were also soldiers of approved courage, being as celebrated on the fields of war as they were renowned in the festive hall. On the battlefield, the sound of hymns drowned the roar of war, and so swelling and solemn were the notes of combatants, that the Danes were in the habit of deafening their horses, lest they should take fright, and carry them from the conflict.

As men owe happiness to creation's last and loveliest work, so does Literature owe its present exalted position to Beauty's love-lit eyes. With the Normans came the Troubadours, men who boasted that their mission was to tell the world that woman was beautiful. The glories of war were left to be recorded in the rough Latin, Gaelic, Welsh and Anglo-Saxon languages of the period; but the triumphs of Beauty and the victories of Love were proclaimed in the soft Italian of the sunny south, and the sweet refrains of the Troubadour.

The reign of the Troubadours extended over nearly three centuries; and although they sang but the songs of love and war, it is not too much to say that to their strains the genius of Spencer and Shakespeare is largely and deeply indebted.

Chaucer, who has been called the 'Father of English Poetry,' succeeded the minstrels and the Troubadours. He had, however, rivals who disputed sovereignty with him, and, probably, the lays of Gower and of Barbour, as they were more popularly known, would be pronounced equal, if not superior, to those of the author of 'The Canterbury Pilgrimage.' The fame of Chaucer seems to be dependent chiefly upon the admiration which his verses excited in the mind of Spencer, who, in many things, made him his model.

Leaving them there we come now to another great landmark in literature, in the person of Edmund Spencer, who was one of the brightest of the galaxy of stars which shed radiance and glory over the reign of the Virgin Queen. He was the contemporary of Sidney and Raleigh, and won by his pen, not only golden opinions from the most exalted spirit of that magnificent age, but, what was of more value—substantial rewards. His patron, Sidney, procured for him the secretaryship of the viceroyalty of Ireland; and, eventually, out of the forfeited domains of the Earl of Desmond, he received a gift of between three and four thousand acres of land,—rather a handsome present for a young man of twenty-seven years. When the rebellion of Tyrone broke out, Spencer was obliged to flee from there, leaving behind him his infant child, whom the inhuman cruelty of the rebels burnt with the house which had been the poet's home. This misfortune broke his heart, and he returned to England, only to die at the early age of forty-five.

As a poet, Spencer stands highest amongst all his contemporaries. Although his style is cold, and his tales tedious, yet his compositions are as remarkable for brilliancy of imagination and fertility of invention, as they are for the smoothness of their rhythm and their general elegance.

To enumerate all the stars of the constellation of Thought which shed glory around the throne of Elizabeth, and adorned the profession of literature, would extend this article beyond its prescribed limits. I shall, therefore, sweep my glass across the sky, until the Jupiter of English literature crosses its lens, in the person of William Shakespeare, the greatest and grandest poet the world has ever yet produced. He rises above all poets, ancient or modern, like a giant among dwarfs. He plays upon the human soul as if it were an instrument; leading not only reason and fancy captive, but lulling or arousing all the passions of the heart as the impulses of high genius direct him.

As Homer was the progenitor of the poets of antiquity, so is Shakespeare the father of those of modern times. Sophocles, Horace, and Virgil would probably never have written, had Homer not sung long before their time. In like manner does modern English poetry owe all its value to the genius of the Bard of Avon. To him Byron is indebted for the loftiest ideas, and Scott for the comprehensiveness of his matchless dialogues. It is in vain for the poets of these days to dispute or deny the imperialism of their great master. Even their most original ideas will be found better expressed in his pages, destitute as they are alike of ornament and of ostentation. To Shakespeare the world is indebted for sayings which have passed into proverbs; the characters which he drew have superseded those of history, and the ideas which he sowed, broadcast over the world, have been the germs of those of posterity.

To Shakespeare, the dream of Fame was a delusion. It is true that, as a poet, he wrote for immortality; but as a Christian, he lived for the spirituality whose portals are the grave! In a word, Shakespeare is the poet of

all mankind, and the highest member of the Order of Thought.

Having dwelt so long on the literature of what may be considered a remote time, we must now be content with tracing the progress of the profession in the lives and works of the representative authors of the period which has elapsed from the death of Shakespeare to the present time. The poet who immediately succeeded Shakespeare was Abraham Cowley, one of the most elegant writers and accomplished men of a brilliant age. He rivalled the poets of antiquity in the ease of his style, and the music of his rhythm.

There is another name associated with that of Cowley, and that is the name of Falkland, whose genius was of a threefold character. Like Sidney, he was an ornament to literature, a master of arms, and a statesman in policy. He sang of peace beneath the canopy of his water-tent, and he worshipped liberty within the precincts of a palace!

The next shade that we invoke from the chambers of the past is that of Milton, who towers like a column above all his contemporaries. Standing beside him, the Wallers, the Denhams, the Sucklings, the Lovelaces, the Herberts, the Carews and the Stanleys appear but as so many children gathered around his feet, to pick up the flowers which had fallen from his chaplet. Like Shakespeare and Spencer, he is one of the landmarks of English literature, who preferred the pride of poverty to the slavery of wealth, and had the courage to dare a monarch's wrath, in maintaining the integrity of the principles of his belief.

The successors of Milton, and partly his contemporaries, were Dryden, Walker, Rochester, Roscommon, and other poets of smaller note. Dryden, as a poet, was far behind Milton; but his style was easy and elegant, and he imparted a beauty and finish to English

composition which had not before been known. His plays are far inferior to those of Shakespeare, and few of them, indeed, are equal to those of Otway. He was, however, a great writer; and although but poorly paid for his writings he made literature his profession, and died in harness in his sixty-eighth year.

In the eighteenth century, the profession of literature was established upon a secure and permanent basis. We cannot, however, do more than glance at the names which shed glory and lustre upon the history of their country. Pope, Addison, Swift, Fielding, Johnson, Goldsmith and Burns rendered the literature classical, while Steward, Watt and Smith made discoveries in science, philosophy, and political economy, which have since revolutionised the world.

In the realm of literature, Burns excited the greatest degree of attention. He was a peasant poet, and he burst upon the world brilliant and erratic as a comet. He came with a soul brimming over with nature, and an eye that looked straight into the heart of truth. He sang; and the genuine feelings of the human heart—the primary emotions of the human soul, came gushing out of that warm rich nature of his, with all the freshness of water from a crystal spring, and all the beauty of a rainbow.

The profession of literature has not only materially assisted to advance the intelligence of Man, but it has effected revolutions in the physical, the moral, and the political worlds. Old things have passed away, and all things have become new. The triumphs of human genius in industry, science and art have been mainly, if not entirely, achieved by members of the profession of literature, who, in the midst of difficulties, dangers, privations, and miseries still struggled and hoped on, for the advent of the day when their order would not only be recognised, but honoured by a sovereign for whom, as the dramatist has said, a Milton might have sung, and a Hampden have died!

SOME ASPECTS OF EDUCATIONAL REORGANISATION WITH PRACTICAL SUGGESTIONS.

BY MR. S. HARRIS FLETCHER, B.A., L.T.,
Formerly Headmaster, Town High School, Virudhunagar.

INTRODUCTORY.

HERBERT Spencer has described the purpose of Education as a means of forming the parent, the worker, the thinker, the subject and the citizen. At the present time when the reorganisation of the Educational System, both Secondary and Elementary, is engaging the attention of educationists and the general public of the Presidency, it is intended in this article, among other important aspects, to deal with the question of giving a vocational bias to present day education.

HOURS OF INSTRUCTION.

In the reorganised system of education, the hours of work should be from 7-30 A.M. to 11-30 A.M., six days in the week. In rural schools where pupils come from a long distance slight adjustments will be necessary. The change in the working hours—one of the recommendations of the Statham Education Reforms Committee, Travancore—has been adopted in the schools and colleges in Trivandrum with highly satisfactory results.

ADVANTAGES.

Mental work is best done in the cool hours of the day. Early rising which the change makes imperative, is conducive to health and greater output of work. The present school hours wean away the school children from the life of the family and family vocations for the major part of the day. When the change is made, the pupils may use the afternoon for study, engaging in some vocation or cottage industry and play. The teachers, being free, may use the afternoon for self-improvement, rural reconstruction and social work, including temperance and

health propaganda and the running of adult schools. Thus the change will be a national gain.

MEDIUM OF INSTRUCTION.

The medium of instruction in the schools should be the mother tongue for all non-language subjects. English wherever used in India—in British India or Indian States—as the medium of instruction, has been found to be a big handicap to the pupils. English should be taught as a compulsory subject.

HOW TO KEEP THE STANDARD OF ENGLISH HIGH.

In colleges also, the mother tongue is preferable as the medium of instruction. However, English being the medium of instruction at present, such methods as will induce pupils to make greater use of the English section of the library and English newspapers and to take a greater active interest in the English Literary Association of the school should be adopted, to enable the secondary school pupil to attain a reasonably good command of English. Special attention should be paid to composition, both oral and written. Further only those teachers who are strong in English and have special training in the subject should be put in charge of the English classes.

VOCATIONAL BIAS.

There should be a definite vocational bias in the curriculum of studies. There ought to be compulsory instruction in vocational subjects or cottage industries in all schools.

For rural schools some vocations and cottage industries suggested are, elements of agriculture (including vegetable gardening

and a little of wet land farming), poultry keeping, bee keeping, elements of cattle breeding and dairying, hand spinning and hand-loom weaving, dyeing (especially with dyes obtained from cheap indigenous products), book binding, tailoring, carpentry, ironwork and commercial subjects. To help the schools in matters relating to agriculture, the services of the Government Agricultural Inspector or Demonstrator of the area should be made available by the Government.

In urban schools, commercial subjects, hand spinning and hand-loom weaving, carpet making, dyeing, carpentry, ironwork, soap making, toy making, book binding, tailoring, flower gardening, printing (it will be quite possible to make arrangements in some presses of the locality to give a certain number of pupils training in printing a few hours a week), and some of the vocations and cottage industries suggested above for rural schools may be adopted.

LAND FOR THE AGRICULTURAL ACTIVITIES OF SCHOOLS.

Wherever possible, land should be made available by the Government to rural schools, especially for vegetable gardening and some wet land farming.

NECESSITY FOR THE ESTABLISHMENT OF GOVERNMENT RURAL RECONSTRUCTION DEMONSTRATION CENTRES.

To demonstrate the principles of rural reconstruction to the rural people of the Province the Government have to start rural reconstruction centres in selected places in different areas of the land. To introduce and to impart instruction in cottage industries and methods of rural reconstruction in schools, young teachers—men and women, whose minds are open to new ideas—with a desire and aptitude for rural service may be selected and deputed for training to those demonstration centres. Till the establishment of such centres, teachers may be sent for training to institutions doing rural reconstruction work at present, like the Y. M. C. A.

Rural Demonstration centre, Martandam.* A special grant will have to be given by the Government to teachers thus trained, who will also be instructors in cottage industries and rural reconstruction in their schools.

For some items like weaving, carpentry and ironwork, instructors with technical qualifications will have to be engaged.

ACQUIRING KNOWLEDGE OF CO-OPERATIVE ACTIVITIES.

There should be a co-operative store in every school worked by the pupils under the supervision of responsible teachers, which supplies the requirements of the pupils of the school, such as text-books and stationery and some of the articles required for the school office. If, as is hoped, the working hours of the school be changed to the forenoon, the school co-operative store may well undertake the supply of fresh milk, at a reasonable cost, to members and others during the main break of the day's session.

The products of the school poultry yard and hives, of vegetable garden plots cultivated by pupils' individual effort, eggs of fowls kept by pupils at home, honey from pupils' hives and anything else produced by the efforts of the children may be marketed on a co-operative marketing basis. The Government Co-operative Inspector of the area should render all the necessary guidance and help needed.

ART.

Some education in fine arts such as music, painting and carving is essential.

The study and singing of national songs will foster in the hearts of the pupils a deep love for the mother-land. The formation of *Bhajana* parties, folk dance clubs, dramatic associations and similar organisations in the school will do much to enliven school life.

* Those interested in rural service will find practical guidance in "Up from Poverty in Rural India," by Spencer Hatch, M. Sc. in Agr., Ph. D. Oxford University Press, Madras.

SCHOOL MUSEUMS.

There should be a small school museum, a centre of attraction and educational interest in each school. In rural schools, there should be a "Village Products Museum," containing rural products—agricultural, industrial and artistic—of the locality and other places.

[FREE READING ROOM AND LIBRARY.]

There should be a free reading room and library with a fair supply of vernacular and English newspapers and books attached to all rural schools, to disseminate knowledge of the principles of health, sanitation and national and international affairs among the rural people of the area.

SCHOOLS TO BE AGENCIES OF RURAL AND URBAN RECONSTRUCTION.

Thus the pupils who pass through the reorganised schools will be active workers and leaders in producing agricultural and industrial products and in co-operative activities.

SERVICE THE HIGHEST IDEAL.

Speaking at a recent school-day function, the president, among other advice, laid down the following ideal to the scholars. He said: "Students should co-operate in social uplift work, humanitarian enterprises and public charities." This is an aspect to which our reorganised schools should pay more and more attention.

Approved for class use for schools in the Madras Presidency (Vide Fort St. George Gazette, dated 4th May and 9th November 1937.)

NEW INDIAN CLASS READERS

BY

P. C. WREN, M.A., I.E.S. (Retired)

Assistant Director of Public Instruction, Bombay.

Primer, As. 5; Reader I, As. 6; Reader II, As. 7; Reader III, As. 10; Reader IV, As. 12.

This series is a revised edition of P. C. Wren's "Indian Class Readers," and as such, it is hoped, will not fail to draw the attention of teachers all over the country. It will be noticed that the whole series has been most carefully planned and graded, and very fully illustrated. All the lessons, without any exception, will be found full of interest as they present children with objects and stories familiar to them. Each book marks a stage in the pupil's progress in self-expression. Abundance of conversational lessons forms a prominent feature of the whole series. The poems included in each book are simple and of genuine merit. The questions on each lesson are so framed as to ensure a firm grasp of the subject matter. It is claimed that this new series provides excellent material for effective teaching of English to our children.

OPINION

"Here is a fine revised series of books for young beginners in English. They are well graded, varied and interesting. Dialogues have been introduced here and there; some lessons are in dramatic form; the poems are such as will appeal to Indian children; very many lessons are illustrated. These can be utilized for oral and written composition. To add to all these excellent recommendations of the books, the exercises at the end of each lesson are bound to secure the best results in speaking and writing English."—*The Bombay Teachers' Journal* (March 1937).

COOPER, Publishers, BOMBAY, 6

STUDENT'S CO-OPERATION IN HIGHER EDUCATION.

BY MR. M. K. VENKATESWARA AIYAR, B.A., B.L.,

Madras.

IN my article on *Sound Education and Wise Co-operation* published in the December issue of the "Educational Review," Madras, I pointed out the necessity for wise co-ordination and concentration of the resources of the School, Home, Community, Religion and the Student for Sound Education. The student's contribution in the matter will be very clear from a saint's discourse of which the following is a summary:—

DUTY AND MERIT OF SISHYA OR STUDENT.

शिवदृश्यते साक्षात् श्रीगुरुः पुण्यकर्मिणाम् ।

नरदृश्यते साक्षात् श्रीगुरुः पापकर्मिणाम् ॥

A venerable saintly teacher or Guru will appear to be God Himself for a good student, whereas the same teacher will appear to be only an ordinary man for a dull thoughtless student.

Respect or *Bhakti* towards the Guru is the channel through which divine current flows to the Sishya as *Vidya* or Education. However enlightened, unselfish and earnest the teacher may be in the discharge of his duty, his teachings will have the desired effect on the pupil only if the latter has faith in the Guru or teacher and pays proper attention to the lessons imparted and rightly understands and assimilates them whole-heartedly. The difference in the nature and capacity of the student makes a great difference in his understanding the subject, as is clear from the story of the Devas and the Asuras going to learn about the Self from Brahma.

Once the Devas and the Asuras went to Brahma for being initiated in spiritual wisdom. Brahma told them: "*You yourselves are the Atma you are seeking.*" The Asuras who thought that their bodies were Atma, thereby

began to eat, drink and be merry. They said they were the supreme being and there was nothing beyond them. As the Asuras were naturally ignorant and clouded, they made no further enquiries. They were quite satisfied with the idea that Atma meant the body. But the Devas had a purer nature. Although they first committed the mistake of confounding the body with Atma and paid much attention to dress and other sorts of enjoyment, they found out in a very short time that the body cannot be Atma. There must be something higher. So they went back to Brahma and asked him how the bodies can be Atma, as the bodies die, but the Atma cannot die. Brahma said: "*Find it out yourselves: you are that.*" Then the Devas thought that Prana might be Atma. But after a time, they found that if they ate, the Pranas were strong, whereas if they starved the Pranas became weak. So, they went back to Brahma again and asked him whether Pranas were Atma. Brahma said: "*Find out for yourselves: you are that.*" The Devas returned home once more and thought that Manas was Atma. But they soon saw that thoughts were so various—now good, again bad; the mind was too changeable to be the Self. They again went to Brahma and asked him whether Manas was Atma. "No," replied Brahma, "*You are that; find out for yourselves.*" The Devas at last found out Atma which was beyond description and imagination. They further found that Atma was without birth or death, whom the sword cannot pierce or the fire burn, whom the air cannot dry, or the water melt, the beginningless and endless; the immovable, the intangible, the omniscient, the omnipotent being; that it was neither the body nor the mind but beyond

them all. Thus we see that Brahma's teaching produced different effects on the Devas and the Asuras on account of *the difference in their nature and capacity*.

Therefore our forefathers were very strict in estimating the qualifications of the Sishya or student to decide what kind of instruction the particular student deserved. Even Sri Suka who was born an *Atma Gnani* and was well instructed by his father, Vyasa, was made to wait in the palace of Janaka for a week in the midst of all kinds of allurements, to enable Janaka to find out whether Suka was a proper disciple or *Adhikari* to receive instruction on *Brahma Vidya*. It was only when King Janaka was thoroughly satisfied that Suka's mind was completely pure and his will-power strong enough to keep him free from all kinds of temptations, that Brahma Vidya was imparted to him.

It is very difficult to address many simultaneously where the hearers are not all of the same degree of culture, purity and faith. But there are certain common points of enquiry where all of us agree. It is the natural instinct of all living beings to wish for happiness and to be free from pain. The differences begin in the methods adopted to achieve these two objects. Many imagine that possession of immense wealth will ensure happiness and strive for the same. If their view is correct all rich men ought to be incessantly happy. But our experience is otherwise. Trade, agriculture and other avocations are generally carried on by men for earning money. We find that profits in these are not certain and we are obliged to admit that our brain faculty requires a reliable supplement to avoid losses and unpleasantness. In Sanskrit the cause of the uncertainty about profits is called *Adrishta* and the supplement to our thinking faculty which uproots this *Adrishta* is called *Sastra*. The Veda is the basic authority for *Sastra* as that alone has

the power to command without a mistake. If we analyse the contents of the Veda we find two parts, the *Karma Kanda* and the *Gnana Kanda*, each of which having *upasana* portions attached to the same. The Karma Kanda teaches that God has arranged for splendid rewards for performing *Vaidika Karma* properly and for punishment if it is neglected. This reward and punishment are only for the initial stage to induce the student to adopt *Vaidika Dharma Achara*. Anyhow it is next taught that our performance of Vaidika Dharma must be to please God and for nothing else. Just as voluntary public service is better appreciated in this world, Vaidika Dharma Achara with *Iswara Arpana Buddhi* (i.e., surrendering all *Karma Phala* to God) is said to be far superior to the performance of Karma expecting rewards for the same. The mind becomes completely purified when we perform Vaidika Karma as a duty cast upon us by the command of God without any desire for the Karma Phala. Then we become qualified for spiritual wisdom. When one becomes eligible for *Atma Gnana* there is no necessity for Karma for him as a boy who has completed his course of study in a particular class, need not continue to study in the same. A man whose *Antah Karana* or heart has become pure by the above process will very easily understand that the *Sarira* or body, *Prana* or life energy, *Manas* or mind, and *Buddhi* or intellect are not *Atma* which alone is the real source of inspiration, illumination and invigoration for all these. He will further realise that pain and misery arise from the misconception that *Atma* is identical with *Sarira*, *Prana*, *Manas* and *Buddhi* who are inseparable from conditions of unhappiness. When the Sishya becomes a proper *Adhikari* by having a pure heart and strong will, the *Upadesa* of the Guru that *Atma* alone is *Sachchidananda*, i.e., reality, wisdom and bliss, takes effect instantaneously. The Sishya then realises

that he is really identical with *Atma* and ever free from pain and misery which cannot affect *Atma*.

Hence the qualification and duty of the Sishya are as important and essential as those of the Guru.

STUDENT'S DUTY TO HIMSELF.

The most important duty of a student is to pay *concentrated attention* to all his lessons to enable him to master them in the *shortest time* with the *greatest pleasure* at the *least expense of energy* so as to feel *quite at ease* whenever he studies his lessons. This method of study assures maintenance of health and peace of mind. A clear brain is the best receptacle for all kinds of lessons. You may therefore study by heart the following lines of a great poet and translate the thoughts in action:—

Be watchful, fearless, faithful, patient,
pure :

By earnest meditation sound the depths
Profound of life, and scale the heights
sublime

Of Love and Wisdom. He who does
not find

The way of Meditation cannot reach
Emancipation and Enlightenment.

Meditation involves *concentrated* thinking. When you study a lesson, you must collect your thoughts and concentrate the same on the *spirit* of the lesson as the several rays of light are focussed at a centre to have more brilliance of light. You must sound the depths of the lesson you study.

Love. You must love the subject of study as a matter of course and free yourself from the *desires* which disturb the concentration of mind on the lessons. Though the aspira-

tion to pass as the first may be an incentive at first, even such thoughts should not be allowed to distract your attention from study which you should love for its own sake spontaneously. God will grace you with rapid progress in your lessons.

Wisdom lies in noting habitually what is important and what is unimportant in the lessons first. Then you must analyse all that you studied in a particular period of time, say, one hour. And then recapitulate the lessons studied for proper assimilation. Just as material food does not serve its purpose without digestion and assimilation, intellectual food also has to be digested and made a part and parcel of our mind. We must be so saturated with the knowledge of the subject that we know them as we know that $8 + 2 = 10$.

Emancipation, from sensual cravings and mental defects such as delusion, confusion and distraction is partial *Moksha*.

सुखेन विद्यां पश्येण नारीं वाञ्छन्ति ये नूनं अपण्डितास्ते ।

Those who aspire for study *simultaneously* with the fulfilment of sensual and mental cravings and those who court women rashly are fools.

Study must be absolutely free from the cravings of the senses and mind for transitory pleasure.

E.g., we should not think of the edibles in the kitchen when we are studying.

Enlightenment is the result of close attentive study, watchful of the obstructions thereto and *determination* to uproot all obstruction.

Just as a Sanyasi is able to experience divinity by *Dhyana*, *Bhakti*, *Mukti* and *Gnana*, a student can realise Divinity by following the process mentioned above.

UNIVERSITIES IN THE MACHINE AGE.*

PROBLEM OF THE UNEMPLOYED GRADUATE.

IN this world, crowded with terrible happenings, comes the news of Lord Nuffield's latest gift of another million pounds to the University of Oxford, a gift additional to close on two and a half million pounds—or three crores of rupees—given already for medical and surgical studies.

This new gift is to found a new college whose purpose is to draw together the University and modern industry—the old culture and the practical necessities on which our life is built.

PRAYASCHITTA FOR THE MACHINE AGE.

Those of you who are theologians—and we are often told that every Indian is a theologian—may think that in Lord Nuffield's gifts to the University of Oxford there is a measure of prayaschitta (atonement).

The Great War precipitated the world's headlong entrance into the machine age. Of that machine age the motor car, which is now finding its way into your own remote villages, is the most universally present symbol. Because of Lord Nuffield's great car works, Oxford has become the most rapidly expanding industrial town in England.

How fitting is it then—you who believe in prayaschitta may say—that the man who has so changed the whole character of this ancient and once quiet city should make these vast gifts to it and to its University! He began with rich endowment of the

hospitals of Oxford. The one good thing that came out of the Great War was an immense advance in surgical skill and knowledge.

In this machine age there seem to me to be only two good things. One is that with the spread of motor traffic there is far less misery for draught animals, especially horses.

LESS HUMAN PAIN.

The other is that human pain is less. For example, in my boyhood a visit to the dentist was a horrible experience—now it is nothing. That, at any rate, this industrial age which is ruining natural beauty—which is making Oxford into a second Glasgow or Manchester, and which is spreading miles of slag-heaps and industrial buildings along your own lovely Damodar river and in the Chota Nagpur highlands and in many other places—has achieved in the way of good.

And a world-famous industrialist, Lord Nuffield has not only endowed Oxford's hospitals to deal with the innumerable maimings done by modern traffic, but has given the University of Oxford those three crores of rupees for medical and surgical studies and new professorships in these studies.

"THE NUFFIELD AGE."

And now he proposes to do in our costly and complex twentieth century what kings and bishops used to do centuries ago. It is one of those deeds which focus for us the fact that the world in which mankind lived for so long—in which kings and statesmen and ecclesiastics decided the thinking of mankind—is at last dead indeed.

No wonder the Archbishop of Canterbury has called this age the Nuffield Age! And because Oxford, like Athens, Rome, Peking and Delhi, is one of those names which belong to all civilised mankind, even in the crash of empires such as we are watching in the Far East—even in the menace of new wars under which we are living in Europe—men have paused to be astonished at Lord Nuffield's latest gift.

HOW OXFORD BEGAN.

Let me remind you of Oxford's history. We begin somewhere about the year 1200 A.D.—a turning point in India's history also, for it was about then that King Prithviraj, and with him Ancient India, went down before invaders. About this time, bands of English students at Paris, finding Paris uncomfortable because the King of England was quarrelling with the King of France, went back to their native land and began to meet in groups for study at Oxford, a small city set in a network of streams and marshes.

By degrees, these students were given homes and centres for their study. Colleges—the word does not mean buildings but groups of people met together for some common purpose—were founded by kings and great ecclesiastics, and were endowed with buildings and funds.

Gradually, in the passage of the centuries these foundations became fewer and at longer intervals until in the reign of King James I, three hundred years ago, so far as new Colleges went the University of Oxford seemed to finish its growth. In the three hundred years between King James and Lord Nuffield, only the women's colleges and one men's college have been founded.

MEDIEVAL EDUCATION: A LUXURY.

Now what was it that boys and men studied at these ancient schools and colleges? It was not the manufacture of motor cars or ocean liners, not the action of acids and chemical forces, not the distribution of wealth and the problems of poverty and population. It was the great classical writers of Ancient Greece and Ancient Rome, it was law and philosophy and above all it was theology, which was called the Queen of the Sciences.

What happened as a result? The overwhelming mass of mankind were occupied with the grinding eternal task of earning a livelihood, they had neither time nor opportunity for these studies.

So the schools and colleges, which in many cases had been founded expressly for poor students, fell into the hands of those who had time and opportunity for the luxury which education then was. In other words, they became the preserve of the rich and of those classes—the clergy and schoolmasters—who were necessary to their continuance.

Our great schools and our two great Universities became the channel of an intellectual life which was indeed noble—but it was not the intellectual life of the people. They were important, because England's governors came from them; but they were not in the deepest and truest sense national.

The majority of people in every country are poor; and until yesterday Oxford and Cambridge were not the Universities of poor men.

MODERN EDUCATION FOR ALL.

Up till 1870 Matthew Arnold could describe Oxford as "whispering from her towers the last enchantments of the Middle Ages," those Middle Ages which had abundant rest and

* This is a summary of a recent talk of Mr. Edward Thompson, novelist and publicist, who was Educational Missionary at Bankura College in Bengal from 1910-1922, relayed from London and broadcast by All-India Radio.

leisure for the discussion of Aristotle and theology and logic.

But in 1870, universal compulsory primary education was introduced in England.

At first, the far-reaching nature of this change which today has become a revolution, was not apparent. The poorer classes did not always look on compulsory education as a boon, but as something to evade. They wanted their children at home, to do house-work or to look after cattle ; and the children disliked the discipline of school.

Today everyone accepts universal primary education as a necessity. And gradually the character of our education at the top, also at our Universities, has changed. Local authorities, such as County Councils offer scholarships to Oxford and Cambridge for poor boys who could not otherwise afford a University education ; and since the War the valuable State scholarships have been founded.

As a result, the University of Oxford is no longer the close preserve of the ruling classes and of those who depend on the ruling classes. Quite half the students come from schools which are not in any way famous or influential, and nearly half the students are getting financial help in their studies, from one source or other.

NEW STUDIES OUST OLD.

The character of the studies has changed also, though always against opposition and with difficulty. It was hard to get the study of English literature established—just as in India it is hard to get the proper study of your vernaculars established. We have firmly fixed a tradition that Greek and Latin are more important than English or history, as you have one that Sanskrit and Persian and Arabic are more important than Urdu

and Hindi and Bengali and Tamil and Mahratti.

However, bit by bit, we have pulled into the main stream of our University studies not only English and modern European languages, but economics and history and social problems.

Some of us are working hard to pull in Oriental studies also, so that the time may not be far distant when every educated Englishman will at least look intelligent when he hears mentioned not only such names as Achilles and Julius Cæsar, but Kalidasa, Valmiki, Akbar, Asoka and Jalal-ud-Din.

DOES OXFORD FIT MEN FOR BUSINESS?

But while beauty and imagination are essential, you have also, most of you, to earn a living and we cannot all of us be writers or politicians or lawyers or schoolmasters or University professors.

The main part of mankind's activities is concerned with producing material things, with industry and commerce. How far does University education equip the man for a life in the world of business ?

It has to be admitted, it does not equip him for it. Let me quote a leading business man of this country. He says—"Young men leaving school or University are often very vague as to what are the responsibilities of management in business, what the interests of the work, and what the qualities of character and personality it calls into play." That is not surprising, because industry is one camp and the schools and Universities another, and there is still not enough contact between them despite the growth of technological departments and of degree courses in economics and commerce at the Universities."

Our young men at Oxford have been finding it increasingly hard to get jobs after they have finished at the University, and our wealthier classes, knowing this, have been increasingly sending their sons straight into business and not to the University, regarding the time spent at the University as wasted for practical purposes.

ARE INDIAN UNIVERSITIES "PRACTICAL"?

What, then, is Lord Nuffield's gift meant to achieve? This : he wants to close this gap between our Universities and our country's practical life. The Fellows and tutors of his new college will be men whose studies bear on modern life on its practical side, and the students will be young men who have finished their University course and will be trained to understand and use the actual working sinews of England's modern life.

The machine has hold of you and me, and, however much we dislike it, it is going to have

hold of us increasingly and until we die. This is the machine age—the Nuffield Age. Greek and Sanskrit and Persian—poetry and philosophy and theology—these studies are not going to do all that a modern University must do if it is not to be a charming side-ornament but a central part of modern life.

We have our wonderful old buildings in Oxford, but outside Oxford England has her vast industrial cities and black areas of unemployment.

In India you have your unequalled Himalayas, your exquisite Central India of ravine and forests, your majestic spreading rivers. You have also your dark industrial areas, your increasingly insistent social and racial and practical problems.

Are your Universities and your system of thought and education adequate to cope with them ?

TO-MORROW.

BY PROF. H. E. NICHOLAS DE ROERICH, *Naggar.*

I knew so many useful things
And now I have forgotten them all.
Like a robbed traveller,
Like a beggar who has lost his possessions,
In vain I remember the riches
That long since were mine ;
I remember unexpectedly, not thinking,
Not knowing when the perished knowledge
Will flash.

Only yesterday I knew much
But during the night everything dimmed.
It is true the day was great,
The night was long and dark,
Came the fragrant morning.
It was fresh and wondrous
And illumined by the new sun.
I forgot and was deprived of that

Which I had gathered.
Under the rays of the new sun
All the knowledge melted.
No longer can I distinguish
An enemy from friends.
I do not know when danger
Threatens. I do not know when
Night will come. And the new sun
I shall not be able to face.
All that I once possessed,
But now I am orphaned.

Pity it is that I shall again regain
The needed not earlier than to-morrow.
But to-day's day is still long.
When will it come—
The tomorrow ?

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NEWS AND NOTES.

FOREIGN.

RECOMMENDATIONS FOR EXAMINATIONS REFORM IN CANADA.

The following recommendations are taken from a report prepared by Mr. H. P. Moffatt, Research Assistant of the Department of Education of the Province of Nova Scotia for a special committee, and presented to the biennial meeting of the Canadian Education Association which met at Regina in October 1936. The full text of the report is published in the *Journal of Education for Nova Scotia*, December 1936.

"In the light of our study of examinations generally, and of the examination systems in Canada, we would submit the following recommendations for uniform procedure in the Dominion:

1. That a single type of high school leaving certificate issued and signed by the Department of Education, replace matriculation and normal college entrance certificates now issued by Departments, and technical, general or academic certificates now issued by local school boards, with or without the approval of Departments.

2. That such certificates be based on the successful completion of three, four, or five years of high school work (depending on the Province), regardless of the subjects taken, except that certain common subjects, including English, may be required for all pupils.

3. That pupils in high schools be instructed as to the subjects required for normal college entrance, and University matriculation but that there should be absolutely no distinction in form between certificates that may be used for matriculation and those which may not.

4. That the record of pupils from high schools having three or more purely high school teachers with at least two years and preferably four years of University training, and having suitable library and laboratory equipment, be accepted in all subjects without reservation for

such leaving certificates; provided, of course, that the marks be not below the general passing standard required by the Department for certificates based on examinations.

5. That departmental examinations be set for pupils not in approved schools and possibly for those in approved schools who do not reach the required standard, only in the year or years for which leaving certificates are issued.

6. That no departmental examinations be set in Art, Music, Vocational Subjects and English Literature, and that specimens of work or school records in those subjects, whichever is the most practicable in each case, be accepted from all schools for the purpose of the leaving certificate.

7. That essay-type examination papers be drastically remodelled, so that they may allow creative ability and independent judgment to be shown by the pupils; and that, whenever possible, the examinations should require pupils to perform the activities listed as desirable in the printed courses of study. To this end, we recommend the adoption of oral tests as part of the examinations in all modern languages, and the use of dictionaries in foreign language-examinations, text-books for at least part of social studies papers, and tables for scientific and mathematical papers. In Science and English Composition we recommend that students be required at the time of the examination to submit, respectively, laboratory notebooks and theme work done during the year.

8. That carefully constructed short-answer tests be used to a limited extent, for subjects in which the possession of information, as such, and routine skill is to be encouraged.

9. That when internal examinations are accepted, the Departments give careful thought to the development of a school record card, on which the individual interests, personal characteristics, and other relevant data regarding the

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pupil may be entered, in addition to the usual records of school work."

INQUIRY ON THE SALARIES OF ELEMENTARY SCHOOL TEACHERS.

The International Bureau of Education has recently undertaken an inquiry on the salaries of elementary school teachers. As usual, a questionnaire has been sent to all Ministries of Public Instruction. Based on the replies received, which are already numerous, a report will be drawn up and published by the Bureau. This will serve as the basis of the discussion on this question at the VII International Conference on Public Education to be held in Geneva in July 1938. At this Inter-Governmental Conference recommendations to be sent to the Ministries of Public Instruction will be drafted. Considering the complexity of this problem, it will be particularly interesting to discover the attitude taken in this respect by the official delegates of the different countries.

The following is the text of the questionnaire:

I. SALARIES.

1. (a) Are public elementary school teachers considered as officials (of the State, the province, the municipalities)?

Clauses of the contract: duration, guarantees of tenure, etc.

(b) By what authority are elementary school teachers paid (by the State, the department or commune, or by combined authorities, etc.)?

2. Is there a uniform scale of salaries for elementary school teachers throughout the country?

If so, kindly indicate here the annual scale of salaries.

If not, please give a typical scale of salaries (or the most widely used):

(a) of men and women teachers in public elementary schools;

(b) of women teachers in infant schools;

(c) of men and women teachers in special schools (for abnormal children);

(d) of men and women teachers in higher elementary schools (senior schools);

(e) of headmasters and headmistresses of these different types of schools;

(f) of student teachers and probationers in these different types of schools.

3. (a) Describe the system of promotion (promotion according to years of service, by competitive examination, by selection, etc.)

(b) For how many years must a man or woman teach before reaching the maximum salary?

(c) How many men and women teachers figure in each category of the salary scale and what percentage of the public elementary school teachers does this number represent in each of these categories?

II. ALLOWANCES AND VARIOUS PRIVILEGES.

4. (a) To what supplementary payments have men and women teachers in public elementary schools the right (allowances for board, lodging expenses, high cost of living, family charges, etc.)?

(b) Does the law make provision for some of these allowances or indemnities to be paid in kind (free lodging, heating, land, etc.)?

(c) Are they granted by the authority as the salary?

5. (a) Kindly describe the privileges granted to men and women teachers in public elementary schools (expenses, facilities for their children's studies, travelling facilities, etc.)

(b) Are these privileges granted to all officials or are they reserved for members of the teaching profession?

III. ADDITIONAL SALARIED ACTIVITIES

6. Have public elementary teachers the right to carry on their functions as elementary school teachers in conjunction with:

(a) Other functions in official schools (continuation courses, evening classes, etc.)

