



BIRTH OF THE NUCLEUS – 1964

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The article describes how Dr I H Usmani, the-then Chairman of the Pakistan Atomic Energy Commission (PAEC) threw down the gauntlet, in mid-1963, to the author of this paper – then a young and recently-recruited Director of the Atomic Energy Centre, Lahore – inviting him to be the Founder-Editor of the quarterly journal of the PAEC. The author took up the challenge – and *The Nucleus* was born in March 1964. The author presents an overview of the philosophy, the overall structure / coverage of topics, the artistic get-up, as well as the composition of the multidisciplinary first Editorial Board of the journal. Reference is also made to the contents of some of the early issues of *The Nucleus*, edited by the author. The article ends with a description of the evolution to the present-day – more technical – nature of the journal.

Keywords : Overall structure, Topic coverage, PAEC programmes, Science and society, Artistic get-up, Multidisciplinary Editorial Board

I well remember the genesis of *The Nucleus* a little over 40 years ago. I had just joined the Pakistan Atomic Energy Commission (PAEC), with the encouragement of Professor Abdus Salam - in May 1963, after my Ph.D studies at the universities of Cambridge and Oxford and a spell of training with the UK Atomic Energy Authority. Dr I.H. Usmani, the-then Chairman of the PAEC (who had personally invited me to join the Commission during his visits to London), soon - viz. within two months of my joining the PAEC - made me the Director of the Atomic Energy Centre, Lahore (AECL), then the premier research centre of the Commission. This took place for me at the relatively young age of 33. Dr Usmani was a charismatic, dynamic, autocratic, and brilliant person : a phenomenon *sui generis*, if there was one.

During one of his frequent visits to the Centre from his Karachi headquarters, Dr Usmani said to me : ' Durrani, I don't suppose you could launch a journal of the Pakistan Atomic Energy Commission'. That was his style: challenging you to rise to the heights he expected of you. 'Why do you say that, Dr Usmani?', quoth I in my innocence. 'For two of your predecessors, whom I urged to do so, failed to accomplish the task', he answered. 'I am happy to grasp that nettle', I replied with enthusiasm. I had, I thought to myself, after all been a joint-editor of the Government

College Lahore's magazine, *The Ravi*, in my time; and had published a good deal of (my own) poetry, prose and translations (all in Urdu) in some of the leading literary magazines of Pakistan. Dr Usmani said, 'Good luck, then, Durrani; you can count on my support whenever you need it.'

I started work on this project straight away. My first task was to invite a number of colleagues, from different scientific disciplines, to serve on the Editorial Board of the new journal and thus give it a broad interdisciplinary base. Here is the list of the members of my first Editorial board: Dr Anwar Hossain, Dr S.A. Hasnain, Dr Athar Husain, Dr M. Jameel and Mr A. Mannan Khan. (The Board was constantly reshuffled over the years as members left for research or training, etc., abroad, and new members were inducted in to replace them.) The next undertaking was to devise an overall structure for the journal that would cover not only the main components of the information about, and record-keeping of, the Commission's activities, achievements and future plans, but also represent cross-linkages with other organizations and publications concerned with worldwide scientific activities, especially in the field of atomic energy.

Here is a relevant extract from my very first Editorial, published in *The Nucleus*, Vol. 1, No. 1 (January-March 1964).

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'In order to achieve the above objectives in a systematic manner the following structure has been evolved for the Journal. Each issue will be subdivided into the following main sections :

1. Science and Progress

Under this heading will appear specially commissioned or contributed papers which articulate ideas of striking significance in the field of interaction of science and society.

2. Technical Reports

This section will contain articles of more specialized interest. As a rule, articles will still be

written in a way that they can be understood by a non-specialist.

3. PAEC Programmes

Under this heading we shall endeavour to cover the whole spectrum of the PAEC activities - taken in turns.

4. Atomic Energy Abstracts

This is a service for the busy scientist. Ibne-Sina is the august name adopted by one of the editors who is responsible for the extraction and co-ordination of information from different disciplines.

5. News and Views

This section is meant to bring us up to date with the goings-on of various establishments of the PAEC and its personalities, as well as scientific events of note in the world. For the time being, a principal scientist of the Commission, under the *nom de plume* of Democritus will give a bird's eye view of the happenings at home and abroad. One of the resident editors at the Atomic Energy Centre, Lahore – AECL- will also give, under the pseudonym of Spectrum, a light-hearted and intimate account of the happenings at that Centre.

6. Letters to the Editor

If *The Nucleus* is to be the forum of healthy discussion. . . . space must be provided for criticism or discussion that the readers may wish to make or present concerning the policies of the Journal, or the Commission, or the scientific effort of the country at large. . . .

