

IDEAL OF NATIONAL UNIVERSITY.

N. B. The following convocation address was delivered

BY

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When I received your kind invitation I realised anew the unity of intellectual life of India and its continuity from the most ancient times. Your kind thought in asking me to deliver the Convocation Address has probably been prompted by your sympathy and appreciation of my efforts, now extending over more than a third of a century, in the revival of the great intellectual traditions of this great country. Many years ago I chose teaching not as a profession, but as the highest vocation. I could think of nothing higher than consecrating my life to the guidance of the young with their dreams and aspirations yet unfulfilled and in helping them in the attainment of true manhood. I see before me young students going out in life's great adventure. What is to be the guiding principle that is to stand by you and inspire you even in days of despondency? There never came a time so fateful as the present when a great demand is made on the strength and idealism of our youth in serving the highest interest of the country. I will not, therefore, appeal to your weakness but to your strength. I would not care to set before you what is easy but use all compulsion for your choice of all most difficult. You are seekers after truth. I will tell you of the discipline through which you must pass for the discovery of truth. In this the heritage of the past will help you, but you are not to be mere slaves of the past but the true inheritors of its wisdom.

I was paralysed at the beginning of my life by various hypnotic suggestions that India was only interesting because of metaphysical speculations of her ancient dreamers, and that the greatness of the country was past never to be revived again.

"WORK—MY TEACHER"

You may ask "Who taught me better, what led me to persist against insuperable difficulties?" My answer is that my own work was my teacher, that strokes of repeated adversity served as the adequate stimulus, and that the lesson of the past was my abiding inspiration. I believe that nothing which is not innate in our civilisation can ever give us requisite strength for a true national revival. I cannot speak too often on this matter of fundamental importance.

In my address this morning I will not speak of anything that is impossible or attainment of things that have been accomplished only in other countries, but what can be done or has been done in India. I have been, and am still a student; your struggles and difficulties have also been mine. In your hours of despondency it may perhaps help you to know that not even a glimmer of success ever came to remove the gloom except after years of persistent struggle. I held the belief that it is not for man to complain of circumstances, but bravely to accept, to confront and dominate over them. I know that what has been done before will be accomplished again and that the past was not to remain merely as a dream.

I spoke of my work itself being my teacher. The illumination came to me only after years of unremitting pursuit after truth. It was this that enabled me, through rigid scientific methods, to establish the great generalisation of the Unity of Life and to realise fully all its implications.

I will tell you what I was able to decipher in the Book of Life itself, of conditions which exalt the highest manifestations of life.

LIFE OF THE TREE

The tree may be likened to a State consisting of countless living units, different groups of which co-operate in the discharge of definite functions for the advantage of the community; any disharmony in the organism means the destruction of the Commonwealth. The tree persists because it is rooted deeply in its own soil which provides its proper nourishment and endows it with strength in struggling against all dangers that threaten it. The shocks from outside had never been able to overpower it, but only called forth its nascent power of resistance. It had met change by counterchange, the decaying and the effete had been cast off as worn leaves, and changing times called forth its power of re-adjustment. Its racial memory had also been a source of great additional strength; every particle of the embryo within the seed may thus bear the impress of the mighty banian tree. What then is the strength that confers on the tree its great power of endurance? It is the strength derived from the place of its birth, its perception and quick readjustment to change, and its inherited memory of the past. The efflorescence of life is then the supreme gift of the place and its associations. Isolated from these what fate awaits the poor wretch nurtured in alien thought and ways? Death dogs his footsteps, and annihilation is the inevitable end.

Any great work that is to endure must therefore be through the awakening of all that India had conserved by her inheritance and culture. Such an awakening will be the release of a giant force hitherto held latent, for dynamic expression in the great Indian Renaissance. The stimulus for this must come from within, the portent of which is found in the quickened national consciousness,

The highest expression in the life of a nation must be its intellectual eminence and its power of enriching the world by advancing the frontiers of knowledge. When a nation has lost this power, when it merely receives and has nothing to give, then its healthy life is over and it sinks into a degenerate existence which is purely parasitic. The status of a great university cannot be secured by any artificial means, nor can any charter assure it. Its world status is only to be won by the intrinsic value of great contribution made by its scholars. To be organic and vital, our national university must stand primarily for self-expression and winning for India her true place among the federation of nations.