If so, under what conditions?

(b) Other Official functions of an administrative character or otherwise (Secretary to the Municipality, member of parliament, etc.)?

If so, under what conditions?

(c) Private remunerative activities (private lessons, publication of school text-books, commercial representation, etc.)?

If so, under what conditions?

IV. REGULATION OF THE DURATION OF WORK.

7. (a) How many hours of attendance per week does the law require of teachers?

(b) Does the law require teachers to be in school before the arrival and after the departure of their pupils, for supervision purposes, etc.?

Is a time limit imposed?

(c) Are there legislative regulations concerning the time that teachers must spend on the preparation of their lessons and on the correction of homework, or on other activities?

8. (a) What is the annual number of days' leave not including the regular weekly holidays (*i. e.*, the Sundays, Thursdays or Saturdays included in the period of work)?

(b) Are all these holidays fully paid?

V. RETIREMENT—ILLNESS—DISABILITY—PENSIONS—UNEMPLOYMENT.

9. Does the law envisage a system of saving or insurance, compulsory or otherwise, for teachers in public elementary schools?

Is this system administered by the State, by private organisations (insurance companies), or by professional organisations (teachers' associations,) etc.?

10. (a) What conditions must be fulfilled, from the point of view of age and length

of service, before a public elementary school teacher has the right to a pension?

(b) What is the pension scale?

(c) What deposits must the insured teacher pay?

(d) Are these contributions deducted from the salary?

11. (a) What conditions must be fulfilled before the public elementary school teacher has the right to sick pay or to disability pay?

(b) What is the amount and duration of such payment?

(c) What deposits must the insured teacher pay?

(d) Are these payments deducted from the salary?

12. Kindly give the same information concerning pensions for widows and orphans.

13. Kindly give the same information concerning unemployment allowances.

VI. FOREIGN MEN AND WOMEN TEACHERS.

14. (a) Are the nationals from other countries admitted as teachers in either public or private elementary schools? If so, are the conditions of work, salary and insurance the same as those for the nationals of the country and for those belonging to the canton or province?

(b) In federated countries, are persons from other cantons, provinces, etc., allowed to teach in the public or private elementary schools of the various cantons, provinces, etc., under the same conditions as the natives of those cantons or provinces?

VII. CONTROLLED PRIVATE SCHOOLS.

15. On all these points, what differences are made for teachers in private schools, subsidised or controlled by the State?

VIII. MISCELLANEOUS.

Kindly add any other details which will help to give an exact idea of the salaries of elementary school teachers.

WORK OF THE INTERNATIONAL INTELLECTUAL CO-OPERATION ORGANISATION.

General Resolutions.

The Assembly notes with keen satisfaction the development of the International Intellectual Co-operation Organisation during the year 1936-37, which has found its most striking expression in the series of meetings forming the "Intellectual Co-operation Month;" tenders its most cordial thanks to the Government of the French Republic and the Paris Exhibition Commission for their kindness in arranging for those meetings and the generosity of the material support which they afforded; approves the reports submitted to it by the International Committee on Intellectual Co-operation on its nineteenth session and by the Governing Body of the International Institute for Intellectual Co-operation on its fourteenth session; emphasises the importance of the tenth session of the Permanent International Studies Conference and of the International Conference on Higher Education; expresses its particular gratification at the success of the second General Conference of National Committees on Intellectual Co-operation, and its satisfaction at the increase in the importance of the functions entrusted to the National Committees within the machinery of the Organisation, and hopes that the Governments of Members of the League and of non-member States will give favourable consideration to the recommendations and resolutions of the Conference, which will be transmitted to them by the Secretary-General.

DECLARATION ON THE TEACHING OF HISTORY.

The Assembly referring to its resolution of October 10th, 1936, concerning the signature of the "Declaration on the Teaching of History"; having been informed that numerous Governments have accepted the principle of the

Declaration; approves the addition to that instrument of the final clauses drawn up by the Committee to enable it to be signed by Governments and registered by the Secretariat of the League of Nations, and requests the Secretary-General to transmit it to such quarters as may be necessary in order to obtain the signatures of Members of the League and non-member States.

FINE ARTS.

Protection of National Artistic and Historical Treasures.

The Assembly agrees that a diplomatic conference shall be held in 1938 to conclude an international convention for the protection of national artistic and historical treasures.

INTERNATIONAL REGIME OF EXCAVATIONS.

The Assembly considering that our inheritance from the distant past of mankind cannot be effectively brought to light in the absence of a good international understanding; referring to the recommendations which it made to Governments on October 10th, 1932; being convinced that, although the regime of excavations is essentially the concern of the country in whose territory such excavations are undertaken, and must therefore be primarily governed by its domestic legislation, it is highly important that this principle should be reconciled with the demands of a largely conceived and freely accepted international co-operation; being of opinion that the rules drawn up for that purpose by the International Excavations Conference convened at Cairo by the International Museums Office with the generous support of the Egyptian Government are admirably designed to attain that end; requests the Secretary-General to transmit the text of the conclusions of the Cairo Conference to the Governments of Members of the League and non-member States for their guidance in legislating on the subject of antiquities and excavations.

ETHNOGRAPHICAL AND HISTORICAL COLLECTION ON THE ORIGINS OF AMERICAN CIVILISATION.

The Assembly referring to the resolution of October 10th, 1936, in which it requested the International Intellectual Co-operation Organisation to consider as soon as possible the scheme for this collection and the conditions in which it should be carried out, is of opinion that those conditions, as defined by the International Committee on Intellectual Co-operation at its last session, afford all necessary guarantees; approves the Committee's scheme, and sincerely thanks those Governments which, by their contributions, are making it possible to put the scheme into effect.

EXACT SCIENCES.

The Assembly takes note with satisfaction of the agreement reached between the International Committee on Intellectual Co-operation and the International Council of Scientific Unions for close collaboration between them in the future in the field of scientific research.

INTELLECTUAL RIGHTS.

The Assembly, convinced that the conclusion of a universal agreement for the protection of intellectual works is bound to have the happiest influence upon international intellectual relations, taking note of the official transmission to the American Governments, by the Montevideo Special Commission and the Joint Committee of Experts of the International Institute of Intellectual Co-operation and the Rome Institute for the Unification of Private Law; and having been informed of the Belgian Administration's intention of sending to all Governments a memorandum drawn up in collaboration with the International Institute of Intellectual Co-operation and containing all the material available; trusts that circumstances will enable the Belgian Government to convene at the earliest possible date the two conferences

contemplated for the revision of the Berne Convention and the framing of a universal charter of author's rights; invites the International Institute of Intellectual Co-operation and the Rome Institute for the Unification of Private Law to arrange for a further meeting of the Committee of Experts to consider such additional observations as may be received from Governments with regard to the draft Conventions, and to formulate definite proposals regarding the World Conference on the basis of these observations; and desires already at the present stage to express its opinion that account should be taken in these proposals of the need for increasing the reciprocal influence of civilisations, more especially by appropriate measures governing translation rights.

DRAFT INTERNATIONAL ACT CONCERNING INTELLECTUAL CO-OPERATION.

The Assembly having considered the joint report submitted to it by the International Committee on Intellectual Co-operation and the Governing Body of the International Institute of Intellectual Co-operation on the subject of a draft international Act concerning intellectual co-operation; being informed of the opinion of the Council of the League of Nations, dated September 14th, 1937, recognising the importance of these proposals and recommending them to the Assembly's attention; noting that those proposals have received support from many quarters in the course of the discussion; instructs the Secretary-General of the League of Nations to communicate the text of the draft Act to all Members of the League and non-member States for their observations. The replies will be considered by the Executive Committee of the International Committee on Intellectual Co-operation, which, having made such enquiries and revisions as may be necessary, will report to the Council of the League, and the latter will, if it thinks fit, summon a conference to conclude the Act.

INDIAN.

DISCIPLINE IN EDUCATIONAL INSTITUTIONS.

The Government of Bombay in the Educational Department have issued the following Resolution:—

In the year 1898, Government for the first time issued orders prohibiting students from taking part in political agitation. On the 30th September 1908, in order "to remedy the relaxation of discipline and a lowering of the standard of manners noticeable on the part of students in schools and colleges and also amongst the public," Government adopted certain rules to be observed strictly by the authorities of all schools and colleges, whether Government or aided, subject to the exception that college students were allowed to attend public meetings with the previous permission of the Principal. Government also then held that good would result from more frequent consulta-

tion between managers of schools and Government officers of the Education and Revenue Departments and even suggested inviting parents into council as it was recognised that nowhere in the past had there prevailed a more attractive type of manners and a higher standard of courtesy than in Indian households. Rule 7 of the rules referred to above runs as follows:—

"7. No school-boy shall attend or take part in the organization, or conduct of any public meeting of any kind."

2. On the 4th of August 1909 a more comprehensive set of rules of discipline was framed for Government schools. Rule No. 1 and No. 8 of these rules are as follows:—

"1. The parents or guardians who send their boys to Government schools must understand that by so doing they agree to delegate to the Headmaster and the Educational authorities the control which they are entitled to exercise

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over such boys in all matters connected with such schools and that in all questions of school discipline both inside and outside the schools the decision of those authorities is final."

"8. No boy is to attend or take part in the organization or conduct of any public meeting of any kind or, without the express permission of the Headmaster, in the collection of any funds."

3. In 1922 orders were issued by Government, which recognised a distinction between school-boys and college-students and laid down that, in the case of school-boys they should not attend any public meeting, good or bad, political or otherwise. College-students were however allowed to attend public meetings with the previous permission of the Principal.

4. Since the rules referred to in paragraphs 1 and 2 above were promulgated there has been a change in the general outlook of the public in these matters. While in these circumstances Government recognise the importance of maintaining discipline amongst pupils studying in schools and amongst college-students, they are fully alive to the fact that this discipline cannot be enforced by the mere making of rules and prohibitions. They feel that the right method of approach is from the moral side. Discipline depends not so much on rules as on the personality and influence of the teacher. Government are accordingly of opinion that the orders of a teacher once given must be obeyed, but they consider at the same time that it would be judicious for him to endeavour to secure harmony between his instructions in this matter of discipline and the wishes of the parents and guardians so that there may be no conflict of authority so long as this means no infringement of the law or the principles of morality. The Director of Public Instruction should press this point on the heads of all educational institutions.

A too rigid control from outside results in crushing initiative and starving the natural emotions and instincts appropriate to youths. It is, therefore, necessary to modify the rules pro-

mulgated on the 30th September 1908 and on the 4th August 1909. Rule No. 7 of the first and rule No. 8 of the second set of rules are hereby cancelled and the following rules are added:—

(1) Persons at study who are over sixteen (16), school-masters and teachers are free to attend all public meetings. Persons at study who are under that age may with the consent of their guardians be prevented by the heads of their schools or colleges from attending any particular meeting which the heads of the schools or colleges consider objectionable.

(2) Persons at study who are over eighteen (18), school-masters and teachers are free to become members of organisations, other than those, whose policy or programme involves the dissemination of ideas of violence or the use of violence.

(3) Persons at study may take part in the activities of all educational, social and religious associations.

(4) Such persons may not, however, become members of the executive or managing committees of any political or religious organisations or organisations likely to result in communal antagonism nor take an active part in furthering their activities.

(5) The head of the institution will be the final judge whether a particular meeting, organisation or activity falls under any of the aforesaid heads. The final approval of Government will be necessary only as regards the character or types of public meetings or organisations with which persons at study, school-masters and teachers desire to associate themselves.

5. As regards the orders of 1922 mentioned in paragraph 3 above Government are now pleased to direct in supersession of those orders that the proper distinction to draw between the two classes (school-boys and college-students) should be on the ground of age. Those who have reached their majority should have greater freedom than those who have not, and of the latter

those who are over sixteen should have greater freedom than those who have not reached that age. Persons at study cannot be active politicians and pursue their studies at the same time. While they are studying, therefore, they may have freedom to express their opinions, but not such freedom of action as is bound to interfere with their legitimate occupation.

6. It is the desire of Government that the existing rules and orders as amended by the new rules and orders in paragraphs 4 and 5 above should be observed strictly by persons at study, teachers and heads of all educational institutions whether (1) Government, (2) aided, or (3) unaided but recognised. The Director of Public Instruction should accordingly be requested to communicate these orders to the heads of all the educational institutions concerned and also to inform them that Government specially desire that healthy activities and associations should be encouraged amongst persons at study.

BELLARY DISTRICT EDUCATIONAL EXHIBITION AND REFRESHER COURSES.

An extremely useful and enjoyable Educational Exhibition along with a refresher course of lectures for elementary school teachers attended by about six hundred teachers in all was organised by the Bellary District Education Exhibition Committee from 12th to 15th Jan. Both the Exhibition and the Refresher courses were unique in the sense that a large number of Rural School teachers took a great deal of interest and were much profited. This success was mostly due to the untiring efforts of Mr. U. Kannappa, the District Educational Officer, who personally supervised every bit of the programme from start to finish. He has thus placed the whole district under a great debt of gratitude.

The Exhibition was opened by Mr. C. J. Varkey, Parliamentary Secretary to the Minister for Education, who before declaring the Exhibi-

tion open spoke on the aim of such Exhibitions and observed that neither the home nor the school by itself could develop the faculty of the child fully. He stressed the need for organising athletic competitions and Exhibitions periodically.

The Exhibition was kept open for visitors for five days during the mornings and afternoons, a day being separately open for the ladies exclusively. There were a large number of Exhibits carefully prepared by the pupils and teachers of schools in the district to suit rural conditions, especially to help the village school teacher in dealing with everyday classes. Besides the huge number of charts on up-to-date topics such as the Wardha Scheme, co-operative statistics on educational subjects there were some splendid fret work models, language teaching appliances, manuscript magazines, and fine lace and embroidery work which attracted the attention of the visitors and won their admiration.

About twenty first class and sixty second class certificates were awarded to some of the first rate Exhibits, the rural schools gaining a pretty good number.

The Refresher courses were opened on the 12th January by Mr. H. Sitharama Reddy, B.A., B.L., M.L.A., who made an impressive appeal to the teachers to be up-to-date and to take keen interest in educational problems and wished them a profitable time. The Refresher courses were of two sections, Telugu section and the Kanarese section as Bellary is a bilingual District. Nearly twenty-four experienced teachers from all over the district came thoroughly prepared with a particular subject in which they had practical experience and delivered their lectures to help class-room teaching and to put some modern tendencies in educational practice. Nearly six hundred teachers attended the courses and were much benefited especially because of their practical nature, the synopsis of each lecture

being distributed to the audience for their guidance. This was found to be of value to the audience and also to the lecturer.

The various local bodies and other managements were kind enough to permit teachers to attend the course as on duty and to them the Committee expressed their gratefulness. At the end of the courses, the President, Mr. U. Kannappa, the Educational Officer, presented certificates to the teachers who had attended the courses and thanked the public, the lecturers and all those who had so heartily co-operated in making the whole programme a grand success. The various subjects for the courses were carefully selected—nearly half a dozen of them dealt with rural problems and rural welfare work in particular.

In the evenings there were physical culture demonstrations by several school pupils in Bellary town, the girls' section for the first time coming forward in this field of activity. There were musical entertainments given by various school groups. Here again the girls' section played its part creditably.

The whole period was so well spent and usefully too for which the Committee has won the thanks of the public and the teachers. The public heartily co-operated and accommodated themselves well to the rules of discipline in the Exhibition hall and in the various meetings and entertainments.

The President of the Committee and his Secretaries and Committee Members deserve to be congratulated on their success in this huge enterprise of great public interest and much utility in the sphere of education.

The Old Pupils' Association Day Celebrations of the Pithapuram High School took place on 25th and 26th of December, 1937, under the presidency of Mr. K. Kesava Rao, B. A., B. L., Treasury Deputy Collector, Cocanada. The Celebrations were a great success, about 400 old pupils having participated in it.

The Celebrations came to a close with the enactment of scenes at night from Telugu Dramas, all the authors and actors thereof being the old pupils of the school.

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REVIEWS AND NOTICES.

HIGHER ALGEBRA. BY S. BARNARD, M.A., AND
J. M. CHILD, B.A., B.Sc. MACMILLAN & CO.,
LTD. PP xiv + 585. 20s.

The aim of some of the Mathematical text-books recently published (outside the University) appears to be to steer a bit away from the conventional course and introduce some new mathematics in a form intelligible to gifted sixth-formers, so as to bridge the gap between the usual elementary and manipulative high-school mathematics and the tough highbrow mathematical ideas of the University. At the same time, the authors are not prepared to sacrifice the needs of examinations, and the result is a new synthesis, a new type of text-book, neither too elementary nor too advanced. The noteworthy text-books of this class are: *Elementary Treatise on Pure Mathematics*, by N. R. C. Dockeray; *Advanced Algebra* in three volumes by C. V. Durell and A. Robson; and the book under review. It is gratifying to add that these books are just the sort that will meet the needs of the first and second year Honours courses in Indian Universities.

No great imagination is required to predict that Barnard and Child's *Higher Algebra* will easily overthrow the two ancient books of Hall and Knight and Chrystal which have been dominating our Algebra courses in the Universities.

In the preparation of this volume, the authors have aimed at giving a logical and complete introduction to modern analysis. Hence, we have here the Theory of Irrationals based on Dedekind's definitions, Limits and Continuity, and the Convergence of Infinite series and Products. In addition, there is a full account of the Theory of Equations up to Sturm's Theorem, properties of Determinants including symmetric and skew-symmetric ones, and the Theory of

Numbers embracing the solution of congruences, theory of residues, and primitive roots. This is not all. Fair justice is also done to Inequalities, Finite Difference Equations, Curve-tracing and Continued Fractions. A book of thirty-three chapters extending over nearly 600 pages and covering such a variety of topics is, indeed, a mine of algebraic information, a veritable encyclopaedia, which the authors are extremely modest to announce as a mere text-book. The plan of presentation adopted is a sort of concentric system, returning again and again to the same topics with richer and wider experience. For examples sequences, limits, and convergence appear in Chapters XV, XVI, XX and XXX, Inequalities in Chapters XIV, XIX and XX, Continued Fractions in Chapters XXIV and XXXIII and the Theory of Numbers in Chapters I, XXVI and XXVII. The examples fully worked, half-worked and unworked run to several hundreds and their freshness ought to be very stimulating to the enthusiastic pupils as well as to the painstaking and conscientious teachers.

A few points of criticism may now be offered.

(i) Perhaps on account of the large volume of matter that had to be condensed in a single text-book, the exposition occasionally tends to be brief, scrappy, and almost ineffective.

On p. 89, in proving Descartes' Rule of Signs when some terms are missing in the equation, the text is content with the exhibition of two instances where no changes of sign are lost.

Again on p. 452, we find the theorem 'The necessary and sufficient conditions that the roots of $f(x) = 0$ may be all real and different are (i) the number of Sturm's functions must be $n + 1$, and (ii) the leading co-efficients of all these functions must be positive', supported by the proof:

'For, as x passes from $-a$ to $+a$, n changes of sign will be lost in the sequence of Sturm's functions, if and only if both these conditions hold.'

Occupying less space than the theorem itself

Is it not as good as saying that the proof is left to the reader?

(ii) There are many slips and misprints which are rather surprising in the case of well-known English publishers. Some of these unfortunately lie a little below the surface. For example, on p. 308, line 7, we read the statement

$$\left| S_{n+1} - \left(1 + \frac{x_1}{n} \right)^n \right| \leq \frac{n_1^2}{\lfloor 2} (1-p_1) + \frac{x_1^3}{\lfloor 3} (1-p_2) + \dots + \frac{x_1^n}{\lfloor n} (1-p_{n-1})$$

which is not true when $x = -x_1 = -|x|$.

The proof given in the text will be correct only for positive values of x ; and to complete the proof we may write

$$\left| S_{n+1} - \left(1 - \frac{x_1}{n} \right)^n \right| \leq \frac{x_1^2}{n} (1-p_1) - \dots - \frac{x_1^3}{\lfloor 3} (1-p_2) + \dots + \frac{(x_1^n)}{\lfloor n} (1-p_{n-1})$$

$$\leq \frac{x_1^2}{\lfloor 2} (1-p_1) + \frac{x_1^3}{\lfloor 3} (1-p_2) + \dots + \frac{x_1^n}{\lfloor n}$$

+ $(1-p_{n-1})$ when $x = -x_1 = -|x|$.

Combining the two statements, we have

$$\left| S_{n+1} - \left(1 + \frac{x}{n} \right)^n \right| \leq \frac{x_1^2}{\lfloor 2} (1-p_1) + \dots + \frac{x_1^n}{\lfloor n} (1-p_{n-1})$$

in all cases, thus making out a case in favour of the authors that x_1 is a slip for x on the left-hand side of the statement in question. But then the exposition would be too condensed owing to the omission of important relevant steps.

The minor errors of omission and commission will not prove a great handicap to the patient reader if he can easily rectify them by reference

to the context. For a list of such errors by no means exhaustive, we refer the reader to p. 432, the *Mathematical Gazette*, Vol. XXI, No. 247.

(iii) There are rare attempts at giving a historical back-ground to a problem. One such is the solution in positive integers of $x^2 - 61y^2 = 1$, to which a foot-note is appended that it is a problem set by Fermat as a challenge to the English mathematicians of his time. The reviewer would like to add that Fermat gave the problem in 1657, without knowing that it was solved by the great Indian mathematician Bhaskara in 1150, i.e., half a millennium earlier by a far simpler method. (Vide *Journal of the Indian Mathematical Society*, Vol. XVIII, 1930.)

(iv) As regards original matter, the authors claim to have introduced a new proof of the Binomial Theorem and a new method for finding the period belonging to $(\sqrt{n} + b)/r$ by the G. C. M. process. The new proof, the authors themselves admit to be unsuitable for reproduction in toto. It is therefore only of value as a 'curiosity.' As it utilises 'calculus,' it is unsound in principle as well. The new method for finding the period is equally unhappy, as it involves a prior guessing of solution of the indeterminate equations

$$x^2 - Ny^2 = \pm 1 \text{ or } \pm 4.$$

Though the text, on the whole, is fairly exhaustive in several respects, it is not adequate on the three topics of Continued Fractions, Finite Differences, and Probability.

We hope that the promised second volume entitled 'Advanced Algebra' will carry the development of these topics further. We would gladly welcome a book on 'Modern Algebra' in English on the lines of the work of B.L. Van der Waarden, which can take us into a more bracing atmosphere. We, in India, are getting tired of

the grinding of the English Algebra and Theory of Equations text-books and would gladly be introduced to the main concepts and the crowning results of the unifying theories of Modern Algebra as developed by the German School. An English exposition of such concepts as 'group,' 'ring,' and 'field' with applications to 'topology,' 'Algebraic Geometry,' etc., is a great desideratum.

Meanwhile, we would not hesitate to recommend to our young Indian students of mathematics in Honours Classes the necessary discipline and grind of the so-called Higher Algebra as propounded in such books as the one under review.

LIVING HISTORY, BOOKS I AND II, BY E. LUCIA TURNBULL. METHUEN & Co., LTD., LONDON. 2s. EACH.

Of the two books here reviewed, the first book describes From the Stone Age to Roman Times and the second the Middle Ages. The author has compressed in the short space of these two volumes a wealth of valuable information covering a very wide range. The aim of the author is to educate the reader by interesting him first for readily understanding the subject. The stories and scenes selected will surely satisfy the tastes of adults and children. Some of the portions selected are historical and some imaginary, viz., the Children of Pendryvan.

The author should be congratulated on the excellent introduction given at the beginning of most of the selections for the teacher, to use the book without making frequent reference. These dramatic plays are written in more than ordinary interesting vein, the language being simple and lucid. These have been written to help the children to appreciate the history of Europe they read in class and still more to inspire them with a love for real history. These books provide plays for dramatisation by pupils in the Middle and High Schools.

The books are sure to improve by the addition of suitable pictures of the eminent personalities mentioned herein and also by an Index at the end. We are sure that the books would be widely appreciated alike for their literary excellence and for the dramatic genius of the author.

THE STORY OF EUROPE, PARTS I AND II, BY CICELY TOWER. METHUEN & Co., LTD., LONDON. 2s. 3d. EACH, AND IN ONE VOLUME 3s. 9d.

The First Part deals from Rome to the Age of Discovery by the end of the fifteenth century and the Second Part deals From the Reformation to Modern Times. A sincere attempt has been made by the author to make the great history of Europe intelligible to children and she has succeeded in presenting the shifting and complicated scenes into a harmonious whole. To relate adequately the long and chequered history of the people of Europe within the compass of 215 pages is a task requiring considerable skill. These neat volumes provide a concise and well proportioned survey of the whole course of English history for pupils, who may be preparing for the Higher School Certificate and other Examinations. At the same time, the material is presented in such a way that it can hardly fail to stimulate the pupil's interest. The chapters on Charlemagne, Alfred the Great, the Renaissance are very interesting. These volumes are to be judged as a popular statement of a fresh interpretation in which the essential features of social development have been judiciously chosen from the enormous mass of complicated details. We feel passages like "he wore on his body a linen shirt, and linen drawers; then a tunic with a silver border and stocking... He bound his legs with garters and wore shoes on his feet (page 23)" may be unimportant in the case of many children. But on page 199, the author acquaints the readers with the real significance of the paintings of Leonardo; and on pages 134 and 135, the description of the Great Armada which is really worth reading.

Coming as they do from the pen of a well known History teacher the books have a living touch about them and they are sure to interest both teachers and the educational administrators. They will appeal to teachers who care greatly for literature themselves and who have the imagination and humour by which they can make it attractive to the young. The style is vivid and personal and the volumes are full of just the right sort of stuff to lead to a real delight in History; and the useful Time Chart at the end is just what a young reader will feel he wants.

Whatever the points of view, the books give a clear running account and they deserve a very large circulation. The get-up of the books is good. The illustrations are fine.

THE XIII ALL-INDIA EDUCATIONAL CONFERENCE.

INAUGURAL ADDRESS

By SIR NILRATAN SIRCAR, KT., M.A., M.D., D.C.L., LL.D.

IT is with a feeling of pleasure and pride that I accept your invitation to open this Conference. As one who has stressed the need of education for the past fifty years of his life, it gladdens my heart to see such a large gathering of distinguished educationists, assembled here to-day to discuss the educational needs and problems of our country. As a humble servant of this University, in whose Senate Hall you are meeting to-day, I feel proud to have the privilege of inviting you to commence your deliberations.

My only regret is that the Vice-Chancellor of our University, Mr. Syamaprasad Mookerji, is unable to welcome you in person, owing to unavoidable absence from Calcutta. He has, however, sent the following message to you:—

"I very much regret that I am unavoidably prevented from welcoming you personally on the opening day of your Conference. You will be assembled to discuss some of the vital problems of education which are of special importance during the present stage of our national development. The range of your discussions is very wide and will include educational problems affecting the primary, secondary and University stages. It is of paramount importance for us to emphasise that no nation can ever attain its full height socially, economically, intellectually and politically unless the system of education provides for a full and harmonious development in respect of all stages of education. Further, the task of educational reorganisation affecting the well-being of millions of human beings

cannot be achieved without unstinted financial support from the State. I sincerely hope that unity, reason and fearlessness may mark your deliberations and under the guidance of your distinguished President you may be able to formulate your demands consistent with the advancement of the highest interests of our country."

I shall now try to express before you in a few words what I feel about your Conference and the present stage of education in our country.

You are holding this session of your Conference at a time when the Provincial Councils have for the first time been formed entirely of elected members, and have been entrusted with some measure of power to rule. Power has its responsibilities and the future welfare of our country will depend, to some extent at least, on our ability to use our gain to the best interest of our people. The spread of education is one of the most valuable uses to which such power can be put; and it will be your duty to help your Ministers with your deliberations. For the wise decisions at which a learned gathering like yours will arrive, and the schemes that you will formulate, cannot but be of great use to the Education Ministers who are trying to solve the same or similar problems. In this connection you will no doubt discuss the scheme of national education which our great countryman Mahatma Gandhi has recently enunciated at Wardha.

I should also in this connection draw your attention to the initiation of the national education movement in Bengal over three decades ago under the leadership and guidance of our late lamented illustrious

educationist, Sir Gurudas Banerji—a movement which has expression among other ways in the splendid work done under the National Council of Education. Your deliberations on national education will, I am sure, be very helpful to those who are actively interested in this all-important problem.

Your deliberations, I am sure, will lead you to face the problem of communalism in education, which unfortunately threatens to raise its head in some parts, at least, of our country. As one of the leaders of the Moslem community, the late Sir Fazli Hussain remarked in a speech before the previous session of your Conference: Tolerance is the creed as well as the practice of developed forms of society and is essential in a country like ours where races and religions, castes and faiths mingle together. One of the best means of inculcating a spirit of tolerance is to instil it through schools, where the comradeship of childhood and youth can easily triumph over barriers of castes and creeds. If, however, the schools themselves become communal, if the stream of life thus becomes tainted with intolerance at its very source, the cultural life of the people can have little chance of expansion and growth. It can only languish and decay; and with it the general welfare of the nation. I hope that one of the many good measures that you will have succeeded in working out in your Conference, will be to indicate approaches towards a solution of this vital problem.

Although, of necessity, your attention will be directed to special topics in the different fields of education, yet I am sure you will come up at each step and stage, on the realisation of the extreme inadequacy of the measures so far taken to educate our people. This defect is well known and many of you will perhaps think it needs no stressing. I feel, however, that some of you, or at least those of you who are in power in Councils or local

bodies, may overlook the extreme urgency of the problem. You are aware that if a country goes to war, all its resources are nationalised, voluntarily or otherwise, to meet the menace of defeat. What I would like to point out to you is that our entire national life depends on the rapid spread of education among our masses. To whatever field of life we may turn,—of business, of industry, of health service, of national defence, or even of the higher cultural development,—you will find that the vital force is ebbing away owing to the drying up of the flow at the source, which after all is in the human material of the country. What I should like to stress, with all the emphasis that I can command, is that we cannot live as a people in this modern world unless we can educate our millions. The problem is not of mere urgency but of life and death. Many of you no doubt realise this position; and it is perhaps to some extent superfluous to stress this point before you.

But there are others in this country who are not yet alive to the present perilous position in which our nation has been placed through the failure of our rulers in the past to provide adequate education for our people. I hope one of the results of your Conference will be to convince such people of the vital necessity of concentrating all their energy and resources on this problem of illiteracy. I hope you will be able to make them realise that deficit budgets cannot be any excuse for failure to do this duty. Funds were found in India to meet the demands made during the Great War; and quite recently to meet extraordinary police expenditure in the province of Bengal. It should be your duty to convince your Ministers that the menace of illiteracy is not one jot less serious than that of war or anarchy. I shall not remain any longer between you and your officials, I now declare the Conference open.

WELCOME ADDRESS

By MR. SANAT KUMAR RAY CHOUDHARY, M.A., B.L.,
Mayor of Calcutta.

ON behalf of the Reception Committee and of the city of Calcutta, I accord to each and every one of you a hearty welcome. I also accord a hearty welcome to the members of the International New Education Fellowship who have taken the trouble of coming from distant lands across the seas to our city.

Assembled as you are for the improvement of education in India there are very few problems which are more urgent or likely to be of greater service to the country. For upon proper education depends the future of the nation, the solution of its manifold problems, the employment of its teeming millions and the place our motherland shall take amongst the progressive countries of the world.

We have traditions about real education in this ancient land of ours. The ancients never mistook literacy for education. There have been men and women—outstanding figures in the history of this land from very ancient times who were not literate, but he will be a bold man who says they were not educated. Sister delegates will pardon me if I venture to say that our grandmothers without a smattering of the Three R's were more educated and better fitted to take up the duties of life than many of our progressive sisters of to-day.

If the object of education be to equip us for the struggle of life, to enable us to take our place by the side of men who are the masters of the world, to make us self-reliant, active and successful, it has to be admitted that the educational system now in vogue in our country has failed.

Analysing—and the materials at my disposal are the conditions in Bengal—I find that one of the main reasons of the failure is our subjugation. With every conquest there is borne upon the minds of the conquered, consciously or unconsciously, an idea of the superiority of the culture, methods, education and even the religion of the conquerors. The old moorings snap and until they acquire new anchorages or come back to their old ones, the conquered are reduced to a position of drift. Dazed by the success of ideals and culture not their own, imitation of their rulers is considered by subject races to be progress. They discard everything native to the land, take great pains to acquire the language of their masters and begin to judge the worth of their fellow-men by an entirely false standard, viz., "the proficiency in the rulers' language." The inevitable result follows. The progress made by themselves in different arts and sciences is not sustained nor followed up, but an ineffectual and unsuccessful attempt made to begin again in those very subjects according to new methods and new standards, handicapped by the initial disadvantage of mastering the language, habits, customs and modes of thought of the ruler. It is one thing to retain what is your own and to find out what progress has been made in other countries and adopt or assimilate them; it is quite another to discard what is your own, and try to introduce a foreign system of culture. Like an exotic plant it may live but it will not produce the flowers or fruits it does in its native country. After conquest by Mahomedans, Bengalees began to learn Persian and some of them became so proficient in

that foreign tongue that they were considered to be good Persian poets. But they never became experts in the military science, or architecture or garden planning like the Mahomedans, nor did they acquire the perseverance, hardiness and venturesomeness of their conquerors. Similarly with the conquest by the English many of us have learnt the English language well, some of us are in habits and thoughts Englishmen, but have we acquired their grit, their indomitable courage, their methods of scientific research?

No doubt under modern conditions, the world is at your door, and in order to communicate with and receive information from the outside world, it is necessary to learn a foreign language, but should that be any reason why all students should learn it? It is a matter of great satisfaction that our educationists have come round to the view that education should be imparted in the students' vernacular. One of the problems that has to be considered is whether the new system of education should not be based on the old system indigenous to this country discarding it only when it is unsuited to our present needs. I shall give one instance—we have written and unwritten rules of personal cleanliness and hygiene, those rules might be taught to our children unless they are proved to be harmful, in preference to rules of hygiene imported from abroad. Another instance will not be out of place. In Bengal, *Subhankuri* (rules for arithmetical and land measure calculation) used to be taught in Pathshalas, in easy verses in Bengali. The result was that boys trained on this system were better equipped in mathematics than older boys trained on the English system. One would like to see *Subhankuri* to come into its own and find a place in the curricula of schools,

Instances can be multiplied, but it is no use giving a long list. I merely indicate the problems for the consideration of this Conference.

To my mind there is another initial defect in the present system of education. It was no doubt planned with great foresight and statesmanship, but unfortunately for us it was not planned to produce men—it was planned to supply the demand then keenly felt of cheap clerical labour and English knowing subordinate judiciary, the high offices in both lines being kept reserved for the rulers. Times gradually changed and other subjects of study have been gradually introduced, the frame-work having remained unchanged. In Bengal the constructive genius of Sir Asutosh Mookerji, the munificent gifts of Sir Tarak Nath Palit and Sir Rashbehari Ghosh and the services of men like Sir P. C. Ray and Sir J. C. Bose in the cause of education although they have furthered the cause of scientific research, have not been able to place education here on right lines so far as the general body of students is concerned. My principal complaint against the present system is that it has not produced men who have added to the wealth of the nation or the country. It has not even helped to conserve the country's wealth. All round me I see a huge waste of human brains and energy and I ask myself: Can this nation live much longer? Take my own profession, the Law. It is a parasite profession, yet for want of any other opening young men are entering it by hundreds every year. The result is that brilliant intellects which might have shone in the sphere of, say, banking, industry, agriculture or commerce, rot in the bar libraries. I would suggest for the consideration of the President and the members of the Conference whether one of the first duties of persons in charge of

education of young men and boys should not be to guide them and induce them to take up lines where they may easily find profitable employment and whether the Universities should not set their face against increasing the army of the educated unemployed. It has to be admitted with regret that our present educational system makes snobs of our students and they become misfits in the social organism. I have seen with sorrow sons of poor agriculturists and artisans passing the Matriculation Examination and thereafter trying to pursue their studies in Arts and Science which can never fit them to earn their livelihood. They are intelligent and industrious and often depend upon charity or tuitions for completing their higher studies. They pass their B.A. or even M.A. and then begins the tragedy in their lives. Most of them seek service and cannot get it because in no country can service absorb all the young men that pass out. They have become unfit for the avocation of their fathers, partly because of want of training,—for all professions require a period of apprenticeship,—and partly because after passing through a University course they develop a false idea of dignity. It sometimes happens that after repeated failures to secure service the young graduate makes up his mind to take up his father's profession—too late—for by that time the paternal property or the paternal trade has passed out of the family. I have on different occasions stated my views to the poor students ambitious to have degrees of the University and have been told that I am only trying to lessen competition for myself and my class or when the student is from the backward classes, that I had not desired their uplift. I can only say to my critics that they are wrong, and all that I wish to see is that young men should not waste their

energy in passing examinations which to-day are not the passports to well-paid jobs that they once were.

