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## Tribute to the Memory of Professor M. K. V. Bappu

Professor M.K.V. Bappu, President of the International Astronomical Union (1979-1982) died in hospital in Munich, Federal Republic of Germany, at the time of the XVIIIth General Assembly. He had undergone a major heart operation on 9 August and although the surgical intervention was apparently successful, serious complications set in a few days later. After a heroic struggle, assisted by the foremost medical expertise, Professor Bappu expired in the early evening of Thursday, 19 August 1982. Word about this tragic event was immediately received in Patras and the IAU Executive Committee in an emergency meeting the same evening decided that a special tribute should be paid to the memory of their esteemed colleague, friend and President. This took the form of a meeting held at the University of Patras, on 23 August 1982 at 13:00 hours, with speeches by representatives of the IAU, of the Indian National Science Academy, of the Greek National Committee for Astronomy, of the Local Organising Committee and of Professor Bappu's wide circle of friends. The meeting brought together the majority of General Assembly participants and was a sad farewell to a highly respected and admired scientist, a brilliant organiser and a beloved friend.

The texts of the speeches, which were also printed in the General Assembly Newspaper, "Astrocosmos", on 24 August, are reproduced below.

PROFESSOR E.K. KHARADZE - ON BEHALF OF THE IAU

Dear Colleagues, Friends, Ladies and Gentlemen,

On behalf of the International Astronomical Union I express the most profound sorrow caused by the most untimely death of the current President of our Union, the distinguished scientist Professor Manali Kallat Vainu Bappu, 55 years of age.

We have all gathered here today at this mournful moment to pay a worthy tribute to his memory.

During Professor Bappu's triennial Presidency of our Union, we have witnessed his devotion to the interests of the Union, his very fruitful activity aimed at its consolidation and strengthening of its scientific effectiveness for the further development of our science - astronomy, all over the planet. The members of our Union will also remember Professor Bappu's contribution at the earlier time of his office in the Union as Vice-President in 1967-1973.

Professor Bappu's prominent activity in the Union and in the world-wide astronomical community in general carries the features not only of the skill of an experienced eminent scientist, but also of personal tact, kindness and benevolence to everybody, that has always been so highly appreciated by his colleagues and that has made collaboration with him so pleasant and easy.

We are all sharing Mrs Bappu's inconsolable grief.

Every effort was made in Munich to save Professor Bappu. The medical care was on the highest possible level. But, unfortunately, it was not Professor Bappu's fate to recover.

With his death, not only we - the Union, suffer a great loss, but so does the entire astronomical world. Moreover, the astronomical community in India is feeling it badly. They have lost their leading astronomer, who was full of plans and ideas concerning further development of astronomy in India.

Last year Professor Bappu visited several observatories in the USSR. We have a vivid memory of that visit, and of the enthusiasm with which he spoke on the development of astronomy in India. Many of his plans are left unfinished. But however profound the sorrow may be, however great the loss, our Indian colleagues should be encouraged to go on with their endeavours. That would be the best tribute paid to Professor Bappu's memory by his compatriots.

Being a member of the USSR delegation to this General Assembly, I permit myself to express on behalf of the USSR astronomers also, most hearty brotherly condolence and sympathy to the Indian delegation.

DR J.C. BHATTACHARYYA - ON BEHALF OF THE INDIAN NATIONAL SCIENCE ACADEMY

I was with a profound shock that we learnt about the sudden, unexpected passing away of Professor M.K. Vainu Bappu at Munich on the 19th of this month. A few days ago, we had the vision of a grand reunion of old friends here; we did not even dream of such a calamity of cruel fate snatching away our beloved, illustrious compatriot at this juncture. It is difficult to believe that Vainu Bappu, our charming friend and leader who was so full of life, will never be among us again.

Bappu completed his fifty-fifth year only a few days ago; we have been looking forward to many more years of his company and guidance. The great upsurge of astronomical activities in India, particularly in the Institute of Astrophysics, which he created, has suddenly lost its main guiding force. It is like a nightmare of a group of sailors in mid-ocean waking up to find their captain missing. He leaves behind not only the team of scientists he has guided and brought up, but also his wife Yemuna and his aged mother to suffer this unbearable loss.