Critics have denied India's capacity for advancement of knowledge and spread of learning among her people. It has been urged that there is no true democratic spirit, that there could be no real contact between her diverse peoples, and no continuity between the past and the present; that there is an intolerant theocratic spirit which insisted on acceptance of authority in place of dictates of reason; that the people of India because of their speculative bent are incapable of advancing positive knowledge; and that the exact method of science, being Western, is alien to national culture. These assertions are as ignorant as they are baseless.

THE DEMOCRATIC SPIRIT

I do not know of any other country in the world except ancient India, where sons of kings and commons were required to live a life of simplicity and perfect equality under a great teacher. In our great epic we read of a great tournament that was held before the court of Hastinapura, more than thirty centuries ago. Karna, the reputed son of a charioteer, had challenged the supremacy

of Prince Arjun. To this challenge Arjun had returned a scornful answer; "A prince could not cross swords with one who could claim no nobility of descent". "I am my own ancestor," replied Karna, "and my deeds are my patents of nobility." This is perhaps the earliest assertion of the right of man to choose and determine his own destiny.

In regard to my own early training it was fortunate that my father instead of sending me to the more fashionable English school insisted on my attending the vernacular school. My comrades were hardy sons of toilers, from whom I realised the true dignity of labour. I derived my passionate love of nature from those who tilled the ground and made the land blossom with green verdure and ripening corn. The sons of the fisher folk used to tell me of the strange creatures which frequented the unknown depths of mighty rivers and stagnant pools; henceforth I was never to be alone but at every step the marvels of life thrilled me with a strange emotion. When I came home accompanied by my comrades I found my mother waiting for us. Though an orthodox Hindu, the "untouchableness" of some of my comrades never caused any misgiving; she welcomed and fed them as her own children. It is only true of the mother heart to go out and enfold in her protecting care all those who needed succour and a mother's affection. I now realise the object of my having been sent at the most plastic period of my life to the vernacular school where I was to learn my own language, to think my own thought, and to receive through the great Indian epics the heritage of our national culture.

Such is the true democratic spirit, which pervaded the land even from ancient times. At the head of the State, was the court of a Vikramaditya, never regarded as complete

without the "nine gems" representing the different branches of knowledge. The State received the homage of the people not for its being panoplied by physical force, but because it aspired to make conquest in a realm infinitely higher—that of mind and spirit. May this great Indian tradition always endure in the Indian States!

In regard to the spread of learning, geographical barriers have never in the past offered any obstacle to the intellectual communion among the different peoples of India. The vision of the past rises vividly before us, and we behold a great procession of immortals who still live and inspire us. We see Sankaracharya acclaimed everywhere during his march of intellectual conquest of all countries from the South to the extreme North. We see the scholars of Bengal with a few palm leaf manuscripts as their sole treasure, crossing the Himalayan barrier inspired by love and service, to carry Indian lore to Tibet, to China, and to the further East. The great intellectual movements were never confined to any particular province, for the torch of learning was kept lighted for many centuries in her different universities. And it was the fame of a great teacher that drew scholars from even the most distant corners of India. The traditions of the past have not been lost for even to-day leaders of thought from different provinces travel from one end of the country to the other, thus keeping alive the bond of unity and closest kinship. Those who have read history aright, realise the great assimilative power of Indian civilisation by which many races and peoples came to regard this great country as their home. And it is by their joint efforts that will be built the Greater India yet to be.

FREEDOM OF INQUIRY

It is perfectly true that nothing could be so detrimental to the furtherance of truth than a narrow theocratic bias

and intolerance in accepting new facts and doctrines that run counter to narrow orthodoxy. One is, however, constrained to say that this narrow spirit is more in evidence in the West than in the East. Galileo's recantation under compulsion and Bruno's being burnt at the stake are well-known facts. The spirit of intolerance is still alive as exemplified by the bitter controversy that has recently arisen regarding the Darwinian theory, and the penalising of the teaching of Evolution in a certain State of progressive America. There is a priesthood even in science, and it is notorious how seldom a great discovery finds appreciation during the life of its author.

