Architecture in a changing environment

A CASE FOR MORE RESEARCH IN ARCHITECTURE

It was a little over eight decades ago that the architectural profession was witnessing the beginnings of a major revolution. That was a revolution in Design. It led us from an Architecture of a Handicraft Age to that of an Industrialised Age in which Design is not just the product of, but generally a very deliberate expression of, technology. It drew architects away from their traditional preoccupations and encouraged them to explore new design concepts with an open mind.

In developing countries like ours, architects are today facing another revolution very different in its nature but far more important both to the future of their profession and to the people it is dedicated to serve.

This new revolution we are facing concerns the whole concept of the architects' role and therefore of architectural practice. This is today much more complex than the mere design of buildings for which the programme has already been set by others. The architect is now compelled to play his part in setting the goals (i.e. the design programme) not only for individual buildings but for whole projects, even for whole townships and cities. He is to help interpret in terms of environmental design the country's broadest economic, and social goals.

Today's demographic statistics indicates a population explosion hitherto unknown in the history of the human race. In the next decade as much housing will have to be provided as has been done in our entire history. Changes, economic and social, physiological and technological, have made it necessary to refashion the whole human habitat. We have therefore to consider drastic changes, for example, in our concept of land use - in the direction of totally integrated design of whole neighbourhood complexes. We have to adopt new concepts that will put building and valuable land on which it stands to work 24 hours a day, instead of eight. Fresh ideas have also to be developed for enlarging our existing cities.

Since the maturity of the Science of Rocketry, telecommunications and computing gave birth to the Space Age, man has already taken his first step towards proliferating throughout the solar system.

Now that man has reached the Moon, it is the architects' job to plan for a "Moon Colony" in the invisible components of the environment such as the near Perfect vacuum of the atmosphere, extreme temperature variations and the range of incoming radiations from the Sun and Space. These are, in general, a few of the many challenges that confront the Architect in the face of rapidly advancing science and technological research. There is no one more suited than the trained architect to meet this challenge and accept this fantastic commission. If he does not, someone else will and none of us are likely to be happy with the results.

Le us for instance examine the impact of the computer in the field of architecture. Very soon we will have to accept and adapt the computer for automated specification writing, solving management problems and sorting out complexities of city planning etc. etc.

Use of the computer in architectural design can either enlarge the horizons of design or shrink them disastrously. Speed with which working drawings could be done on a computer might encourage rapid production of routine standardised solutions. If imaginatively used how ever, the computer could be a powerful design tool. The sketch pad program makes it possible to study buildings in perspective continuously as they are designed, and to make accurate drawings of complex curved surfaces in a very short time. Optimisation techniques, using computer calculations, are already being employed to help answer questions about economic storey heights for office buildings or the most satisfactory combination of uses for a given tract of land.

In this fast developing Technological and Scientific age architects have a heavy responsibility to society in satisfying present day needs which often fix the direction of future growth. There are many roles the architect could play to accelerate the momentum of cultural, social, and economic developments. Therefore it is imperative that our School of Architecture which is the only institution that trains architects, should focus attention to train different types of architects to fulfil the varied needs.

Some of the evolving roles of the architects are :

(*a*) Industrial products designers employed by a dealer manufacturing building components.

(*b*) Designer or Manager of a firm of financiers or developers providing complete buildings or group of buildings. ("package dealer").

(*c*) A leader of a multi professional team of specialists concerned with large and complex design tasks (Employed by the government or operating as private enterprise consultants).

(*d*) An artist and general consultant on environmental problems.
(operating more or less as in the 19th and early 20th centuries).

(*e*) A Scholar who studies specific aspects of design in great depth, but leaves the application of his findings to other professionals.

(*f*) A University graduate with special training in problem solving techniques who could turn his hand to any task.

(*g*) A politician or manager with special interest in visual matters.

In this context our School is fortunate to be set in congenial surroundings for related studies, where the emphasis is on higher Technology such as all aspects of engineering including communication, Computers, Energy, Space Technology and Robotics.

Research is the key for advancing technology. Research plays an important part in the development of these areas of studies. A research Unit is an essential feature of a progressing school and no school can function effectively without research to make the changes in our own thinking and methods of action which will be needed to meet the problems facing us. Research groups provide the essential link between teaching, theory and advanced practices, without which professional education stagnates at a low ebb. Therefore, formulation of the ARU is considered another milestone in the forward movement of Architectural Education. It is my sincere hope that the ARU will bridge the gap between research and design by providing a common base to pool resource capabilities for the benefit of the nation.