Bappu's contribution to astronomy cannot be summed up easily. He has discovered new objects, new relations, created and guided new schools of astronomers inspired active societies and taken part in a wide range of international activities. He had a deep understanding of many problems; whether it was in instrumentation, or stellar processes or problems concerning tenuous gas clouds, he was able to suggest ways most likely to lead to tangible answers. A gem of a teacher, as anybody who has listened to his lectures would testify, he could attract and hold audiences spellbound. A brilliant organiser who could foresee the minutest details of a projected venture years in advance; in short, Bappu represented a personality of an ideal world, so rare in real life.

We have been fortunate to have this magnificent personality so close to us, and that makes our present loss overwhelming. His circle of friends covered the entire world; many of them are present here, and I am confident that all will agree how his adorable personality charmed everyone who came in contact with him.

One great aspect of Bappu was his love of nature which he worshipped and to which he tendered his creative ideas as offerings; the Institute premises at Bangalore, Kavalur and Kodaikanal bear mute testimony to this enchanting quality.

He implored others to develop a sincere love for nature. Speaking on one occasion he remarked: "To a person who enjoys a glorious sunset or marvels at the beauty of a cobweb glistening with the morning dew, nature unfolds her unending stream of magical charms."

Bappu is no more; he now belongs to eternity. His mortal remains have returned to mother nature he loved so much. Only a few days ago, as I was talking to him by telephone from India, he appeared so full of vitality and confidence. The thought uppermost in his mind was of this Assembly. "Do not worry about me", he advised, "go and join the General Assembly which must be a success. Nothing - nothing should mar the proceedings." That was his wish; we all owe him our sincere efforts to see that it is fulfilled.

ACADEMICIAN J. XANTHAKIS - ON BEHALF OF THE GREEK NATIONAL COMMITTEE FOR ASTRONOMY

Le Comité National d'Organisation exprime ses sincères condoléances pour la mort de notre président, le professeur Bappu.

Avec vive émotion, je me rapelle qu'il y a huit mois, le professeur Bappu nous a rendu visite avec le Secrétaire Général de l'UAI, Monsieur Wayman, pour discuter des affaires concernant la préparation du 18ème congrès.

A cette époque, il était en pleine santé et a manifesté un grand intérêt et beaucoup de dynamisme pour l'organisation de notre congrès.

L'annonce de sa mort subite, nous a laissés dans une profonde consternation et les drapeaux en berne sont le reflet de notre grande peine.

PROFESSOR C.L. GOUDAS - ON BEHALF OF THE LOCAL ORGANISING COMMITTEE  
of the XVIIIth General Assembly

Members of the Assembly, Ladies and Gentlemen,

We are gathered here to mourn for the loss of an excellent scientist and a noble man. To mourn for Vainu Bappu, the President of our Union, whose personality and high qualities are known, to a larger or smaller extent, by all.

The death of a President during the General Assembly he was supposed to preside over is an event without precedence and most likely never to be repeated.

As Chairman of the Local Organising Committee of the General Assembly that will be marked and remembered not only for its scientific works but also the loss of Vainu Bappu, I wish, in retrospect, to remind you of the story of Diagoras. Being a veteran of past Olympic games, and while lifted on the shoulders of his two olympic laureate sons inside the stadium of Olympia, Diagoras was cheered by the crowds with the unusual wish "Die now Diagoras". The crowds wished him to die at the moment of the peak of his glory.

Unable as we were, and are, to influence the decisions of fate, we cannot but observe that, since Vainu could not but leave us, the choice of moment for the inevitable was for him a grace - a moment of glory, recognition and appreciation.

Of course, such thoughts can hardly now be mentioned to the immediate family of the deceased. To them we express our deepest condolences.

Long live the memory of Vainu Bappu.