In regard to the question whether theocratic bias obstructed free pursuit of inquiry in this country, the fact is well known that two schools of thought flourished here side by side, one of which relied on faith and was supported by established authority. The other based itself on pure reason and refused to accept anything which could not be substantiated by objective proof. This great and liberal outlook may probably have been due to the fact that even the devout realised that the existence of Providence dependent on man's condescending patronage was tantamount to blasphemy.

No false claim should however be made that our ancestors were omniscient and that no further advance of knowledge was possible. What they attained was through unremitting efforts in building the edifice of knowledge step by step. Even after all they had achieved they had the greatness to declare that even the Vedas are to be rejected if these do not conform to truth. It is false patriotism that would claim credit for anything less vital than the supreme gift of freedom of inquiry that had been bequeathed to us.

Nothing can be more vulgar or more untrue than the ignorant assertion that the world owes its progress of

knowledge to any particular race. The whole world is interdependent and a constant stream of thought has throughout the ages enriched the common heritage of mankind. It is the realisation of this mutual dependence that has kept the mighty fabric bound together and ensured the continuity and permanence of civilisation.

It is a strange distortion of history that all advance of knowledge has been claimed as the contribution of the West. An equally wrong claim made in the West has been in regard to the highest development of Statecraft. It must be a matter of high gratification to the Mysore State that two of its distinguished officers should have, by their patient labours, succeeded in lifting the veil that shrouded the past. The pioneer work on the Positive Science of the ancient Hindus has been the result of vast erudition of the Vice-Chancellor of the University. No less important is the remarkable contribution of Dr. R. Shamasastri whose patient and critical scholarship has brought to light Kautilya's Arthashastra.

Can we, however, remain satisfied only with the traditions of the past? Critics have told us time after time that whatever the past might have been there is now no strength left for the renewal of our national life. They point out that while success in our national efforts has been few and far between, the failures have been far too many. But failure is only transient while success awaits for us round the last corner. It is the obvious and the blatant that blinds us to the essential. Few realise the great urge hidden to eyes of men, that is moving the great mass of the people in their ceaseless efforts to realise some common aspiration. Where lies the secret of that potency which makes certain efforts apparently doomed to failure, rising renewed from beneath smouldering ashes? When we look deeper we shall find that as inevitable as is the sequence

of cause and effect so unrelenting must be the sequence of failure and success. We shall find that failure must be the antecedent power to lie dormant for the long subsequent dynamic expression which is acclaimed as success.

Although science is neither of the East nor of the West but international in its universality, yet India by her habit of mind and inherited gifts handed down from generation to generation is specially fitted to make great contributions in furtherance of knowledge. The burning Indian imagination which can extort new order out of a mass of apparently contradictory facts, can also be held in check by the habit of concentration ; it is this restraint which confers the power to hold the mind in the pursuit of truth in infinite patience.

Two different methods are essential for the discovery of truth, the method of introspection and the method of experimental verification. Aimless experimentation seldom leads to any great result, while unrestrained imagination leads to wildest speculation subversive of all intellectual sanity. The two methods must therefore be equally balanced, one supplementing the other.

The real difficulty that thwarts the investigator of life as exemplified by plants, arises from the fact that the interplay of life-action is taking place within the dark profundities of the interior of the tree which our eyes cannot fathom. As the first step to discover the hidden mechanism of the tree, one has to become the tree and feel the pulse-beat of its throbbing life. Next in order to reveal the intricate mechanism of its life, it is necessary to gain access to the smallest unit of life, the "life atom," and succeed in recording its throbbing pulsation. For this it was necessary to invent instruments of surpassing accuracy and sensitiveness. The invention of the microscope magnifying only a few thousand times initiated a new era in advance of biological science.