7. Nucleus at a Glance

This will give, in three languages for the benefit of our foreign readers, a gist of the more important papers appearing in this Journal, and in addition give a short introduction to the contributors'.

May I add, as a postscript, that the last-mentioned section was contributed by my wife Ingeborg - German by birth. So far as I can recall after the lapse of over four decades, the other holders of *noms de plume* in the early issues of *The Nucleus* were as follows. Ibne-Sina: A Mannan Khan. Democritus: Dr Anwar Hossain. Spectrum: Dr M. Jameel.

An important aspect that needed to be taken care of, next, was the get-up, lay-out and the artistic features of the new journal. It had to look professional in its design and composition if it had to take its place on the world communication scene. For this I was fortunate to be able to fall back on my old friend and classmate from Government College, Lahore, days - by then a well recognized painter and man of letters – Raheel Akbar Javed. Originally a student of engineering, he was now in-charge of publications at the WAPDA (Water and Power Development Authority) headquarters in Lahore. Raheel gave me invaluable and very high-quality support by not only designing the Cover for *The Nucleus* (which we originally changed for each issue) but also producing a complete dummy for the first (and subsequent) issues – comprising **all** illustrative material and the entire layout for the issue.

The real meat of the journal was, of course, its contents. I first approached Dr Usmani, and asked him to contribute a wide-ranging article for the first issue. This he did in his usual highly readable and well-argued style through his article entitled 'Atomic Energy in Pakistan', which took pride of place in the section *Science and Progress*. Then I approached the American Nobel Laureate in Chemistry, Professor Glenn T. Seaborg, for permission to reproduce his article 'Science Transforms Concept of Nature', which he graciously granted us. The third article under *Science and Progress* was by Professor M.J. Moravcsik, who was at that time a Visiting Professor at the Atomic Energy Centre, Lahore, under (I think) IAEA auspices. He contributed a thought-provoking article entitled 'Fundamental Research in Pakistan'. (Other famous international scientists whose articles appeared in the subsequent issues of Volume 1 in the *Science and*

Progress section were the Nobel Laureate Professor P.M.S Blackett, and Sir William Penney, head of the UK Atomic Energy Authority, who wrote, respectively, on 'Planning for Science and Technology in Emerging Countries' and 'Research and Development in the [UK]Atomic Energy Authority').

I need not go through the entire contents of the first issue of *The Nucleus* here (which came out in March 1964), but will just mention one special feature of the maiden issue. This was the special messages welcoming the birth of our journal. For this, I was indebted to Dr Usmani for his good offices in obtaining these. The messages, printed on the opening pages of *The Nucleus*, were from Mr Z.A. Bhutto, Pakistan's Minister for External Affairs and Atomic Energy; Professor Abdus Salam, FRS - the Chief Scientific Adviser to the President of Pakistan; and Dr I.H. Usmani, Chairman, Pakistan Atomic Energy Commission, who also contributed a Foreword.

I myself contributed the inaugural Editorial, entitled -'The Nucleus': The Heart of the Matter.

I should have mentioned earlier that the name of the journal, viz. *The Nucleus* had been suggested by Dr Anwar Hossain, later the first Director of the Atomic Energy Centre, Dacca, in East Pakistan. We chose this name after thorough discussion, during which several other names had been proposed and carefully considered. Although we found that there was already in existence another journal (in the field of cell biology) with the same name, we were advised by competent authority that no international copyright was in place to prevent our use of that name so long as we defined our journal as being the organ of the PAEC which we did. Be it as it may, all of us who had burnt many a midnight candle in enabling our creation to see the light of day were overjoyed when one fine morning it did actually do so. I proudly presented a copy of the first issue of *The Nucleus* to Dr Usmani at his next visit to the Atomic Energy Centre at Lahore. He turned its pages, read some of its contents, glanced appreciatively at the illustrations and its general get-up, and turning to me pronounced his judgment: 'Durrani, you have produced quite a good first issue. Well done! But I don't suppose you will be able to maintain that standard in its future issues.' Again that challenging way of egging you on to redouble your efforts that was his wont.

Dr Usmani then decided, on the spur of the moment, that every officer of the Commission must take out a subscription of the PAEC's journal, and ordered that the cost of the annual subscription be automatically deducted from their salary at source! I received a number of complimentary messages from the Atomic Energy Commissions all over the world, to all of whom we had posted complimentary copies of the journal. Some of them stated that they had never realized that the Pakistan Atomic Energy Commission had so many ambitious and high-quality programmes up and running. They also paid tribute to the high standard and the thoroughly professional get-up and presentation of the Commission's journal. Some of these messages were printed in the subsequent issues of *The Nucleus*.

