

# The Human Mind

President, Neurological Society of India 1957

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I'm greatly honoured by the Members of the Neurological Society of India in electing me as their President for the year. Ours is a small Institution, barely eight years old, having started life with a small membership of 4 and now reached to 35—a very small number indeed, in comparison to the vast population of our country. It is a most noteworthy and laudable custom, especially helpful to young institutions like ours, to hold those annual conferences jointly, in order to enable us to exchange ideas in the scientific work achieved during the year in our respective specialized fields. Although our four associations have an independent existence of their own, yet, they have long realised the value of meeting jointly together, at least once a year, on a common platform. After all, the human body is an integrated whole, and whatever affects one part is bound to have its repercussions on the rest of the body, and no method of treatment can claim to be really scientific, if it does not always keep in mind its possible effects on the system as a whole. Specialised treatment, although desirable, is not to be water-tight. Hence, the necessity of these joint conferences.

My predecessors have addressed you on several aspects of Neurological Sciences, but I shall dwell upon the progress that the human mind, as such, has made during the last decade, and briefly review what Neurology has achieved during the past few years.

Recent advances have undoubtedly added valuable knowledge regarding the functions of the brain. The progress has been rapid, and in some cases, spectacular. During the past decade more than any other time in history, the experimental laboratory has been employed to examine and investigate physiological phenomena which appear to bear directly upon the relationship between brain and mind, and have given us a new insight into the mysteries of Nature.

As I have stated already, the progress in our branch of medicine has been comparatively rapid, and although the Neurologist has been climbing breathlessly up towards the height of understanding, he still appears to be groping aimlessly in the dark. The aetiology of some nervous diseases are still unknown. The physiology of certain functions of the brain still remains obscure. What do we know about the fundamental factors that govern our memory, of the location of consciousness in the brain, of our spiritual, mental processes or of the human soul which is regarded as a positive fact by so many authors? Is it merely a function of the brain, a sum total of mental processes, as maintained by most neurologists? Indeed, we must confess that our knowledge of mental faculties, the functions of the brain and the autonomic nervous system is still very limited, and our progress is not as rapid as in other branches of medicine, because the origin and study of life is still a mystery to us.

Advances, however, continue to be made in two ways: by studying the already chartered territories and by exploring new land. Science will soon solve its problems, however difficult they may be and the brain, although complex, will slowly but surely reveal its true functions and help the Neurologists to utilize this knowledge for the benefit of mankind.

Man, in whose fate, we, the medical men are interested, is capable of observing nature, of experimenting and of establishing relationship between the laws of nature and scientific facts. The incomparable gift of the brain, with its truly amazing powers of abstraction, has rendered obsolete the slow and sometimes clumsy methods of treatment. Thanks to the brain alone, man, in the course of this generation only, has conquered the realm of air—he has brought the moon close to us; he sees the infinitely small and remote; he hears the inaudible; he has dwarfed distance; he has enslaved the forces of the Universe; in fact he has put to shame the laws of nature by attempting to dislodge himself from the force of gravity with which he is tied to this earth. Sputniks are being thrown widely into space, and perhaps our future conferences will be held in the Moon or Mars or some other distant Planet. Yes, the human brain craves understanding and although it looks as though we are forging ahead to destroy mankind, with proper understanding the same diabolical discoveries like nuclear fission and the power of the hydrogen bomb will be utilised for human progress.

One must admit the fact that science, in giant strides, is reshaping our lives. Although it may appear that the human mind is attempting to perfect weapons to blast this world, and that nations are threatening to jump at one another, we, the medical men, need not look on in helpless insecurity. Though we do not have the vision of a politician, we would like to sway the human race to the right way of thinking, and with the aid of the scientific progress, that at present appears to be leading mankind to calamity, we could go a long way to relieve human suffering.

The spectacular progress that the human mind has made today appears to be in electronics and nuclear fission, and although the former knowledge has been widely utilised for human progress, the latter still appears to be controlled by politicians; however, we hope to wrest it from their firm grasp in the near future and utilize it for the benefit of humanity.

Electronic knowledge has been a great boon to a Neurologist—a new comer in the field of Neurology—especially in disorders of the brain. Epilepsy, although a disease of antiquity, known in ancient days as an evil cast upon the unfortunate victim by some hostile demon, is fast revealing its true nature, and we may look forward to a time not far distant, when the phenomena of this dreaded disease will be more logically explained, especially with the comparatively recent acquisition of electronic knowledge. There was a time when an epileptic was considered as an anti-social being, a burden to the family, with no rightful place in society. But modern therapy has made considerable progress and with diagnostic accessories like electroencephalography and the so-called anti-convulsant drugs, epilepsy to-day is easily diagnosed and far more amenable to treatment than is generally realised. Although the struggle for its conquest has been unfortunately slow, the advances in its understanding has been more than satisfactory, and the Neurologists all over the world, may look with pride and satisfaction upon their achievements, and wait hopefully for the solution of this distressing problem, in the near future.