My Magnetic Crossograph magnifying fifty million times is now revealing the wonders of a new world, the plant itself being made to reveal the secrets of its inner life. Even in this path of self-restraint and verification, the inquirer is making for a region of surpassing wonder. When visible light ends, he still follows the invisible. When the note of the audible reaches the unheard, even then he gathers the tremulous message. He thus realises a new world hitherto invisible, and listens to voices unheard, before he enters into a real life which struggles and suffers even as ourselves. Is it less of a miracle that man undismayed by the imperfection of his senses should yet build himself a raft of thought to make daring adventures in uncharted seas, and in his voyage of discovery he catches an occasional glimpse of the ineffable wonder that had hitherto been hidden from his view? That vision crushes out of him all self-sufficiency, all that kept him unconscious of the great pulse that beats through the Universe. It was by the combination of the introspective and the highly advanced experimental methods that it was possible to establish the Unity of Life; the barriers that divide kindred phenomena vanished, the plant and animal being found as a multiple unity in a single ocean of being.

These wonders became revealed to me only after years of struggle in overcoming difficulties which at first appeared as almost insurmountable. It was the Indian habit of concentration that led ultimately to the overcoming of all difficulties. It is no easy life that lies before an investigator. He has to steel his body and mind to the utmost, and prepare for a life of unending struggle. Even after all this there is no assurance whatever of success to reward him for his ceaseless toil. He has to cast his life as an offering, regarding gain and loss, success and failure, as one. But the lure that draws his heroic soul is not success that can

be easily achieved, but defeat and tribulation in the pursuit of the unattainable.

When I commenced my investigations, it used to be said that experimental skill was wanting among our workers, and that the people lacked the faculty of discovery and invention. It was only after years of persistent efforts that it was possible to prove that there is no difficulty that cannot be overcome by the power of the will, that when one dedicates oneself wholly for any great object, then the closed doors shall be opened, and the impossible become fully attainable. As regards construction of apparatus of extraordinary delicacy by Indian mechanics, it seemed to me that the race which by the subtle dexterity of their hands wrought wonders in the past could not altogether be extinct. It was only necessary for me to take my craftsmen in my confidence and fire them with enthusiasm for great national achievements. All the instruments whose marvellous performance created great enthusiasm all over the world, were constructed by the mechanics trained in my Institute. Although these instruments were widely exhibited in Europe and America, and every facility offered for their duplication by eminent instrument makers, yet it was frankly admitted that our craftsmen possessed tactile delicacy which could not even be approached. It is necessary to lay special stress on this point at this juncture when the assertion totally ignorant and unfounded, is made that this country is incapable of making any great industrial advance.

I have often been asked what could be the practical use of these researches on the recondite phenomena of the life of plants? A similar question was also asked when so far back as 1894. I succeeded in transmitting energy by wireless electric waves for starting machinery at a distance and exploding a distant mine. The invention of a receiver in my laboratory also solved the difficulty of

long distance transmission. All this was regarded at the time as more scientific curiosity.

Regarding the practical applications of discoveries in plant life researches on growth have been rendered possible by the invention of the High Magnification Cresscograph. The laws of growth are now being discovered, a knowledge of which is essential for any real advance in practical agriculture. Another important advance has been made by the discovery of identical reaction of various drugs on plant and on animal life. This has led to investigations on the action of extracts from various Indian plants, the medicinal properties of which had not hitherto been suspected, and by the employment of which the heart machine can be regulated and rendered highly efficient. The newly invented resonant cardiograph inscribes the different phases of the heart-beat with wonderful minuteness and reveals the specific action of different plant extracts in reviving the activity of the heart in a state of depression. From the results of those investigations, an entirely new arsenal of medicine obtained from Indian plants will be available for the relief of humanity.

An altogether different line of advance has also been made in regard to the tracing of gradual evolution of nervous system from the simplest to the most complex. In the simpler vegetable life where lies the plant-psyche, the faint copy of our consciousness? A nervous structure I have been able to discover in the plant the characteristic reactions of which are likely to lead to the better understanding of the parallel phenomena in our own psychic life. A plant carefully protected under glass from the stimulating blows of the environment, looks flourishing but in reality it is flabby and decadent, its highest nervous function remaining undeveloped. But when the same plant is exposed to the rough shocks of the environment, then

its nervous structure becomes fully developed. In human life also it is not cotton wool protection but blows of adversity that evolve true manhood.