Another important problem before this Conference is women's education. I do not doubt the equality or even superiority of women in the educational field. But we have to recognise that women have to be mothers and wives, and the education they receive scarcely fits them for their duties in life. In every society, its stability depends upon the women. They are more religious and moral than the men. I am a Hindu and I can speak of Hindu women, that they are the noblest of God's creatures. It is their character and devotion to their duties and affection for their children that has enabled the Hindus to survive repeated onslaughts on their religion and culture. But I am sorry to say that I am noticing signs, and ominous signs, which spell the ruin of our homes. Our sisters and daughters have begun bobbing their hair, smoking cigarettes, and enjoying themselves in company with their men friends and seem to be averse to undertaking the duties of a home. They are trying to lead independent lives, but let me remind them that few as are the openings for service so far as boys are concerned, the openings for girls are fewer. I will leave it to you to consider whether in a scheme of education we have not to evolve some system which will train every boy and girl in our country and fit him or her for his or her duties in life.

Speaking of Bengal again, I cannot forsake this opportunity of stating some facts about the present system of education which I have noticed. Our young men and even graduates have no general knowledge about their country and other countries of the world. They only study those subjects which figure in their curricula, in most cases they do not

really study but cram short notes a few months before the examinations which enable them to pass. After the examinations no impression is usually left on their minds of the subjects they studied. This is a waste. The student has wasted his years at the school or college, and the nation has wasted its energies in trying to educate the student. This Conference will undoubtedly take up the question whether some method cannot be found to make the subject interesting to the student and impress the lesson deeply on his mind so that he will not easily forget, whether museums, laboratories, workshops, experimental farms and personal manual work will not be very helpful; whether teaching with the help of exhibits and teaching of the elements of science with the help of laboratories should not be made compulsory in the primary schools of our country. It is agreed on all hands that primary education should be made free and compulsory for all boys and girls. The Conference will have to consider whether the present method should not be changed and the son of the artisan or the agriculturist should not be given lessons both practical and theoretical in those subjects in the primary school. Primers in the vernacular with plates and pictures may easily give these students the information about their special subjects. It has to be considered whether to mofussil students in primary schools along with hygiene, some books in the vernacular on cattle diseases and their treatment should not be taught and to girl students the art of simple painting and drawing designs, sewing, knitting, spinning, cooking should not be taught. Whether girls in mofussil should not be given lessons in paddy husking, rice frying, weaving nets, rope making, etc., and whether to all girls simple remedies for simple

ailments—specially, cures for children's diseases, I mean *Mustiyoga*, should not be taught.

The human mind in its infancy cannot grasp the abstract, but make the lesson concrete and attractive and it will leave a lasting impression. Our people may have been illiterate but lessons in civilization, morality and piety they always learnt through the medium of *Kathas*, *Paths* and *Jatra* or dramatic performances. With the advent of western ideals these have practically disappeared and he will be a benefactor to our society who will revive these things in a form suited to modern conditions.

Without discipline and health, education cannot be complete. I hope that one of the results of this Conference will be that boys and girls grow up under discipline and are able to enforce discipline. Terrorising is one method of enforcing discipline but it is certainly not the best. Make it apparent to the students that discipline makes for harmony, efficiency and good work, and most of them will accept it. There must be stray cases where this method will not be effective but it is best to eliminate such students, or apply punishment to them only. If we form the boys and the girls into groups, their natural leaders will come up, and training them you will have future leaders of the nation.

One way of making students self-reliant is that all boys and girls should be set tasks without any previous hint as to how they should be performed. This will develop their intelligence and initiative which is sadly wanting even in the best students of our Universities. I attach great weight to this aspect of education; it will fit the students more than anything else for their duties in life.

Coming to the question of health, I note with pleasure that the authorities are insisting that all schools should have playgrounds. If each school cannot have one, arrangements may be made to share the grounds. Play promotes a spirit of camaraderie and unity amongst the players. If the players are trained to forget that they are individuals and to consider themselves to be parts of one unit, it will make them feel that their individual interests are of no moment when common or national interests are concerned. It will enable them to overlook or endure the peculiarities of other fellow-workers and promote harmony without which team work is impossible. Brother and sister delegates, you will pardon me if I relate to you a story told by one of my friends who had been to see a football match. The losing side, he said, had many brilliant players but each one of them was more anxious to show himself off than for the success of the team in which he played. The other team played as one man, it was determined on winning, and it won. The same is true of other fields and walks of life.

I have one more point to mention before I conclude. It is the cost of education. In our boyhood, the Pathshalas teaching up to the U. P. standard cost the boy four annas to eight annas per month, the H. E. Schools, Rs. 2 to Rs. 3 per month and the private colleges, Rs. 4 to Rs. 6 per month, the Presidency College, Rs. 12 per month. Since then our individual earnings and national wealth have not increased but the cost of education has gone up by 50 to 100 per cent. Some means should be found to bring the cost down to the former level. Public bodies also spend a great deal more per boy than they should in the schools they run. The Corporation of Calcutta spends Rs. 11,03,000

on the education of nearly 34,000 children in its own free primary schools—a figure which works out at Rs. 30 approximately per head. The teachers have a grade rising up to Rs. 100 which, in my opinion, is high for a poor country like ours. But nothing can be done: for in a democratic institution, it is difficult to have reforms and retrenchment, specially when there is an organization to counteract your efforts. This Conference composed as it is of educationists from the whole of India should also try and fix standard salaries for different classes of teachers and professors. A specialist in his subject will always command high fees and salaries but in the larger interests of the country he also may be requested to take a moderate honorarium for his services.

The present system of altering the text-books every year adds to the cost and difficulties of poor students. I cannot understand why the same text books if they are well chosen will not do at least for a number of years. One hopes that the school authorities and the University will look more to the interest of the students than to that of the authors. In my student life I remember having used the books of my elders. This is impossible now for there is a change every year. I hope one of the questions which this Conference will take up will be whether there is need for such a frequent and kaleidoscopic change in text-books.

Speaking of Bengal, there are clouds in the horizon of education which threaten to retard if not destroy the basis of sound education in this province. I mean the introduction of communalism in education and the control of education by non-educationists. So long as his classics, his culture and religion is safeguarded, I cannot for the life of me understand why it should be necessary for Christians, Jews, Mahomedans and Hindus to have proportionate representation in the

Universities and the Senate? Is it suggested that the Hindu Examiners and paper-setters show partiality towards Hindus and dishonestly do not allow students of other nationalities or communities to pass? If that is the suggestion it should be openly made and the persons denounced. If on the other hand that is not the justification there is no justification for the constitution either of the proposed Board of Education or for the University and the Senate to be constituted on communal lines.

As regards the Board of Control, why should the control be in the hands of others than the University? I could understand if it was proposed that the proposed Board of Control should be a liaison body between the students and their prospective employers. Then the said body might have framed the course of studies and the admission to different courses according to the demands of the employers. That would be a distinct improvement upon the present system of aimless education and subsequent unemployment. But that is not to be. As first fruits of the proposed Board we are promised a reduction of the number of the H. E. Schools in this province most of them built up by the generosity of local patrons and the self-

sacrifice of a local band of workers. It will be a cruel blow not only at the system of education but at the sources of public charity and generosity which are bound to dry up. I still hope that the authorities will reconsider their decisions and allow the schools to exist.

Brother and sister delegates, I have done. I am but a layman who was never connected with education or educational institutions. If my views on the problems which face you are inappropriate or unsound you will pardon my inexperience and ignorance. But believe me that I have placed my views before you in all sincerity and humility, I have taken up a good deal of your time and have possibly exceeded my limits but I beg to be excused as I could not restrain myself when such varied and important problems face the country. In no way do I desire to influence your deliberations, I have no doubt that our President will give us a wise lead and that this Conference will be able to lay down a policy which will enable the country to make a real progress in the matter of education.

I thank you, brother and sister delegates, for the patience with which you have listened to me and I once more welcome you to this city.

OUTLINES OF THE GEOGRAPHY OF THE WORLD

Prepared in accordance with the Syllabus in the subject for the S. S. L. C.

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WITH A FOREWORD BY

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PART I. THE SOUTHERN CONTINENTS & NORTH AMERICA. **As. 12.**

PART II. EURASIA AND THE WORLD IN GENERAL. **As. 12.**

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TEACHING FOR PEACE.*

BY PRINCIPAL P. SESHADRI, M.A.,
Ajmer.

THE story is told of the ancient Greek philosopher, Diogenes, that on the occasion of the siege of Corinth, when everybody was busy strengthening the fortifications against the enemy, he was rolling up and down the hillside in his famous tub, as it apparently pleased him to imagine that he also was contributing to the martial preparations in the city! A Conference of members of the teaching profession, assembled on an occasion like this, with terrible fighting in two theatres of war in the world, one in the east and another in the west, to discuss the teaching of Internationalism and Peace may seem equally ridiculous. If the recent rape of Abyssinia by Italy against the sentiments of all civilised humanity and the equally reprehensible war of Japan's aggression in China going on before our very eyes, together with the protracted agony of the Civil War in Spain have discouraged some believers in the cause of Internationalism and Peace, it is all the more necessary that we should preach it with even increased vigour and explore new avenues for bringing up the younger generation in a proper atmosphere, so as to safeguard at least the future. There has not been greater need in recent years, than at the present time, for preaching the gospel of international brotherhood and the avoidance of the horrors of war. I am not discouraged by the fact, that even as I was speaking on this subject the other day at the World-Conference of Education in Japan, in the magnificent auditorium of the Imperial

University in Tokio, the Japanese guns were booming across the frontiers of China, inaugurating a savage attack of unprovoked aggression.

The famous founder of the Society of Jesus, Ignatius Loyola, was fond of saying that if the children were entrusted to his charge, he did not care what happened to others. A necessary corollary to it would be that if we can make sure that the members of the teaching profession advocate the right ideals of conduct to the younger generation, we need not bother about any mischief in other quarters. This section of the annual All-India Educational Conference will have done enough, if it can ensure the effective teaching of this subject in schools and colleges. The League of Nations had a permanent committee of Educational Experts till some years ago, of which I was myself a member, to consider the best means of propagating the ideals of the League in educational institutions. Meeting under the presidentship of the well-known classical scholar of Oxford, Professor Gilbert Murray, at our annual meetings in Geneva, we put forward many suggestions for working up this subject in the educational world. It may, perhaps, be enough on this occasion, if I invited the attention of teachers in India to some aspects of our programme confining myself to the purely pedagogic standpoint, as is suitable to an educational conference.

The teaching of Internationalism and Peace can enter into many subjects of educational work. Anything which promotes the knowledge of other races and countries in the young mind, emphasises the achieve-

ments of peace by the great benefactors of humanity, or the inter-relationship of the peoples of the world—in short, everything calculated to draw attention to the good in other nations and the advantages of co-operative effort among them is calculated to strengthen this cause.

This effective teaching of Geography in its humanistic aspects, which has pressed itself forward more and more in recent years, should be an invaluable aid for this purpose. When the ancient Greeks called all foreigners "barbarians," they were illustrating the fact that ignorance is often the cause of national prejudice. The English word, "uncouth" which only means by derivation, "unknown," indicates the same failing in humanity. If children are not brought up in proper appreciation of the virtues of other people and the wonderful physical features of other parts of the world, it must, therefore, be largely the fault of the Geography teacher.

It is unfortunate that the subject of History should have often lent itself to the fostering of ill-will among nations, instead of cementing them into an appreciation of all that is great and noble in human nature. One of the earliest recommendations of the Educational Experts Committee of the League of Nations, referred to already, was that the text-books of history used in schools and colleges should be revised, so as to eliminate all traces of racial bitterness. It is of course not intended that they should be so diluted as to be deprived of all national enthusiasm and patriotic fervour, but everything has to be gained by scrupulously avoiding the misrepresentation of heroes with whom our nation might have been at war in the past and emphasising the praiseworthy qualities in other peoples, with the satisfaction with which we applaud our own

national favourites. Several governments have already reported the action taken by them on these lines and it is interesting to note that there was a resolution in the Punjab Legislative Assembly, the other day, that text-books should undergo similar revision in India.

A mistake of which the elder generation of historians and history teachers were undoubtedly guilty was to glorify only battles and military conquests, as if they alone mattered in the march of the human race and not the achievements of peace which have contributed to the welfare and happiness of mankind. As I complained at a meeting of the Educational Experts Committee of the League of Nations in Geneva in 1931, it was, for instance, depressing in the extreme to walk through the Hall of Battles at the Palace of Versailles, as it was a terrible reminder of what man has made of man by indulging in mutual orgies of crime and bloodshed. May the veil of oblivion be drawn, as much as possible, on these aspects of man's life on earth and if they are to be mentioned at all, may they be mentioned not in triumph, but in a spirit of the deepest regret and humiliation! Let children be trained to look upon History, not as a series of dreadful battles accompanied by terrible carnage of one nation on another and more often of both the parties involved in a conflict, but as a vast stage on which illustrious heroes have appeared from time to time and contributed to man's progress. Prophets of religion, men of letters, eminent thinkers and great artists and scientists must be held up to admiration before the young, as in no sense inferior to the seekers of military glory who have only a long list of conquests to their credit, generally achieved in a spirit of lust for power and dominion.

* Presidential Address at the Internationalism and Peace Section, All-India Educational Conference, Calcutta, 29th December 1937.

The following passage from Mr. H. G. Wells' *Outlines of the History of Mankind*, draws attention to an aspect of historical teaching which must be constantly advocated in the interests of the ideals of internationalism and peace :

"There can be little question that the attainment of a federation of all humanity, together with a sufficient measure of social justice, to ensure health, education and a rough equality of opportunity to most of the children born into the world, would mean such a release and increase of human energy as to open a new phase in human history. The enormous waste caused by military preparation and the mutual annoyance of competing great powers, and the still more enormous waste due to the under-protectiveness of great masses of people, either because they are too wealthy for stimulus or too poor for efficiency would cease. There would be a vast increase in the supply of human necessities, a rise in the standard of life and in what is considered a necessity, a development of transport and every kind of convenience ; and a multitude of people would be transferred from low-grade production to such higher work as art of all kinds, teaching, scientific research, and the like. All over the world there would be a setting free of human capacity, such as has occurred hitherto only in small places and through precious limited phases of prosperity and security. Unless we are to suppose that spontaneous outbreaks of supermen have occurred in the past, it is reasonable to conclude that the Athens of Pericles, the Florence of the Medici, Elizabethan England, the great deeds of Asoka, the Tang and Ming Periods in Art, are but samples of what a whole world of sustained security would yield continuously and cumulatively.

Without supposing any change in human quality, but merely its release from the present system of inordinate waste, history justifies this expectation."

Do we realise sufficiently even ourselves, that Art and Literature represent two world-dominions to which *all* civilised nations have made valuable contributions and both of them would be very much poorer indeed than what they are to-day without such co-operative effort? Is it difficult to make young people understand that the great manifestations of beauty in art and literature are not confined to any land, however favoured by God the people may wrongly imagine themselves to be, but are really representative of many ages, climes and peoples? Introduction to the great masterpieces of foreign nations, if not in the original at least in translations, and their immortal monuments of art, if not with the vivid facilities of foreign travel, but at least with the help of pictures and descriptive literature, must be another plank in this programme. It must be the teacher's duty to emphasise the oneness of humanity on all possible occasions. Why should we dislike a person merely because he has a yellow complexion, high cheek-bones and small eyes? Why should people devoid of colour and looking pale rouse any animosity in us? After all, the mere fact that a person lives beyond the boundaries of our country, often an imaginary one without even a stream or a mountain to mark it, is no reason why we should feel a reduced sense of human affection towards him. There is, on the other hand, a good deal of wisdom in the saying of Terence : 'Nothing which concerns man can be a matter of unconcern to me.'

If there is one impression which sinks deeply into our minds as the result of travel

all over the world, it is the oneness of humanity, a fundamental unity of mankind, though expressing itself with different backgrounds. The same spirit looks at you with all its human affinities, whether through black, or brown, or white, or yellow eyes. The fundamental qualities are the same, in their attractive or disagreeable features. We are all actuated by common hopes and ambitions, tempted by similar weaknesses and capable of either lapsing into vices or rising to heights of moral grandeur. The great virtues are the same, there is no such thing as English charity, or French truth, or Persian kindness, or Indian friendship, nor can any of the failings of humanity be identified absolutely with people of one country or race.

It may be worth while referring here to a common misinterpretation of Rudyard Kipling as a poet who stood for separatism and wanted to emphasise the differences between the East and the West. If he said that "East is East and the West is West and never the twain shall meet" it should not be forgotten that the lines are immediately followed by the remark that "there is neither East nor West, nor border nor birth, nor creed nor race, when two strong men meet face to face." In fact, the ballad containing these lines was actually meant to emphasise the oneness of humanity and to show that the great virtues of man, at least in essence, were admired all over the world.

It should not be necessary to impress on an audience in India that even the teaching of religion need not lead to any feeling of ill-will against others. The sacred scriptures of India have always proclaimed that God is one, though He may be called by many names and there are no more beautiful similes than those in our religious books

illustrating this great truth. As all rivers flow to the same sea, all religions lead to the same God ; as the same sun is reflected in different pools of water, the same God pervades all faiths and like the string threading all the pearls of a necklace, God underlies all creeds. It cannot be that God was so petty as to confine His revelation to one favoured community or race, or that millions of human beings in all their various stages of evolution could be confined to one Procrustean code of religion or morals.

The time has long since gone by, when people could indulge in ideas of racial pride, though we have seen it echoed in Germany to-day. It is best to teach young people to look down upon notions of racial superiority, specially as there is really no such thing and the scientific study of history has enabled us to perceive the truth that training and environment have been responsible, in no small measure, for shaping the destinies of nations as well as individuals. As for claims of racial purity and superiority of blood, the less said about them the better.

It is a mistake to imagine that the teaching of internationalism can in any way be injurious to the obligations of patriotism. As Rudyard Kipling has rightly pointed out :

God gave all men all earth to love,
But since our hearts are small,
Ordained for each one spot should prove
Beloved over all

and it is only through intense love for one's own people and country that man can rise to noble sentiments embracing all humanity in his affections. The only thing to provide against is the attitude expressed in the words, 'My country right or wrong' and in the haughty imperialism which wishes for an exclusive place in the sun for one's own motherland, at the expense of others,

It is only necessary to say, in conclusion, that one of the most effective ways of working for peace and internationalism is to instil a love of freedom in the young mind, making it impossible for Dictators to tyrannise over mankind and lead their peoples into aggressive warfare with other countries. Democracy is one of the best guarantees for peace and the cause of internationalism will be ultimately secured for mankind, if every individual supported freedom and wanted it not only for himself, but also for others in the spirit of Abraham Lincoln's famous declaration: "I will not be a slave—I will

not be a master." In spite of the depressing atmosphere of to-day in world-politics with unjust wars and civil strifes and restless dictators anxious to precipitate a world crisis, let members of the teaching profession at least strive for internationalism, through the younger generation, so that in the fulness of at least their time, the poet's prophecy might be fulfilled:

"Till the war-drum throb'd no longer and
the battle-flags were furl'd

In the Parliament of man and the Federa-
tion of the World."

ADULT EDUCATION IN INDIA, 1937.*

BY MR K. S. VAKIL, M Ed., M.R.S.T., F.R.G.S., I.E.S. (Retired), *Kolhapur*.

It is, indeed, gratifying to report that the subject of Adult Education received more attention during the year than it ever did before, particularly in some of the provinces in which responsibility for Government passed into the hands of popular leaders who regard provision of elementary education for the entire mass of the population as their first duty.

Provincial Departments of Public Instruction which did little or nothing for the encouragement of Adult Education are now being goaded on to make a move in this field by the new popular Ministers of Education. For instance, one of the first acts of the new Bombay Ministry was, within barely a fortnight of its accession to power, to include in its budget for the second half of the current

year a provision of Rs. 10,000 specifically for Adult Education and, soon afterwards, to get it distributed to different Divisions of the Bombay Presidency and put to use for the purpose for which it was made. The plan adopted for the purpose is to encourage voluntary associations of social workers in the different linguistic divisions to establish Adult Education centres under the supervision of the Divisional Educational Inspectors and to give them grants-in-aid. Several Adult Education centres have already been established in that Presidency accordingly, and it is hoped that the experiment will succeed and will lead to further progress of the movement. In the Central Provinces, too, appreciable progress has been made. Fifty-five adult schools have been established by local bodies during the year, fifty in rural areas and five in the Nagpur Municipality. The Government has undertaken the entire cost of main-

* Report as Secretary to the Adult Education Section of the All-India Federation of Educational Associations.

tenance of the schools in *rural* areas and one-half of it in *urban* or municipal areas, and has placed them under the supervision of its inspecting officers.

In Bengal, the Minister of Education has rendered available a sum of Rs. 1,000 obtained from a private source for the formation of a Central Committee in Calcutta to guide and advise the working of Adult Education centres recently established in rural areas by the Department of Public Instruction in co-operation with the Registration Department. A non-official Bengal Adult Education Association has also been recently formed in Calcutta.

Among the Indian States, Mysore has 78 schools for adults with 1858 pupils against 74 schools with 1699 pupils last year. They are conducted by Local Education Authorities under the general supervision of the State Education Department and are reported to be doing really good work. Travancore provided Rs. 21,300 in its budget for the introduction of a State library system and established libraries and reading rooms in sixty selected State primary schools (57 Malayalam and 3 Tamil), mostly situated in rural areas, where library facilities did not formerly exist. It allotted Rs. 100 for furniture for each library and supplied 200 books to each, and has appointed the Headmaster of the Primary School as Honorary Librarian and has been paying him Rs. 3 per mensem as honorarium.

Among the Municipalities, Calcutta conducts five night schools for carters and sweepers and aids privately managed night schools to the extent of Rs. 10,000 per annum; Patna aids free libraries to the extent of Rs. 2,420 per annum; Poona maintains one night school and aids two others; and Karachi has 28 night schools to which it gives grants

amounting nearly to Rs. 3,000. Bombay shows the greatest progress. The Bombay City Literacy Association started under the lead of Mr. K. F. Nariman is now conducting 65 Adult classes (20 Marathi, 12 Gujarati, 18 Hindi, and 15 Urdu) staffed with 90 teachers and attended by about 2,000 adults. They cost over Rs. 10,000 per annum. The Secretary reports that the classes have been working satisfactorily and have led to a demand for the opening of many more, which cannot be met for want of funds. Were more funds available, it would be possible to increase the number of classes to 100 and their attendance to 3000 within a couple of months.

The work of the Universities in the field of Adult Education consists in the organisation of Extension Lectures not only at the University centres but also at other places within their territorial jurisdiction. The one outstanding defect of these lectures, however, appears to be that they are mostly on higher subjects of University study and research, of interest to University students rather than to the ordinary adult inhabitants of urban areas. Lectures on subjects such as "Currency and World Chaos," "The Linlithgow Commission and After," "Cultural Synthesis of India," "Great Poetry," "Mysticism in Religion," "The Future of the Tamil Language," "Kalidas Sandesha," "Karnatak Samskriti," "Contemporary Socialist Theories," "Race Origins and Differentiation," "The System of the Universe," "Lineage of Man," are far beyond the comprehension of most of the people for whose benefit they are intended.

The Y. M. C. A. the Bombay Presidency Adult Education Association, Bombay, the Adult Education Institute, Vile Parle (Bombay suburban area), the Adult Educa-

tion League, Poona, the Raiyat Shikhan Mandal, Satara, and the Central Night Schools Association, Muzaffarpur (Bihar), are all pursuing their useful activities with the same zeal as before.

Poona has recently organized a Saksharta Prasarak Mandal (Association for Spread of Literacy) and has already commenced work. It has been proceeding on the plan evolved by Prof. S. R. Bhagwat, Chief Officer of the Poona Municipality, who is known for his keen interest in the subject, with the active co-operation of well-known local educationists. It achieved success in its work at the three places at which it started it and, encouraged by this success, extended its activities to six places and brought nearly 300 adults within its sphere of influence at the beginning of this year. Since receipt of a grant of Rs. 4,450 from the present Bombay Education Ministry in October last, it has opened six more classes. To ensure success, the Association has arranged to train teachers on its own plan and has already produced six special reading books at a cost of over Rs. 3,500 for the adults receiving instruction in its classes. It has got films prepared to assist it in its work and has purchased a motor lorry to carry on propaganda on the subject from village to village.

An "Indian Adult Education Society" has also been started at Delhi with Prof. J. B. Raja and Mr. H. B. Richardson of St. Stephen's College, Delhi, as President and Secretary respectively, under the inspiration of Mr. and Mrs. T.F. Williams of the National Adult School Union, England, who came out to this country last winter and toured round several educational centres such as Agra, Delhi, Lahore, Allahabad, Calcutta, Nagpur and Bombay. Its motto is "Lighted to

Lighten." Its aims and objects are (1) to remove illiteracy from India, (2) to enable the masses of the Indian people to become better citizens in every respect, and (3) to promote in all possible ways the personal development of the men and women of India so that they may attain the fulness of their bodily, mental, and spiritual stature and more especially those who had not the opportunities of education in their early life. Its methods are (1) to open and conduct classes for imparting instruction in the Three R's to those who are illiterate, (2) to start and maintain more advanced classes of instruction to meet the need of those who are literate, but who have not had the opportunities for higher studies, (3) to discover and inaugurate suitable courses of vocational training of direct economic value to the poverty-stricken masses, and more especially for the unemployed, and as a subsidiary occupation for agriculturists, (4) to devise and introduce general cultural courses on such themes as the National Heritage, Fine Arts, Health and Sanitation, Citizenship and Co-operation, (5) to supplement the regular courses enumerated above by stimulating periodical discussions, discourses, demonstrations, debates, dramas, concerts, competitions, *melas* or fairs, markets, tournaments, crafts, country dances, fancy shows and exhibitions of arts, cottage industry and agricultural products, and the maintenance of reading rooms, stationary and itinerant libraries, museums, and in other kindred ways calculated to promote the aims of the Society, (6) to provide for all who seek instruction in the Society's institutions sound moral and religious instruction in their respective faiths, to be imparted by the best qualified persons available for the purpose, (7) to organize adequately equipped gymnasiums,

wrestling pits and playing fields for healthy physical exercise. It has deputed Miss Cryan who is a professor in Lady Harding Medical College, Delhi, to report the work of the Association to this meeting. I am glad to welcome this measure, on the part of the Association, to establish contact with the All India Federation and discuss the subject with it.

During the current year, some interest in the subject was aroused by Dr. Frank Lauback who introduced into the Philippines a new method of teaching reading to illiterate adults. He showed at several places which he visited during his tour round this country how his method could be applied to the education of Indian illiterates, and assisted in forming local committees for preparing Reading Books for Adults. The Gujarat Committee has already prepared and pub-

lished the first book and is now planning to revise it for the second edition.

It seems to me that the time is now ripe for the consideration of the question of co-ordinating all these activities and bringing them within the purview and jurisdiction of one Central All-India organisation. Their integration is necessary, if a united effort is to be fruitful in the field of Adult Education.

In conclusion, I take this opportunity to acknowledge with thanks the active interest that Mr. Earnest Champness of the National Adult School Union of England has taken in our proceedings. I am glad also to note that the World Association for Adult Education has continued to evince the same sympathetic interest in our work as it did before. It published a summary of our last year's proceedings in its Bulletin, Second Series, Number IX and in its Occasional News Sheet, No. 12, for March 1937.

ENLIGHTENED TO ENLIGHTEN—(RURAL ADULT EDUCATION).

BY MR. D. PURUSHOTHAM, *Chittoor*.

INTRODUCTION.

INDIA is a country on which has devolved responsible government, and the organising of all resources available within and without our schools and colleges for the equipment of effective citizens becomes almost an imperative necessity; and hence, such stimulus and help as is needed to fit her countrymen to participate in her economic and political evolution, becomes an urgent demand.

On whom does the burden of such responsibility lie? Certainly on her own people, and the agency for such a work should be the State and private enterprise. The very fact,

that about 92 per cent. of her total population is illiterate, should be enough to spur everyone to action, in order to reduce this percentage. According to the latest statistics, there is only one rural boys' school for every 780 of the male population. In 1934, the number of rural primary schools was about 184 thousands (five-eighth of this privately managed), the percentage of attendance in 1922 being 76.1; in 1927, 77.8; in 1932, 79.1; whereas in the Philippines, it was 96 per cent. in 1929. Out of 43, which is the average strength of a primary school, 37 do not become permanently literate. In India, in 1932, there were 5482 night schools for adults with 154

thousands of pupils and in 1922 about ten times more. But owing to various reasons, they have been closed down. To put it briefly, in India, there are 23.5 million literates out of 284 millions of people of over five years of age and to educate them is a problem.

The initiative of any successful movement for adult education must proceed here, as in other countries, from voluntary agencies. Now having undertaken the uplift of the masses through adult education, as the only means, a number of problems arise:

1. Should education be utilitarian (vocational or non-vocational) or cultural (intellectual, moral, religious)?
2. What kind of environment should be created?
3. Should it be education through the agency of schools, libraries, tutorial classes, lectures and propaganda?
4. Should it be the duty of the State or private enterprise?
5. How to satisfy the financial implications of the case?

Now dealing with the problems one by one, I consider that the first step to be taken in the education of adults should be the provision of *liberal* education for this reason that, the average illiterate adult knows nothing except his daily routine of eating, drinking, and idling his time. Though it is agreed that any education which is not utilitarian in its object, is bound to fail as it will not attract people, I feel that a good foundation should be laid for such an education. What I mean by liberal education is, *the imparting of such knowledge above the Three R's as to make every adult think cogently, reason rightly, infer correctly and to foster in him a living interest in learning by observation, hearing and reading.* The last thing

may be too high for him. Further liberal education must have a creative interest and enable one to discuss with ease any topic in which one takes a vital interest.

The proper method of creating such an environment in an adult is by first educating him and bringing him into contact with a suitable teacher. The modern thought that it is scarcely possible for everyone, in his leisure hours to receive such an education, is now gaining ground, but the zeal evinced in such a direction will gradually cool down and the attempt to revive it will be an uphill task. The aim of adult education is *to inspire and train grown ups to be something more than they are now, and make them do their work better than ever.* One of the after-effects of the Great War is an ever increasing belief in the necessity for adult education, the reason being, that if people were well educated in the sanity and sanctity of human life, the War could have been averted.

The one great cry of India is that the franchise should be based on adult suffrage. To invest its citizens with the power of voting is dangerous, for are they in a position to know the meaning of a vote and all the implications of it? Hence the need for adult education. The environment is there and we are to find suitable methods. The opportunities for adults that live in the 2483 towns and cities of India (1931 Census) are very great. There are clubs, theatres, picture-palaces, public lectures, *kalakshepams*, the gramophone, the radio and other amenities which add to their knowledge about the marvels of science and the progress of human ingenuity, slowly, surely, and steadily.

STRUGGLE FOR EXISTENCE.

Let us look at the villages of the country. Eighty-six per cent, of the people are in

villages of less than a population of 2000, and the number of inmates of an average family is 4.9. I need not describe the poverty, disease, disappointment and distress of our villagers. Nothing but penury in every direction faces a villager and none of the amenities that go to make human life worth living is available to him.

Most of the agriculturists are only tillers of the soil, without any vested rights or interest in the land. This is evident from the following. According to the 1931 Census 103 million workers on farms were divided into four classes, the first being four million landlords living on rents; second twenty-eight million cultivating their own lands; third thirty-six million who leased others' lands; and the last class being thirty-four million servants who were forced not to rise above the level of brutes. No sooner is the harvest over, than the crop is divided among the landlord, the village servants, the business man, and the Government. The world takes away the surplus crop, the Sowcar takes away the coins, and the Devil takes away the people. In such a state of affairs, where can a villager get money for the education of his children? There is already under-employment, half-employment and unemployment there. Seventy per cent, of the rural population does not know what a full meal is. The unskilled man of to-day is a cheap and docile labourer providing fodder for the ruthless machine. The Central Bank Enquiry Committee has estimated the income of an average agriculturist to be Rs. 42. According to Sir M. Visveswarayya's "*Planned Economy for India*," "the average income of a person in India was Rs. 82; in Japan Rs. 271; in France Rs. 636; in the United Kingdom Rs. 1,092 and in the

United States of America Rs. 2,053." Rural life in many places is one of ill-health and struggle for existence. The physique of the villager is also deteriorating.

At the same time, it cannot be gainsaid that the villager is an indolent person. Six to eight months are absorbed in cultivation, and during the slack season, some are engaged in Local Board works if any; while many participate in the work connected with temples and endless factious fights. Having no enticing interest in life, they abhor manual labour and crave for a life of indolence and ease. *To educate to the level where he can learn to appreciate the value of time and give the necessary initiative to lead a life of self-sufficiency, sound education is needed.* Money must migrate from towns and cities to villages.

TYPES OF ADULTS.

What is the type of education we ought to give? Do you want education to follow a profession or do you want education for its own sake? The types of adults we meet with are varied. They are the *complete literates* who enjoy the benefits of education; the *half literates* who are desirous of receiving education and the *illiterates* who remain outside the pale of education. Besides, judged by the standards of intellectual development, we have *the advanced, the normal and the sub-normal.* So our first care is to recognise the type of mind and then to chalk out methods of approaching them.

Mere spread of elementary education is as good as useless and there must be *continuation schools* in some form or other to prevent adults from relapsing into illiteracy. Our aim should be *not only to spread literacy, but also to see that it becomes permanent.* Adults should be trained to be not *lifeless machines*

but to be purposeful human beings. The unsuitability of the curriculum, the methods of teaching and unqualified school teachers in rural parts should be reformed. The progress of the education of women is impaired by inertia and the purdah system. There are about forty millions behind the purdah and fifty millions of the depressed classes. What is to be done with them?

RURAL ADULT SCHOOLS.

Establish adult schools with qualified workers who are kept above want. The teachers should be trained in such a way as to adapt themselves to village life, and to have a perfect knowledge of rural conditions and needs. The adult has no urge to learn and does not make any attempt to use the brain. Ask him, who rules India? He would blink and perhaps say the Revenue Inspector. He knows his own village; he may know a few surrounding villages where his relatives live and where the courts exist.

The worker may select two centres and he may work at each centre three days per week and on the seventh day in the weekly market. Items of interest, mainly of the village and of the town and lastly of the country, should be discussed by him, all the time the teacher acting as a non party man. More than lectures and propaganda in sober prose, he could get by heart popular ballads, snogs and little couplets to be repeated in groups. The drama has been the traditional means of adult education. Easy and popular tunes will catch the ear, grip the memory and get disseminated among the people; and ultimately rejuvenate their hearts and lives. They can present truths on many subjects such as health, sanitation, temperance, agriculture, cottage industry, etc. Singing parties com-

posed of school children may go about singing songs about rural uplift. An adult will be more interested if the songs are connected with his own village. Thus a general knowledge of topical geography of the village might be given, and slowly it may be extended to the geography and history of the locality and in stages to the District, Province, etc. The reason why such oral methods should be insisted upon, is that it is quick and communicable, easy and lasting.

VALUE OF SKETCHES.

Special books for adults dealing with matters of living interest and of immediate importance, in the common language of the village, may be written and freely supplied. Books on the subjects selected should be scrutinised from new points of view and they should create a taste for independent reading. They must be profusely illustrated as people prefer striking pictures and vivid sketches. The sketches should depict peasants' houses, furniture, surroundings and their life from babyhood to adulthood, suited to different ages. They should be village-centred out and out. We have heard of the Chinese proverb that a picture tells more than 10,000 words.

Now there are some books for adults; but some are not worth reading, many are dull, but alas! they have to be read. Show them the diagrams and the graded reading cards and stir up in them the spirit of enquiry and also keep them alert to ponder over every detail they come across.

Every village or rural school must have a library, at least something like a circulating library. Periodicals, newspapers, magazines, journals, and books are a good source of increasing the spirit of enquiry. The rural schools in the Philippine Islands, contain

4,98,000 volumes for about 8,90,000 pupils in the first four standards. How many are in India now? The printed material, newspapers and journals, are thirteen in number for one million Indians; in Russia 100; in Japan 155; and in the United States 172 per million. Which is the most promising and progressing country is for you to judge. In my personal experience, I have seen that once a man is kept informed of current events and world problems, he will worry you every day for further news.

LITERATURE FOR ADULTS.

Education does not begin and end in schools. No doubt much is said about the tutorial classes and extension lectures as arranged by the Universities. They are practically for the town adults, whose training is quite different from that of the village adults. The curriculum of study for the village adult must comprise agriculture, live-stock, implements, local history and country geography. With reference to definite facts, lasting impressions can be created, *vis.*, a bus ride to the District Magistrate's court:—distance to be travelled, the comparative times for different modes of travel, the different kinds of crops and the nature of the country to be seen on the way, the dangers of journey by car, the rate, the advantages, etc. Thus in short, the whole attempt is an art of capturing the imagination and kindling it with new ideas and vision.

The subjects must be intellectual, popular and religious. A villager is religious to the core. Our country is very proud of her past history and every bit of her past is enshrined in the Puranas and other works. Every attempt must be made to encourage national

folklore and dramas and thus revitalise the national consciousness. Libraries must contain such books as would interest the adult and increase his knowledge; stimulate his self-respect and enable him to weigh the pros and cons of a question, search for truth impartially and lastly to probe into hidden facts independently. If the poets of the day write such popular and poetical ballads, as Nallathangal; Bobbili Raju; Raja Desingh, etc., in the most popular tune depicting the duties of an adult towards himself, the community, the village and the country, it will be worth while having them.

