

**Convocation Address by Prof. J.S. Bajaj, Member, Planning Commission, Government of India at
the 35th Annual Conference of the National Academy of Medical Sciences at Banaras Hindu
University, Varanasi on 9 March, 1996**

President, National Academy of Medical Sciences and Vice-Chancellor, Bombay University, Dr.(Mrs.) S.S. Deshmukh, President-Elect of the Academy, Dr. B.K. Sharma, Vice-Chancellor, Banaras Hindu University, Dr. Hari Gautam, distinguished Fellows and Members of the Academy, recipients of the Academy Awards, Members of the Faculty, staff and students of Banaras Hindu University, ladies and gentlemen :

May I thank the President of the Academy, Dr.(Mrs.) S.S. Deshmukh and Vice-Chancellor, Banaras Hindu University, Dr. Hari Gautam for the honour done to me by asking me to deliver the Convocation Address today. May I also take this opportunity to extend my warm greetings to those who have been admitted to the Fellowship and Membership of the Academy today and also offer my heartiest felicitations to the recipients of the Academy awards and medals.

As the present century is coming to a close, one cannot but agree with the observation that advances in biomedicine during this century have produced greater impact on human health than all the cumulative knowledge since the dawn of history. A retrospective analysis, focusing only on the period since 1961 when the National Academy of Medical Sciences was registered in April and formally inaugurated by the then Prime Minister Shri Jawaharlal Nehru on the 19th December, indicates the tremendous progress in bio-medical sciences during our own professional life time. Only a few months prior to the inauguration of the Academy, the Nobel Prize had been awarded to Sir MacFarlane Barnett and Sir Peter Medawar in December, 1960 for fundamental discoveries which laid the foundations of modern era of immunology. A year after the inauguration of the Academy, the Nobel Prize in 1962 was awarded to Crick, Watson and Wilkins for their epoch making breakthrough in the unraveling of the mystery of the double helix. Indeed, that decade can stand out in the progress of science as a period of momentous discoveries in immunology and genetics that set us on a new path of diagnostic and interventional medicine. The decade that followed brought a quantum leap in the field of endocrinology with 1970 Nobel Prize shared by Axelrod, Katz and Von Euler for their work on the humoral transmitters in the nerve terminals, and the mechanisms for their storage, release, and inactivation. Also Sutherland's classic work on cyclic AMP, providing an insight into the mechanism of action of hormones, was rewarded with Nobel Prize in 1971, followed by the Nobel Prize in 1977 shared by Guillemin and Schally for their work on hypothalamic release hormones and Rosalyn Yalow for the development of radioimmunoassay of peptide hormones. These fundamental advances received a complimentary thrust with the development of new technologies such as computer assigned tomography, aptly and promptly recognized with the award of Nobel Prize to Cormack and Hounsfield in 1979, and the characterization of restriction enzymes widely used in molecular genetics bringing for Arber, Nathans and Smith the Nobel Prize in 1978. The present decade, as was expected, continues to maintain this momentum with organ transplantation recognized for Nobel Prize in 1990 and the polymerase chain reaction, a critical and vital input in the now well established field of molecular biology, recognized with the award of Nobel Prize in Chemistry to Mullis in 1991.

Although the last four decades have been most exciting, the seeds for these developments were sown almost four centuries back. I believe that the early seventeenth century can be truly called the age of resurgence of scientific thought and experimental methods. It was the age of Galileo, Kepler, Harvey, Bacon and Descartes and constituted a continuum of the thought processes initiated by Vesalius and Fabricius. The essentials of scientific research were defined and efforts were made to demolish the barriers separating natural sciences from life sciences. Nevertheless our total understanding of the molecular basis of medicine and indeed of the human structure and function has now reached a level of comprehension which was hitherto unknown. The final culmination of all this is the human genome project, and some of the recent work regarding cloning of human being.

Human genome project perhaps epitomizes not only a continuation but possibly culmination of the present phase of technological revolution. We are moving fast towards the twenty-first century, which may not only usher a new era but possibly a new age, the Aquarian age, where sophisticated technologies including information technologies will enjoy the highest premium and the nations which lag behind may be subjugated by a new technological imperialism. India requires major investments in education, science and technology to establish a leadership role in the emerging new world order.

There are several issues which arise at this juncture but with the time at our disposal, I shall confine myself only to the most pertinent.

Firstly, as one of the main objectives of the Academy was the promotion of knowledge of medical sciences in India and its practical applications to problems of national welfare, how far the Fellows of the Academy have contributed, and can continue to contribute, to these advances and thus to the national self reliance, and how well can they fulfill the hope expressed by Shri Jawahar Lal Nehru at the inaugural function in 1961 when he said :

'I hope the Academy would lay stress on the pursuit of research work and simultaneously ensure that high standards were maintained. Research was an inseparable part of any systematic pursuit of knowledge and therefore it is imperative that the quality should be absolutely first class.'