I had occasion recently to take part at the great International Conference on Education held at Locarno. They realised that the old system hitherto in vogue was quite antiquated and that new initiative must be taken in methods of education. The imported method hitherto in vogue is quite out of date and must therefore be modified and made a living force for the wakening of national aspiration and efficiency. A system which holds forth no other hope but perpetual tutelage cannot but be deadening. Nothing could not be more humiliating than the position of Indian students in Europe, a situation which for many reasons is full of danger. Why should we not aspire to found great centres of learning? It was this idea which led to the foundation of my institute ten years ago by which I hoped to revive the great traditions of our country, which so far back as twenty-five centuries ago, attracted scholars from all parts of the world within the precincts of its ancient seats of learning at Nalanda and Taxilla. That dream of mine has been now amply fulfilled. May I not hope that what has been accomplished would be carried out with even greater power by this enlightened State. You must, however, be inspired by such an indomitable faith. In justification of that faith it was necessary to indicate briefly what was accomplished by Indian initiative and by Indian scholars.

Increasing unemployment and severe economic distress is the cause of unrest here as in other parts of the world only on account of its magnitude the problem is far more acute here. It is hunger that drives people to desperation and to the destruction of all that has been built up for ordered progress. It is tragic that our own country with

its great potential wealth and possibilities of industrial development should be in this plight. All efforts have been long paralysed by assertions as ignorant as they are unfounded that this country is incapable of producing great discoverers and inventors. These assertions have now been completely disproved.

In other parts of the world, it is not doctrinaires but the best intellect of the country—leaders of science as well as leading men of business—who are called to devise means for increasing the wealth of the country. In my travels I found little or no distress in small countries such as Norway and Denmark, countries which are in no sense rich in natural wealth. Nevertheless, they have their system of universal education and the most up-to-date University. Poverty is practically unknown. The miracle is accomplished through science by utilising to the utmost all the available resources of the country. Could we not take to heart the lesson thus taught? There are now a very large number of youngmen who could be specially trained in efficiently conducted institutes, the standard of which should bear comparison with any in the world. It should be also our aim not to be so entirely dependent on foreign countries for our higher education and for our needs. For carrying out such a programme a far-sighted State policy is urgently required. But there is a strange general apathy on this matter of most vital importance. It is a matter of much gratification and pride to us to know that the State of Mysore has given it most serious attention to the subject on which I shall presently make reference.

A VICIOUS CIRCLE

When man beheld spread before him the earth, the sea and the air, he went forth in his great adventures. He rode the tumultuous sea and circled the globe. The

challenge of the sky accepted and by his daring spirit conquered it and established an unobstructed highway. Man is a creative being and these miracles attest to his godlike and indomitable spirit but the weakling who has forgotten the divinity that is in him, leads an ignoble life of passivity. He alone who has striven and won can enrich the world by giving away the fruits of his victorious experience.

A strange weakness and passivity has entered into the life of the people, and unless immediate steps be taken to remedy the evil, the end is inevitable. Nature shows no mercy to the feeble and the decadent, the vicious circle lies in this; the lazy is content with earning what is barely sufficient to maintain life itself. This reduces his power of work and his power of resistance to illness, ending in the lowering of scale of human life, starvation and death. Different is the attitude of the people of the West, who even under great stress of national disaster have maintained their spirit and efficiency unbroken and through their labour are building up national prosperity. May I say that this is greatly due to the unceasing interest taken by the State in spread of education and in promoting people's welfare?

As a concrete example illustrating the difference of outlook, I will speak of what come within my own experience. Many of my old students showed special aptitude in science but as there was no scientific career open for them they were compelled against their natural inclination to choose the profession of law. None but the intentionally blind can fail to realise the crisis to which things are tending in a country, where distress is so widespread and where the only scope for intellect is the pursuit of tortuous and uncertain course of the law courts.