With regard to infections of the brain, progress has been remarkably rapid. Some time ago the advent of meningitis signalled the beginning of the end. The physician stood helpless as the disease opened the door to death. There were no wonder drugs to control its relentless course. The physician fought a losing battle from the onset. There was no recovery in tubercular meningitis; the prognosis in pneumococcal meningitis was very high. In general, a diagnosis of meningitis sounded like a death-knell. And to-day all the prognostic gloom and despair of meningitis is a thing of the past. The use of antibiotics—the wonder drugs of our time—has simplified the treatment of these dreadful diseases.

To come to another infection—poliomyelitis, which though not so common in our country as in the West—has been a major problem all over the world. Although one may be tempted to seek comfort in the knowledge that the disease has a low mortality, yet the crippling defects left behind, perhaps for life, has opened the eyes of Neurologists, who have been working with redoubled energy to wipe off this scourge from the face of the earth. Salk's vaccine—another major achievement in prophylactic medicine—confers an effective immunity without significant hazards. It is reported that even if children get an attack of poliomyelitis after inoculation, the paralytic stage is warded off in over 60 per cent cases. Thus a victory over poliomyelitis is confidently expected, if vaccination of the population en masse can be accomplished.

In neuro-muscular diseases no startling progress has been made by the medical science. Most of the cases that are encountered baffle diagnosis and those that are detected after prolonged investigations fail to respond to treatment. The difficulty obviously lies in the complexity of these diseases. The stigma that a Neurologist only diagnoses a disease but fails to cure it, is still applicable to our colleagues when dealing in neuro-muscular disorders. Some even go to the extent of considering neurology as an admirable pastime, of little use to the unfortunate sufferer. This reproach, I predict, will soon wear off when our knowledge of the nervous system in general and the brain in particular, is fully understood. Undoubtedly, neuro-muscular disorders are curiosities in medical science.

In Neuro-surgery the progress has been very steady. The modern methods of investigation by electro-encephalography has opened a large field in the localisation of growths in the brain. Such localisation was once considered of little more than academic interest, but is now a matter of urgent practical importance upon whose correct solution, the life of a patient depends. The surgical treatment of brain disorders until recently was a human torture; but to-day the operative mortality has fallen so low compared to a decade ago, that in skilled hands it is less than ten per cent. There was a time when a good number of such cases were diagnosed as mental disorders, and were confined for treatment in asylums,

with no prospects of recovery. Tumours of the brain are among the nervous conditions that have a peculiarity to mimic totally dissimilar diseases. Thanks to Electro-encephalography most lesions of the brain are easily detected to-day, and thanks to Neuro-surgeons the removal of the cause of the trouble enables a man to live, without a handicap, to a normal span of life. A few years ago, even if a case of brain tumour was detected, there was nobody to operate on the patient, but to-day we have eminent Neurosurgeons to deal with such cases, although their number is small compared to our vast population. But the day will surely come, with the growth of our resources, when we will be able to give the highest training in every branch of medical science in this country, and provide facilities which will bring every kind of treatment, no matter how difficult, within the realms of the humblest in our land.

Psychological Medicine-another branch of Neurological Sciences-has been making a steady progress. When the medical profession recalls what a vast amount of literature has grown up around this fascinating subject within the present century, it whole-heartedly accepts the importance of studying the emotional life and the social problems of a man while treating him for his major ailments.

Physicians always knew that the emotional life of an individual had something to do with his illness, but when specialists appeared on the scene with all their attendant paraphernalia----electro-physiological instruments, laboratory investigations, etc.-the psychological background of the patient was ignored. Fortunately, remarkable developments have taken place during the last few years, and the emotional side of illness has been given the attention it deserves. One third of all patients have emotional factors which complicate and add to the burden of their diseases, and the psychologist often makes successful attempts to provide them with designs for living in spite of their physical disabilities.

Tranquilisers-which induce in a patient a mental state free from agitation and anxiety, and render him calm, serene and peaceful-are modern drugs that help to cool the frustrated mind of an individual in this troubled world.

Progress in Psychiatry has been slow, because of public prejudice and the inherent complexity of the subject. Mental diseases have existed among mankind perhaps when human beings reached the smallest degree of civilization. They were attributed to an evil spirit in ancient days. The three hundred and fifty million inhabitants of India almost universally cherish the same belief even to-day, and it may yet take another century before this belief is eradicated. If a psychiatrist feels that less satisfactory results are obtained in the treatment of the insane than with the treatment of other diseases, then he must remember that the latter had a longer start; that science has necessarily advanced further in General Medicine and that Psychiatry has been considered an illness and not as the symptoms of a man possessed by an evil spirit, only four centuries ago.