The second set of questions that arises in my mind as a physician is much more fundamental. How well have we translated the basic advances in bio-medical knowledge into their practical applications to problems of national welfare. As doctors, how far have we succeeded in fulfilling the expectations of the people, and in particular of our patients. Indeed, what are these aspirations? While these are questions related to what I call microethics, there are equally important issues in the context of macroethics. Broadly, these concern quality and equity of health care. We must remember that quality of health is a multi-dimensional concept : it may be based on individual experience enabling the patients to exercise judgment; it also has a professional and scientific facet which is assessed by the providers of health care; it has an economic dimension which is critically reviewed by the health planners, and it has a managerial component which is controlled by the health care managers.

Undoubtedly, every recipient wants nothing but high quality health care. Equally, we as health professionals who provide such care endeavour to respond by ensuring high quality service. These have been, and continue to be the determinants of doctor-patient relationship. However, the health planners and the community as tax payers also want to have value for money. How do we reconcile these seemingly divergent needs and wants? How do we measure quality of health care? What are the available means to improve poor quality of health care or any of its service components? And finally how do we justify allocation of substantial resources for effecting optimization in the quality of health care for a few, at the cost of compromising the access to any health care by many? In simple words, how do we balance the trade-off between the acceptability of desired quality by an elitist group of paying patients and health professionals vis-à-vis the accessibility of a large segment of population to socially supported health services with emphasis on social equity of health care.

May I submit that the present concept of quality as synonymous with technological excellence and therefore resting entirely in the hands of competent professionals cannot and must not take precedence over the perceived needs of the community and a value judgment of patients with regard to the availability of atleast basic health care service, absence of which reflects the inadequacy and inequity in the provision of such services. We must therefore balance the wish list of professionals on one hand and that of the want list of patients, the community and the population on the other.

A natural corollary to this discussion is the question : what is the want list of patients? Do the patients want their treating physicians to be highly skilled technologists connected with the

information superhighway so that the latest and the best can be made available in terms of patient management? Superficially speaking, probably yes. Surprisingly, however few patients seem to worry about the technical competence of doctors.

In a survey conducted in Britain, respondents did not emphasize technical competence of the physicians at the top of their want list. Possibly, it was assumed that any qualified doctor is competent. For whatever reason, most respondents wanted a doctor who would listen; a doctor who could analyze their problems; and most importantly the majority of respondents wanted an opportunity to meet the same doctor every time. This continuing doctor-patient relationship is based on mutual trust and confidence. As Sir James Spence stated in this classical monograph on the Purpose and Practice of Medicine, *“the essential unit of medical practice is the occasion when, in the intimacy of the consulting room or sick room, a person who is ill, or believes himself to be ill, seeks the advice of the doctor who he trusts. This is the consultation, and all else in the practice of medicine derives from it”*. Trust indeed, is the key word.

Over the years, in spite of the fact that there is a growing belief that ethical standards are declining and therefore an apprehension that peoples' trust in the doctors is being eroded, a recent survey in Britain indicated that about 80 per cent of the people trust their doctors compared with about 5 per cent who trust politicians. I am unable to predict with any accuracy the results of a similar survey in our country, especially at the present juncture. Nevertheless, it is axiomatic that the basis of any trust is essentially the rapport built through a two-way communication between the patient and the doctor. Indeed, if we look into the main reasons for which the patients sue their doctors, a study in the United States which incidentally is considered the most litigant nation in the world, revealed that the primary reason was not the medical injury itself, but the failure of communication. Patients sue because they were either treated with contempt or condescension, or excluded from essential information and decision making. What was more revealing was the observation that the vast majority of patients who indeed experienced medical injury and negligence never sue their doctors. This may be because these patients trust their doctors and value their relationship which is personal, caring and respectful. As noted medical educationist Eric Cassel observed : *“All medical care flows through the relationship between physician and patient, and the spoken work is the most important tool in medicine”*. I must confess that this art of communication is least understood and practiced by the hospital consultants, let alone being demonstrated to their students. No amount of technological innovation or revolution shall ever be a substitute for the doctor-patient relationship built on mutual trust and sound communication. No amount of technology can ever be a substitute for trust, nor should we ever let technology dehumanize medicine.

To conclude, I must state that like some of you I am equally excited about the two achievements of the human intellect which crown the current decade of the century. Quantum Cosmology, the new science of the universe; and the Neuroscience, the science dealing with processes and molecular interactions that govern brain function. Indeed, Quantum Cosmology generates the awareness of our beginning; Neurosciences, in contrast, unfold our future potential and therefore project the ultimate in human destiny.

Irrespective of whatever cognitive quantum leaps may be made in the Aquarian age, the physician of the twenty-first century shall continue to orchestrate with the melody of molecules, shall remain avidly attached to the music of mathematics, and shall get increasingly involved with the cosmology of computers. While doing so, his inherent capacity to develop an inner vision and in-depth perception, must go beyond the hitherto known frontiers of biosciences. Indeed, this is where the sublime art of medicine surpasses the narrow confines of the biofrontiers of the science of medicine. This is when a physician attains the divine gift of healing. Yet, how many strive for both? And how few achieve either!