There are the amenities of towns, *vis.*, lantern lectures, the radio, the gramophone, and the cinema to broadcast knowledge. The radio excites curiosity first, compels attention next and exacts reverence at last—reverence for wisdom, knowledge, and literacy, which forms a ladder towards the attainment of bliss. Films ranging from those intended for technical instruction to those simply for entertainment should be provided. The test of a good teaching film is how much of it is understood and remembered. But a few well chosen questions given to adults before they see a film may often give better results. No doubt in India, the problem of language and medium of instruction is great. Films must be used to help the teacher and not to replace him. When there are film institutes for the rural people who comprise 44% of the total population in Japan; for 38% in Germany; for 20% in England; is there a single one in India with its 89% of the population living in rural parts? In Canada, many thousands of adults are reached by extension lectures, travelling libraries, broadcast and other similar services. Over seven crores of rupees are being spent in

the United States of America for visual demonstrations per year. How much in India? At least gramophone records may be supplied. Such records of Indian folk songs will produce an outburst of enthusiasm amongst the very old folk, who can recognise in them some local song of their youth, long since forgotten.

METHODS OF TEACHING ILLITERATES.

What we want every adult to know is first *where he is*, second, *whither he is bound* and lastly *how he reaches it*. To achieve the above objects, a thorough knowledge of the Three R's is absolutely necessary. Our Indian alphabet contains about 200 to 600 sound combinations. Whatever the number of letters, the way in which they are taught to adults must be suitable. Experiments conducted by Lubbock and S. J. Daniel are worth considering. There should be freedom and resourcefulness to experiment on new lines in this direction. Dr. E. L. Thorndike has shown that the ability to learn rapidly increases until the age of twenty-five and then gradually drops down 1% a year. In his book "Adult Learning," he reports that the average man of 42 can learn better than a youth of fifteen, and far better than a child of ten. Let us teach an adult something, say a lesson. The adult who has just become literate, should start teaching others. Why? It gives him a strong motive for mastering the lesson. Secondly, the lesson he has learnt is fixed firmly in his mind. Thirdly, it removes his idea that he is too stupid to learn. Fourthly, he has the joy of having done a friendly service. And lastly, this is one of the best methods to teach illiterates. Our success in this line is immeasurable. *We know that the teacher learns as well as teaches and an adult teaches as well as learns.* A periodical issued once or twice a month with extremely simple

photographs of interest to new literates will go a long way to further this. According to the findings of the Interim Report of the Indian Statutory Commission some school, even a bad school, is better than nothing as a pioneer opening the way to illuminate through distant enlightenment." Napoleon when asked when the education of a boy should be begun, replied that it should have commenced twenty years before. He meant to say that the parents of the boy should be educated before he was born.

If the State promises a small remission in the kist or tax to an adult who can write his own name and the names of any others, which the revenue official requires, then in no time many may be forced to learn at least the alphabet.

In rural areas, the greatest obstacle to the progress of the education of women is man. The women can be first made good, rather than clever, by teaching them about the gods of the family, marriage, agriculture and flocks. Teach them that religion consists of truth, love, service and sacrifice. There are 58% of males among the male population and only 28% of females among the total female population who are dependant. There are 25.5 million widows of whom 320 thousand are under fifteen, and if they are taught to rise above temptation, the ethical side of physical health conscience, and to use their leisure profitably, then their lives are worth living. In India, in every minute, twenty-one babies are born, and over fourteen die, leaving seven mouths to be fed. The duration of human life is going down which is quite evident from the following figures. From 1910 to 20, 34; 1921 to 30, 26; 1931 to 33, 23; whereas in the United States it is 56.4; in France 50.5; and in

Japan 44.5. To save the high mortality also adult education is necessary.

Bad feeding, bad housing conditions, dirt and degradation do not build brain power and most adults start with an inherited handicap of various kinds. It is no more appropriate to offer the same kind of education to all, irrespective of their natural gifts than it is to prescribe the same treatment to all patients without regard to their varying requirements. Man is distinctly a tool-using animal but the tool seems to be the last thing that any present school dreams of using in his development. The mechanical civilization has reduced the skilled artisan to an unthinking and unfeeling specimen of humanity. Let us convert their idleness into a few pies or suggest avoidance of bad habits and insanitary conditions of bad living which will conjointly help to swell the income of the labourer in the paradoxical way of eliminating unnecessary expenses. The test of a teacher lies in seeing how far he is practical by conquering the two great enemies of education—*words and routine*. His principle should be "not to minister unto but to minister." It is the personality of the teacher that counts most. The teacher must be the chairman of the 4H Co-operative Society—*Head, Heart, Hand and Health*.

CONCLUSION.

Our methods of tackling the question of the education of adults must be *sometimes preventive, sometimes extirpative and often substitutive*. Teach them through the medium of cattle and soil. Teach them the arithmetic of citizenship. Train and organise their common sense. Instead of gluing their eyes to lifeless books, teach them to look out of doors and see what the world means, and what they can contribute to it. Make them realise that the essence of our *civilization is plain living and high thinking*. Teach them besides other things, simple bazaar problems, making up an ordinary bill, checking up the kist receipts, calculating interest, reading personal letters, village leases, records, contracts, folk dramas, etc., and conduct Bhajanas, street plays, shadow talkies, and singing of popular ballads by professionals, and Harikathas and thus make them *balanced people*.

What are the qualities looked for in an adult? *Intellectual* to which I assign three-tenths of the marks; and *moral* to which three-tenths are assigned; *Physical* two-tenths; and *leadership* two-tenths of the marks. To get on with limitations and stupid conventions is not good; and either we have to get over them or get out of them.

Let us revive our good old *forest schools and apprentice schools*. The first English school was opened at Nottingham in 1798. After 1850 Continuation Schools, Demonstration Schools on Sundays, Mechanical institutes were started for adults. Anyone who reads our Dharmasastras would realise the importance given to adult education and now we may say that *what ancient India thought about Adult Education before, the West thinks of to day; and modern India, sad to say, may have to think of only tomorrow*. In Folk High Schools, started by Bishop Grundtoiz and Mexico's Adult Night Schools, adults are imparted new social vision, zest for life and desire to co-operate. Let us not convert our covered wagons into cramming establishments.

GIVE US LIGHT.

We hear the cry "Give us Light" and it is but our bounden duty to hold aloft the torch of knowledge and make the blind man groping in the darkness, a worthy citizen and a good and honest seeker after truth and God-head. Let us know that the cure for poverty is not charity; and that service means sacrifice; and that sacrifice implies absence of reward.

Conferences and frequent discussions may be held by the workers, so that they can pool out their experiences and learn from one another. We, who are not so adventurous as the westerners, often look for quick returns. But in a movement of such a novel and comprehensive character, we cannot expect such startling results at once, as we are neither builders nor architects but only gardeners. If the helping agencies can make the adults better adults, their existence is justified.

Carry on, do your best, your very best; and your greatest enemy cannot hurt you. But do less than you must; your greatest friend cannot defend you.

Are not the Enlightened to Enlighten?

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THE WARDHA SCHEME.

SPEECH by MR. N. KUPPUSWAMI AIYANGAR, M.A., L.T.,
Trivandrum.

THE Wardha Scheme seems to be really on its trial here. We began yesterday, if I may say so, with the speech of the Prosecution Counsel, our President; and to-day we have heard the able defence of Mr. Saiyda. I am here more for the purpose of understanding it than for defending or criticising it. It seems to me that the Wardha Scheme deserves neither the encomiums that have been heaped upon it by those whom the President called the 'saviours' of India, nor the hysterical denunciations that have been showered upon it by the 'servants' of India. The scheme requires, I think, a good deal of elucidation and perhaps some alterations.

SOCIAL POINT OF VIEW.

The tragedy of all educational reforms was due to the fact that every State, democratic or autocratic, facistic or communistic, wanted to control the education of the young in order to turn them into its own mode of thinking. Therefore they often concentrated their attention on the needs of the moment and devised means and ways of meeting them. Even here, the followers of the reformer soon reduced it into a lifeless, mechanical system thus producing constant dissatisfaction.

The Wardha Scheme, from this point of view, is no exception. That part of the scheme that insists on a profit yielding vocation and rural handicrafts belongs to this category. Any system of education whose basic idea is to train *young* pupils to any *particular* vocation, rural or urban, cannot form an enduring foundation for future progress. On this point, the Wardha Scheme seems to speak with two voices. The report says:—

"The object of this new educational scheme is not primarily the production of craftsmen able to practise some craft mechanically but rather the *exploitation for educative purposes of the resources* implicit in craft-work."

But on the other hand Mr. K. G. Mashruwala, one of the members of the Committee, writing in the *Harijan*, says:

"The Segaon Method will aim to bring about in the child at *as early an age as possible the determination of the future career* it should expect to pursue, and will arm him with at least one occupation."

If the latter is the real idea, we have to consider whether it is desirable both from the educational and the social point of view to force young hopefuls of seven and eight years old to choose their life vocation perhaps against their own inclinations and aptitudes at a stage when they know nothing about what life is. It is worth remembering that English education failed because it was taken to be a purely vocational education.

Again, one is in doubt as to whether this education is to be for all, rural and urban, or whether it is only for the rural population and that we are to have modern scientific and industrial education for the urban population. If it be the latter, is it democratic education? Will it not degenerate into a class or caste education? If it is the former, are we going to prevent our boys altogether from having any training in modern scientific industry and engineering? Or, is it contemplated that this education upto fourteen is sufficient as a preparation for any kind of modern scientific education?

EDUCATIONAL POINT OF VIEW.

Looking at the scheme from a purely educational point of view, the question arises whether the particular craft chosen is sufficient to develop the whole man and to give him all the general knowledge that is now gained upto the Matriculation standard. Every educationist now agrees that a good deal of intellectual and moral training could and should be given through useful handicrafts. Gandhiji goes one step further. He says that *all* education can be given through some *one* handicraft. This is against the experience of the world. Thirty or forty years ago, as a reaction against the purely literary form of education the cry of "learning by doing" arose. What is called the Project Method was the result. To the suggestion of Dr. Zakir Hossain that the Wardha proposals are similar to the Project Method, Gandhiji is reported to have replied that a lady who knew the Project Method had told him that there was a vast difference between the Project Method and his scheme. No doubt there is some difference. But so far as the essence of the matter is concerned, *i.e.*, in the ideology of getting an all-round education through practical work, there is no difference. In both the schemes, the whole education is to be got when and through learning some practical work. The difference is, while the Project Method requires various forms of practical work including purposeful mental work such as gathering information about the economics life of a village, *Gandhiji thinks that one or two handicrafts are sufficient to develop the whole personality of the child.*

Gandhiji wants us to experiment and verify his ideas. Man certainly should learn by the experience of other men. Therein lies the difference between man and animal. As said before when the cry of "Learning by doing" arose, a large number of schools were

started to try out this method. The result is unambiguous and clear.

1. "The tools and techniques of learning such as reading, writing and arithmetic cannot be learnt by the Project Method but only motivated by it."

2. "Practical work can be helpful in motivating our study and in preparing us to understand what we read. But nine-tenths—I would say ninety-nine-hundredths—of what we moderns know come to us from the printed page."

3. "Certain things can be learned much better through doing than thinking but other things can be learned *only* through thinking."

4. "Learning by doing has no prominent place in the acquisition of the racial knowledge accumulated over immense periods of time, or in the development of abstract thinking."

"Education cannot afford to crowd out of the programme what society and ethics unite in demanding that the child increasingly incarnate the assumed values of race experience."

5. Dewey, the father of the Project Method, himself says: "Exclusive preoccupation with matters of use and application narrows the horizon, and in the long run defeats itself. It does not pay to tether one's thoughts to the post of use with too short a rope. Power in action requires largeness of vision, which can be had only through the use of imagination. Men must at least have enough interest in thinking for the sake of thinking to escape the limitations of routine and custom. Interest in knowledge for the sake of knowledge in thinking for the sake of the free play of thought, is necessary to the emancipation of practical life—to making it rich and progressive."

Now, when 'projects' are found insufficient to educate the whole man, the narrower form of 'project,' the vocation of the pupil, can hardly be sufficient.

Secondly we know "All work and no play makes Jack a dull boy." It is a question for consideration whether three hours and twenty minutes for vocational work, and two hours for intellectual work is the right proportion. Will it not engage the young mind in dull monotonous work far too long? Will it not prevent the child from exercising its natural and wholesome instinct for play? Will not intellectual and moral education suffer? These are certainly points for consideration.

SELF-SUPPORTING PART OF THE SCHEME.

With regard to the self-supporting part of the scheme, I fear both the defenders and the detractors of the scheme make far too much of it. It is forgotten that Gandhiji insists

that the Government should buy up at fixed price all the things produced. It is for the Government to find ways and means of disposing of these products. No doubt they will make use of a good deal of these products for governmental purposes. Certainly a clerk or a Collector can very well sit in a chair made in a school and do his work. It is not necessary that the Government should have it done by the furnishing departments of big firms. No harm if the polish is not what a Duke would like to have. The scheme might make the Minister in charge uneasy in his chair; it need not frighten teachers.

On the whole it seems to me that the scheme is worth trying if at least three hours of intellectual work are provided for, and if the practical work is used more for enabling the pupil to find out his best line of work than for fixing up his future life vocation.

MY IMPRESSIONS OF THE 13TH ALL-INDIA EDUCATIONAL CONFERENCE.

By MR. N. SINGH, *Sursand.*

A FEW years back I learnt of the existence of the All-India Educational Federation. From that time I have had a mind to visit it. But so many considerations have stood in the way. For the first time I could attend the Conference at Calcutta only this year. After a long waiting my desire and keenness was naturally whetted all the more. So I went there with a great eagerness to see and to learn. To be frank, I must admit that I did learn a lot.

The first thing that impressed me was its truly All-India nature. There were representatives from the remotest corners of India. I had an occasion of hearing, though unfortunately not of talking with, renowned educationists. But I could enjoy the company of some.

The Conference is really doing very useful service when all the forces, I mean provincial autonomy, are working for disintegration of thoughts on education of the country as a whole. There is, no doubt, the Educational Commissioner, but he is no better than a mere statistician collecting figures about educational progress and publishing a report every fifth year. It is in this Conference that people from all the provinces meet together and talk about the problems of education on an All-India basis. So the opinions expressed and decisions arrived at are of special significance. But the critics may doubt if the opinions expressed at the Conference faithfully represent the opinion of the territories from which the members are drawn. True. That way the representa-

tive character of the Parliament of the most democratic countries may be questioned, though the members thereof are duly elected by the majority of their constituents. Otherwise, how could a number of representatives be defeated in the next election, though as long as they are in, they are supposed to represent their constituents? The only thing that I feel in this connection is that there ought to be provincial organisations on similar lines. I am not sure of the non-existence* of such organisations in other provinces, but in Bihar there is no such organisation where people from different fields of education may meet and discuss common educational problems from different points of view. So to make the All-India Educational Conference truly representative, it is desirable that a similar conference be organised in all the provinces and all the resolutions meant for the All-India Conference be discussed in the Provincial Conference first. It is high time that the protagonists of the All-India Conference should make a move in this direction.

The second thing that impressed me caused me annoyance as well. From the programme I learnt that four sectional conferences were to work simultaneously. Though by profession I am connected with secondary education, yet I had a desire to attend as many of them as I could find time for. But I was sorely disappointed. At best, one could attend three such conferences out of eleven. I know within the time at the disposal of the organisers no better arrangement could have been made. But is it not desirable that one sectional conference should meet at a time? Certainly, the time of the Conference will have to be extended but the advantages accruing to those attending it will certainly increase. I feel that the extra

inconvenience caused by the extension of the time will repay. It is now for the organisers to decide whether to extend the time for making the Conference more useful or to let the time as it is and debar many members from making most of the Conference.

The third thing that impressed me was the variety of the sectional conferences. There were eleven such. So far so good. But I would like to add one more, the library section. None would deny the position that the library holds in the field of education. The problems of its organisation on a nation wide scale and financing, etc., are important enough to claim for the library a position among the sectional conferences. The attention that we may pay it will repay. It is a problem not only connected with all the stages of education but with life itself. A time comes when we all do away with educational institutions like schools and colleges, but we cannot possibly do away with a library, without impairing our knowledge of the changing world. It is needless to dilate on the subject which is important considered from the point of view of the individual as well as of the country as a whole. The connection of the library with education is apparent, the importance of the library from the All-India point of view is unquestioned. Now we are to consider: "Is it worth while to discuss the problems of the library along with other educational problems?"

On the whole the Conference is doing very useful work by calling together educationists from all parts of India and by offering opportunities of expressing their views on various educational problems. But we should not rest content with what we are doing. We should always look beyond for "new fields to pasture."

* There are provincial organisations of teachers in almost all the provinces and the one at Madras, the South India Teachers' Union, has been in the field for now twenty-nine years and has been holding Provincial Conferences every year in different centres.—Ed., E. R.

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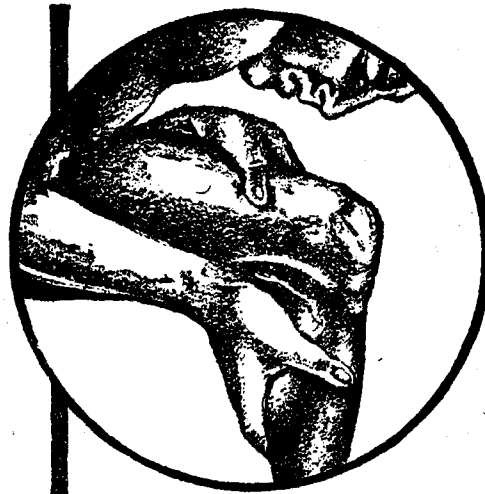
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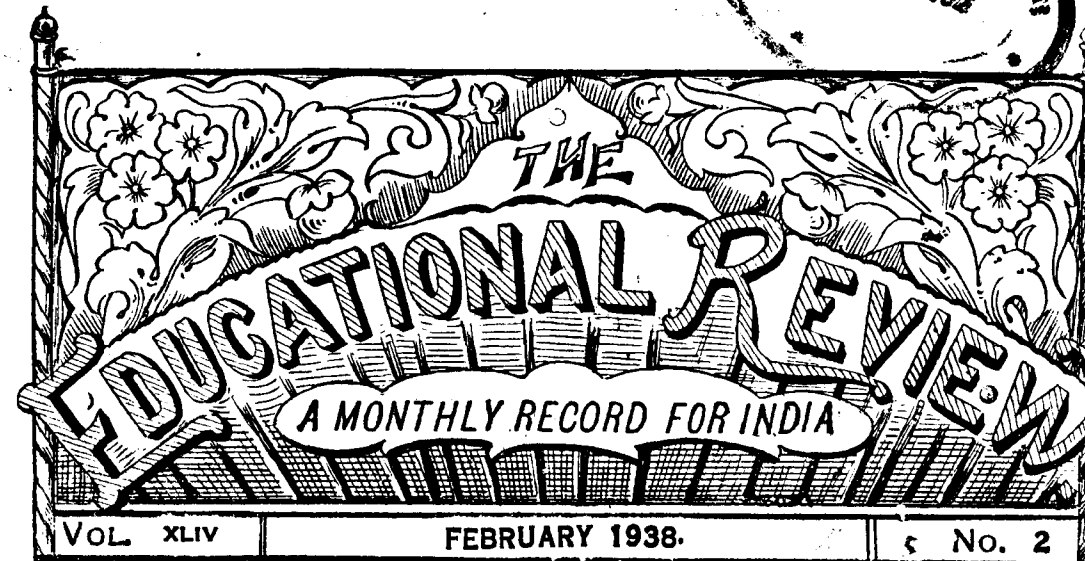
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INDIAN SCIENCE CONGRESS, JUBILEE SESSION.

WELCOME ADDRESS

BY MR. SYAMAPRASAD MOOKERJEE, *Vice-Chancellor, Calcutta University.*

[T is my proud privilege to offer a warm welcome to the delegates and other members who have assembled here as representatives of different Universities and various academic bodies from all over the world. We of this University and of this city of Calcutta which witnessed the inauguration of the Indian Science Congress, whose jubilee is being celebrated this year, feel honoured by their presence. We are particularly gratified that this should be a joint-meeting of the Indian Science Congress and the British Association for the Advancement of Science which has done so much for the promotion of scientific knowledge not only in Great Britain but in the British Commonwealth of Nations as well. This joint-meeting which has brought together distinguished men of science from various parts of the world bears testimony to the spirit of fellowship which binds together the scientific workers of the world. It heartens us in these depressing times to think that at least in the realm of science and scholarship there is a unity of outlook and activity which has immense possibilities for moulding the future destiny of the human race.

Two great figures we miss in this gathering today. The death of Lord Rutherford and of Sir Jagadis Chandra Bose has created a void which

cannot be easily filled, and we consider it our duty to associate ourselves with the rest of the world in the expression of deep and widespread sorrow with which the news has been universally received. May their careers and achievements serve as an inspiration to all seekers of knowledge and truth for generations to come!

The prevalent idea that Indians are metaphysically-minded and their contributions to positive science are inconsiderable is not based on a full and correct appreciation of historical facts. India has not been a mere dreamer. In her great days she founded colonies, and her missionaries went abroad to spread her culture and her civilisation far beyond her bounds. Charaka and Su-ruta, Nagarjuna and Bhaskaracharya, Aryabhatta and Lilavati and many others who explored the secrets of Nature, made definite contributions to knowledge which succeeding ages have profited by. There has unfortunately been a long period of stagnation; but today India is again forging ahead and beginning to contribute to the world's stock of knowledge. Some of her illustrious sons have achieved international fame and eminence. There are many others, less known, who are quietly pursuing their activities in the domain of science, undaunted by adverse circumstances and

sustained by remarkable zeal and devotion. It is perhaps a matter of justifiable pride for us to recall that this University was the first in modern India to foster the pursuit of higher scientific knowledge on an organised scale with the help chiefly of Indian scholars, trained here and abroad. We owe it mainly to the vision and constructive ability of Sir Asutosh Mookerjee, its Vice-Chancellor and first President of your Congress, and to the munificence of two of Bengal's illustrious sons, Sir Taraknath Palit and Sir Rash Behary Ghosh. Today this cultural movement has spread to all parts of India and a steady growth of scientific activities is evident at different centres in the country.

If we are to achieve satisfactory results, it is imperative that larger freedom and ampler facilities should be given to Universities and other bodies interested in higher scientific work. The problem of ordinating their activities and of ensuring unity and harmony among them is an urgent one. The conditions leading to a successful solution of this problem should engage the earnest attention of both scientists and administrators who should possess the right vision and temper.

More and more throughout the world, science is being harnessed to the service of men. While specialists must necessarily labour in their chosen fields, the inter-connections between the various branches of science are being increasingly stressed, and the distinction between pure and applied science is becoming less and less marked. While research in the pure sciences without any utilitarian object in view must continue to provide the fundamental basis of discoveries on which the application of science is to rest, the conscious collaboration between pure and applied science is being steadily fostered everywhere. Let this joint session, historic in its composition, give a clear and definite lead to future activities in India in this direction. India is a

country where the vast body of scientific knowledge already gathered, has not yet been utilised to any appreciable extent for the daily life of man. The practical application of scientific knowledge to problems of industry and agriculture, of sanitation and nutrition, all contributing to the steady increase of the prosperity, joy and happiness of the people, is a question of paramount importance in a country where millions are yet sunk in poverty, disease and ignorance.

The fact that science and technology have been used and are likely to be used in future for destructive purposes has raised doubts in many minds about the utility of science itself. Indeed the harm that has been, can be and is being daily inflicted throughout the world by engines of destruction, scientifically devised, is incalculable. Science is being used for purposes that no one who believes in humanity can contemplate with unconcern. There have been people, honest and well-intentioned, who have been stampeded by this fact into a denial of science itself. A halt has been cried in many quarters to the march of science and technique. Yet it must be clear on a little consideration that the blame must attach not to science but to those men and nations who call themselves civilised, and are shamelessly putting science to an inhuman use. Science, like fire, is capable alike of good and of evil and like fire it needs to be used with discretion and care. The good that science has done is obvious and immense. If used exclusively for the good of mankind, it is capable of promoting peace and happiness in this world and of conferring benefits beyond imagination.

What is wrong with the world is not the spirit of science but the moral and social failure of peoples who handle science. Science, in a comprehensive sense, provides us with the material appliances of life. It is the spirit of man who uses them that requires to be educated. The view of science should be supplemented by

the vision of beauty and truth. It is of no little significance that this Congress is presided over by one who has proclaimed to us that the world of science reveals the mind of the Supreme One and it is men of his type who should be able to contribute towards the establishment of peace on earth and good-will toward men.

In spite of political, national and racial prejudices, devotees of knowledge can and should collaborate and become the harbingers of the new era that is to be. Freedom and unfettered devotion to truth must be the supreme condition of their activities. Here in this gathering are assembled men and women from distant parts of the world, who while differing from one another in many respects visibly demonstrate a fraternity that is truly human. When the clouds of

distrust and oppression that hang over the world will lift, things will come out in clear perspective and matters that seem important at the moment will appear inconsequential. Humanity will then proceed in a spirit of common brotherhood to higher and still higher reaches of knowledge and happiness. Let India and her scholars play their part in this noble re-making of man's destiny. Rich with traditions and thoughts and endowed with strength and vitality, India claims the right of being treated as a companion with equal rights in the world's march towards a higher and nobler civilisation. Let this international meeting work a definite stage in this collaboration on a world-wide scale, based on justice and fair play, leading towards the ultimate triumph of truth and of righteousness, of freedom and of peace.

INAUGURAL ADDRESS

By SIR JAMES JEANS, D.Sc., Sc.D., LL.D., F.R.S.

UNTIL a very few weeks ago, we had hoped to assemble here under the presidency of one of the greatest scientists of all time, and it is inevitable that his sudden and tragic death should be uppermost, not only in the thoughts of those of us who come from Europe, most of whom knew him personally, but in the thoughts of everyone here. For his works had made him known to us all. He has been cut off in the fulness of his powers—leaving as his monument a rich and full life's work, such as few men have equalled, but also leaving a feeling that he might have accomplished more, and possibly even greater, things had he been left with us a few years longer.

Those of us who were honoured by his friendship know that his greatness as a scientist was matched by his greatness as a man. We remember, and always shall remember, with

affection his big, energetic, exuberant personality, the simplicity, sincerity and transparent honesty of his character, and, perhaps most of all, his genius for friendship and good comradeship. Honours of every conceivable kind had been showered upon him, so that he could not but know of the esteem in which he was held by the whole world, and yet was always simple, unassuming and ready to listen patiently to even the youngest and most inexperienced of his pupils or fellow-workers, if only he were honestly seeking for scientific truth.

This is neither the place nor the occasion to attempt any detailed description of his scientific achievements. A great physicist, Niels Bohr—whom we are sorry not to have with us here—speaking of Rutherford's work to a congress of physicists which recently met in Bologna, said: "His achievements are so great that, at

a gathering of physicists like the one here assembled, they provide the background of almost every word that is spoken." As it was in Bologna, so it will be in Calcutta; the proceedings in our physics section will be utterly different from what they would have been had Rutherford not lived and worked. And it is sad to think that they will be utterly different from what they would have been had he lived even a few months longer, for then we should have had his ardent and inspiring personality and vast fund of knowledge and experience to direct and enliven our debates. Happily he will not be altogether absent from our meeting. He had been looking forward with the greatest interest and eagerness to this occasion, and had already written a Presidential Address for it, which it will be my duty to read to you very shortly.

In this he tells us, in his own words, of his latest work of all—that in nuclear physics, and especially in what he described as 'the new alchemy', the transmutation of the elements. This alone would have ensured him a place in the foremost rank of physicists, and yet it formed only a small part of the total achievement of his life.

When I first knew him, almost exactly forty years ago, he was experimenting in wireless telegraphy using a detector of his own invention, and transmitting signals to what was, for those times, the record distance of about a mile and a half.

That was in the period which he used himself to describe as 'the heroic age of physics.' Within the space of a very few years, Röntgen rays were discovered and provided a new line of attack on the problems of electric conduction in gases; the electron was isolated, and seemed to point the way to an understanding of the age-long puzzle of the structure of matter; radio-activity was discovered, with its apparent violation of well-established physical laws, and

opened up a new road which led no one knew where—but obviously into very different territory from that which nineteenth century physics had so industriously and thoroughly explored.

Rutherford directed his colossal energy and tireless enthusiasm on to all these vast new problems in turn. By a few investigations of masterly simplicity, he reduced the puzzling phenomena of radio-activity to law and order, and, in collaboration with Soddy, discovered the physical interpretation of this law and order. Radio-activity, they found, indicated the transmutation of one element into others through processes of spontaneous atomic explosion.

Rutherford then treated the α -particles which were entitled at these radio-active explosions as projectiles. He bombarded atoms with them and in so doing discovered the composition of the atoms. Finally he shewed how similar bombardments could change the constitution of the atomic nuclei, and so literally transmute the elements; the dream of the alchemists was realized.

These were perhaps the outstanding landmarks in his career, but in truth most of his investigations were key investigations, each brilliant in its simplicity of conception, masterly in its execution and far-reaching in its consequences. His output of work was enormous and can only be explained by his capacity for delegating all the less important details of an investigation to a collaborator, whom he usually inspired with his own enthusiasm. In his flair for the right line of approach to a problem, as well as in the simple directness of his methods of attack, he often reminds us of Faraday, but he had two great advantages which Faraday did not possess—first, exuberant bodily health and energy, and second, the opportunity and capacity to direct a band of enthusiastic co-workers. Great though Faraday's output of work was, it

seems to me that to match Rutherford's work in quantity as well as in quality, we must go back to Newton.

Voltaire once said that Newton was more fortunate than any other scientist could ever be, since it could fall to only one man to discover the laws which governed the universe. Had he lived in a later age, he might have said something similar of Rutherford and the realm of the infinitely small; for Rutherford was the Newton of atomic physics. In some respects he has more fortune than Newton: there was nothing in Rutherford's life to compare with the years which Newton spent in a vain search for the philosopher's stone, or with Newton's output of misleading optical theories, or with his bitter quarrels with his contemporaries. Rutherford was ever the happy warrior—happy in his work, happy in its outcome, and happy in its human contacts.

Through the tragic circumstance of his death, I stand before you as your President. I cannot tell you how greatly honoured I feel by your choice, but neither can I tell you how strongly I feel my utter inadequacy to act as substitute for the really great man we had all hoped to have with us here.

Yet I must not forget that I am here in a second capacity also—as spokesman of the Delegation from the British Association. It so happened that I was President of the Association in 1934, when we received your invitation to join you in Calcutta, and I vividly remember how anxious your representatives were to do everything possible to make our visit not only scientifically fruitful, but also pleasurable to ourselves.

I am sure I speak for the whole of the European deputation in thanking you once again for your lavish and carefully-planned hospitality.

To some of us—but only a few—India is well-known territory; others—I think the majority—

come here for the first time. But we all feel a special interest in being here for the 25th Anniversary of your Indian Association. The quarter-century of your existence has been a period of stupendous developments in almost all branches of science, and certainly not least in those which have formed my own field of work. Twenty-five years ago the astronomers were still debating as to whether the great spiral nebulae were inside the galactic system or outside; estimates of the distances of these nebulae differed by factors of at least 100, and the vast universe of extra-galactic astronomy was still closed territory. The genius of Einstein had already given us the restricted theory of relativity—the simple physical theory which grew out of the Michelson-Morley experiment—but the more complex gravitational theory was still unborn, and we were still perplexed by its puzzles as to whether the universe was finite or infinite, and whether space and time were real or unreal. In physics, Planck had given us the rudimentary quantum-theory which was required by the phenomena of black-body radiation, but its application to atomic physics was yet to come. Rutherford's epoch-making investigation on the scattering of α -particles by atoms had just, but only just, shewn us the atom as we see it today—the heavy nucleus with the cloud of light electrons surrounding it. Bohr immediately seized upon this concept and developed it further; he shewed how the quantum theory could be applied to the movements of this cloud of electrons, and made it yield an interpretation of atomic spectra. On this basis were built first the old quantum-theory and then the far vaster structures of the new quantum-theory and the wave-mechanics. Finally the new science of nuclear physics came into being, largely as a personal creation of Rutherford; his very last utterance on this subject was written especially for you and in a few minutes I shall be reading it to you.

Nor has India stood idly by as a mere spectator of this most thrilling period in the history of science. These twenty-five years have not only seen your association increase from infinitesimal beginnings to its present international importance; they have also seen the phenomenal growth of India as a scientific nation. In 1911 there were no Indian-born Fellows of the Royal Society; to-day there are four. In 1911 the Royal Society published no papers by Indians, in 1936 we published ten. Yet statistics are dry things, and even those which shew an infinity-fold increase convey a less vivid picture than a few concrete examples, such as each of us can find in abundance in his own subject. The mathematicians and physicists will probably find their thoughts turning, as mine do, to the strangely intuitive genius of Ramanujan and to the remarkable discoveries he had made in pure mathematics before death snatched him prematurely away; to the work of Sir Venkata Raman in physics, and especially his discovery of the effect which is known by his name all the world over; to many investigations in sound and the theory of music made by Raman

and a host of others; to the work of Saha in astrophysics, which gave us our first clear understanding of the meaning of stellar spectra, and so unlocked the road to vast new fields of astronomical knowledge; and to the work of many Indians, among whom I would specially mention Chandrasekhar and Kothari, on conditions in the interiors of the stars. And I am sure that not only the mathematicians and physicists, but workers in all other fields as well, will be thinking with admiration of the remarkable ingenuity and experimental skill shewn by that great Indian scientist, the late Sir Jagadis Chunder Bose.

If such names and achievements as these come into the mind of a worker in one only of the many vast fields of science, we can form some slight idea of the richness of India's contribution to science as a whole. Thinking on this great contribution, we of the British Association congratulate you of the Sister Association most whole-heartedly, not only on the completion of your twenty-five years of existence, but even more on the wealth of harvest you have gathered in that twenty-five years.

GENERAL PRESIDENTIAL ADDRESS*

OF PROF. THE RT. HON. LORD RUTHERFORD OF NELSON, O.M., F.R.S., D.Sc., LL.D., PH.D.

DURING the past fifty years, the British Association for the Advancement of Science has been invited on many occasions to hold its meetings overseas. Four times it has journeyed to Canada (Montreal 1884, Toronto 1897, Winnipeg 1909, Toronto 1924), twice to South Africa (1905, 1929), once to Australia (1914). This policy of the Association of arranging occasional meetings in our Dominions has proved an unqualified success. These overseas visits

* Received after Lord Rutherford's death, and read by Sir James Jean.

have had a marked influence on the progress of science throughout our Commonwealth and by personal contacts have helped much to promote mutual understanding and co-operation between our peoples.

The visit of a representative group of scientific men to our most distant Dominions in 1914, in itself an outstanding event in the history of the Association, was rendered even more notable by the dramatic circumstances under which the meetings were held, for the arrival of the party in Australia coincided with the news of the out-

break of the Great War. No one who like myself took part in the meetings in Australia and New Zealand in those troubled but stirring times can ever forget the warmth of our reception. We were privileged to witness that wonderful response of the peoples of these lands to the call of danger—a response which we know grew ever greater with the need.

It has long been the wish of the British Association to hold a meeting in India, but difficulties of time and climate have stood in the way of its realization. It has been found most convenient for the overseas visits to take place in the summer months but such a time is quite unsuitable for India. This difficulty would be in part surmounted if a representative party of scientific men could obtain leave of absence from their duties to visit India during the cold weather.

The celebration of the Silver Jubilee of the founding of the Indian Science Congress Association offered a suitable occasion for such a visit, and arrangements have been made by the two Associations to hold a joint meeting in India. I gladly accepted the invitation of the two bodies to preside over this combined meeting. I feel it not only a great honour but a great privilege and responsibility to be asked to fill this post on such an historic occasion. This visit of the British Association to your shores is a symbol of our desire to extend the hand of greeting and fellowship to our sister society and also individually to our co-workers in science in India.

While science has no politics, I am sure it is of good omen that our visit happens to fall at a time when India is entering upon a new and important era of responsible co-operative government in the success of which both our countries are deeply concerned.

On behalf of the British Association, I extend to the Indian Association our warmest congratulations on this the twenty-fifth anniversary of its foundation and our sincere wishes for its continued success. We recognize that your

Association, both in its constitution and its aims so closely resembling the British Association, has proved of great service to the progress of science throughout India. Founded at a time when the Universities were becoming centres of original research, it afforded to a widely scattered scientific community a much needed common meeting ground for the discussion of scientific problems. It helped also to bring to the attention of the interested public the importance of science and of the scientific method in national development. I think it can be safely stated that the success of the meetings of the Indian Association in no small degree influenced the later foundation of specialist societies in India, for example, the Chemical Society and Physics Society.

On such an occasion as this, we must not forget to do honour to those who were largely instrumental in founding your Association and in guiding its infant steps. I would refer in particular to Professor J. L. Simonsen, Professor P. S. MacMahon and your senior Past-President, Sir Sydney Burrard. The Association owed much in its early days to the friendly support and encouragement so freely given by that premier Indian Society, the Royal Asiatic Society of Bengal of which I am proud to be an honorary Fellow.