## PROFESSOR A. BLAAUW - AS PAST PRESIDENT OF THE IAU

Dear friends and colleagues of Vainu Bappu,

Three years ago, at the closing of the General Assembly at Montreal, when Vainu assumed the presidency, he conveyed to us his feelings of gratitude and joy in anticipation of the task ahead. "As each member," he said, "individual and country, contributes stone by stone to the vast edifice of astronomical knowledge, we rejoice without reservation and in all friendliness at the triumph of the human mind over a facet of Nature. In encouraging opportunities and providing that little extra fillip needed to cross the threshold into the domain of creative productivity, the Union can play an important role."

It is in this spirit that Vainu Bappu, during these past years has served the Union, with his many talents as a scientist and as an organiser. Three years during which he helped guide the affairs of the Union with determination and with the experience and foresight that had already made him so distinguished a renovator of astronomy in his home country. Members of the Executive Committee and of course even more his close collaborators, the Union officers, will long remember his deep concern for all that was in the interest of the IAU.

How immensely would he have enjoyed being among us these two weeks, seeing the accomplishments of tasks undertaken, the realization of plans designed - and above all, how would he have rejoiced in the company of so many dear friends from all over the world, engaged with them in scientific discourse in the subject of astronomy that had fascinated him from his early childhood.

It has not been given to him and to us, for him to be with us during these days. But we know how much he gave his thoughts to this Assembly, long before its official beginnings and with how much care he devoted himself to contributing to its successful proceedings; the several weeks spent in Munich in quiet contemplation of the many affairs to be dealt with and we can only surmise the deep disappointment he must have felt when it became clear that he would be unable to participate himself.

But we have had the privilege of sharing his thoughts of those last weeks by the message he conveyed to us at the opening of this Assembly. May I remind you of the words Vainu passed on to us in his presidential address and let me quote a few sentences from it:

"While innovation in technique is a factor of much significance in the discoveries that will yet be made, it is certain that an even greater role will undoubtedly be of the human intellect. Time and again we have seen how an individual has appeared on the scene and transformed a picture of gathering confusion into one of logical rigour and aesthetic simplicity. In the final reckoning, it is this aspect of Man that is responsible for the culminating triumph. It is, therefore, a responsibility shared by each one of us in our individual roles, be it of teacher or senior colleague, as well as of the astronomical community and the Union as a whole, to nurture such possibility. In its longterm view of contributing to the development of Astronomy, the Union must necessarily give considerable attention to the very important rôle of the individual in Astronomy."

As we take up our tasks for the Union and for research and teaching, let us keep these words of Vainu Bappu in mind.

## DR HARLAN G. SMITH - AS A CLOSE FRIEND

Vainu Bappu was probably my closest friend. For 33 years the strands of our lives have interwoven, even to the extent of his being best man at my wedding, and my just missing (because of academic schedules) being something of an equivalent at his wedding in India. I mention this because so few now in the IAU have had the privilege of really knowing him, and it is my grievous task to say farewell to him as a friend, on behalf of us all.

When the IAU was founded most astronomers knew each other, often rather well. Vainu was proud of the growth of our science, but regretted that he could only know so few of us, especially the young astronomers who are coming up so fast. For those who did not know him, I want to share several memories. There is no way I can truly bring out the richness of Vainu's life and mind and personality, but these vignettes - like flashes of lightning revealing fragments of landscape - may help you to glimpse the wonderful human being behind the formal degrees, the papers, and the honours he so well deserved.

In January 1949 we entered the Harvard Graduate School of Astronomy - entered with trepidation yet excitement to be studying in halls peopled with memories of the likes of Bond and Pickering, and the very real presence of Shapley, Bok, Payne-Gaposchkin, Menzel and Whipple. In the so-called liberal arts there is now a cult - I believe unfortunate and destructive - of the anti-hero, with its emphasis on sickness and psychosis, on feet of clay. But Vainu belonged to an older and finer school. His spirit was generous, kind, non-cynical - even hero-worshipping in the best sense of the word. He deeply admired if not even venerated his teachers and those, living or dead, who had really accomplished something. He well knew and understood human frailties, but to Vainu the important things were those qualities and works of great men and women which should be admired and emulated as far as possible in his own life. Then, as now, it was fashionable for graduate students to work very hard, and we did - sometimes tired and discouraged. I recall an occasion walking home with Vainu late one winter night, our conversation turning to whether we might ever get jobs or amount to anything in astronomy. Nearly always cheerful, he brightened up and proceeded to quote from his memory, well-stocked with classics, the entirety of his favorite poem, Kipling's "If". Though I cannot quote them exactly, most of us are familiar with a few of its famous lines, to the effect

If you can keep your head,  
when all about are losing theirs,

...