To-day mental disorders are studied with a human interest in addition to the scientific side, and this has thrown so much fresh light in the insight of their problems, that modern methods offer new hope in their prevention and treatment. Mental illness is regarded as the cumulative result of unhealthy reactions of the individual mind to its environment. The Psychiatrist, basing his knowledge on this physiopathology, appears to have made a correct approach to solve its problems. The dramatic success attained by physical therapy, such as those conducted by chemically or electrically induced convulsions, are triumphs in psychiatry. Much, however, is still in the melting pot, and at this juncture one can only surmise the effect of the results achieved and speculate on the line of the future advancement. However, there is no doubt that great progress is likely to be made in the next few years, as all the available data are being checked and correlated.

And finally, I feel my address to my colleagues will be incomplete if I fail to make a passing reference to an important branch of Neurological Sciences, which appears to be least known to the world, and this is yogism. This is a science which is known to India alone, but unfortunately confined into the hands of a few laymen. It is undoubtedly a Neurological Science in its highest form, enabling those gifted in it to have control over their bodily functions and on the involuntary movements in their system, Man, as compared to animals, has reached the highest stage of evolution, and so far as his anatomy and physiological functions are concerned, appears to be nearly perfect. But evolution still goes on and spiritually he has not advanced much; he may do so when he succeeds in controlling his autonomic nervous system and allow it to function at will, as is being done by some Indian Yogis. We should be proud of this science which appears to exist only in India though practised by very few. Being an

extremely difficult science I am afraid that it may die a slow but sure death, unless medical, especially the Neurologists, take it up seriously and develop it in the right direction. We have much to learn from the West, but here is one branch of science which has been inherited by India. Let us proudly divulge its essence to our Western counterparts; for, with better resources at their disposal, they should be in a more fortunate position to organize research in this not too well known branch of science, and unravel the mysteries attached to it, for the benefit of mankind. The wisdom of the East and the high spiritual living of some of our countrymen, are, perhaps, based on the control of the Autonomic Nervous System. Let this wisdom be given to the West in exchange for the benefits the East has received in the various branches of Science, so that one day the whole of mankind may attain a high level of spiritual perfection and live peacefully as one great family.

Presidential address delivered at the 7th Annual Conference of the Society held At Trivandrum in January 1998.  
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### **The Bombay Neurology Group.**

The contributions of the Bombay Neurology- Neurosurgery group in the early phases of evolution of the NSI were remarkable. The series of papers from Bombay on neuro-tuberculosis, craniovertebral anomaly, a type of hereditary ataxia with slow eye movement, demyelinating disorders, cerebrovascular diseases attracted International attention . The leaders in the profession like Prof. Ginde, Prof. Gajendra Singh, Prof. Barucha, Prof. Wadia, Prof. Anil Desai, Prof. Singhal and a host of others contributed significantly to the growth of neuro-sciences in this country. Most of the Bombay neuroscientists were globe trotters, acting as the unofficial Indian Ambassadors of science. Scientists in other centres like Madras, Vellore, Delhi etc had to compete with Bombay for their own well established names. Unfortunately the unique position of Bombay in clinical neurological research could not be sustained as many other smaller centres became more active.

I am indeed happy that Prof. E. P. Barucha, Prof. N. H. Wadia, Prof. Anil Desai, Prof. Darab Dastur, Prof. B. S. Singhal have contributed to this volume. Some of these papers are quite informative than others.

Prof. Barucha (MD from Bombay and London. FAMS) is still quite active in NSI and IEA sessions. He continues to act as Indian Medical Council Inspector for DM examinations. Some time in 1989, when he came to Trivandrum Medical College for granting IMC recognition for our DM Neurology degree, it was amazing to see the meticulous manner in which he went about his work. Every small detail was noted. He sat through the two day long examination for two candidates and took down every single question asked to the candidates. One of the candidates was Dr. Gopala Pillai (sadly he died just 4 years after passing the examination) who had a string of medical degrees already (MD Medicine, DTMH, DPM, and DTCD) had failed in the previous the DM examination. Prof. Barucha was as much interested as the other examiners how he would perform in the examination. Luckily things went smooth for him. During the DM examination Board meeting he quietly went out of the room saying that it was not his business to be in that meeting. I still remember his detailed report recommending IMC recognition for our DM examination.

Prof. Wadia has almost become a 'Trivandrum man'himself, and I see him more often at Trivandrum than in any other place. He is still very much active in the administrative side of the neurological research all over the country. Like Prof. BRM's article, Prof. Wadia's paper gives a lot of interesting observations about the development of neurosciences in Bombay region.

Since I do go to Bombay frequently for the University examinations and Conferences I have opportunity to meet the younger aggressively competent young neuroscientists also. They will surely keep up the great research traditions of their predecessors. I am only sorry that I did not get the write up from some other senior neuroscientists in Bombay who became the Presidents of the NSI.

K. R. Nair.