In earlier days in India, research was largely confined to the great official scientific services, initiated and maintained on a generous scale by the Indian Government, for example, the Survey of India, the Geological Survey, the Botanical Survey, the Departments of Agriculture and Meteorology and many others. Pioneer work of outstanding scientific importance has been done by all these services. In the short time at my disposal, I can only make a passing reference to a few items of work accomplished, and can mention only a few of the array of distinguished names which have been connected with these great scientific services.

The Trigonometrical Survey of India has a long and distinguished history. The splendid

series of geodetic measurements along an arc from Cape Comorin to the Himalayas, made by Everest, was of outstanding importance and his name is for ever associated with the highest peak in the world. As a result of this survey, the deflections of a plumb line, due to the gravitational attraction of the Himalayan range, were determined at different points. A careful comparison of the results of observation with calculation, largely due to the work of Archdeacon Pratt of Calcutta, and later of Sir Sydney Burrard, disclosed marked discrepancies, the effect of the mountain mass at a distance being much less than was expected. Attempts to explain these and other anomalies ultimately led to the formulation of a new and important theory of mountain formation known as the principle of isostasy. On this hypothesis, the excess pressure due to a mountain mass is compensated for by a deficiency of matter below its base. This conclusion, which is in accord with extensive gravitational as well as geodetic measurements in India, is believed to be of general application to mountain formation throughout the world.

I may recall that a former distinguished Superintendent of this Survey, Sir Gerald Lenox Conyngham, is now Head of the Department of Geodesy in Cambridge.

The Geological Survey, one of the oldest scientific services in India, has a fine record of work accomplished and its survey of the mineral resources of India has proved of great value to Indian industry. Among many distinguished names, I may specially mention that of Sir Thomas Holland, a former Director, who has done such good work for your country in peace and war. I believe that it was largely due to his energy and scientific insight that the great Tata Iron and Steel Works were begun.

The Department of Meteorology has done much pioneering research and was one of the first to realize the importance of studying the conditions of the upper air by means of small balloons—a subject of ever-increasing import-

ance with the advent of the aeroplane. I have always felt a friendly interest in this Department as many of its members are known to me personally. Amongst them is Sir Gilbert Walker, a former Director and once President of this Association, who did much to improve the Meteorological Service in India and himself made important original contributions to our knowledge of the South-West Monsoon. I may recall that the present distinguished head of the Meteorological Office of Great Britain, Sir George Simpson, was for many years a member of this Indian Department.

The study of the botanical riches of India owes much to the work of Roxburgh, Wallich and Prain, and also that explorer and naturalist, Hooker, whose work on the flora of British India is known to you all.

In Forestry, India has at Dehra Dun probably the finest research laboratory of its kind in the world. We in England owe a debt of gratitude to India in providing us with our distinguished Professor of Forestry at Oxford, Professor R. S. Troup, and the first two directors of our Forest Products Laboratory, namely, Sir Ralph Pearson and Mr. W. A. Robertson.

While in this brief survey I can mention only a few departments out of many, yet I must not omit to refer to the great advances in knowledge due to the Indian Medical Service, so well represented by the pioneer work of Ross on malaria and by Leonard Rogers on cholera and leprosy, researches which gave new hope to the peoples of India.

In the early days of the Indian Universities, attention was mainly directed to teaching and examining the large number of students who presented themselves, and comparatively little attention was paid to research. There were always a few, however, who recognized that the Universities had a wider part to play in Indian education, and should become centres of research as well as of teaching. Amongst those pioneers who distinguished themselves by original investigations and by the stimulation of others,

I should particularly mention Sir Alexander Pedler, Sir Alfred Bourne, Sir Jagadis Bose and Sir Prafulla Ray, and it is of interest to recall that the last three have all been presidents of your Association.

As a result of the Curzon Commission on Education in 1904, many of the Universities introduced honours courses, and by new appointments and improvements in laboratories stimulated research in science. Excellent well-equipped schools of research have arisen in many Indian Universities, where good opportunities are available for the training of potential investigators in the methods of research. The Indian student has shown his capacity as an original investigator in many fields of science, and, in consequence, India is now taking an honourable part and an ever-increasing share in the advance of knowledge in pure science.

Amongst many workers of distinction, I may specially mention Sir Venkata Raman, Professor M. N. Saha and Professor B. Sahni, each of whom has made outstanding contributions. That premier scientific society of Great Britain, the Royal Society, has recognized the value of their work by election to its Fellowship.

We in Great Britain watch with pride this growth of the scientific spirit in India and are pleased to help in any way we can. As an example of our interest, I may recall that Trinity College, Cambridge—my own college—assisted that mathematical genius Ramanujan to prosecute his studies in Cambridge. He was soon elected a Fellow of that College and a Fellow of the Royal Society. But for his premature death, it may be said of him, as Newton said of Cotes, that we had known something.

The researches in astrophysics of S. Chandrasekhar in Cambridge were soon recognized by the award to him of an Isaac Newton Studentship and later by his election to a Fellowship in Trinity College.

As a member of the Royal Commission for the Exhibition of 1851, I would like to refer to

some events this year of special interest to India. This Commission awards each year a number of Overseas Scholarships to our Dominions, as well as Senior Research Studentships open to competition in England by all members of our Commonwealth. The opportunity offered by these scholarships to promising investigators from overseas to continue their work in England or abroad has proved of great value to the progress of science. I am proud to remember that I myself was awarded an 1851 Scholarship on the recommendation of the University of New Zealand.

It has for some time been the wish of the 1851 Commission to be able to offer one or more of its Overseas Scholarships for award to students in India. Owing to difficulties of finance, it was only this year that this project was realized. A preliminary committee of selection was set up in India and the Commissioners with whom lay the final choice have appointed Mr. N. S. Nagendra Nath of the Indian Institute of Science, Bangalore, as the first 1851 Exhibition Scholar from India. He will proceed to Cambridge to carry out investigations in Theoretical Physics. For the first time also, an Indian student in Cambridge, Dr. H. J. Bhabha, has been awarded in open competition one of our valuable Senior 1851 Studentships in recognition of the importance of his researches in Theoretical Physics. The Commission would like to be in a position to allot a second Science Scholarship to India but funds are insufficient. The machinery, however, is there, and I know that the Commissioners would be only too happy to administer a second award if anyone in India, who is interested in her scientific progress, were generous enough to provide the necessary endowment.

While, as we have seen, the Universities of India have in later years made substantial progress both in teaching and research in science, yet it must be borne in mind that still greater responsibilities are likely to fall on them in the near future. This is in a sense a scientific age,

where there is an ever-increasing recognition throughout the world of the importance of science to national development. A number of great nations are now expending large sums in financing scientific and industrial research with a view to using their natural resources to the best advantage. Much attention is also paid to the improvement of industrial processes and also to conducting researches in pure science which it is hoped may ultimately lead to the rise of new industries.

It is natural to look to the Universities and technical institutions for the selection and training of the scientific men required for this development. In India, as in many other countries, there is likely to be a greater demand in the near future for well-trained scientific men. With the growth of responsible government in India, it is to be anticipated that the staff required for the scientific services in India and for industrial research will more and more be drawn from students trained in the Indian Universities. It is thus imperative that the Universities should be in a position not only to give a sound theoretical and practical instruction in the various branches of science but, what is more difficult, to select from the main body of scientific students those who are to be trained in the methods of research. It is from this relatively small group that we may expect to obtain the future leaders of research both for the Universities and for general research organizations. This is a case where quality is more important than quantity, for experience has shown that the progress of science depends in no small degree on the emergence of men of outstanding originality of mind who are endowed with a natural capacity for scientific investigation and for stimulating and directing the work of others along fruitful lines. Leaders of this type are rare but are essential for the success of any research organization. With inefficient leadership, it is as fatally easy to waste money in applied research as in other branches of human activity.

The selection of such potential investigators and leaders is not an easy task, for success in

examinations in science is no certain criterion that the student is fitted for a research career. A preliminary training in research methods for a year or two is required to select those who possess the requisite qualities of originality and aptitude for investigation. A system of grants-in-aid or scholarships to approved students may be required for such post-graduate training. In Great Britain the financial help given by the Universities and other educational institutions for training in research is in many cases supplemented by maintenance grants to promising students, awarded by the Department of Scientific and Industrial Research. This system has proved of much value both in developing the research activities of the Universities and in providing a supply of competent men both for research in pure science and in industry.

I have so far mentioned some aspects of the scientific work carried out by the Universities and government services of India. I am well aware that much attention has also been directed to the need of scientific research in agriculture, and in certain industries. An Indian Cotton Committee has been set up which has given admirable service, while the Indian Lac Cess Committee arranges for investigations in that unique Indian product, some of which are carried out in Great Britain. I am interested to know that an Agricultural Research Council has recently been formed, largely as a result of the findings of a Commission of which His Excellency the Viceroy was Chairman.

While I cannot lay claim to have any first-hand knowledge of Indian industries and conditions, yet perhaps I may be allowed to make some general observations on the importance in the national interest of a planned scheme of research in applied science. If India is determined to do all she can to raise the standards of the life and health of her peoples and to hold her own in the markets of the world, more and more use must be made of the help that science can give. Science can help her to make the best use of her material resources of all kinds, and to

ensure that her industries are run on the most efficient lines. National research requires national planning. If research is to be directed in the most useful direction, it is just as important for a nation as for a private firm to decide what it wishes to make and sell. It is clear also that any system of organized research must have regard to the economic structure of the country. One essential fact at once stands out. India is mainly an agricultural country, for more than three-quarters of her people gain their living from the land, while not more than three per cent. are supported by any single industry. A glance at the official review of the trade of India shows that the annual production of wheat has risen since 1914 from about 8.3 to 9.5 million tons, while exports in the same period have fallen from over a million tons to 10,000 tons. In the case of another important food, rice, the Indian production, exclusive of Burma, has remained fairly steady, varying between 22 and 25 million tons annually, but here also exports have fallen from about half a million tons before the War to about 200,000 tons.

In view of these facts, it would seem clear that, in any national scheme of research, research on food stuffs has a primary claim on India's attention. Quite apart from improvements in the systems of agriculture used in India, there is a vast field for the application of scientific knowledge to the improvement of crops, for example, by seeking for improved strains suitable for local conditions, by research on fertilizers and in many other directions. The fact that surplus wheat for export has decreased suggests that the present production is required for home consumption in India. When the permanent schemes of irrigation now in hand bring much more land under full cultivation, India may again wish to take her place in the export market. To do this in the face of international competition, well-planned agricultural research will be essential.

While the character of India's trade has seen many changes in the last hundred years, to-day

exports of cotton, jute and tea amount to about 60 per cent. of the total exports of India. Next in importance come oil and seeds 6 per cent., hides 5 per cent. and lac 1 per cent. There is no doubt that more scientific knowledge would increase the production of all these products. There is of course the need to make sure that there is a market for such a surplus. Of India's standard exports, cotton represents about 20 per cent. of the total value. In spite of recent strenuous attempts to improve Indian cotton, its staple is still usually looked upon in the world's markets as short and coarse. No doubt there are purposes for which cotton of this type possesses special advantages, though the demand for it must now be very near to saturation point. Still, India only produces about 16 per cent. of the world's cotton crops and there appears to be no reason why it should not produce a larger share; but until the cultivation of better varieties is more extensive, competition with cottons of the American type in the world markets will certainly be difficult. Here there appears to be a wide field for applied research. Good work has been done by the Indian Cotton Committee which has taken steps to improve the staple and prevent adulteration and inter-mixture of various varieties. The problem can be approached, however, not only in the seeking of better varieties but in finding uses and methods of treatment for the short staple variety. The importance of research on the cotton itself is well brought home by the results achieved in the United Kingdom, where the British Cotton Industry Research Association at the Shirley Institute has found that many of the defects which appear in the finished article can be traced back to defects in the raw material.

Finally a word might be said concerning the need for research on radio-communication, so important a matter to a large country like India. I do not refer to technical research in transmitting and receiving apparatus, but rather to the type of fundamental investigation pursued under

the Radio Research Board in Great Britain. These investigations, begun in the early days after the War, have shown that the propagation of radio-waves over large distances is very sensitive to the electrical state of the upper atmosphere. It is now established that a number of electrified layers exist in the higher atmosphere which under certain conditions are able to reflect electric waves. The details of this electrical distribution vary considerably with the hour of the day and with the season of the year, as well as with geographical location. Such information, which is of practical importance in the selection of the most suitable wave-lengths for radio-communication, must obviously be secured by research conducted in the country itself. Moreover, it does not seem impossible that such a survey may prove of value in long range weather forecasting.

There is here, then, much scope for research in a wide field, which I hope will be pursued vigorously in India. It is pleasant to note that a most promising beginning in tackling fundamental radio problems of this character has already been made here by Professors M. N. Saha and S. K. Mitra and their students. The importance of survey work of this kind has already been recognized in other parts of the Empire, where it has received official support and encouragement. I will refer in particular to the admirable work in this field by the Radio Research Board of Australia.

INDUSTRIAL RESEARCH IN GREAT BRITAIN.

While I recognize the great differences which exist between the industrial and agricultural conditions in Great Britain and India, yet it may prove of some interest and, I hope, of some value, if I give a brief account of some of the ways in which the British Government has aided industrial and agricultural research in the period following the Great War. From the dawn of the scientific age, Great Britain has taken a prominent place

in advancing knowledge both in pure research in our Universities and in applied research for the development of industry. Before the War, progress in industry depended in the main on the brilliant contributions of individual workers rather than on any systematic attack by scientific methods on the problems of industry. We may instance the pioneer work of Bessemer for the steel industry and of Parsons in the development of the steam-turbine which had such a great effect on the power-industry. One cannot pay too high a tribute to the greatness of the achievements of individual inventors and investigators such as these, for it was largely due to them that Great Britain obtained so great an industrial position in the last century.

Yet I think it is true to say that in the period before the War the country as a whole failed to recognize as fully as some other nations the importance of an organized scientific attack on broad lines on the problems of industry. In a number of cases, British science gave ideas to the world, but it was left to other nations to develop them by intensive research and to reap the industrial benefit.

This weakness in our organization became apparent in the War when the production of munitions and materials threw a great strain on industry. The common danger brought the industrialist and man of science into close co-operation to their mutual benefit. The results of this co-operation surpassed all expectation. New chemical processes were evolved, many new devices arose, while communications were revolutionized by the rapid development of the thermionic valve. In a hundred different ways, the co-operation of science with industry had justified itself by its success.

Early in the War, the British Government recognized that when peace came, a more systematic application of science and research over a broader field was essential in the national inter-

est and, amid the distractions of war, set up the necessary machinery to accomplish this. In 1915 the Department of Scientific and Industrial Research was formed, and a few years later in 1920 the Medical Research Council was set up to undertake investigations in all matters connected with the health of the people. This was followed in 1931 by the formation of the Agricultural Research Council. The formation of the Department of Scientific and Industrial Research marked the first comprehensive and organized measure taken in Great Britain to help industry generally through the application of science. A number of new research organizations were set up, controlled and financed by the Department, to deal with the scientific aspects of the use of fuel, of the storage and transport of food, of buildings and later of roads—subjects of great importance to the common welfare of the people but on which little if any organized research had been undertaken.

Coal is the greatest material asset possessed by Great Britain, for on it mainly depends the heating of our homes and the production of power for most industries. Its better utilisation is a problem of great national importance. To achieve this purpose, the Fuel Research Board was formed and a large laboratory was erected at Greenwich to carry out investigations on the better and more economic use of coal. An important section of this work is a national survey of the coal resources of Great Britain carried out in special laboratories in the several coalfields. The properties of the coal in the various seams are carefully examined and, if necessary, full scale trials are made at the Fuel Research Station to test the suitability of the coal, for example, for carbonization, for steam raising or for conversion into oil. The results of this survey, which is still in progress, have proved of increasing value not only to the colliery owner and the industrialist but also for the needs of the export trade.

In Great Britain every year upwards of 100 million pounds are spent on the erection of new buildings and in maintaining old ones, yet no organized research on buildings had been made. To remedy this deficiency, the Department set up a Building Research Station near London where investigations are made on the many and varied problems connected with the better housing of the people. For example, investigations are carried out to find a scientific explanation of the traditional practices which have grown up in the building trade, for on this depends a rational adjustment of materials and methods to meet modern needs. The results of such a scientific enquiry in this comparatively unexplored field cannot fail to have a marked influence on building construction generally.

The Building Research Station embraces in its programme all problems connected with building materials except those associated with the use of timber. These are dealt with at another establishment of the Department, the Forest Products Research Laboratory. Here intensive researches are carried out on the best use of timber and its preservation. The country spends large sums annually on timber, much of it imported, and in the national interest it is of great importance to us that the best value is obtained for this outlay.

You are all aware that food represents one of Great Britain's largest imports, and much of this is transported great distances from overseas. An organization was set up known as the Food Investigation Board, to consider the best methods of storage and transport of food, so as to avoid waste and loss of nutritive value. Much of this work has its centre at the Low Temperature Research Station in Cambridge, but a special station at Torry, Aberdeen, deals with the preservation of fish and another at Ditton in Kent with the storage of fruit. Investigations in this field, which owe so much to the initiative of the late

Sir William Hardy, have proved very valuable in many directions, and have led to great improvements in the conditions of transport and storage of a great variety of food-stuffs.

I may give one example out of many of the striking consequences of such researches. The Low Temperature Research Station found that beef in a chilled state could be safely stored for 60 or 70 days in a suitable atmosphere of carbon dioxide. The importance of this discovery, which enabled beef to be carried in first rate condition from our most distant Dominions, was at once recognized by the interests concerned. The first shipment of chilled beef carried by this new method of gas storage was landed in 1929 from New Zealand. Since that time, shipments from Australasia have steadily increased, and most of the vessels built for the Australasian trade have now chambers specially constructed for transport in gas storage.

While the development of our roads in the past owes much to the pioneer work of men like Macadam and Telford, there was no planned organization to add to our knowledge of road construction until comparatively recent years, when the Road Research Station was set up at Harmondsworth near Slough to deal with problems of road construction and the study of road wear under modern conditions of traffic. When we consider the large sums spent every year on the construction and maintenance of roads, the need of such scientific investigation is obvious.

The group of research organizations so far considered deals with the primary needs and interests of the people as a whole as regards food, fuel, building and roads. No independent establishment was set up to deal with another important need of the people, namely clothes, for this is most appropriately provided for by the large research associations which have been instituted in connection with the cotton, wool, and linen industries.

Of the national organizations under the charge of the Department, the largest and probably the most important is the National Physical Laboratory at Teddington, which covers about 50 acres and employs a staff of nearly 700 persons. The work of this Laboratory, primarily intended for the assistance of industry in general, covers a very wide field. It has eight great departments devoted to the study of the different branches of Physics, Electrotechnics, Engineering, Metallurgy and Metrology, Radio-communications, Aero-dynamics and the investigation of ship design. The Laboratory is responsible for the maintenance of the National Standards and for refined measurements connected with them. It is not always realized to what a great extent modern mass production depends on the maintenance of exact standards and the Laboratory plays an important part in testing the accuracy of gauges so necessary in modern industry.

In 1925 a Chemical Research Laboratory was set up at Teddington, in which pioneer work is being carried out on chemical reactions at high pressures and temperatures and in the production of synthetic resins. Another important problem in which the Department is interested is the provision of more plentiful supplies of pure water for domestic and industrial consumption. Valuable work has been done by the Water Pollution Research Board in many directions, and new methods have been found for the purification of water which has been contaminated by the industrial effluents from sugar and milk factories.

I have so far mentioned research organizations which have been set up to encourage the application of science to problems which affect the daily life of the people and the nation's industries considered as a whole. I should mention that these national organizations to which I have referred are not only willing but anxious to co-operate with corresponding institutions which may be set up in India or the Dominions.

I must now refer to arrangements which have been made to promote the application of scientific knowledge to the problems of the individual industries. The importance of research has long been recognized by large industrial companies, who have in many cases set up research establishments for their own requirements. This tendency is specially marked in the electrical and chemical industries, where large sums are spent annually on research.

It is, however, to be borne in mind that a great part of British industry is carried out in small establishments. A survey carried out some years ago indicated that in 128,000 factories in Great Britain less than 500 employed more than 1,000 workers while over 117,000 employed less than 100 workers. Obviously such small factories are not in a position to maintain a research laboratory on anything but a small and inefficient scale. To overcome this difficulty, the Department in conjunction with industry instituted a number of co-operative research associations representing the greater part of the main industries of the country. Each of these research associations is autonomous and controlled by representatives of the industry concerned, and is financed by contributions from the firms belonging to the association, assisted by grants from the Department.

This bold experiment in the co-operative organization of research, which is unique in the world, has undoubtedly proved a great success. To-day there are twenty such research associations formed on a national basis in their respective industries and for membership of which all British firms are eligible. They cover the metal and textile industries, paint, leather, boots and shoes, rubber, flour milling, cocoa and confectionery, food, printing, scientific instruments and the automobile and electrical industries. From small beginnings, a number of these associations have steadily grown in size and

strength until they now form an indispensable and valuable part of the industries they represent.

I can speak with some knowledge of the marked progress made by these two types of research organization, as I have been privileged, as Chairman of the Advisory Council of the Department of Scientific and Industrial Research for the past eight years, to come in close contact with them. While much still remains to be accomplished, there has been a great advance in recent years in the recognition of the value of research in increasing the efficiency of industry. If we are to hold our own in face of the ever increasing competition in the world to-day, it is essential that our industries should take full advantage of the resources which science places at their disposal.

It is of interest to note that the Overseas Dominions have not been slow to appreciate the importance of such national organizations in the development of their national resources and industries. Healthy research organizations under the control of National Research Councils or corresponding bodies have been set up in Canada, Australia, New Zealand and South Africa. Both in Canada and Australia, which have a Federal system of Government, the research organization is national in the true sense of the word, and responsible only to the central Government.

It is to be borne in mind that the organization of research for industry and for general national purposes varies much in different countries. A research organization which may prove adequate for a country like Great Britain may prove quite unsuitable for another country with different needs and different industrial conditions. In developing any organized scheme of research, each country must consider its own resources and its own particular requirements. As we have seen, the organization of research not only

in Great Britain but in the Dominions, is national in scope. Even in a large country like India, where the resources and needs of the different Provinces are very varied, it seems to me essential for efficiency that the organization of research should be on national rather than on provincial lines. The setting up of separate research establishments for similar purposes in the various provinces cannot but lead to much overlapping of work and waste of effort and money. Such a central organization of research does not necessarily mean that the scientific work should all be concentrated in a single laboratory. For example, I understand that a single organization is responsible for the research in cotton for the whole of India. While the more fundamental research is done at a conveniently situated laboratory, much of the work of a special character is carried out in the provinces where cotton is grown.

In Great Britain, the responsibility for planning the programmes of research, even when the cost is borne directly by the Government, rests with research councils or committees who are not themselves State servants but distinguished representatives of pure science and industry. It is to be hoped that if any comparable organization is developed in India, there will be a proper representation of scientific men from the Universities and corresponding institutions and also of the industries directly concerned. It is of the highest importance that the detailed planning of research should be left entirely in the hands of those who have the requisite specialized knowledge of the problems which require attack. In the British organizations there is no political atmosphere, but of course the responsibility for allocating the necessary funds ultimately rests with the Government.

In this address, I have to a large extent confined my attention to research in pure science, agriculture and industry. I am, however, not unmindful of the pressing needs of India to alleviate the sufferings of the people from

attacks of malaria and other tropical diseases. I know that India herself is giving much thought to these vital problems in which science can give her valuable help.

TRANSMUTATION OF MATTER.

I have so far spoken of the importance of science as a factor in national development, but before concluding my address, I would like to refer to some investigations in pure science in which I have been personally much interested. I refer to the successful attack on that age-old problem of the transmutation of matter which in recent years has attracted so much attention from physicists throughout the world.

I hope it may prove of interest to give a brief account of the successive stages of the growth of our knowledge of this subject, for it illustrates in a striking manner the power of the scientific method of attack on what at first appeared to be an insoluble problem. Incidentally these researches have yielded us precious information on the structure of all atoms and indeed it seems likely to have provided us with a key, so to speak, to unlock the secrets of the constitution of our material world.

Towards the close of the nineteenth century, when it seemed certain that the atoms of the elements were unchangeable by the forces then at our command, the discovery was made which has revolutionized our conception of the nature and relations of the elements. I refer to the discovery in 1896 of the radioactivity of the two heaviest elements uranium and thorium. It was soon made clear that this radioactivity is a sign that the atoms of these elements are undergoing spontaneous transmutation. At any moment, a small fraction of the atoms concerned becomes unstable and breaks up with explosive violence, hurling out either a charged atom of helium, known as an α -particle, or an electron called in this connection a β -particle. As a result of these explosions, a new radioactive element is formed and the process of transmutation once started continues through a number of stages. Each of the radioactive elements, formed in this

way, breaks up according to a simple universal law but at very different rates. In a surprisingly short time, these successive transformations were disentangled and more than thirty new types of elements brought to light while the simple chemical relations between them were soon made clear.

We had thus been given a vision of a new and startling sub-atomic world where atoms break up spontaneously with an enormous release of energy, quite uninfluenced by the most powerful agencies at our disposal. Apart from uranium and thorium and the elements derived from them, only a few other elements showed even a feeble trace of radioactivity. The great majority of our ordinary elements appeared to be permanently stable under ordinary conditions on our earth. Science was then faced with the problem whether artificial methods could be found to transmute the atoms of the ordinary elements. Before this problem could be attacked with any hope of success, it was necessary to know more of the actual constitution of atoms. This information was provided by the rise of the nuclear theory of the atomic structure which I first suggested in 1911. The essential controlling feature of all atoms was found to reside in a very minute central nucleus which carried a positive charge and contained most of the mass of the atom. A relation of unexpected simplicity was found to connect the atoms of all the elements. The ordinary properties of an atom are defined by a whole number which represents the number of units of resultant positive charge carried by the nucleus. This varies from 1 for hydrogen to 92 for the heaviest element uranium and with few exceptions all the intervening numbers correspond to known elements.

On this view of atomic structure, it was evident that, to bring about the transmutation of an atom, it was necessary in some way to alter the charge or mass of the nucleus or both together.

Since the nucleus of an atom must be held together by very powerful forces, this could only be effected by bringing a concentrated source of energy in some way to bear on the individual nucleus. The most energetic projectile available at that time was the α -particle spontaneously ejected from radioactive substances. If a large number of α -particles were fired at random at a sheet of matter, it was to be expected that one of them must occasionally approach very closely to the nucleus of any light atom in its path. In such a close encounter, the nucleus must be violently disturbed, and possibly under favourable conditions the α -particle might actually enter the nuclear structure, resulting in a transformation of the nucleus.

This mode of attack upon the nucleus at once proved successful. I found in 1919 that nitrogen could be transformed by bombardment with fast α -particles. The process of transmutation is now clear. Occasionally an α -particle actually enters the nitrogen nucleus and forms with it a new unstable nucleus which instantly breaks up with the emission of a fast proton (hydrogen nucleus) and the formation of a stable isotope of oxygen of mass 17. About a dozen of the light elements were found to be transformed in a similar way. The protons liberated in the nuclear explosions were at first counted by observing the flashes of light (scintillations) produced in phosphorescent zinc sulphide. This method was slow and very trying to the eyes of the observers. Progress however became more rapid and definite when electrical methods of counting individual fast particles were developed. These electrical counters, mainly depending on the use of electron-tubes for magnifying small currents, have now reached such a stage of perfection that we are able to count automatically individual fast particles like α -particles and protons, even though they enter the detecting chamber at a rate as fast as ten thousand per

minute. By other special devices, we are in like manner able to count individual β -particles. In this connection, I must also mention that wonderful instrument, the Wilson Expansion Chamber, which makes visible to us the actual tracks of flying fragments of atoms resulting from an atomic explosion. These remarkable devices have played an indispensable part in the rapid growth of knowledge during the last few years. It is to be emphasized that progress in scientific discovery is greatly influenced by the development of new technical methods and of new devices for measurement. With the growing complexity of science, the development of special techniques is of ever increasing importance for the advance of knowledge.

Up to the year 1932, experiments on transmutation were confined to the use of α -particles for bombarding purposes. It became clear that the process of transformation was in most cases complex, since groups of protons with different but characteristic energies were observed when a single element was bombarded. This led to the conception that discrete energy levels existed within a nucleus and that under some conditions part of the excess energy was sometimes released in the form of a quantum of high frequency radiation.

The stage was now set for a great advance, and four new discoveries of outstanding importance were made in rapid succession in the period 1932-3. I refer to the discovery of the positive electron by Anderson in 1932, of the neutron by Chadwick in 1932, of artificial radioactivity by M. and Mme. Curie-Joliot in 1933 and of the transmutation of the elements by purely artificial methods first shown by Cockcroft and Walton in 1932.

The discovery of the neutron—that uncharged particle of mass nearly 1—was the result of a close study of the effects produced in the light element beryllium when bombarded by α -parti-

cles. It is noteworthy that the proton and the neutron, which are now believed to be the essential units with which all atomic nuclei are built up, owe their recognition to a study of the transmutation of matter by α -particles.

Before the discovery of the neutron, it had been perforce assumed that nuclei must in some way be built up of massive protons and light negative electrons. Theories of nuclear structure became much more amenable to calculation when the nucleus is considered to be an aggregate of particles like the proton and neutron which have nearly the same mass. There was no longer any need to assume that either the positive or the negative electron has an independent existence in the nuclear structure. We are still uncertain of the exact relation, if any, between the neutron and the proton. The neutron appears to be slightly more massive than the proton but it is generally believed, although no definite proof is available, that the proton and neutron within a nucleus are mutually convertible under certain conditions. For example, the change of a proton into a neutron within the nucleus should lead to the appearance of a free positive electron, while conversely the change of a neutron into a proton gives rise to a free negative electron. In this way it appears possible to account for the observed fact that either positive or negative electrons are emitted by a large group of radioactive elements, to which I will now refer.

In the early experiments on transmutation by α -particles, it was supposed that a stable nucleus was always formed after the emission of a fast proton. The investigations of M. and Mme. Curie-Joliot showed that in some cases elements were formed which, while apparently stable, ultimately broke up slowly, exactly like the natural radioactive bodies. Most of these radioactive bodies, formed by artificial methods, break up with the expulsion of fast negative

electrons, but in a few cases positive electrons are emitted. Since the presence of these radioactive bodies can be easily detected, and their chemical properties readily determined, this new method of attack on the problem of transmutation has proved of great value. Nearly a hundred of these radioactive bodies are now known, produced in a great variety of ways. Some arise from the bombardment by fast α -particles, others by bombardment with protons or deuterons. As Fermi and his colleagues have shown, neutrons, and particularly slow neutrons, are extraordinarily effective in the formation of such radioactive bodies. On account of its absence of charge, the neutron enters freely into the nuclear structure of even the heaviest element, and in many cases causes its transmutation. For example, a number of these radioactive bodies are produced when the two heaviest elements uranium and thorium are bombarded by slow neutrons. In the case of uranium, as Hahn and Meitner have shown, the radioactive bodies so formed break up in a succession of stages like the natural radioactive bodies, and give rise to a number of transuranic elements of higher atomic number than uranium (92). These radioactive elements have the chemical properties to be expected from the higher homologues of rhenium, osmium and iridium of atomic numbers 93, 94 and 95 respectively.

These artificial radioactive bodies in general represent short-lived varieties of the isotopes of known elements. No doubt such transient radioactive elements are still produced by transmutation in the furnace of our sun where the thermal motions of the atoms must be very great. These radioactive elements would rapidly disappear as soon as the earth cooled down after separation from the sun. On this view, uranium and thorium are to be regarded as practically the sole survivors in our earth of a large group of radioactive elements owing to the fact that their

time of transformation is long compared with the age of our planet.

It is of interest to note what an important part the α -particle, which is itself a product of transformation of the natural radioactive bodies, has played in the growth of our knowledge of artificial transmutation. It is to be remembered too that our main source of neutrons for experimental purposes is provided by the bombardment of beryllium with α -particles. The amount of radium available in our laboratories is, however, very limited, and it was early recognized that if our knowledge of transmutation was to be extended, it was necessary to have a copious supply of fast particles of all kinds for bombarding purposes. It is well known that enormous numbers of protons and deuterons, for example, can be easily produced by the passage of the electric discharge through hydrogen and deuterium (heavy hydrogen). To be effective for transmutation purposes, however, these charged particles must be given a high speed by accelerating them in a strong electric field. This has involved the use of apparatus on an engineering scale to provide voltages as high as one million volts or more and the use of fast pumps to maintain a good vacuum.

A large amount of difficult technical work has been necessary to produce such high direct voltages, and to find the best methods of applying them to the accelerating system. In Cambridge, these high voltages are produced by multiplying the voltage of a transformer by a system of condensers and rectifiers; in the U.S.A. by the use of a novel type of electrostatic generator, first developed by van der Graaf, Prof. E. O. Lawrence of the University of California has devised an ingenious instrument called a 'cyclotron,' in which the charged particles are automatically accelerated in multiple stages. This involves the use of huge electromagnets and very powerful electric oscillators,

By this method, he has succeeded in producing streams of fast particles which have energies even higher than α -particles ejected from radioactive substances. Undoubtedly this type of apparatus will prove of great importance in giving us a supply of much faster particles than we can hope to produce by the more direct methods.

It was at first thought that very high potentials of the order of several million volts would be required to obtain particles to study the transmutation of elements. Here, however, the development of the theory of wave-mechanics came to the aid of the experimenter, for Gamow showed that there was a small chance that comparatively slow bombarding particles might enter a nucleus. This theoretical conclusion has been completely verified by experiment. In the case of a light element like lithium, transformation effects can be readily observed with protons of energy as low as 20,000 volts. Of course, the possibility of transformation increases rapidly with rise of voltage.

The study of the transmutation of elements by using accelerated protons and deuterons as bombarding particles has given us a wealth of new information. The capture of the proton or deuteron by a nucleus leads in many cases to types of transmutation of unusual interest. For example, the bombardment of the isotope of lithium of mass 7 by protons leads to the formation of a beryllium nucleus of mass 8 with a great excess of energy. This immediately breaks up with two α -particles shot out in nearly opposite directions. When boron of mass 11 is bombarded by protons, a carbon nucleus of mass 12 is formed which breaks up in most cases into three α -particles. The deuteron is in some respects even more effective than the proton as a transmuting agent. When deuterons are used to bombard a compound of deuterium, previously unknown isotopes of

hydrogen and of helium of mass 3 are formed, while fast protons and neutrons are liberated. The bombardment of beryllium by very fast deuterons gives rise to a plentiful supply of neutrons. Lawrence has shown that the bombardment of bismuth by very fast deuterons leads to the production of a radioactive bismuth isotope which is identical with the well-known natural radioactive product radium E. Many artificial radioactive elements can be produced often in great intensity. For example, the bombardment of common salt by fast deuterons gives rise to a radioactive isotope of sodium. This breaks up with a half period of 15 hours, emitting not only fast β -particles but γ -rays at least as penetrating as those from radium.

It may well be that in course of time such artificial radioactive elements may prove a useful substitute for radium in therapeutic work. By these methods also, such intense sources of neutrons can be produced that special precautions have to be taken for the safety of the operators of the apparatus.

Sufficient I think has been said to illustrate the variety and interest of the transmutations produced by these bombardment methods. It should, however, be pointed out that transmutation in some cases can be effected by transferring energy to a nucleus by means of gamma rays of high quantum energy instead of by a material particle. For example, the deuteron can be broken up into its components, the proton and neutron, by the action of the gamma rays from radium or thorium. As a result of the bombardment of lithium by protons, gamma rays of extraordinarily high energy up to 17 million volts are strongly emitted. Bothe has recently shown that these high energy rays are able to transmute a number of atoms, neutrons usually being emitted in the process.

Some simple laws appear to hold in all individual transformations so far examined. Nuclear

charge is always conserved, and where heavy particles are emitted, so also is energy when account is taken of the equivalence of mass and energy. Certain difficulties arise with regard to the conservation of energy in cases where light positive and negative electrons are emitted during transmutation, and there is still much discussion on this important question.

The study of the transmutation of matter has been extraordinarily fruitful in results of fundamental importance. In addition to the α -particle it has disclosed to us the existence of those two building units of nuclei, the proton and neutron. It has greatly widened our conception of the varieties of atomic nuclei which can exist in nature. Not only has it led to the discovery of about one hundred new radioactive elements, but also of several stable isotopes of known elements like ^3H , ^3He , ^8Be which had previously been unsuspected. It has greatly extended our knowledge of the ways in which nuclei can be built up and broken down, and has brought to our attention the extraordinary violence of some of the nuclear explosions which occur. The great majority of our elements have been transmuted by the bombardment method, and in the case of the light elements which have been most carefully studied, a great variety of modes of transmutation have been established.