Then you'll be a man, my son.

If you can hazard all upon a toss,  
and lose, and rise to try again,

...

Then you'll be a man, my son.

The spirit of this poem was truly a beacon to his life - encouragement always to try to answer those "Ifs" with "I can, and I will".

Yet Vainu was anything but solemn. He laughed, and joined in most of the games and jokes. He found the necessary paraphernalia, and organised at the Observatory what must have been the only cricket team within a few hundred miles, teaching us the mysteries of sticky wickets and googlie-balls. On one occasion he gaily commented on some virtues of yoga, to the amused condescension of some of the other graduate students. So he inveigled me into a scientific test. We both stood on our heads (one form of yoga) for ten or fifteen minutes before each major exam. And, that year, we two were the only students to pass them all. QED! (but Vainu was too gentle ever to rub it in).

In those innocent days we had never even dreamed of being given money to travel to meetings. Yet Vainu never wanted to miss a session of the American Astronomical Society. So we went to all of them in our part of the country, doing what was necessary to make it possible, such as driving in my \$75 Model A Ford, literally spending nights on the lawns of host observatories in our war-surplus sleeping bags. Hot or cold, hungry, mosquitoes - Vainu never complained, and usually managed to bring the conversation around to astronomy.

He finished his PhD in near-record time. Then, after a couple of brilliantly successful years as a post-doc at Cal Tech, he could easily have obtained a comfortable job in the US. But I never sensed any doubt in his mind. His dream was to build and to do astronomy in India. I think it is hard for us now to realize the courage of this decision - to leave the centre of world astronomy, the 200-inch, and return to an India which then, just after Independence, lacked any of the structure of modern astronomy, with essentially no institutes, telescopes, colleagues...not even a job. That first period effectively of unemployment, in the midst of such desperate poverty, might indeed have made him wonder whether - having risked his all upon a toss - he might have lost, and could he rise again?

Then came the chance, largely through his own persuasion of a reluctant minister, to build a U.P. State Observatory at Naini Tal. And shortly thereafter came Yemuna, a pillar of love and strength throughout his life. From then on the path was up. You know at least the outline of the rest, but again I think, cannot easily imagine the problems to be overcome, the incredible effort involved, in an India trying to build nearly everything at once from scratch, to in effect create three astronomical institutions, a national society, a national journal, optical and machine shops, engineering and computer contacts and facilities adequate to design and build entirely within India a 2.34-meter telescope. Yet during all this time he was constantly looking for, and then looking out for, dozens of students who are now putting India on the astronomical map.

He did these things, and more, and reached the very top. This meeting in Patras would have been the peak of his career. I believe it meant more to him than words can convey, something he had been building toward for 40 years and more. Yet, when the urgency of the operation became clear, he adjusted with remarkable speed and calm philosophical acceptance both to missing this peak, and to the very real risk of the operation.

My wife and I spent a day and a night with Vainu and Yemuna just before the operation. He was vigorously planning at least three major things for the future, finishing the Kavalu telescope, getting the 1985 IAU plans off to a good start, and, finally, contemplating the course of his life after mandatory retirement around 1985 as director. In general he was planning to travel to many institutes, to renew old friendships and make new ones, and to concentrate on science.

Now these travels will be in our memories, and the work done by others. Meanwhile our hearts are with Yemuna and with Vainu's mother. I want them to know that for us Kipling's poem has come true. Each of the "Ifs" has become a "Because", or "Since", for Vainu really did live up to all of them. And I hope his mother might take comfort in adding a final couplet:

Since you ran the course, against all odds, and won,  
You did indeed become a man, my son.