Looking back through the Editorials that I wrote for the early issues of *The Nucleus*, I feel quietly pleased with – even proud of them. After the lapse of 40 years, I still feel that I am happy to stand by my views expressed at the beginning of my career. Here are the titles of my next four Editorials (the first has already been referred to above) : Vol. 1, No.2 (April - June 1964) : 'Science and Society'. Vol. 1, No.3 : 'An International Forum of Science'. (This refers to the Third International Conference on the Peaceful Uses of Atomic Energy, held at Geneva in August - September 1964). Vol. 1. No 4, (October - December 1964) : -Whither Research? Vol 2. No.1 (January - March 1965 - the issue marking the inauguration of the Atomic Energy Centre, Dacca) : 'Lingua Scientia'.

By now we had started giving Universal Decimal Classification - type subject numbers to each article published in *The Nucleus*, including the Editorial; this service being provided by our Chief Librarian, Mr M.M Rafique. For the entertainment -and information - of our readers of this commemorative issue, we have included in our selected archival material reproduced below, two of the above-mentioned Editorials, viz. 'Science and Society' and 'Lingua Scientia'.

The last issue of *The Nucleus* under my Chief Editorship, before I left for further post-doctoral research – first at the Technical University in Munich, West Germany, and then at the Atomic Energy of Canada's famous Chalk River research centre – in May 1965, was a Special Issue to mark the inauguration of the Atomic Energy Centre, Dacca, in what was then East Pakistan. This issue had a number of interesting and important articles

highlighting the PAEC's programmes in the eastern wing of the country – and its cover displayed a picture of the plaque installed at the Dacca Centre for its inauguration. The plaque carried a beautifully calligraphed *ayah* of the Qur'an–inscribed in black on a green tablet of stone–which had been personally chosen by Dr Usmani and executed under his supervision. (He took a team of senior members of the Commission from West Pakistan – including the present writer – for the inaugural ceremonies at Dacca – not to mention many high dignitaries of both wings of the country who took part in the proceedings.)

Dr Usmani loved such ceremonies. Indeed, in the spring of 1965, when President Ayub Khan inaugurated the Pakistan Science Conference at Lyallpur (now Faisalabad), Dr Usmani presented the complete first volume of *The Nucleus* to President Ayub as a very special gift from the Commission – and I had the honour of being introduced by him to the President as the Editor of that journal.

I was speaking above of the special issue of *The Nucleus* to mark the inauguration of the Dacca Centre. Dr Usmani was especially kind to me in praising its contents and the high standard – but could not resist making a somewhat discomfiting remark that I still remember : 'I don't think, Durrani', said he, 'that you will be able to keep this journal going for long'. Taken rather aback, I asked : 'Why do you say that, Dr Usmani?' To which he replied : 'When I was Secretary, Industry, to the Government of Pakistan, I, too, brought out a journal of that Department; but it lasted for only five issues. And this is *your* fifth issue, dear boy!' How wrong – except in one respect – was Dr Usmani! *The Nucleus* has, by now, lasted for over 40 years – an enviable record, indeed. But he was partly right : I left the country for research abroad after that fifth issue – and with that ended my Editorship of the journal (and, eventually, also my

membership of the PAEC : though not my affection for the Commission). A list of all the Editors of *The Nucleus* is given elsewhere in this issue for the interest of the readers.

Over the last forty-odd years, the nature of *The Nucleus* has undergone a sea-change. From being a house–journal of the Commission, it is now an international technical journal, carrying research papers authored not only by the scientists, doctors and engineers of the PAEC itself, but also by research workers within and outside Pakistan. During its life, it has also published a number of highly-acclaimed Special Issues to mark historic scientific milestones, etc. The more informational aspects of the PAEC's activities and achievements are now covered by the Commission's other magazines/Newsletters–which act as record keepers of such events – namely, *Pak Atom*, which first came on the scene in 1968 and the more recent publication, *Atom News* (first published in 2004)

May I end this – for me, rather nostalgic – piece by wishing *The Nucleus* a long and successful life? May it go from strength to strength in the years to come – and may those who look back at its accomplishments and achievements at the end of its next forty years remark: What a wonderful *makhzan* (treasurehouse) of knowledge has this magazine (latinized version of *makhzan*) been over all these years! For, in the inspiring words of our visionary poet, Allamah Muhammad Iqbal, let us unite to say :

***From a spark I seek the stars, from the stars, the Sun
I have no wish for a sojourn – for I die if I rest!***

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