Rapid progress has been made but much still remains to be done before we can hope to understand the detailed structure and stability of different forms of atomic nuclei and the origin of the elements. I cannot but reflect on the amazing contrast between my first experiment on the transmutation of nitrogen in the University of Manchester in 1919 and the large-scale experiments of transmutation which are now in progress in many parts of the world. In the one case, imagine an observer in a dark room with very simple apparatus painfully counting with a microscope a few faint scintillations

originating from the bombardment of nitrogen by a source of α -particles. Contrast this with the large scale apparatus now in use for experiments on transmutation in Cambridge. A great hall contains massive and elaborate machinery, rising tier on tier, to give a steady potential of about two million volts. Nearby is the tall accelerating column with a power station on top, protected by great corona shields—reminding one of a photograph in the film of Wells's 'Things to Come.' The intense stream of accelerated particles falls on the target in the room below with thick walls to protect the workers from stray radiation. Here is a band of investigators using complicated electrical devices for counting automatically the multitude of fast particles arising from the transformation of the target element or photographing with an expansion chamber, automatically controlled, the actual tracks of particles from exploding atoms.

To examine the effect of still faster particles, a cyclotron is installed in another large room. The large electro-magnet and accessories are surrounded with great water tanks containing boron in solution to protect the workers from the effect of neutrons released in the apparatus. A power station nearby is needed to provide current to excite the electro-magnet and the powerful electric oscillators.

Such a comparison illustrates the remarkable changes in the scale of research that have taken place in certain branches of pure science within the last twenty years. Such a development is inevitable, for, as science progresses, important problems arise which can only be solved by the use of large powers and complicated apparatus, requiring the attention of a team of research workers. If rapid progress is to be made, such team work is likely to be a feature of the more elaborate researches in the future. Fortunately there is still plenty of scope

for the individual research worker in many experiments of a simpler kind.

The science of Physics now covers such a vast field that it is impossible for any laboratory to provide up-to-date facilities for research in more than a few of its branches. There is a growing tendency in our research laboratories to day to specialize in those particular branches of Physics in which they are most interested or specially equipped. Such a division of the field of research amongst a number of Universities has certain advantages, provided that this subdivision is not carried too far. In general, the Universities should be left free as far as possible to develop their own lines of research and encouraged to train young investigators, for it cannot be doubted that vigorous schools of research in pure science are vital to any nation if it wishes to develop effectively the application of science, whether to agriculture, industry or medicine. Since investigations in modern science are sometimes costly and often require the use of expensive apparatus and large scale collaboration, it is obviously essential that adequate funds should be available to the Universities to cover the cost of such researches.

In this brief survey, I have tried to outline the contributions to scientific knowledge made in India, and the needs of the immediate future if science is to play its part in the national welfare. While the study of modern science in India is comparatively recent, and naturally much influenced by Western ideas, it is well to recall that India in ancient days was the home of a flourishing indigenous science which in some respects was at the time in advance of the rest of the world.

The study of ancient writings has disclosed in recent years the extent and variety of these scientific contributions. Much progress was made in the study of arithmetic and geometry, while the researches of Sir Prafulla Ray have brought to light the important advances made in metallurgy and chemistry. May we not hope that this natural aptitude for experimental and abstract science, shown so long ago, is still characteristic of the Indian peoples, and that in the days to come India will again become a stronghold of science, not only as a form of intellectual activity but as a means of furthering the progress of her peoples.

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INDIAN EDUCATION IN 1937.

BY PRINCIPAL P. SESHADRI, M.A.,

Ajmer.

THE year which has just drawn to a close has been full of varied activities in the educational world of India. It is not every year that is prominent is a particular field of national activity, but striking proof has been furnished by the last that the country is prepared to concede the proper place to education in the economy of the State. The inauguration of a new constitution for the country has apparently awakened keen interest in education without which all aspirations to national progress must indeed be vain.

An event of first rate importance is the adumbration of what is called the Wardha scheme of education under the auspices of Mahatma Gandhi and the Indian National Congress. It has burst like a bombshell on the somewhat placid waters of Indian education with proposals which imply a radical departure from the existing state of things and which promise to become as important a landmark in the progress of Indian education as the famous decision of Lord William Bentinck a hundred years ago to introduce English education into India. Its foundations may be said to consist of two principles, that elementary education should revolve round training for some vocation and it must be self-supporting. A syllabus has been worked out in accordance with these principles and it remains to be seen what the country's reactions will be to the scheme. It is significant that at the recent meeting of the All India Educational Conference held in Calcutta, it was subjected to a volley of criticism, though there were also several speakers who welcomed it in a spirit of enthusiasm. It can only be said at this stage that, in view of the

serious conflict of ideas, it will be some time before public opinion precipitates into some clear decisions.

Earlier in the year, there had appeared the report of the two British experts, Messrs. Abbot and Wood, on the organization of vocational education in India. Divided into two parts, the report consists of certain general observations on elementary education in India, followed by some specific recommendations on the subject of vocational education. It may perhaps be enough to refer to some of the important principles enunciated in the document without entering into details. It is said in the first part that elementary education should be entrusted to women teachers, as much as possible, and it should be based on the natural interests and abilities of young children and less upon book learning. It is also laid down that school education should be entirely in the vernacular and the teaching of English as a second language should be more "domestic" and less attention should be paid to English "prose and poetry." Manual work, physical exercise and the training of teachers are among other subjects on which special emphasis is laid.

The lay public in India will perhaps be surprised at some of the recommendations regarding vocational education, though some of us in the profession have been advocating them for a long time without carrying conviction into their minds. These experts, for instance, have no hesitation in declaring that vocational education depends for its success on the existence of large scale industries and the expansion of

vocational education should, therefore, not greatly outstrip the development of industry. Vocational and general education should not be provided in the same school since the two types have diverse aims. A valuable observation in the report runs thus: "There appears to be a common belief in India that a more adequate supply of vocational education would lead quickly to greater use being made by organized industry of the raw materials of the country. The existence of skilled workmen though essential, is not in itself enough to create organized industries."

Turning to the provinces and States, attention must be drawn at least to a few important events. The University of Allahabad has celebrated its Golden Jubilee during the year. Founded in 1887, the University has completed fifty years of useful existence and has done not a little for the cause of higher education in northern India. What is specially noteworthy is the fact that it has always striven to keep up high standards of education and its products have distinguished themselves in various competitive examinations conducted by the Public Service Commission. At a time when there is undoubtedly a tendency in academic bodies to dilute their standards, it is refreshing to find the University of Allahabad holding her flag high in the intellectual world.

It is unfortunate that Bengal should be torn, once more, by fierce internecine strife between Hindus and Mohamedans over the proposed establishment of a statutory Secondary Education Board for the province. It will be remembered that the recommendation is as old as Sir Michael Sadler's Calcutta University Commission and apparently the need for the constitution of such a body is not questioned in any quarter. But the

clauses of the proposed Bill which have met with violent criticism are those relating to communal representation. There is also a large body of educated public opinion in the province which would have the body under the auspices of the University of Calcutta, rather than under the Government of Bengal.

Among the proposals which have found favour with the Congress ministry in Madras is one to make Hindi a compulsory subject of study in the first three forms of the High School. The Government has apparently found large support among those who are of the opinion that this will facilitate the evolution of a common *lingua franca* for India. But it is idle to deny that the proposal is also viewed with disfavour by those who think that it imposes an unnecessary burden on young children who have already to trouble themselves with the mother-tongue, English as a second language and one of the two classical languages which constitute the foundation of Hindu or Muslim culture and civilization.

Travancore has the distinction of adding a new University to the existing seventeen Universities of India. Almost closely following the famous proclamation of the Maharaja throwing temples open to Harijans, this constitutes another important landmark in the activities of the young ruler and the progress of the ancient State, well known as the home of Kerala art and civilization. It is interesting to note that the authorities have a modest programme concentrating on studies for which there are special facilities in that part of India. It is also refreshing to learn that it will not be a mere replica of other Universities in India, though it remains to be seen how far this aim will be carried out in practice. The University has, however, the best wishes of all interested in higher education in India.

DR. NAM ON THE WARDHA SCHEME.

BY MR. S. SANTANAM, M.A., L.T.

Tiruturaipundi.

THE celebrated Wardha Scheme has been variously criticised. Some have praised it to the skies as a fine orientation but some have dared to point out defects in it. Even the latter have been careful enough to pay due respect to its saintly author and have taken some pains to extol it for what they consider to be unexceptionable and unobjectionable features in it. Dr. Nam, however, condemns it in toto and is unwilling to accept the virtue of the fundamental principles in it.

The main purpose of any organised system of elementary education should not mainly be vocational according to him. Schools were not started at first for training people to become good at a vocation. Indeed in the days when humanity did not have any schools at all, all human beings had a good vocational training and it will be a better thing to revert to such a state than maintain schools first and foremost for the purpose of giving children vocational training.

In fact, even to-day any one who has the barest experience of rural conditions can certify to the fact that vocational skill in agriculture, though not knowledge of making it highly remunerative, is possessed to a greater degree by the illiterate villager innocent of any scholastic education than the half literate and ill or well educated villager or, for that matter, even the graduate of Agricultural Colleges. Agricultural pursuits or the industrial occupations of a rural character and the lower grade occupations of even urban industries require little education. Some experience and mere training in the necessary operations of

such callings are enough for any one of average common sense to pick up the skill needed. Education of even an elementary kind has been found to be rather a handicap for the maintenance of an aptitude and attitude for these vocations.

It is pleasing to understand that the core of Mahatma Gandhi's emphasis was not the occupations but education through manual training—all education, of letters, history, geography, mathematics, science, etc., through manual training. History through manual training! So also letters, geography, mathematics, science, etc.!! What can be the meaning of such studies in any good system of education? The Takli example is used to illustrate this meaning. Such a narrowing of these studies so as to bear on the vocation for which the training is given is only imparting the knowledge of the history, geography, and science connected with it through teaching and letters, that is, books. According to this view, the boys and the girls in elementary schools, besides being trained for a vocation, are to be prepared to possess the knowledge necessary for writing theses on the vocations they are trained for, theses of a type difficult at present to expect from the highest products of the Universities themselves.

The purpose of education in the elementary stage should only be, thinks Dr. Nam, to enable the youngsters to be efficient in the Three R's, while higher education should aim at developing them and enlarging the knowledge of the pupils and adding to that of humanity. In so far as the Wardha Scheme fails to grasp

this purpose and emphasises the importance of a training for vocation, the scheme cannot be accepted as educationally sound.

Again, the Wardha Scheme of elementary or primary education is not at all elementary according to Dr. Nam. A knowledge of many subjects, history, civics, geography (of even a broader type than merely national), botany, zoology, physiology, hygiene including sanitation, nutrition, first aid, etc., physics, chemistry, mathematics including mensuration, practical geometry and rudiments of book-keeping and also astronomy, biographies of great explorers and scientists, and drawing,—all these to the present Matriculation level, plus the mother-tongue, a working knowledge of Hindi, and a smattering of English too,—such is the big catalogue of studies included in the Wardha Scheme of elementary education. This is not all or the most important part of the scheme. A great deal of time is to be spent in vocational training. Besides, the pupils are to be given compulsory physical training through what is called 'musical drill.' Then the studies are to be completed only within seven years. Now the same studies with only English of a higher standard take eleven years, including five years of elementary education and six years of secondary education.

Thus the Wardha Scheme wants to make primary education the preliminary to University education and do away with the intermediate step of secondary education. Therefore the latter is in danger of absorption by the first stage. Education will then be reduced to one of two stages, elementary and University, instead of being one of three stages as it is at present. It is too ambitious and is bound to fail miserably. The modest and simple aim

of imparting the Three R's in the first stage is giving enough trouble at present and has not been tackled on a nation-wide scale. Free and compulsory education in them will be more than enough and our schools need not determine the vocations of pupils at the very beginning of their school career. The Wardha Scheme, thinks Dr. Nam, is guilty of being not only ambitious and too advanced to be regarded elementary but also of deciding vocations for pupils too prematurely and perhaps without taking into account the inclinations and aptitudes of the pupils.

Another criticism of Dr. Nam is that the scheme gives far too much importance to manual training and goes to the extent of thinking that nothing but manual skill in some handicraft can entitle any one to be called educated even in an elementary way. Such an idea is fundamentally wrong. A very skilled workman, capable of earning a decent income by his handicraft, can exist and has existed without the knowledge of the subjects comprised in the scheme. The idea responsible for the framing of the scheme seems to be that pupils passing out of our schools are unable to earn their livelihood, because they have not been properly trained and no attempt has been made to train them to a vocation.

The remedy for this should not be, says Dr. Nam, the teaching of a handicraft to all pupils in an elementary school, whether they and their parents want it or not, and will have a use for it or not in the future. The true solution will be to open separate vocational schools wherever possible and necessary to give facilities for those who want to take advantage of them. There is no meaning in compelling all and sundry to undergo a vocational training requiring manual labour. It will be a sheer waste if the training should not

lead men to the pursuit of such a vocation. Of what use can be a training in leather-work, spinning, weaving, etc., to a lawyer, a doctor, a clerk in government service, or a teacher of history or mathematics in a school or college, or an author or a poet? General education should not be wastefully or uneconomically combined with vocational training.

Even supposing that a good vocational training is given in the elementary stage, is it supposed that with that training all pupils educated under that scheme will be able to earn a decent livelihood? It cannot be said that all trained for handicrafts, such as weaving, pottery, carpentry, etc., will be able to make clothes, pots, furniture, etc., of their own accord with their own capital and bring them to the market remuneratively, or find people to employ them through life on a decent wage. Unless and until the Government and the enterprising capitalists of our country encourage industrial concerns and find it possible to compete in our land and other lands favourably with articles made by other countries, mere acquisition of vocational training will not solve the unemployment problem.

Such a training will run to waste without chances of employment like the general cultural training good enough for clerical posts, now acquired by pupils in the present system. If industrial advancement is to be pushed up by the policy of the Government and the wisdom and adventure of the moneyed classes, the present system of education notwithstanding, any number of pupils can be employed in the newly started industries and with a little special training they will do wonderfully well, if there is any prospect of getting a decent livelihood in such industries. The training cannot create industries, but the industries, being started, can evolve the necessary train-

ing very quickly and easily. The scheme, therefore, seems to put the cart before the horse and labours under the wrong conception that a system of vocational training combined with general education can solve the unemployment problem in our country.

Then the aim of making the students themselves earn the recurring expense of their education by the products of their industry at school has been widely criticised as faulty, debasing, demoralising, unheard of, undreamt of, quite novel and opposed to the best traditions and ideals of education in any country and of any period in history in the past. Dr. Nam heartily joins such a chorus of condemnation, and also in the fears of those who doubt whether the system can be worked at all without prejudice to the good relationship of the teacher and the taught and without creating a good deal of unhealthy industrial repercussions. Of course, in these days of poverty and unemployment the scheme seems to offer an easy solution for the problem of spreading universal, free and compulsory education by a Government which cannot find any money at all for meeting the expenses and the solution of the unemployment problem itself. Even with the conscription of the educated unemployed, the Wardha Scheme cannot be run successfully from the proceeds alone of the pupils' produce and Dr. Nam fears that such an attempt will become a big blunder, though not a Himalayan mistake. The apparent promise of the Scheme to solve unemployment will become a false promise and a will-o'-the-wisp lead.

Now Dr. Nam's constructive proposals of reconstruction of elementary education will be briefly sketched.

1. Elementary education should be only elementary, that is, aim at imparting a know-

ledge mainly of the Three R's. Any knowledge of any subject included in the course shall not be primarily aimed at for its own sake. There should be no logical and systematic arrangement of the subjects with a distinct apportionment of time for each in the time-table.

2. All subjects, an elementary knowledge of which is deemed necessary in addition to the imparting of the Three R's should be beautifully combined in a book in the mother-tongue or the language of the predominant people of the area. The same should be used as a text-book, through which not only reading and writing should be taught and practised but also a minimum of general knowledge should be artfully and incidentally introduced in a well-thought-out and interesting manner according to the standards in the system. Biography, history, civics, geography, physics, chemistry, physiology, hygiene, biology and all other subjects thought necessary should be cleverly combined in a single text-book suitable to each standard in a progressive manner.

3. There should be no second language taught at all. Not even Hindi as a pan-Indian language necessary for national unification or English as an important world-language useful for present political contingencies and the imbibing of the Western culture as a fine supplement to our indigenous culture, should be taught in the elementary stage.

4. Arithmetic, however, should be taught separately and in a manner which will interest the pupils by its applications to their actual life and experience. (Thus there will be only two books for pupils to study and master in the elementary school).

5. Elementary education should cover a period of only four years, as it is more than

enough to secure permanently the benefit of a knowledge of the Three R's. (The reduction of the present course of five years to one of four years is for the purpose of adding the one year thus taken out to the secondary education. The proposal of making secondary education cover seven years instead of six, by taking one year from the present University education is felt by Dr. Nam to be a cutting at the wrong place).

6. Elementary education shall not only be thus elementary but also be education in the best sense of the term. It should not be dragged down to the level of a vocational training valuable for bread-winning.

7. The body and the hand shall not, however, be neglected. Ample opportunities shall be given for manual training and play. Gardening, looking after domestic animals, collection of fine things for museums, making toys with clay, wood, and other materials, spinning, weaving, fret-work, embroidery, and such other hobbies requiring manual skill and labour must be introduced, not, however, in a compulsory manner for all irrespective of their tastes and inclinations. Each pupil will have the liberty to choose one or two of these hobbies, and the things done by him will be kept separate for him to see and enjoy and proudly show to others.

8. All the pupils should have some training in music. They should have also practice in dancing, if possible. If not, some good forms of drill and physical exercises should be arranged for the benefit of their bodies.

9. Provision should also be made for the study of the behaviour, conduct and character of the pupils by the teachers through the observation of pupils at work and play and tendencies displayed in their relationships to others and suitable steps should be taken to

the correction and the rectification of evil propensities found in them in the very first stage of their education.

This scheme of elementary education is perhaps best suited for the pupils from the age of six; five is too early and seven is perhaps too late. It is not a great matter when the pupil is sent to the school between the ages of five to seven; it may not be even desirable to prescribe a uniform standard age for all for the beginning of their education. It is better to give a little discretion to the parents in the matter and allow them to send their children to the school anywhere between five and seven. Only when compulsion is introduced, should there be an insistence for the continuation of the children at school for a minimum period of four years through which the course has to be spread.

Another small matter may be pointed out. Only slates should be used in elementary schools for writing and working sums. Note-books can be used in the higher standards for pencil work at school on special occasions such as copy and drawing classes and for ink work at home in a very limited manner.

Such is the simple scheme of Dr. Nam, and it will be only a small modification of the present, unlike the Wardha Scheme which means quite a revolution. To desire a universal extension of elementary education without the State or the people being ready to finance it, but making the educands themselves pay their educators through their manual work seems to be selling the children into slavery and to be depriving them of their birth-right. Considering this and other ble-

mishes pointed out above, it is suggested that the Wardha Scheme be dropped and Dr. Nam's scheme be discussed and adopted with any necessary modifications. It is not necessary to make elementary education compulsory at all, and free to all. Illiteracy, however, should be liquidated by voluntary and philanthropic efforts through night schools, adult schools and similar other agencies. It is quite possible to do so. For the sake of giving free compulsory elementary education, let not the emoluments of the teachers of elementary schools suffer and the children be made to slave for them.

Lastly it may also be remembered that man does not live by bread alone, though without it he cannot live, that it is the special business of educators and schools to enable children to live the higher life of men by imparting to them literacy and general culture. Through them alone the higher intellectual life of man is possible. It is a serious mistake to call a training for a vocation education at all in this higher sense. Elementary education is literally the acquisition of the literacy which enables man to know through books and study, and of the power to increase the knowledge thus handed from posterity to posterity by writing books which will serve a similar purpose of provoking further thought and additions to the knowledge of the humanity. The 'vocationalised' elementary education, to coin a phrase for pointing and painting the issue tellingly, will be to change its very essence and debase it deliberately at its foundation or pollute it at its source or at least adulterate it wilfully.

THE BIRTH-DATE OF SHIVAJI AS GIVEN IN THE BHAKHARS.

THE RELIABILITY OF THE DATE MENTIONED IN THE 91-QALAMI BHAKHAR.

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(Continued from p. 813, Vol. XLIII.)

7. EVIDENCE TO SHOW THE CONTEMPORANEITY OF THE AUTHOR OF THE 91-QALAMI BHAKHAR WITH SHIVAJI.

In the comparison that we established between Sabhasad's Bhakhar and the 91-Qalami Bhakhar, we have shown that the author of the former had read the latter and he definitely thought that Dattaji Wakenavis was its author. These two facts are themselves quite sufficient to prove that the author of the 91-Qalami Bhakhar was a contemporary of Shivaji. We have, however, a very large volume of other internal evidence.

(a) The first point to which we have drawn attention of the reader has been to some extent noted by us in another connection. It is the evidence of language. The language of this Bhakhar is, as we have said, older in form and looser in the construction of sentences. The 91-Qalami Bhakhar contains discrepancies of time, place, and persons and the absence of one or more of these at several places. Disorderliness also obtains in it to a great degree. Defects of composition, such as ambiguity, far-fetchedness, etc., are also present in it; this is probably because the writer is neither a trained historian nor an expert writer. The improvement in learning aimed at by Shivaji took time to show its effect. So those who underwent training in political affairs in the last years of Shivaji, i.e., after he had been recognised as an independent king even by the Mughal Emperor,

had better learning and better training in the art of writing. The passages that we have quoted so far from the two Bhakhars will convince any one of our contention. We have also said that the description reads like one written by a person having first-hand knowledge and is a straight, ungarbled statement of the important facts in what the author thought to be a chronological order. Mostly he depended upon his and other persons' memories; but where he could, he did use government records. Dattaji was beyond doubt a Wakenavis at the time of Shivaji's coronation, probably from the year 1662 till his death. We have already said that the Rajwade edition seems to be Malkare's copy and the "Bharatwarsha" edition an earlier copy. The copy that remained at Raigarh might have undergone further modification (even with the help of Sabhasad's Bhakhar), a copy of which made by Manko Bhimrao, the Kulkarni of the Rir, by desire of Naikaji Kadam, Patil of the village of Kamri, some time before the 30th April 1806, under the order of Mr. E. J. Frissrell, then at Poona, formed the basis of the translation made by the last-named person. A minute comparative study of the five editions can reveal such facts. Language is however not a strong point. We have before us other and very strong evidence to show the contemporaneity of the writer.

(b) The following reads as if the writer had observed the events narrated in the same:—"Aurangzeb then marched to Delhi and fought an action, in which Udaram, Deshmukh of Mahor, was killed. (After his fall), his wife, Raibagin, continued the fight and won it. (Aurangzeb) rewarded her by giving her Mahor in jagir in addition to the office of Deshmukh of that district. (Aurangzeb) put to death his brothers, Darashah, Shahashuja and Murad Baksh, imprisoned his father and sewed his eye-lids. With the help of his sister, Aurangshah (thus) got the throne and fort of Delhi and proclaimed himself (emperor)" (page 50). This passage is naturally and intimately connected with the previous one, in which there is reference to the continuity of the quarrel that was begun between Aurangzeb and Shivaji, during the early career of the latter and during the second viceroyalty of the former.

(c) We have already described how Shivaji took the fort of Purandhar from Niloji Nilkantha Rao. This description is so detailed that it could not be known to any one who was not a contemporary of Shivaji. We have already said that it is most impartial also. The author has neither garbled the facts nor offered an explanation. Shivaji gave some land by way of reward to Niloji Nilkantha Rao and his brothers somewhere below the fort. With reference to it, it is mentioned in this article: "*Even now* the reward and the Naikwadi Watan continue (in that family)." Out of the few sentences in the present tense in this Bhakhar this is one, which shows that the author knew of the fact at first-hand.

(d) In article 32 is described how Shivaji prepared himself to meet Afzal Khan. The following extract breathes in it contemporaneity of the author:—"Shivaji called Bahir (?) Brahmans, gave them money and asked them to perform (his) last ceremonies

(after his death). He gave away cows (to Brahmans). He got his long beard cut short. Jijabai began to shed tears; (he therefore) did not allow her to come to him." The description is most vivid, likely to come out of the pen of a contemporary only.

(e) We have also drawn attention to the impartial description of how Shivaji killed Afzal Khan. The whole description is very vivid also. We think that none but a contemporary could describe those details. Moreover, that Shivaji had kept forty strong men in a pit just behind the pavilion for meeting, is a fact that could be known only to a contemporary. It is worthy of note that it has not been described by Sabhasad. If we remember that Shivaji kept up, according to the terms of meeting, a full show of coming for a treaty and not meaning fight, that he took the precaution of placing forty strong armed men in a pit close to the pavilion is perfectly reasonable and believable; that is just Shivaji-like. His daring actions were all properly planned and all the necessary precautions taken against surprises.

(f) Having described that Shivaji rewarded Pantaji Gopinath most liberally and gave him in jagir the village of Hiware, the author says: "His sons are yet undisturbed there and are happy in the jagir village." We have again to note the present tense. Pantaji Gopinath must have been at least thirty years of age in order to carry out the difficult duties of a diplomatic agent which had become most difficult at the time of Afzal Khan's invasion. A grown-up man can have his first son at the latest at the age of twenty-five and generally young men in those times were fathers at an earlier age. So, at the time of Afzal Khan's affair, the first son must have been at least five years of age and Pantaji Gopinath might have had at that time at least two other children. As the author has used the word

'sons' and not 'descendants,' we have to presume that at least some of them were yet alive. From Doc. 1783 dated the 17th September 1675, published in the "Patra-sar-Sangrah," it is clear that Pantaji Gopinath was alive in that year. There is no reference to him thereafter. So, it is clear that the above sentence can be from the pen of one who wrote his account from first-hand information.

(g) In the 77th article, the following, that is of no importance by itself but is of a nature likely to be known only to a contemporary, is given:—"At Kajamgiri Mahal, General Bahir Rao (Hambir Rao) Mohite purchased from a Patil one Arab mare. Even though it was Chaitra (April), there fell a heavy shower; therefore, (the general) stabled her in a shed near his tent. The king came to know of this, called Bahir Rao (and) Mujumdar and subjected them to mortification. He then at once got 125 Hons from the Treasury through Anaji Rangnath Kelkar (Malkare) and gave that to the general and sent away the mare to the State stable by placing the State-army mark upon her."

(h) The following description of the entertainment given by Kutbshah to Shivaji on the occasion of his visit to him is like one written by an eye-witness:—"Raghunath Narayan, Dattopant Wakenavis and Prahlad Niraji, these three were asked to sit down; the rest were standing. The king (Kutbshah) very much pressed (Shivaji) to take the betel-leaf, but he did not take it. (He said): 'When I shall go to Benares and shall consecrate an idol of god there, I shall take betel-leaf.'"

(i) The whole of the short article 79 is of the same nature: "(The king) stayed at Bhaganagar for one month (भगनागरी मुकाम एक माहना होता).; All the Brahmins, the king

and sardars stayed at Madannapant; the desired food was given. Thus five feasts were given. (The king used to hear the religious recitals of Kesheo Swami. While leaving the place, (the King) gave him five lakhs of Hons and jewels worth fifty thousand." Such details could be known only to an eye-witness.

(j) The description given of the meeting of Shivaji and Ekoji and their estrangement is a very detailed one. "Having taken meals in the same dish, they (Shivaji and Ekoji) used to discuss (their claims) aside. At that time, Pandit Raghunathpant, the Wakenavis, the Chitnis, Bahir Rao (Hambir Rao), Mohite (Senapati), Balaji Baji Rabhu Jamnis and Anaji Rangnath Kelkar (Malkare), Mujumdar to the Senapati, used to be present. Shivaji said: "You take half of the Chandawar kingdom, the other half you give to me as it was earned by our father." Vyankoji said (by way of reply): "You give me half of the kingdom earned by you in the Swadesh (Maharashtra), the other half you may keep for yourself." The king (Shivaji) replied: "Father earned no kingdom in the Swadesh (Maharashtra), that is my earning, but he did earn the kingdom of Chandawar." Such discussion went on daily for (about) fifteen days. At last King Vyankoji said: "Alright, let us fight, I am going to prepare my forces, (in the meantime) you prepare your own." Having said so, he went away out of displeasure. King Shivaji went after him on bare feet to conciliate him; but he did not mind anything. He went away to Chandawar on (his) horse. In order to bring him back, the king (Shivaji) asked the general, Manaji More, Rupaji Bhonsle and Anaji Rangnath to go after him upto Chandawar. Having reached Chandawar, he (Ekoji) honoured them by giving them presents and sent them back." Such minute details cannot be known, if not learnt at first hand.

(k) In article 83 is described the fight between the forces of Shivaji and Ekoji and the conquests of Shivaji in the Carnatic. In this connection, the writer says: "The territory of Arani and Veni, forming a territory of three lakhs, was given in reward to Shubha Rao, Shrinivas Rao and other sons, (altogether) eight, of Vedaji Bhaskar." From Chitnis's Bhakhar, page 289 (Sane's edition of 1924), we know that Vedaji Bhaskar was a contemporary of Shahji. So it is clear that Shubha Rao, Shrinivas Rao and other sons of this man (Vedaji Bhaskar) must have been contemporaries of Shivaji. This detailed information was likely to be known only to a contemporary. In the Rajwade edition, in this very connection it is said: "Below them (fort Arani and Venidurg) there is a territory of three lakhs of Hon." So, even at the time of the modification of the original, the three sons of Vedaji Bhaskar jointly enjoyed the jagir.

(l) The following detail given in the 88th article is also worth paying attention to: "Then the king came during the night itself to Peth (Patta fort) with his forces. At that time he named it (Vishramgarh) (a fort that gives rest.) As Kanoji More and Sambhaji Ghorpade made rather haste at the time of fight, (Shivaji) did not allow them to come to him to pay respects." This is a very minute detail and is likely to be known only to a contemporary.

(m) In the 56th article is described the skilful return of Shivaji to his country from Agra after his visit to Aurangzeb. When Shivaji came to a village in the Kadwali District on this side of the Balaghat, Anand Rao Talegaonkar had only shortly before robbed the people of their cattle. Shivaji and his men having come there

requested one Patalin to give them shelter. She thereat said: "The village is all desolate, Shivaji's men have taken away all the cattle, he is in the prison at Delhi and let him continue to be there." She said (in this strain) many foul words to abuse him. Shivaji looked to Nirajipant and laughed, and noted her name and whereabouts."

(n) While Shivaji was about to start on an attack of the Polygar Naik of Bednur, he was informed that his wife Soyrabai had arrived at puberty and that he should not at once leave the place without the consummation of marriage. He was however in a haste, so he took his wife (Soyrabai) with him and kept her with him till he arrived at Malwan Durg, wherefrom he sent her home after she became pregnant with Rajaram."

(o) "After that, the king (Shivaji) went to Raigarh. After the Dasera, he sent his chief sardars all-round. He was then seized with high fever which carried him off on the afternoon of the 15th (bright fortnight) of Chaitra of Shaka 1602, Roudra Samvatsar. He laid down his life, after having given a large amount in charity, having put on one thousand Roodraksha (bead), having been bathed with the water of the Ganges and besmeared with ashes, and while remembering God. At the time of death there were (about him) Moropant Peshwa, Anaji Datto Surnis, and Balkrishna Prabhu Chitnis. Having given a paper of arrangement (for the future) he laid down his body, while in a conscious state (to the end)." Any impartial person would accept that such details cannot be given by any one except a contemporary. So, the fact that the writer was a contemporary of Shivaji is undoubtedly true.

(p) This account was written by Dattaji Wakenavis, one of the ministers of Shivaji.

He was given the office of Mantri in the council of eight ministers at the time of Shivaji's coronation. He held this office till his death. From this it is clear that he should have written his account before his death which, according to the "Jedhe Shakavali," occurred in 1678 A. D.

(q) The most convincing evidence of the fact that the writer was a minister of Shivaji is furnished in article 69. It reads as follows:—"King Shahji wrote to King Shivaji: 'If you are my son, you should at once after the receipt of this letter punish Baji Ghorpade and take his place by war.' At once after the receipt of this letter, Shivaji destroyed the Mudholkars and killed Baji Ghorpade and three thousand of his people." The reference to Shahji's letter in the above article has been clearly discovered in a letter addressed by Shivaji to his father. The pertinent part of it we quote here from page 144 of the English section of the "Shivaji Souvenir." "At the service of father, with profound respects from Shivaji Raje. I have just received your letter blessing me in the following words:—'You are aware of the critical situation in which I found myself a few years ago in the Bijapur Darbar, on account of Baji Ghorpade of Mudhol having deserted the cause of religion and truth, and having treacherously joined the wicked Turkish party. By the grace of God, I got over the difficulty, kind providence having given you the strength to fight for Swaraj and religion. Let me now inform you of fresh developments. Khawaskhan has again been dispatched with an army to deal with you. He is supported in this expedition by Baji and Lakham Sawant, who have sworn to overcome you. God Shiva and Goddess Amba are always your protectors and will, I am sure, give you victory. You must avenge

all the previous wrongs on this occasion. I bless you, my worthy son. Immediately on the receipt of this news I started with a body of soldiers to attack Baji Ghorpade at Mudhol. As I ravaged his province, he collected his forces and came for a fight. A very severe encounter ensued. Baji was killed and many were wounded." It is clear to any one that Shahji's letter referred to in the 91-Qalami Bhakhar in article 69 is the same as that which is referred to in Shivaji's letter quoted above and from which the son has quoted the above given lengthy passage in his own letter. None but a minister of Shivaji could have read such a private letter. That the writer of the 91-Qalami Bhakhar could quote words from Shahji's letter establishes beyond doubt that he had read it. We have already drawn attention to the fact that the further description given in this article of the 91-Qalami Bhakhar is most impartial. The writer has not concealed the fact that Shivaji wrecked most terrible vengeance on the Ghorpades—"Even Ghorpade's women who were with child were not spared."

(r) That the 91-Qalami Bhakhar is, at least, to a very great extent, the product of the pen of Shivaji's contemporary and, most probably of Dattaji Wakenavis, can be seen from a Dutch account of the first sack of Surat. The account is dated 5th to 10th January 1664 and has been published in the "Indian Antiquary," Vol. 57, pp. 1-6. It is noted in it that Shivaji boasted while going back from Surat that he had long desired to take the 'surat' (face) of Surat (town) and that he had succeeded in doing so. An exactly similar statement of Shivaji is quoted in article 63 of the 91-Qalami Bhakhar from a letter said to have been dispatched by him to Aurangzeb after the

first sack of Surat. Nobody but one in charge of official correspondence of Shivaji could know the wordings of a letter, which becomes verified by the Dutch account referred to be above.

(s) Similarly, Shahji has expressed sorrow at the death of one Nilkantha Rao (of Purandhar), with whom he was on very intimate terms, in a letter to 'Nilopant Sankaraji Pandit Visajipant and Trimbak Pandit,' dated June 1653 or May 1654. This intimate relation with the aforesaid Nilkantha Rao and the members of his family has been mentioned in article No. 27 (91-Qalami Bhakhar), and that Nilkantha Rao left three or four sons has been mentioned in articles No. 28 (91-Qalami Bhakhar). Shahji's letter mentions four brothers; out of these, two names tally with those of the 91-Qalami Bhakhar. The number is ambiguously mentioned. It has been once said that Niloji had three younger brothers and, then, mentioning Pillaji and Shankaraji, it says that they thus made three brothers. The name of the person with whom Shahji had friendship has been wrongly mentioned as Nilo Nilkantha. The distance of time made matters vague and ambiguous. All the same, the matter of intimacy and two names have been correctly mentioned. We think that Polaji or Vishaji must be a wrong reading. So, a very early fact of Shivaji's life has been at least partly correctly written. Sabhasad's statement of the same event is very short. He does not know of Shahji's intimacy with Nilkantha Rao and he mentions that Nilkantha Rao had only two sons. So, comparatively the 91-Qalami Bhakhar is more correct and detailed.

(t) In the 91st article, it is clearly mentioned in Rajwade's edition that the original copyist, Khande Anaji Malkarey, was the son

of Anaji Rangnath Malkarey whose name is first noticed in this Bhakhar in the 32nd article describing Afzal Khan's death. It is mentioned there that this Anaji Rangnath Malkarey was in charge of the decoration of the meeting place of Shivaji and Afzal Khan. In the 62nd article he is again mentioned, and this time as a clerk. His name occurs a third time as the holder of the office of Majmoo of the commander-in-chief (Senapati). In the 77th article he is again mentioned as a Mujumdar. He is mentioned a fifth time amongst those present on the occasion of Shivaji's visit to the ruler of Golconda. Sixthly, his name seems to occur amongst those present on the occasion of settling the dispute between Shivaji and his step-brother Ekoji. The 86th article mentions the grant of reward to Anaji (Rangnath Malkarey) by Shivaji. Lastly it is mentioned in the 91st article that it was the son of this Anaji Rangnath Malkarey, who made a copy of the original book. We have already accepted that some of these may be interpolations. This does not mean that all of them are of this kind. Even if some of these should have been due to Malkarey's influence with the writer and pressure upon him, there can be no doubt that Anaji Rangnath Malkarey was a contemporary of Shivaji and that Rangnath was a contemporary of Shahji. Now we can safely assume that Anaji Rangnath Malkarey was of about thirty years in 1659, i.e., at the time of Afzal Khan's death, and that his son, Khandoba, was born at this time. So, at the time of Shivaji's death, Khandoba could not have been more than twenty or twenty-one years in age, or, of about 25 years about the year 1685 A. D. When he made a copy of the book, we cannot definitely say. We can assume that copyists do introduce some changes in the ori-

ginal, especially, in its language. Even then, on its comparison with the "Jedhe Shakavali," and Sabhasad's Bhakhar, we find that the former seems to be older in language than the latter. In any case the copy therefore could not have been made later than 1707 A. D. If we remember that the linguistic changes occur very gradually and slowly, it would not be wrong to assume that Khandoba's original copy could not have been prepared later than 1690 A. D. It should not be a matter for surprise if we should find some day that this original copy was prepared soon after the Bhakhar was written by Dattajipant Wakenavis. In the face of the above, is it not wrong to think that the Bhakhar was compiled some time very late in the eighteenth century?