In contrast to this, I had the opportunity of becoming acquainted with the solicitude with which the Government of Japan follow the career of her promising students, whom they regard as the greatest asset for the advancement of their country. I found that such promising students are personally known at headquarters, and arrangement made through their Consuls in Europe and America, so that in the course of two years they go through a very special training under the most distinguished specialists to make them efficient in their subject. They do not find themselves stranded on their return, for arrangements had already been made by their Government, so that their intellect and training find the fullest scope in the service of the State.

This leads me to the ideal of the State which has found practical expression in the establishment of a National University and in many enterprises for the welfare of the people. The University and industrial enterprise cannot be dissociated from each other, but must be regarded as complimentary activities for the common good of the State. There are other countries more fortunate which can shower their millions for a particular department in the University. We have no such millions to spare ; but is this to deter us, is the mind of man with his indomitable spirit of no account ? Shake off your depression then, and cast off your weakness ! I remember that India is our working place, and our duties are to be accomplished here and nowhere else. Should we forget that we belong to a race which accomplished great things with simple means.

Perhaps those who are at a distance can better appreciate the efforts of this State in the work of nation building. The Chief Minister is in the closest touch with the people and their prosperity redounds to the credit of the State. It is here that some of the greatest of Indian administrators found full opportunity for the expression of their genius. We are

thrilled by what has been accomplished by Sir R. Seshadriyer in opening vast fields of enterprise, by the extension of railways, by the development of the Kolar Gold fields, by his schemes of irrigation; he was the author of the great hydro-electric scheme at Sivaseamudram. Are we to appraise these achievements by mere money value though this was undoubtedly great or by something of higher import? Who can measure the stimulus given to young minds trained in this University by the unique opportunity offered for the highest development of their latent powers? Industry and research will thus act and react on each other, to the lasting benefit of both. To Sir M. Visveswaraya, another Minister of this State, is due the credit of the foundation of Bhadravoti Iron works and other industrial enterprise. In this State men are not mere dreamers, but they have the strength and persistence to see their vision realised. What is the fountainhead of their inspiration? It is the love of the country coupled with a sense of loyalty to an ideal State, where its Prince is the natural leader of the people.

Teaching and research are indissolubly connected with each other. The spirit of research cannot be imparted by mere lectures on antiquated theories which are often entirely baseless and which effectively block all further progress. Nothing can be so destructive of originality as blind acceptance or ex-cathedra statements. The true function of great teachers is to discover things themselves. Such a teacher cannot easily be found and it will be your duty to discover him and give him every facility for his work. Let there be no creation of a learned caste whose attention is mainly taken up in securing special privileges. It is only from a burning candle that others could be lighted. The pupils by working under such a teacher will learn the value of persistence or the infinite care to be taken at every

step ; they will catch from him glimpses of inspiration by which he succeeds in wresting from Nature her most jealously guarded secrets. They will become a part of his being and will hand down a passionate love of truth through fleeting generations. That spirit can never die ; we shall pass away, and even kingdoms may disappear. Truth alone will survive for it is Eternal.

The extension and utilisation of knowledge in the service of man are an important function of the University, though not its only function. It is here that we are brought into intimate contact with great thoughts and ideals of different races and peoples. We need not be discouraged by the temporary aberration of man, but must be inspired by the nobility of his aspirations. It is not by withdrawal, but through active struggle that we shall best serve our country. What is to be my message to the men and women students with whom I am brought in touch to-day ?

I would want you to realise the great privilege of being born at a time when the country needed you most. The civilisation we have inherited had lasted for many millenniums ; you will not certainly allow it to be destroyed through weak passivity. You will answer to the call that has been echoing through ages, the call which compels men and women to choose a life of unending struggle for the alleviation of human suffering. The removal of suffering and of the cause of suffering is the Dharma of the Kshatriya. Be each of you a Kshatriya. The earth is the wide and universal theatre of man's woeful pageant who is to suffer more than his share ? Is the burden to fall on the weak or the strong ?

It was action and not weak passivity that was glorified in heroic India of the past, and the greatest illumination came even in the field of battle. There can be no happiness for any of us, unless it had been won for others.