(u) In the 25th article is narrated how there came to be enmity between Shivaji and Aurangzeb which ends with the sentence:—"Since then the enmity continues to this day." This sentence can be meaningful only in the life-time of Aurangzeb. Sane's edition mentions this sentence slightly differently as:—"Since then the enmity continued the whole life." From this it is clear that it could not have been composed later than 1707 A. D. We have already drawn attention to the word दावा, which occurs in Sabhasad's Bhakhar which, as we have shown, borrowed some of its material from the 91-Qalami Bhakhar. The modification of the present tense sene of the "Bharatwarsha" edition into one of the past tense in Sane's edition is also noteworthy. This shows that the former was composed during the life time of Aurangzeb, while the latter was modified after his death. In this very article, there is reference to the sensual relations between Shah Jahan and one of his daughters which can be best known only to a contemporary.

(v) Having become king, Sambhaji immediately imprisoned some persons and got some others trampled to death under the feet of elephants. At once after Shivaji's death he took possession of the Panhala fort, imprisoned Janardanpant Sumant, sent orders to proscribe the houses of Moropant and Anaji Datto, killed Soyabai by getting her closed up in a wall and thus he put down the plot made against him. A year after, another plot was made against him, and he killed several important persons again. The whole event was so terrifying that none dared to mention it publicly for some years. The 90th article only makes mention of Sambhaji's displeasure with Moropant and Anaji Datto; it does not mention the names of the persons who suffered death-penalty after the revelation of the second plot. It says: "The further events are known to all, (they) need not be written." This shows the writer's grief and fear of Sambhaji. So it is clear that the Bhakhar must have been completed soon after 1681. It makes mention in the 62nd article of the death of Dilerkhan, which occurred in October 1683 A. D. Therefore it would not be wrong to infer that the Bhakhar was completed about the year 1685 A. D. In article 19 (Rajwade edition) occurs the following:—

“नावेत दगड लोखंड घाडून हतऱ्या खुणे पावेतो आणून उभाड बांदिले. मग दगड लोखंड काढून तुला करून वजनी सोने घालून ब्राह्मणास धर्मकेला. त्यासमई मोगे नगरगाव मोडून मोजे तुलापूरनांव ठेविले ब्राह्मणास आधार दिवले अद्यापगाव दुतर्फा माहाराष्ट्र व ताम्र कुल-वाववतन ब्राह्मणाचे चालत असे”

(Then he filled the boat with stones and iron pieces till it sunk to the level of the mark to which it had sunk by the placing of the elephant. Then he took them out and weighed gold against them and gave that away in charity to the Brahmins. At that

time the name "Nagargaon was changed into Tulapur. Lands were bestowed on the Brahmins. Even now the village is divided between the Maharashtrians and the Muslims and the Brahmins continue to be in possession of the lands."

The words "अद्याप" (even now) and "चालत असे" (continue to be) are worth noting. They clearly show that at the time the writer wrote, the conditions imposed by the donor continued unchanged. Now compare the following extract from Shio-charitra Sahitya," Vol. 1 & 2, article 145, and quoted in "Shio-Kalin-Patra-sar-sangrah," Vol. 2, p.637:—

श्री० कु० श्री० राजा शिवं छ०पति
अबक गोपाल देशाधि० तार्क पुना

तुलापुरकर ब्राह्मणास पुरातन इनाम वृत्ती आहेत. स्वामीच्या हि सनदा आहेत. तरी त्यांचे इनाम पूर्वी-प्रमाणे चालविणे. खलेल न करणे.

"From Kshatriya-Kulavantansa His Majesty King Shio Chhatrapati.

To Trimbak Gopal Deshadikari of Tarf Poona—

There are old grants bestowed on the Brahmins of Tulapur. There are grants of the Swami (Murar Jugdeo?) to that effect. You should continue those grants as before. You should not interfere (with them)."

Any one will suspect that the writer of the 91-Qalami Bhakhar personally knew the attitude of Shivaji towards the Brahmins of Tulapur and their grants. Shivaji had probably to issue the above order when he saw that his officer was doing some sort of interference with the old grants bestowed on the Brahmins. Only a contemporary could know Shivaji's mind and attitude so well.

(To be continued.)

Approved for class use for schools in the Madras Presidency
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COOPER, Publishers, BOMBAY, 6.

CO-EDUCATION IN INDIA.

BY MR. K. R. VAIDIANATHAN, *Palghat*.

CO-EDUCATION is quite a new thing to India. Though our country has been very eager in copying the West in all its ways she remains quite indifferent to welcome this kind of education within her bounds. Waves of different types from the West, as fashion, education, religion, etc., have rolled over to the East and have found acceptance in our country. But it is strange that this thing alone stands at the threshold of our country, the door being not open to it.

Ours is a country where special and peculiar conditions prevail as regards everything. There is a peculiarity regarding the dealings and movements among the men and women of our country. The population of our country consists of various degrees of advancement in the social scale. Speaking of the weaker sex, there is considerable disparity between the ladies of one community and those of another in the degree of freedom they have attained in society. From very ancient times the women of our country have been and are habitually accustomed to keep away from the opposite sex in all kinds of public dealings. It is only below the age of ten or twelve that they have a free inclination to join in their movements with the members of the opposite sex. If we just turn our attention to the social habits of women of different communities in our country we cannot lose sight of the fact that the women of some communities have not even seen or even an idea of what the exterior of their own household is. Take for instance the Nambudiri women of Malabar. After the age of twelve they detach themselves from the outside world and remain cooped up in a portion of their palatial buildings. They undergo a self-imposed life of so called 'imprisonment' throughout their lives. The 'purdinashin' ladies of certain other com-

munities also share the same fate though to a little more liberal extent.

This being the case the thought of co-education had been far from the minds of the people, and it is only in recent times that its introduction itself has reached the stage of consideration among the educational authorities. First of all this free mingling of members of both the sexes is itself more an act of social reform than an educational necessity. But this social reform will develop only if it is introduced in the stage of education.

Education is, as we all know, the field where the seedlings of the nation—the younger generation—take their manure and feed upon the diet given to them in the form of education and ultimately grow into the tree of the nation. It is here that the younger generation passes through the mould to form its future shape. It is, therefore, absolutely necessary that all sides of education must be looked into and the maximum benefit is conferred on the young members of the nation at this stage. And the benefits of co-education must, to the utmost possible degree, be realised by its introduction wherever suitable.

In this respect the West has taken the lead. Men and women of the West freely inter-mingle in education and in all kinds of social activities without any restriction. This is mainly due to the fact that they have, from their very childhood, cultivated a mentality which does not distinguish one sex from the other.

But here, in our country, there is complete difference in this respect. Boys and girls are not thrown in natural contact to understand each other. No free talking or any other dealing of that kind is common among boys and girls of our country. Thus they are almost dumb to the members of the opposite

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sex. If girls and boys are not given the opportunity to inter-associate freely they cannot have a mutual understanding. Like children they will be always thirsty to know about the other. In short it is the denial of sufficient opportunities to understand each other that is responsible for some of the undesirable conditions that we come across in our society. Life is but an understanding in practice, and we really make a mistake when we raise a barrier between the male and the female. There rise two kingdoms, the male and the female—and each lies in darkness for the other. So to eradicate this glaring evil there is no other measure more suitable and proper than co-education.

But considering the present social condition of our country the system of co-education cannot be worked out in practice to its full extent. The reform at our goal should be effected by very slow and progressive stages. First the girls and boys of our country must learn to live as brothers and sisters. They should be bound by a brotherly and sisterly feeling for each other.

At present there are countries which have reached various stages of advancement attained by women, from countries where strict 'purdah' is observed to countries where women undergo military training. India is only looking through the 'purdah' and oh! for the day she comes out of it!

India has to rise. She is only undergoing the 'elementary education.' There is a long way up to co-education!

WAR.

BY MR. K. R. VAIDIANATHAN.

In the calm blue horizon of Peace
War-clouds, haste are gathering!
And lo! they are blackening, darkening,
Threatening down to rain destruction!
The rattling drums and trumpets roar,

The cry and call to quench the thirst of the sword!

Hark to their mingled din, their rumbling roar,

O, all fortell a deadly doom!

High ambition flies high in the waving banners,

Pride, with the monster lust for blood

Rides ahead the serene skies of Peace.

There's no peace within the country's bounds; and if at all

It's in the firing mouth of the roaring guns!

The kingdoms tremble, the sceptres totter,

And laws are trodden under foot!

There's no peace beneath the gloomy skies

Where war-clouds loud are roaring,

To pour in volley, down the fated land

A deadly rain of destruction!

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OPINION

"This very useful book has been written with a view to help the Indian schoolboy to tide over the peculiar difficulties under which he constantly labours in learning to speak and write the English language. The numerous and well graded exercises in oral and written work, which the author's practical experience has enabled him to include in this book, are its chief recommendation. That the aim of the book is entirely practical is, therefore, clearly evident."
—*The Bombay Teachers' Journal* (March, 1937).

COOPER, Publishers, BOMBAY, 6

BOOKS.

By MR. D. P. RAO, Lalitpur, U. P.

BOOKS are our best friends. At times they make harmless and delightful company. At other moments they serve as our friend, philosopher and guide. They train our minds, improve our faculties of reasoning and imagination and stimulate our inner curiosity to know further of the great Land Unknown. The greatest art of arts that man is capable of learning is the art of living. Books, to be sure, teach us how men have thought and acted, and thus they prepare our minds for the better and show us the way to life still to be lived.

But there are books and books as there are men and men. There are, likewise, books good, bad and indifferent. Therefore, the greatest care that a man must take in this great field of literature much of which requires pruning and weeding, is the right and wise choice of books. Books, as Milton says, are not to be considered as dead things. They are living things and demean themselves as men. They, of course, have the power of infusing new life into dull and dry bones, hold out a message of hope and faith and kindle the very universe of man that lies within. All thoughts that stir a human frame, in fact, all desires and sentiments that fill a human breast from the rich to the poor, from the high to the low, from the true and beautiful to the ugly and base, are the products of man's study. And as they serve different ends, they eventually produce different results. To some, they are the very humour of a book-worm. Some use them for mere pastime, some for mere trade, but some look

up to them for that light, law and life that open quite a new and animating chapter in a man's life. There are, very often, blind turns to be met with in a man's career. Many a turn leads and has led a man to fortune, honour or the like. What is that but a queer and nice thought buried in a sentence or a paragraph that gave a man a cue, an unknown hand of help or a vision of the dreamy future? The greatest heroes, soldiers, sailors, and statesmen living on earth, to-day, owe their first impressions to some book or other that they might have read at school or home in their early days. It is said of H. G. Wells, the greatest living writer of Great Britain, that one single book studied at the library paved the way to his popularity and ultimate future greatness. Even Shakespeare, the greatest and finest dramatic poet of England, even though he was 'unschooled, untutored and unscanned,' derived some inspiration from Holinshed or Plutarch or some morality play of Greece. The best foundations of lyrical poetry were laid in Keats when he read Chapman's Homer for the first time, an indebtedness which he joyfully expressed in his poetry later on.

Books, thus, have always pointed to an ideal worth attaining or the commonplace that meets every eye or appeals to every mind. And what is to our advantage is that theirs is a calm and quiet, happy and delightful company easy and ever open to a man. For instance, even friends may desert us when we expect from them timely assistance and sympathy or they may flatter us or play a

thousand tricks behind our backs, but the friendship of this great order of men, living or dead, intellectually rich and pure and sincere, as represented in books is what no earthly relation or wealth can pay for.

They are the stored treasures of mankind, wisdom and experience, sublime products of human thought and consciousness, and the reminders of human progress and decay, in the various aspects of life. On the one hand they teach a man a great lesson in modesty in that in the ocean of knowledge and the great table-land of the unknown and unimaginable, man's best knowledge is but a dim spot, and on the other hand they only dignify a man's poor self. They enrich it with the great living thought that though the mortal man withers in the midst of the 'world growing from more to more', his intellectual heights and attainments have been equal to the great self hidden in him with a world of latent energy and resistance to compel the subtlest and strongest forces of nature to obedience.

And for the great realm of thought that the books occupy! Well, it is a real power, indeed, much above the sceptred sway. The teachings that are embodied in some of these are so fine, so lovely and true that they apply to all men and minds, races and religions, nations and nationalities, untrammelled by time and space. Some of the books are like a perennial crystal spring, by the cool and shady side of which a tired and lonesome wayfarer might rest awhile and quench his thirst and say to himself: "Here is a bright spot in the land of Darkness, here's the Rosy Finger of Hope in the Slough of Despond, and here is the empty Vessel of Life to be filled again." There is, thus, not a struggling

and sore heart but gets relief, not a sceptic and confounded brain but is enlightened. For once laid at the feet of those master minds hidden in those dull and dry pages, that which is weak shall become strong, that which is cold shall take fire and that which is dead shall rise again.

Such is the magic spell of some of the books that a reader cannot resist the influence of the writer but that he finds his mind filled in a 'wise passiveness.' The whole process, however, of this great fellowship as externally open to us, is so smooth and easy that one is often spared the dullness or strain of thought or the chilling effect of hard discipline and coercion one is apt to feel in social intercourse.

The thoughts and views as packed up and silently expressed in books so act and react on the mind of a reader that he is free to judge in his own way. He may weigh or consider a writer, refute him or censure him with impunity or accept him as an agreeable and graceful writer writing to a purpose. There he is the master of the situation to adjudge what the writer's pen has gleaned from his teeming brain, and to dispose him of with a passing smile or a mild or biting criticism. But above all, the great joy and satisfaction of the reader consists in the silent and ungrudging companionship of this great eternal body of writers who have toiled, troubled and suffered to die but left a legacy of thoughts that will endure for generations yet unborn.

The great unifying international forces that are bringing one nation near and dear to another day to day and helping to promote a better understanding and goodwill among the

nations scattered in different parts of the globe, have, as a matter of fact, been brought about through these intellectual mediums, books of all times. Where all pacts and protocols, covenants and conventions often fail, it is these books that have ever stood as the silent and effective messengers of goodwill and great peace-makers.

It is in view of these great national or international services that the State of a country has always associated itself with the patronage of books. The free library movement that prevails almost all over the world is one tangible expression of the State patronage.

The main idea is the preservation of books—the best intellectual products of the best minds, and this can best be done by the Government of a country. Hence we see that it maintains and preserves all such writings and publications as may be of national significance and thereby gives an impetus to the process of writing books on different subjects. Books of literature *e.g.*, Language, History, Science and Philosophy and Mathematics and Geography, etc., are all the sublime products of fruitful brains and the glorious monuments of human genius. They show that man, strictly speaking, always existed for a higher self and that it showed itself in all devotion and disinterestedness in such branches of knowledge as literature, arts, science and philosophy. And what is all the more remarkable to observe is that the roll of such silent and ungrudging workers—the great nation-builders of thought—was never closed. The ranks of nature are of course full. Accordingly the world never lacked such masters of pen and ink whose whole life was

disinterestedness itself, lived to a great and definite purpose. So, of writing and writers, there are no stop-gaps no parentheses. The floodgates of knowledge have ever remained flung open to mankind, the fountains of knowledge, in fact, have never gone dry. Of writing books, thus, there is no end and every nation has its own writers who hold the mirror up to nature, art and life and keep up their national culture and outlook as the representatives of the age they belong to. It may be that some wild and callous Huns—the marauders of civilisation carried fire and sword to one country or another from time to time and that in consequence, somewhere the vast treasures of collective human wisdom were destroyed. For example it is said that the Babylonian King Nebuchadnezzar once invaded Palestine, captured the Jews and destroyed their literature. But this is only an exception. The rule is to preserve the stored-up, age-long wisdom as much as the instinctive care and curiosity on the part of an animal is to preserve its own species. There is already an archaeological department of the Government to preserve the old buildings of historical and architectural interest and to hold them sacred because they show the finest specimens of human skill. The same value attaches to the immortal works of the writers, too, well preserved by the Government in its national galleries of portraits, libraries and museums, etc.

But books, old or new, 'do not teach their own use.' It is the wisdom of the reader and the selective way that matters specially in these modern days when the facilities of the printing press have turned out numberless books. We are thrown in a sea of books

where there is water, water everywhere, but there may not be a drop to drink.

Some books, of course, are all gold, and as such they must be swallowed or chewed down, others contain some value though not unmixed with some dross, still others are merely chaff—all stuff and nonsense, and they take only so much precious time and life of the readers. The main concern of the readers in these circumstances is not to learn but also to unlearn of much that they come across in books. And why? Because as there are always and as there will be good and conscientious writers holding life as a mission and writing as a serious and responsible affair, there are also merely mercenary writers or juggling and trafficking priests as well. It is therefore the purpose or motive that makes the whole difference in writing. Some writers have consequently been seen writing to the fiddle-stick. Some humour the ruling taste and adapt themselves to the market conditions. Nothing succeeds like success. That is their view point. For once they have found a market for their 'guns,' that is enough. Others sell their pen to the publishers. Nevertheless, there is a band of independent thinkers, too, though the number of such men might be small, whose conception of art is quite different from the common run. It is a selfless and self-sacrificing pursuit held under an abiding faith and a high-brow attitude that it is for a writer to direct or mould public opinion and that if he is not heard today he will be heard tomorrow. Such writers are never in a hurry. They do not dogmatise nor thrust their views on the public in a gratuitous manner. They are under no man's contract. They write because of the inner urge that moves them to that ordeal 'to scorn delights and live laborious days.' But the Immortality alone consumes, says

Tennyson, and that may well explain the whole determination of a writer in the past, present or in the future. Posthumous glory or living up to an ideal, this is all a true writer's fret and fever of life that favours him. Milton calls it the last infirmity of noble minds.

Call it what you may, the writing of books is an ordeal that inculcates a long and deep study, patience and perseverance, concentration and determination and what not. And all this to what end? For any loaves and fishes of this ephemeral world? No, certainly not, even in this materialistic and wealth-minded world, since many a writer of merit has earned a pittance in life and preserved but a penchant for going on without meals for days on end. For any name or fame? That too has been a far fetched idea.

Every one knows that fame is a plant that never grows on the mortal soil. Ambition, as Sir Walter Scott said, literary, civic or warlike, has but an 'unnade grave.' And so will all the enthusiastic and innocent pursuit, a writer's literary campaign, that starts with an itching desire for self-expression at first, then resolves itself into an imitation habit and afterwards develops itself into a haunting passion or an all-absorbing hobby, has an allotted end. As for discipline he is nonetheless disciplined than a soldier or a statesman. He goes out fighting his own battle, and though victorious or defeated, his silent yet heroic battles may not be less glorious simply because no drums beat about his march—and no trailing clouds of glory and fame await him. Books, directly speaking, are the results of one's constant thinking and serious and sustained study done amidst trying and troublesome periods of life.

Hence it is that 'as kill a man as kill a good book.' Wealth is considered as the product of labour. Books may likewise be considered as the greatest national wealth of a country.

'KALKI'—MAN OF LETTERS.

BY MR. M. S. RAMASWAMI, *Trivandrum.*

WITH the late C. Subramania Barathi it is said that there is a revival of letters in Tamil. But the English educated youth does not find in his search too many masters of prose in Tamil who approach in one way or another either Goldsmith or Lamb, Ruskin or Carlyle. He never counts those writers who gather words from lexicons and grammars, string them in more or less a promiscuous disorder and pass them off for an elegant style as real authors in whose works shine transparent the life, spirit and genius of the language. So it is with great pleasure and interest that he reads the writings of 'Kalki' whenever he chances to come across them. To him 'Kalki' is "the best master of lucid colloquial prose, plain in texture but harmonious in cadence and scholarly in tone and nothing exceeds its easy grace; his irony, satire and never failing urbanity combine to give only an additional charm. Though as a rule he writes about plain things in a plain manner, he rises occasionally to a high pitch of rare excellence."

Among living men of letters that belong to the new awakening he is considered to be the best. He is a story-writer; an essayist; a book reviewer; a music critic; a translator; and if as that great master of parody, Sir Owen Seaman, said: "In its highest development it aims at achieving the hard task of catching and reproducing the permanent qualities of an author's style and a attitude of mind," then he is a parodist too of no mean order. Perhaps it may be said that he is not a poet. But he has that delicate intuition and emotional consciousness of a born poet, and so

while everything he writes is expressed in the realistic terms of daily life, suddenly flashes out the poet's creative world with its immense breadth of vision, force and imagination. The hard shadows of the world with which the reader has been moving begins to melt and a peculiar light—a light that was never on sea or land—begins to shine on them.

Some of his stories exhibit such a high level of craftsmanship that it requires a little mental effort to comprehend them. His plot is always very simple—the incidents evolve not voluntarily but spontaneously and even common-place things are made significant by the writer's touch. Whether his story is a small or a big one, the proportion of the parts is wonderfully held; not a single episode is allowed to disturb or slacken the development of the inner human drama; and the final accord is always worked out with wonderful finish. His men and women portray themselves through dialogue and there is little wonder that he has succeeded in presenting all the most complex and baffling shades of mental life clearly. His dialogue is appropriate and dramatic; he is something of a Flaubert who is for "the right word and the only word"; and he does not fall into bombast and melodramatic rant.

Let us take two of his stories for consideration. "Kedari's Mother" is so remarkable for its clearness of ideas, its vivid life-like characters, its simplicity of plot and action and the evenness of the work as a whole. The story goes on flowing easily and naturally, the tension in the reader's mind increases by degrees and then there is a sudden break—the tragedy is upon us. Its effect and

significance is inexplicable; for what can we say of it except that it 'carries alive into the heart' something we have all heard with our ears and seen with our eyes, yet never felt with so strange a thrill? "Kanthimathi's Lover," an essentially human document hewn out of life and in which he reaches the high water-mark of his genius, is so beautiful, so movingly pathetic, so profound in its representation of the great passions of the human soul and conveys such a vital illumination to the reader's mind of the mysterious and unknown forces which shape and direct human destinies, that one doubts much whether the new revival has produced another story to compete with it.

As a writer of general essays too 'Kalki' is pre-eminent. His 'O Mangoe' reveals to us in vivid lines his deep insight into men and things, his thorough grasp of the political, social and economic affairs of the world and his pungent humour. In his 'Don't Want Socialism,' one can see beneath his varied arguments against Socialism, how strongly he pleads for the same. And in his 'Marriage' he is at his zenith. His articles like those that treat about Mysore, the Tanjore Temple and Mahabalipuram are full of charming description. Behind the reminiscent articles in which he chats with us in a spirit of comradeship about some important persons and events, the review of the late A. Rangaswami Iyengar's biography, which is an admirable piece of criticism and will long remain as a magnificent model and the countless music criticisms that come under the pseudonym 'Karnatakam', which are mostly impartial

and thought provoking, we see our best master of 'liquid diction and fluid movement'.

'Kalki' being a true child of the Renaissance faces facts boldly; sees where the weakness lies in the depth of our system with a determination to disillusion the nature of the deception. It is this quality in him that at times goads him to lure the men on his opposite side with fantasies and then overwhelm them with facts. He is a man entirely without ordinary restraints and prejudices, whose mind is always hospitable to new ideas and to whose width of experience is united the unusual faculty of accurately minute observation. All these characteristics of his can be clearly seen in his brilliant editorials in the premier Tamil weekly, which mirror forth the heart of the millions.

It seems, it was with that great maxim of Willson Fisher in mind, "Satisfy people's desire for the ridiculous and they will accept your idea of the sublime" that 'Kalki' accepted the editorship of the "Ananda Vikadan" some years ago. He ought to have been quite confident then of the fact that the public would come round to his side very easily, if only he would give them in the beginning what they needed, and if to-day he asks of our ungrudging approval for all he says he more than any other deserves it. But for him and his journal and the encouraging and appreciative public they created together, the Renaissance would not have taken such vast strides within so short a period.

MANUSCRIPT MAGAZINES IN THE PERIODICAL WORLD.

BY MR. D. KRISHNAYYA, *Hindupur.*

'The hand is the mind's only perfect vassal.'

— JUCKERMAN.

CURIOUS it may seem to some—the starting of manuscript magazines in these days when periodicals in plenty are appearing in excellent print and get-up.

Have we left off preparing our domestic meal because numerous first class hotels and restaurants are springing up as a symbol of civilisation so to speak? Is not our children's talk pleasant to us all, in spite of mighty children in literature appearing? Are not our wives pleasing to us and satisfying our needs in the face of star-queens appearing on the silver screen? Are we not enjoying children's histrionic talents in school dramas even in the midst of roaring talkies—mighty all-round star cast and the flow of orchestra music? Have we left off walking because cycles, motor cars, electric trams, express trains and speedy aeroplanes have come into operation?

* * *

Much in the same manner I want to record the place of the manuscript magazine in the periodical world, being the editor of an Anglo-Vernacular Manuscript Magazine on library service. Let me give a few experiences being in the field and having released a few issues already. Let me at the outset say that the manuscript card catalogues of the Madras University Library and the Connemara Public Library are considered to be the best in the matter of usefulness, in the growing catalogue

field, illustrative folders of booksellers, publishers and libraries too. The history of the development of the card catalogue, in manuscript form and in the 'library hand' so to speak, its legitimate place in the efficient working of a live library, is a long but an interesting one in which a lay reader may not be much interested.

Now, coming to manuscript magazines, one must admit that all books and articles are in manuscript form before coming into the regular book block and print. The serious search for many such books which have not as yet seen the light of the day, is the momentous pursuit of lovers of literature, to hand them over to posterity. The Oriental Manuscripts Library at Madras and its studious scholarly work is but one in this line which any literary scholar should never forget.

Books in manuscript form which have suffered their days in chains also—show the artistic skill, patience and enthusiasm, watchings by the midnight lamp, rackings of the brain, laborious days, long lives of laborious study, all for the express purpose of perpetuation. These have all been preserved in the London Museum and some such, for satisfaction, pleasure and to record the work of Time.

* * *

To record the sweet expressions of the students, their composition skill and to encourage them to become prospective

authors, journalists and the glowing figures of the age, manuscript magazines are in the school field. In a spirit of co-operation, a student skilful in drawing and painting spends his time in decorating this school child to a high level of artistic beauty. A student with the industrial knack in him, gives it a beautiful binding. Thus, students in one word, according to their fancy, desire and attainments try to decorate their little child—the manuscript school magazine and make it march by circulation to the delight of one and all and feel proud of their work.

* * *

Perhaps Colleges think such attempts of manuscript magazines as quite out of date and a return to the middle ages. Let them think so.

Private people starting manuscript magazines, have a definite purpose in view. There are perhaps three grades of men as in the poem of Matthew Arnold's "Rugby Chapel."

Some cannot at the outset attempt their venture in the form of print and meet heavy printing charges and fail miserably later on for want of subscribers' support. How many such mushroom magazines are not seen springing up in summer and dying out before the season expires!

And some people try to know the view of the public and its pulse in the attempt of theirs. Others in the interests of the cause they wish to advance, take up to this form. The cost of the venture is a lot of patience no doubt and a few coppers for the purchase of the necessary stationery, if the editor himself single-handed manages the whole affair. Else the attempt is likely to be a failure as

hearty co-operation from others in such non-remunerative enterprises as these, is scarce in these days of time and money computation.

If the editor wishes he can decorate his child to the best of his desire and capacity and make the child really artistic. When he feels the child sturdy, he can, if he so desires, make it appear in print or be satisfied in its original form. This is only a trance in romance. He can give it a graceful appearance. The one apparent defect is that the circulation of the magazine is rather costly and this may not have such wide publicity as other periodicals which appear in print. But the secret satisfaction is that even a few members who enjoy the manuscript magazine count more in the real sense of culture than those very many who have a very cursory glance over periodicals in plenty. In the periodical section of any reading room, a librarian experiences that many of the periodicals remain on the table unclaimed and untouched by readers in spite of the periodicals-at-a-glance board, while only a very few draw the readers' attention and claim. In a reading room section where over thousands of periodicals are received, what ghost of a chance many of the periodicals have for the readers' contact, can easily be imagined instead of statistics being furnished.

The advantages in brief which a manuscript magazine enjoys are—The editor can if he has only the enthusiasm and love for his work, make his thing an attempt of perennial interest. Each page can ever be beautifully decorated and finished in different glowing hues. Drawings and sketches can be given in plenty. Cuttings from various illustrated

magazines can freely be incorporated to make the entire thing look tastefully artistic. Instead of the trouble of the different types in print and their composition and errata slips as in many novice magazines, the editor of a manuscript magazine, if he has a neat hand, can make his magazine satisfy all tastes of readers without taxing the eye but by making it beautiful by pictures and the like which please and repose the eye, satisfying at the same time the psychological factor and gain

interest for his attempt.

* * *

So long as we love our children, and like to use our limbs and senses, manuscript magazines are sure to live and march steadfast as they are constructed by hands and brains instead of machines as other periodicals are.

Does this sound prophetic? Indeed not, I should think.

MODERN GERMAN LITERATURE.

BY DR. G. DILLINGER.

THE works reviewed in this report are representative of many aspects of modern German literature. It will be seen, however, that there is a dominant note throughout—the sense of immediate relationship to life. In poetry there is none of the unreality and illusion of poetry for its own sake and the poetic form is used to convey feelings that cannot for long be withheld. In the prose the nearness to life is seen in the emphasis on the goodness of earth and nature, while psychological problems are brought into close contact with reality and are seen in the light of man's conflict with the outside world.

POETRY.

The two poets chosen for review could scarcely differ more in temperament. The one has an exuberance of poetic feeling which pours out, as it were, in a lyrical stream. The other is more conscious of the immediate purpose and seeks that form which best answers it.

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The one-time coppersmith, Heinrich Lersch, is well known in Germany as the poet who has sought to relate man to his work. Many of his poems are already part of Germany's lyrical heritage. His poems about the war and its aftermath constantly reveal the great underlying theme that distinguishes all Lersch's work: the ethos of man and labour. (Heinrich Lersch, "Das dichterische Werk": Poetical Works. "Mensch im Eisen": Man in Iron. "Mit bruederlicher Stimme": With the Voice of a Brother. Deutsche Verlagsanstalt Stuttgart-Berlin. RM 4.80; 1937. 392 pp. complete edition.)

A very different poet is Joseph Weinheber, whose mastery of metrical language has given him the greatest range of style among the lyrical poets of modern Germany. His poems vary from Viennese dialect verse to classical odes, from strictly ordered sonnets to hymns in free rhythm—all revealing an astounding variety of artistic expression. Virtuoso that he is, Weinheber exploits his

genius with ardour and ranges the whole poetic domain from dreams to heroics. His powers are well displayed in his recent collection of poems, "Spate Krone"; Late Crown. For all his brilliance of style, Weinheber never sacrifices poetic intimacy to form. Even in the solemn measures of classical verse he keeps his grasp of reality and defines his attitude to life. The formal discipline he imposes on himself springs from his love of the German language and the traditions of German poetry. "A people does not forfeit its worth through losing wars, but through the decay of its language; and the real traitor is he who corrupts the language. How many worlds has a poet not stormed and suffered through before he utters his last word and is at peace." (Verlag Albert Langen-Georg Müller, München; RM 4.50).

PROSE.

If there is one quality that may be said to distinguish modern German fiction it is a vivid sense of realism. Whether people are shown in their natural relationship to land and hearth, to work and soil, or whether they are being tried and proved by adversity, it is their essential reality and common humanity that most impress the reader. Instead of the psychological love-story there is an increasing tendency to portray the life of the people and the course of common human destinies. Individual conflicts are externalized and reveal man in his relationship to the world. The eight works of fiction chosen for this report fall into two distinct groups—those showing man in his natural surroundings and those in which he is faced with the world and its problems.

THE RURAL SCENE.

Many German prose-writers of to-day find that they can best express themselves in portraying the simple life of the people. In his village stories, "Das harte Frühjahr"

(The Hard Spring), the East Prussian writer, Count Finkenstein, has depicted rural life in a straight-forward and unpretentious style. (Verlag Eugen Diederichs, Jena, 1937; RM 3.20). No fateful issues are at stake in these stories; Count Finkenstein simply describes men at their daily work, mowing, felling trees or sinking wells. And yet each of his stories is a little masterpiece. The oneness of these simple folk with the natural life of the land is seen with refreshing reality and clearness. In his unromantic subject-matter the author shows his unsentimental but compelling powers of characterization. It is typical that the laborious sinking of a well by one or two men should provide the occasion for a long story. His tales are the product of an exact observation of life and read rather like reports into which poetry has somehow strayed. Natural phenomena and human labour are described with the same authentic artistry as the most subtle shades of human thought. Graf Finkenstein is East Prussia's native poet; each of his stories is a rich commentary on the life of that part of Germany.

The work of the southern German author, Friedrich Griese, is no less rooted in his native soil and the simple life of the land. The author has a deep understanding of the life of the peasants and peat-cutters, and, though his characters are men of few words, he contrives to analyse their deep-set motives. Friedrich Griese's new story, "Das Kind des Torfmachers" ("The Peat-cutter's Child," Verlag Langen-Müller, München, 1937; RM 2.20), like his other great works, is the outcome of his knowledge of the south German landscape. The story is of the peat-cutters who live out on the moors, where they carry on their laborious work far from the rest of the world. These simple folk are scandalized when the daughter of one of them revolts against this life and accepts the attentions

of the large farmer in the district, eventually becoming mistress of the farmhouse. Finally, however, after several eventful years, the girl obeys the call of her heart and home and returns to her former life of poverty and toil.

The next two novels also depict the rural scene, but not so directly. It is rather earth and nature in the absolute with which they are concerned. They have a certain amount in common, for if the one brings a man back to the plough-share and the fertile earth the other prepares a woman for motherhood. In both cases then nature calls and is answered.

The underlying theme of Hugo Ramm's "Die Bonifers" ("The Bonifers," Bergstadt Verlag, Breslau, RM. 4.80) is the call of the earth. But beyond this there is a sociological and political problem. Adam Bonifer, the second son of a farmer, is forced to migrate into the town. He learns the joinery trade and treads the road that many from the country had to go—the road to the town. He feels that this road is not really for him. "True, I have won from the fields of many forbears the strength to gain my livelihood in the town. But what of those who have been unable to do this...?" Those who have been unable, have gone the way of the Marxists or the way of feeble acquiescence—the way that so many of his colleagues have gone. These smile at Adam's heroic life of thrift and denial, and ask: "What does Bonifer get out of life?" But Bonifer has a ready answer to this: "The greatest contentment is to be gained from slow and sure progress." So he goes his way of hardship, labour and denial. The war and the years that follow destroy everything he has so painfully wrung from life. It is then that he remembers whence his strength comes, and he returns to the home of his forbears. He acquires a piece of waste land where, with his unemployed sons, he proceeds to build up a new life for himself and for them. Thus a generation returns to

the soil of its forefathers and finds the full contentment of home. Adam Bonifer represents simply the type of the German worker, making his living with honesty and tenacity, an uncomplicated, straightforward character who faces the world's problems in his own way. In this work Ramm has presented with clarity and simplicity a great human sociological and political problem, the relationship of worker and peasant.

Herman Stahl's first great novel, "Traum der Erde" (Dream of Earth, Hanseatische Verlagsanstalt, Hamburg, 1936; RM 5.80), also springs from a close, intimate contact with the soil. It describes the life of a girl in whom the awakening of adolescence is closely bound up with her natural surroundings. Her close contact with the mighty forces of nature lend her the strength to face motherhood alone. Manan, a girl of scarcely eighteen years, is on holiday with her aunt in a mountain village. During this time she makes the acquaintance of Albus, and after some time finds she is to become a mother. Through lack of experience and understanding Manan goes through a time of great mental stress, and when she hears that her father is coming on a visit, she flees. She finds shelter with a wise old shepherd and comes to realise the simplicity, the beauty and the divinity of the earth and of life. It is with joy that she now thinks of her child, and, no longer ashamed, she retraces her steps homewards.

In this work the author, who was once a painter, has drawn his world with rich colour and a deep psychological understanding. The poetic vision of the "Dream of Earth" gives it a place among the best of modern German literature.

THE WORLD AND THE INDIVIDUAL.

The works that follow are essentially individual and in no sense do they belong to one literary category. The one thing they

have in common is that they all reveal individual destinies in their relation to the outside world. Notable among modern philosophical novels is "Der Stumme" ("The Silence") by the South German, Hans Ehrke. (Verlag Georg Westermann, Braunschweig, 1936; RM 2.80). It tells the story of a man who goes through life in silence as a self-imposed penance for a former wrong-doing. The author shows him treading this hard road of atonement, places him in dramatic situations and tempts him with a woman's love—but no cry escapes his lips. It is the slow rhythmical prose of South Germany that lends credence to this strange and almost oppressively grim story. With this work Ehrke clearly reveals a form for German narrative—the slow deliberate account of events fraught with destiny and moving under a wide and threatening sky.

Another philosophical novel, though of a very different nature, is Hans Künkel's "Schicksal und Liebe des Niklas von Cues" ("Love and Destiny of Niklas von Cues," a novel, Verlag Philipp Reklam, Leipzig, 1936; RM 6.50; 435 pp.) This book won for the author the Raabe Foundation Prize. In it Künkel has combined with the greatest felicity his philosophical and poetic insight. Fundamentally it is a philosophical novel, following the development of a philosopher, von Cues. Adhering strictly to the historical facts of the late Middle Ages, the author describes the life and destiny of Niklas von Cues. This strange, Faust-like seeker after God is seen against the colourful back-ground of the Middle Ages. With great dramatic power Künkel depicts the shifting forces at work in the world of Niklas von Cues. This novel is a masterpiece of construction and a compelling piece of fiction.

As in other countries, so in Germany the Great War produced its crop of novels.

Among these one in particular may be mentioned, Heinrich Eckmann's "Eira und der Gefangene" (Eira and the Prisoner, Verlag Georg Westermann, Braunschweig, 1936; RM 4.80). It tells the story of a German prisoner of war in Wales and, against the background of the War, weaves a strange romance between two people of hostile nations. A German student joins up as a volunteer on the outbreak of war, is captured and has to face five years' internment in Great Britain. During four of these years he works on a farm in Wales, gets to know English life and becomes involved in a love affair that is doomed to frustration from the very first. With the World War and the bitter lot of the prisoner of war as background, a love story of singular charm is unfolded. The author has based his story on his own experiences during five years' internment in England during the War. It was only after seven years' inner conflict that he could give this distressing experience literary expression. His novel combines personal experience with a poetic grasp of English rural life. Its significance lies in the novelty of the story, which shows the bitter restraint of a love affair in the midst of the grim realities of captivity in a foreign land.

History has often been used as the background for a description of individual human development. In a special form of his own, the anecdote, and from this standpoint of individual adventure, Wilhelm Schäfer throws a warm, human light on history. In his new book, "Wendekreis neuer Anekdoten" (Course of New Anecdotes. A collection of anecdotes, Verlag Langen-Müller, München, 1937; RM 4.50), he conveys his mystical philosophy of history in a number of clear-cut stories that place human destinies in the midst of historical developments. The implacable destiny of life and death over which man has no control is symbolized in the title by the relentless course of the celestial bodies. There is an austere and rather tragic under-current to most of these anecdotes, and yet they all have a certain subtle humour that enables Schäfer to present his moral unobtrusively.

KING LEAR—INCESSANT REFERENCES TO LOWER ANIMALS AND MAN'S LIKENESS TO THEM.

BY MR. T. KRISHNAMURTI, B.A., B. ED., Chodavaram.

"KING LEAR" abounds in these references which are scattered broadcast throughout the play. In some cases, they are expressly referred to for their qualities. Sometimes a character in the drama is compared with one of them.

In "The Merchant of Venice," Act IV, Scene 1, Gratiano says of Shylock:

"O, be thou damn'd, inexorable dog!
And for thy life let justice be accused.
Thou almost makest me waver in my faith
To hold opinion with Pythagoras,
That souls of animals infuse themselves
Into the trunks of men: thy currish spirit
Govern'd a wolf, who, hang'd for human slaughter,
Even from the gallows did his fell soul fleet,
And whilst thou lay'st in thy unhallowed dam,
Infused itself in thee; for thy desires
Are wolfish, bloody, starved, and ravenous."

Here Shakespeare mentioned it only for jest; but in "King Lear," he seems to have been brooding on humanity in the light of it. Mostly in Goneril, and to a less extent in Regan, these lower animal souls found a lodgement, and most horribly and abominably influenced them. In fact, there they found 'brains to forge, tongues to speak, and hands to act.' These enormities are at their maximum in Goneril. With these, Shakespeare personified depravity in all its forms in the two abhorred sisters, and vices come to them as naturally as breathing.

Act I, Scene 4, sets these references in motion. Lear called Goneril 'Detested kite.' Here he did not only reproach her, but had also in mind the ignoble qualities and habits of the bird in preying upon sickly and wounded victims. In cursing Goneril to have deformed and wicked children, he referred to her ingratitude saying:

'How sharper than a serpent's tooth it is
To have a thankless child!'

In threatening Goneril that Regan would deal with her severely, he said:

'When she shall hear this of thee, with
her nails,
She'll flay thy wolfish visage.'

From thence, these references proceed to Act II, Scene 4. In intimating Goneril's ill-treatment to Regan, Lear said:

'O Regan, she hath tied
Sharp-tooth'd unkindness, like a vulture,
here. (points to his heart)

He further remarked:

'Struck me with her tongue,
Most serpent-like, upon the very heart.'

When Regan asked him to dispense with the services of all his followers, he said:

'Allow not nature more than nature
needs,
Man's life's as cheap as beast's.'

In Act III, Scene 2, Kent, while describing the ferocity of the storm, alluded to wild animals thus:

'the wrathful skies
Gallow the very wanderers of the dark,
And make them keep their caves.'

In Scene 4, Lear mistook Edgar disguised as a mad man for one who was brought to that miserable state and shape by his unkind daughters, and in his distraction, mentioned:

''twas this flesh begot
Those pelican daughters.'

Edgar referred to the low qualities of animals as 'hog in sloth, fox in stealth, wolf in greediness, dog in madness, lion in prey.' Lear referred to their good qualities saying 'thou owest the worm no silk, the beast no hide, the sheep no wool, the cat no perfume.' He also added, "unaccommodated man is no more but such a poor, bare, forked animal."

In Scene 7, Regan termed Gloucester as 'Ingrateful fox,' and when she found fault with him for sheltering Lear in distress and for his being in the know of the French army's landing at Dover, he found himself helpless as his secrets were divulged, and he compared himself to a bear, saying: 'I am tied to the stake, and I must stand the course.'

In repudiating the reproaches of Cornwall and Regan, Gloucester referred to the 'boarish fangs' of Goneril, and said:

"If wolves had at thy gate howl'd that stern time,

Thou shouldst have said, 'Good porter, turn the key,'

All cruelties else subscribed.'

The servant offering help to Gloucester was scolded by Regan as 'Dog.'

In Act IV, Scene 1, Gloucester, recollecting his son, Edgar, in the guise of a beggar, said:

"In the last night's storm I such a fellow saw:

Which made me think a man a worm
As flies to wanton boys, are we to the gods,

They kill us for their sport."

In Scene 2, Goneril remarked about her husband, Albany:

"It is the cowish terror of his spirit
That dares not undertake."

Albany grew wild with Goneril, and in the outburst of his fury, uttered about Goneril and Regan:

"Tigers, not daughters, what have you perform'd?
A father, and a gracious aged man,

Whose reverence even the head 'lugged bear would lick,

Most barbarous, most degenerate.

It will come,

Humanity must perforce prey upon itself,
Like monsters of the deep."

In Scene 6, insane Lear, in his ravings, stated that his daughters flattered him like 'dogs.' Edgar remarked about his madness: 'Reason in madness!'

Lear raved about the dog, 'Thou hast seen a farmer's dog bark at a beggar? And the creature run from the cur? There, thou mightst behold the great image of authority: a dog's obeyed in office.'

In Act V, Scene 1, Edmund, speaking of the loves of Goneril and Regan, said:

'Each jealous of the other, as the stung
Are of the adder.'

These two sisters were destitute of womanliness and their love-making was sickening.

In Scene 3, when Lear and Cordelia were imprisoned, Lear said:

'We two alone shall singlike birds in the cage.'

While bringing to light the illicit love of Goneril and Edmund, Albany called Goneril 'the gilded serpent.' Before their fight, Edgar called Edmund 'a toad spotted traitor.' In making himself known to Albany, Edgar stated about his disguise

'to assume a semblance
That very dogs disdain'd.'

Thus, these terrible forces burst into monstrous life, and flung themselves upon human beings, weak and defenceless, partly from old age, and partly from lack of the energy of the beast. This bestial race was strong where it was vile, and even the stars and gods were powerless before them.

In most cases, the souls of fell beasts seem to have entered the bodies of mortals, and they, in turn, become horribly venomous, savage, deceitful, and cruel. The influence of all these on imagination is supreme, and presents a grand spectacle to the inward eye. It also suggests to us that the characters are more than mere men and women,

EDUCATION IN RELATION TO EFFICIENCY.

BY MR. K. SUNDARAM AIYAR, B.A., B.L., *Jamshedpur.*

THE nation, the race, the class, the family and the individual rise or fall in proportion to the care or neglect of education and the proper useful training of the youth of the country.

From the earliest times up to the present, it is the races that have devoted their attention to education of the *right type* that have played their part in the world. The ancient intellectual Dravidians, the active Kolarians, the venturesome Semitic races, the industrious Mongolians and the contemplative Aryanseach of these have all contributed to the structure of the modern complex humanity. Each of these had their own civilization and a system of culture in consonance with their own genius. So long as the system of culture was well directed, they were prosperous, able to hold their own, keeping order inside their own countries and keeping out opposing influences from abroad.

Man is born with various potential capacities. Education makes use of his latent tendencies and makes him useful to himself and to the society. That is why in all the civilised societies the man of learning holds a respectable position. Manu, the ancient Aryan king, laid down that it is the primary duty of those in charge of the people to devote a substantial portion of the taxes towards the training of the youth of the country. The system of education built up by the Vedic Rishis is a marvel to this day and is unrivalled. When once the ruling classes fought among themselves on account of mutual jealousies, society became disorganised, education was neglected and the

degeneration of the Aryan race in India began. Nevertheless time by time various attempts have been made to set society right and infuse vigour into the race by the Mauryan kings, the Andhra emperors of Vijayanagar, and just a century before by the organised Mahrattas. All of them paid a good deal of attention to education. Under the present circumstances with the contact of the energetic races of the West who are supreme in the world, the old system has been neglected. Any proper system of education for this country should be in harmony with the outside forces and yet *not opposed to the spirit of the Rishis*. Progress means growth and expansion adjusting itself to other organisms. The contemplative, far-seeing, well-ordered genius of the Aryan Rishis still not dead in the race must be kept pure and undefiled and should be utilised by a synthetic, pragmatic and far-seeing programme. Any empirical haphazard time-serving scheme, like the present day attempts are costly and doubtful ventures.

Education in its general sense means drawing out the innate tendencies of man. The small Greek States of Athens, Sparta and Thebes trained their young to be good citizens. With the decay of the Greek States and the rise of the Imperialistic Rome, the European genius became expanded. The object of the Roman Government, especially under the Roman Cæsars, was to make the Roman eagle fly over the then known parts of the world. Under that system an efficient soldier was the ideal. With the rise of the modern nations equipped with all the latest

physical, mechanical devices, efficiency and economy of time is the central idea. The object is to produce an efficient citizen of the State. No pain is spared to materialise the idea. The numberless schools, colleges and the various other educational institutions testify to the great zeal and keen interest of the public and the State. He who runs may read that the system of education in India does not produce the type of individuals as in the West. Criticisms have been many. But the only proper way is to *find out the central note* of the life of the race, and to attempt to get at the root. Clinics are half remedy.

The object of education and training the youth of the country is to turn them out as efficient citizens of the country useful to themselves as well as to the society at large. Efficiency is all that which makes the individual in whatever sphere of life as a worker or prince an effective, capable person able to act on the occasion properly and for the purpose. He should not be a drifter seeing things pass on, considering and hesitating to plunge into the struggle but regretting afterwards when the opportunity is missed. It must be said to the credit of the institutions in the West, whatever criticism may be passed against them, that the outstanding feature is that the education imparted makes the youth bold and a better citizen of the country. The modern assertive British product of the English institutions is marked by an alert mind, with a quick grasp of the situation and ready to act. Thought and action are synchronised. That is why the European is dominant over the world. In him also is deeply ingrained the civic consciousness of

the Greek democrat, the courage of the Roman soldier and the thoughtfulness of the mediæval scholar.

The modern Indian Universities have not been able as yet to produce such types. The sin of many an Indian has been his want of initiative and grit. That is why in all public activities he plays second fiddle. What may it be due to? What are the remedies? If the real causes are probed into, the remedy is easy provided we are bold enough to apply them.

For ages, till the beginning of the last century, education formed part of the collective activities of the society. The State did not interfere with the system of education. The elders of the several communities conducted them, impelled by the spirit and tradition of the past. Since the inauguration of the present system, education is State managed and controlled. While in Europe such control has brought the desirable results, here it has proved otherwise. Further, as the medium of instruction is foreign, much time and energy are wasted.

In India, especially with communities with different instincts, any stereotyped system of studies would not suit. The State should supply the finance, leaving out the scheme to be worked out according to the local needs. The Benares Hindu University, the Dacca University and other younger Universities started during the last decade are attempts in that direction. We have yet to see the results.

The neglect of the classical languages of Sanskrit, Latin, Greek, &c., has deprived many of the students of a chance of diving into the humanising world of ideas of the ancients,

A study of them gives such a profundity of thought and culture which is unique. It can be stated without contradiction that nothing can excel the sonorous Vedas, the solemn Hebrew songs, the soul stirring rhymes of the Arab tribes, and the impressive verses of Virgil.

Further the Indian educational system has not given enough thought to the European continental languages, marked by their vigour. For applied technical arts, for engineering and practical business points of view, a knowledge of at least one of the European languages is worth the trouble. Extravagance and disproportionate preliminary investment in outward embellishments like buildings, &c., should be avoided.

It therefore behoves all those who are interested in the future to pay their serious

attention and see that young men coming out of the schools and colleges are well equipped and ready to meet the hard realities of life. Illumination should go hand in hand with instruction. Education, if it is worth anything, should make the person self-reliant and a useful member of the society. In this land where the man with Light is the ideal, it requires only a timely hint to stir the consciousness of the people. The man of *Vidya*, the child of Sarasvati, should be the central figure radiating *Vidya* and removing the fogs of ignorance.

Let Him who rules every moment of life, give us strength and insight to understand the purpose of life and endow us *with Vidya*, Para and Aparā, and lead us on in the *journey of life*.

OUTLINES OF THE GEOGRAPHY OF THE WORLD

Prepared in accordance with the Syllabus in the subject for the S. S. L. C.

By

G. SRINIVASA AIYAR, B.A., L.T.,
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WITH A FOREWORD BY

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Principal, Nizam's College, Hyderabad (Dn.)

PART I. THE SOUTHERN CONTINENTS & NORTH AMERICA. **As. 12**

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XLIV—18

RELIGIOUS CONTRIBUTION TO CHARACTER EDUCATION.

BY MR. M. K. VENKATESWARA AIYAR, B.A., B.L.,
Madras.

MAN naturally expects that peace, prosperity and happiness will increase in proportion to the advancement of science and civilization. But in spite of the marvellous progress of these, we find that the unrest of the world and its unhappiness increase continuously. What is the reason? Passing civilizations based on science over-estimate the value of external conditions and pay very little attention to inner life or *Adrishta* (अदृष्ट) aspects. There are many latent elements in man of which a research should be made to supplement the efforts made by the school and society in improving the external conditions. Religion tells us that we must harmonise the external and internal conditions to assure peace and happiness.

Vidyaranya Swami says :

वस्तुतन्त्रो भवेद्दोषः कर्तुतन्त्रमुपासनम् ।

Knowledge deals with material conditions and the proper use thereof depends upon the man who wants to take advantage of the same.

The average man tries to measure how much it is possible for him to possess and enjoy. On the other hand the really pious man tries to measure how little of the material possessions he can do with.

These two tendencies are called *Bahir-Mukha* (बहिर्मुख) and *Antar Mukha* (अन्तर्मुख) *Vasanas* or tendencies. Both these exist in individuals and societies in different proportions. The difference between the worldly man and the spiritual man has reference to the preponderance of one set of *Vasanas* over the other in each. Both the individual

and society seem to be the battle ground of these two forces. The *Antar-Mukha* force will be constantly unifying whereas the *Bahir-Mukha* force will be constantly differentiating. As both these are essential for progress and are invigorated by the same spiritual force called *Atma Sakti* or soul-force, our prosperity and happiness depend upon the reconciliation of these two forces. They are only two aspects of the same spiritual force and their demarcation and conflict are only temporary.

Vidyaranya Swami says :

शक्तिरस्यैश्वरी काचित् सर्ववस्तु नियामिका ।
बहिरन्तर्विभागोयं देशपेक्षो न साक्षिणि ॥

There is a spiritual or divine power which governs everything in the universe. The demarcation as external and internal has reference to the body or form and not to the witnessing spirit (which inspires, invigorates and illumines all).

Those who have the power of seeing things in their entirety and in their right relations will recognise the existence, omniscience, omnipotence and impartiality of this divine current. Such people are called religious people and that is why right thinking people say that religion ought to shape educational policy, especially with regard to character-education. Vedic wisdom which takes note of both *drishta* and *adrishta* conditions is an infallible guide to sound education.

The following extract from *Indian Education in 1921*, page 5, may be read with advantage in this connection :—

"There is a widespread demand for fuller recognition of Indian culture and aspirations, for fuller treatment of what India has contributed and may contribute to civilization, and for a more direct call to national service."

Some of the important elements in India's heritage may be summarized: profound religious aspirations; elaborate philosophic systems; scientific and mathematical discoveries; treasures of art, architecture, and music; respect for the aged and the learned; emphasis on gentleness and tolerance and on modesty in women; intimate personal relationship between teacher and pupil; the obligation to care for even distant relatives; and unwillingness to take life.

The most important lesson that we learn from the Vedas is that the law of correspondence between the seen (दृष्ट) and the unseen (अदृष्ट) worlds is wonderfully exact. All that we see around us are types of things spiritual. Whatever cannot be done in the physical world immediately can be done first in the mental and spiritual worlds. When this is done, success in the physical world also follows as a matter of course because the mental and spiritual worlds are realms of causes and the physical is only the realm of effects. If our thoughts are pure and definite, continuous meditation on the same will materialise as success in the physical world.

Now *Gayatri* is said to be the essence of Vedic wisdom. As it is a marvellous talisman to bring about peace, prosperity and happiness, it is called *Gayatri*.

गायन्तं त्रायते यस्माद्वाक्त्रयमित्यभिधीयते ।

Incessant meditation on the idea conveyed by that holiest of *mantras* will purify our heart and bring about an excellent character. Our constitution will be so purified thereby that

the divine current will reveal itself through us as health, strength, wealth, power, influence, fame and all conditions of happiness. The *Ramayana* consisting of 24,000 slokas is an exposition of *Gayatri* which consists of twenty-four letters. It expands the life of Sri Rama who is an ideal of perfection. The *Ramayana* is an inexhaustible source of inspiration for good thoughts and religious life as Ramachandra is an embodiment of *Dharmachara* or life of absolute righteousness. That is why concentrated meditation on Sri Rama (*Rama Dhyana*) is believed to uproot all sins and impurities in thought, word and deed.

मानसं वाचिकं पापं कर्मणा समुपार्जितम् ।

श्रीरामस्मरणेनैव व्यपोहति न संशयः ॥

There is no doubt that our sins in thought, word and deed will vanish by mere meditation on Sri Rama.

The following conversation which took place between Sage Valmiki and Sri Rama when the latter went to the former's *asrama* shows how we can make our heart the sacred temple of Sri Rama and Sita.

Rama—O sage, we have come to the forests in obedience to my father's commands. Will you kindly tell us where Sita and I may live comfortably?

Valmiki—The whole universe rests on Thee and Thou art in the heart of all. But as Thou askest where Thou mayest reside with Sita who is an embodiment of all conditions of happiness such as health, strength, wealth, power, influence, fame, &c., I shall mention the place of residence for both of you together.

1. शान्तानां समबुद्धिनां अद्वेषुणां च जन्तुषु ।

त्वामिव भजतां नित्यं हृदये ते धिमन्दिरम् ॥

The best place of residence for you is the heart of those who are calm and self-control.

led, who are unbaised and are impartial, who are harmless towards fellow-beings and who meditate with concentration on Thee always.

2. चर्माचर्मान् परित्यज्य त्वामेव भजनोनिशम् ।
सीतया सह ते राम तस्य हृत्सुखमन्दिरम् ॥

The heart of those whose life has become so absolutely divine and righteous that it is not possible to trace any wrong conduct in their life to demarcate it from righteousness, and who always worship you, is the most comfortable seat of residence for you with Sita.

3. स्वन्मन्त्रजापको यस्तु त्वामेव शरणं गतः ।
निर्द्वन्द्वो निःस्पृहस्तस्य हृदयं ते सुमन्दिरम् ॥

The heart of him who always repeats Rama Mantra, absolutely relying on Thee and who is free from all desires, being unaffected by the duplicates of pleasure and pain, heat and cold, and hatred and love, is an excellent place of residence for Thee.

4. निरङ्कारिणः शान्ताः ये रागद्वेषवर्जिताः ।
समलोष्टाश्मकनकाः तेषां ते हृदयं गृहम् ॥

The hearts of those who are free from egoism and selfishness, who have self-control, who are free from attachment and hatred, and who make no difference between wood, stone and gold, constitute Thy place of residence.

5. त्वयि दत्तमनो बुद्धिः यः संतुष्टः सदा भवेत् ।
त्वयि सन्त्यक्तर्मयः तन्मनस्ते शुभं गृहम् ॥

The mind of him who has surrendered it and his intelligence to Thee, who always enjoys self-satisfaction and who surrenders all his actions to Thee is an auspicious temple for Thee.

6. यो नद्वेष्टयप्रियं प्राप्य प्रियं प्राप्य न हृष्यति ।
सर्वं मायेति निश्चित्य त्वां भजेत्तन्मनो गृहम् ॥

The mind of him who is unaffected by any distress and not elated when his ambitions

are fulfilled, on the firm conviction that all these are transitory (माया) is your abode.

7. षड्भावादि विकारान्यो देहे पश्यति नात्मनि ।
धुत्तुर्द सुखं भयं दुःखं प्राण बुध्योर्निरीक्षते
संसारधर्मेर्निमुक्तः तस्य ते मानसं गृहम् ।

The heart of him who always sees the six aspects, *vis.*, (1) Birth, (2) Life, (3) Growth, (4) Maturity, (5) Decay and (6) Death are for the body and not for the self, who sees that appetite, thirst, pleasure, fear and pain are for *prana* and *buddhi* (*i.e.*, life and intellect) and not for the self (आत्मा) and who is free from anxiety, care, worry, turmoil, etc., which are *Samsara Dharma*, is fit for Thy abode.

8. पश्यन्ति ये सर्वगुहाशयस्थं
त्वां चिद्घने सत्यमनन्तमेकम् ।
अलेपकं सर्वगतं वरेण्यं
तेषां हृदब्जे सह सीतया वस ॥

O Rama, Thou mayest reside with Sita in the lotus heart of those who see that Thou art the inner self of all, art the source of wisdom, art the unique eternal reality underlying the world phenomena, art unattached to anything, permeatest all and art the best of all.

9. निरन्तराभ्यासदृढीकृतात्मनां
त्वत्पादसेवा परिनिष्ठितानाम् ।
त्वन्नामकीर्त्या हत कल्मषाणां
सीता समेतस्य गृहं हृदब्जे ॥

The house for Thee with Sita is the lotus heart of those who have realised the self (आत्मा) perfectly well by incessant meditation on Thee, who have imbibed in them a natural habit of serving Thy feet and who have uprooted all their sins by the repetition of Thy name.

10. राम त्वन्नाम महिमा वर्ण्यते केन वा कथम् ।
यत्प्रभावाद्दहं राम ऋषिर्विभववाप्तवान् ।

O Rama, how can the magic power of Thy name be described and by whom; by the use of which miraculous power I have become a Brahma Rishi?

When our heart is made the sacred temple of Sri Rama, our *swabhaya* will be remoulded into *Anantakalyana Guna Swabhaya* (अनन्तकल्याणगुणस्वभाव) of God or we shall become God-like or goodness personified.

This condition is called *Sarupyam* (सारूप्यम्) with God. As it elevates us to His *loka* or *Vaikunta* we are then in the Kingdom of God with Him, though our present body continues like a vesture. Hence we enjoy *Salokyam* (सालोक्यम्). We are then very near Him or enjoy *Sameepyam* (सामीप्यम्). If we habituate ourselves to this kind of life, we experience *Sayujyam* (सायुज्यम्) or identity with Him. We may be said to be alive to being wedded to *Jagat Bharta* (जगद्भर्ता) and adopted by Him as *Jagat Pitha* (जगत्पिता). Therefore all our aspirations are fulfilled then. Because God is नित्यशुद्धबुद्धमुक्तसृष्टिस्थितिसंसारकर्ता — सर्वज्ञ सर्वशक्त सर्वव्यापी—परमकारुणिक we also become perfectly pure, wise, eternal, free, capable of creating, preserving and dissolving anything at will, omniscient, omnipotent, omnipresent, and infinitely kind when our *Swabhaya* is remoulded into *Anantakalyana Guna Swabhaya* by incessant meditation on God. There is nothing impossible for us then as we are one with the Almighty who is *Satya Samkalpa* (सत्यसङ्कल्प), *i.e.*, one who is able to achieve anything at will.

This kind of life is a regeneration (पुनर्जन्म).

The unregenerate man is subject to desires, passion and sorrow. He lives habitually in these conditions and neither questions nor examines them. He regards them as life

itself and cannot conceive of any life apart from them. To-day he desires, tomorrow he indulges in his passions and the third day he grieves, by those things which are always found together. He is impelled and does not know why he is so impelled. The inner forces of desire and passion arise almost automatically with him and he gratifies their demands. Led on blindly by his impulses and desires he falls periodically in the ditches of remorse and sorrow. His condition is not merely unintelligible to him. It is unpercieved. Because he is so immersed in the desire consciousness he cannot step outside of it, as it were to examine it. He continues to suffer like the following thoughtless man.

महोदरं व्याधिमुपागतं स्व
लक्ष्मीविलासोदरमक्षिमाणः ।
कथं गवेषेत नरभ्रिकित्सां
भिषग्वरं वा निजरोग शान्त्यै ॥

If a person suffering from dropsy (महोदर) wrongly imagines that the swelling of his belly is due to his wealth and affluence (लक्ष्मीविलास), how can we expect him to think of his treatment or to enquire for a good physician?

Similarly how can one who ignores inner life altogether and is carried away by the alluring captivating glamour of scientific discoveries, realise the importance of character-education and pay sufficient attention to it? Hence educational policy must be shaped by pious right thinking people having perfection or God as the highest ideal. The lower ideals of education for professions as a means of livelihood and for ability to increase conditions of happiness such as luxuries, influence, power, fame, etc., must be viewed only as incentives to the highest ideal of education, *vis.*, Realisation of God who is inseparable from perfect peace, prosperity and happiness.

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INTELLECTUAL CO-OPERATION.

MEETING OF THE EXECUTIVE COMMITTEE.

THE Executive Committee of the Intellectual Co-operation Organisation met in Paris from December 20th to 27th.

CONVERSATIONS.

After noting the League Assembly's decisions in regard to intellectual co-operation, the Committee expressed warm satisfaction at the past year's results. It decided that the subject of the next "Conversation," to take place at Bucarest towards the end of 1938 under the auspices of the Committee on Arts and Letters, should be "Quality and Life." This subject will be further defined and limited later.

The Committee, further, approved of the International Student Conversation to take place next spring in Luxemburg; the matter discussed will be "University education, its aims and methods." The preparation of this conversation was entrusted to the Institute.

Another Conversation, of a scientific character, will take place in Warsaw on "Modern Theories of Physics."

EDUCATION.

(1) History Teaching.

The Executive Committee dealt with the "Declaration" on history teaching; the League Assembly approved the addition of final clauses to this Declaration, to facilitate signature by States which had already approved of it in principle. It has already been signed by two States: Belgium and the Dominican Republic, and accordingly came into force on November 24th, 1937.

(2) Teaching of the Principles and Facts of International Co-operation.

In regard to this subject, the Executive Committee was informed that the attention of the Advisory Committee of Experts would in 1938 be devoted especially to the teaching of modern languages. This is a branch of education which affords the younger generation one of the best opportunities of learning, or of obtaining a notion of the life of other peoples, and of understanding the interdependence between different cultures and geographical areas. The Advisory Committee had formerly decided to place on its agenda the teaching of history, geography, and modern languages. The two first points have already been the subject of enquiries and consultations, the results of which have from time to time been published in the "Bulletin of League of Nations Teaching."

(3) Higher Education.

The Committee dealt with international co-operation between Universities, and especially with the recommendations of the International Conference on Higher Education, which referred certain matters to the Institute of Intellectual Co-operation. The first was the formation of a Permanent Committee of Directors of Higher Education and of Representatives of Universities and other Higher Educational Establishments, to encourage direct and continuous contacts between Directors and Universities in different countries and to examine general problems of organisation and teaching.

The Executive Committee decided in principle to set up this new body.

EXACT SCIENCES.

Information was received by the Executive Committee as to the first three meetings held in execution of the agreement of July 9th, 1937, between the International Council of Scientific Unions and the International Organisation for Intellectual Co-operation. The first meeting, on the study of "Phyto-hormones," was held at Paris; the second, at Prague, dealt with the publication of a series of ancient scientific works, the importance of which makes them a foundation for modern science; the third, at Neuchatel, was concerned with physico-chemical methods of determining the molecular and atomic weights of gases.

Meetings are also arranged for next year, to deal with the new vitamins, the nomenclature of the terminology of genetics, the double layer in electricity and the co-ordination of scientific terminology.

LITERARY AND HISTORICAL QUESTIONS.

The Executive Committee then drew up the programme of the Ibero-American and Japanese literary collections to be published by the Institute of Intellectual Co-operation in 1938.

In the first of these, two volumes will be published during the year, one of Chilean folklore and the other of Cuban popular music; also a work by Palma on "Peruvian Traditions," and a collection of plays by Florencio Sanchez (Uruguay).

In the second collection, it is proposed to publish certain characteristic works of Japanese literature, such as *Kokoro*, by Natsume Soseki, and *Art, Life and Nature in Japan*, by Professor Anesaki.

Concerning the American ethnological and historical collection (Levillier collection), the

Executive Committee ascertained that the Argentine and Mexican contributions enabled the work to be begun. Before coming to a final decision, the Committee, however, asked for further information as to certain conditions laid down by the Argentine Government.

HIGHER INTERNATIONAL STUDIES.

A report was received on the last meeting of the Permanent Conference of Higher International Studies, and the Executive Committee approved of the publications which the Institute is preparing on the general problem of Procedures of Peaceful Change, which was discussed at the Conference's meeting. It also approved the subject for future study, namely, "Economic Policies and Peace" (reciprocity, regionalism and autarchy in present-day economic problems, their connection with national security and their effect on economic, financial and political inter-State relations).

PROTECTION OF MONUMENTS AND WORKS OF ART IN SPAIN DURING THE CIVIL WAR.

Note was taken of the application made to the International Museums Office by the Spanish Director-General of Fine Arts on October 27th last. The Committee held that one of the essential tasks of the Office was to contribute in all circumstances to the protection of monuments and works of art threatened with destruction.

The Office has appointed a delegation which will, if the occasion arises, go to Spain to examine on the spot, and in accordance with the invitation of the Spanish administration, the measures taken for the protection of Spanish artistic and historical possessions, and to suggest any measures to the Spanish authorities for improving the present arrangements.—From the *Monthly Summary of the League of Nations*—Dec. 1937.

NEWS AND NOTES.

ALL INDIA FEDERATION OF EDUCATIONAL ASSOCIATIONS.

A Committee on the Wardha Scheme.

The 13th All India Educational Conference at Calcutta has appointed a representative Committee of educationists to discuss the desirability and the practicability of Mahatma Gandhi's Wardha Scheme and Dr. Zakir Hussain Committee's report. All the educationists of the country are requested to send their criticism and suggestions as well as the relevant materials available expected to be of help to the Committee, to the convener, Mr. P. Seshadri, Principal, Government College, Ajmer, by the 25th February at the latest. The Committee has to submit its report by the 31st March 1938.

KURNOOL DISTRICT TEACHERS' GUILD.

The Annual Conference of the Guild was held on Saturday, the 29th January, in the Coles Memorial High School with Rev. B. J. Rockwood, M.A., B.D., in the chair. There was a large gathering of 140 men and women delegates representing all the local Teachers' Associations in the town and the mofussil Associations of Koilkuntla, Atmakur, Markapur and Pyapalli. Among those present were Messrs. N. Sankara Reddy, President, District Board, Kurnool, B. Lakshmana Pillai, Municipal Commissioner, G. Parameswaran Pillai, Secretary, District Board, and others.

Mr. K. N. Pasupathi Aiyar, Secretary of the Guild, in welcoming the delegates, said that he was gratified to find so many delegates from the mofussil schools and that it was a remarkable thing that all the thirteen members of the Staff of the Board High School, Atmakur, were present. He referred to the two important questions to be discussed at the Conference, both of them questions of great moment to the teaching profession, the question of "uneconomic"

Secondary Schools and the Government proposal to close down three High Schools and one Middle School in the District, and the consideration of the Wardha Education Scheme and the Guild's contribution to the volume of public and professional opinion on it.

Then the Annual Report on the work of the Guild during the year was read by the Secretary and adopted. It revealed a poor state of the Guild's finances showing a closing balance of Rs. 32-15-0. During the year under report five general body meetings and six Managing Council meetings were held.

The House then elected Mr. M. Ramaiya, B.A., L.T., Headmaster, Board High School, Atmakur, as Vice-President in the place of Mr. C. M. Cawthorne, who has left the District for England. All the other office-bearers of the Guild were, it was resolved, to continue in office till June next, when a re-election is to take place.

A sub-committee was appointed to scrutinise the draft resolutions on "Uneconomic Schools" and frame a comprehensive resolution on the subject. Mr. M. P. Rajam Iyer, B.A., L.T., Headmaster of the Markapur High School, then moved the following resolution and made a long speech explaining its full implications. It was seconded by Mr. M. Ramaiya and supported by Mr. K. N. Pasupathi Aiyar and carried unanimously.

The Resolution runs as follows:—

"1. This Guild views with alarm the proposal of the Government to close three High Schools and one Middle School in this District on the ground that they are uneconomic.

"2. This Guild humbly submits to the authorities that these Secondary Schools should not be abolished for the reasons

(a) that the people in this District are educationally backward;

(b) that the people in this District are generally poor and cannot afford to pay school fees at standard rates and much less to send their children to distant urban schools for education;

and (c) that there are comparatively fewer Secondary Schools in this District and the abolition of any School would altogether remove the limited facilities for Secondary Education in some taluks and thus would seriously affect the progress of Secondary and Higher Education in the District as a whole.

"3. This Guild requests the Dt. Collector, the President, District Board, and the District Educational Officer, Kurnool, to strongly recommend to the Government not to abolish any Secondary School in this District."

The Conference adjourned for Tea. Mr. N. Sankara Reddy, President, District Board, was "At Home" to all the delegates and visitors.

Then there was a full discussion on the Wardha Education Plan.

Mr. G. Siva Rao, Headmaster, Municipal High School, Kurnool, outlined the chief features of the Wardha Scheme in English and showed that there was a diversity of views on the subject.

Mr. Ch. Narasimham Pantulu, Headmaster, Government Training School, Kurnool, explained the Scheme in Telugu.

Mr. K. N. Pasupathi Aiyar pointed out how the Wardha Plan turned upside down the whole educational order now existing and how it gave undue prominence to craft. He urged that discriminating support must be given to the Scheme.

Mr. K. Sethu Rao, Deputy Inspector of Schools, hailed the Scheme as an excellent system and pleaded for a whole-hearted support to it.

Mr. M. P. Rajam Aiyar said that, without preliminary experiments, it would be difficult to visualise the possible results of the Scheme.

Mr. A. Varadan said that the economic motive of the Scheme could not be appreciated, as all emphasis must be on the educational rather than the economic aspect.

Messrs. K. Nilakanta Rao and O. Ch. Sarma spoke in appreciation of the craft-centred education plan. Mr. S. Radhakrishna Aiyar also supported the Scheme with some modification.

Messrs. M. Venkataramiah, Narasiah of Koilkuntla, Syed Khader and others took part in the discussion.

From among the public Messrs. B. Lakshmana Pillai and Beabani Sahib spoke in support of the Scheme. The latter said that the introduction of Hindi, however, would be a handicap to Muslims.

In winding up the discussion, the President, Mr. Rockwood, expressed his admiration for Mahatma Gandhi and said that the Scheme was one of idealism and only ideal teachers could work it successfully. He pointed out that repetition of manual labour would create monotony and make children's school life dull. The teacher would be under the Wardha Plan a sort of capitalist extracting labour from them. He concluded that the Wardha Scheme would ruin India's prospects for a generation or until India could get back to another method of supporting its teachers.

No resolution was passed on the subject of the Wardha Scheme. The Conference ended with a vote of thanks proposed by Mr. K. N. Pasupathi Aiyar, the Secretary.

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