

ஆயிரத்தோன்

(Prof. K. N. Sundaresan)

நிறை மதிகள் ஆயிரத்தை நீ பிறந்த பொன் நாட் பின்
முறையாய் யாம் கணக்கிட்டு, விழா இன்று முனைகையிலே...

திறன் சோராக் கரம் நினது, ஆயிரக் கால் மண்டபம்போல்
நிறுத்திய ஓர் பெருவாழ்வே நின்னகத்துக் காண்பதாலே,
பறை சாற்றிப் பரவுகின்றொடும், “ஆயிரத்தோன் நீ” என்றே.

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ஓவியத்தில் அங்கு அதோ
காவியத்தின் செங் கிண்ணம்!
ஆயிரம் இதழ் மலராம்... அழைக்கிறார் அத்தாமரையை

நிலைத்துள்ளாள் மலர்மேலே
உலகோம்பும் திரு ஆயின்,
ஆயிரமே மெல் இதழ்கள் பொன் மகளை எந்தொணுமோ?

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வாசலிலே அங்கு அதோ
ஊசலாடும் புன் கிளைகள்!
ஆயிரம் காய்சியாம் அழைக்கிறார் அத்தென்னையையே;

குலை குலையாய் மதி தோறும்
குலுக்கிற்று அத் தரு ஆயின்
ஆயிரம் வன் காய்க்கும் அதிகமாக ஈந்திலதோ?

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தெருவினிலே அங்கு அதோ
விரிந்துளது பொங்குவெயில்!
ஆயிரும் கதிரோனாம்... அழைக்கிறார் அவ் ஆதவனை;

காத நெடு வீடுகளுள்
சோதி ஏற்றும் அரு ஆயின்
ஆயிரம் கிரணங்கள் போதுமோ தான் காந்துதற்கே?

அதனால்,

ஆயிரம் எனினே எண் அதை மீறிய
நேயப் பற்பல நெருங்குமா தொகையே;

கமலமும் சூரியனும் தெங்கையும் ஒத்து நீ
நுமரிடை பொலிந்த நின் வள்ளல் வாழ்க்கை

நீளுக இன்னும், இனிது எம் நடுவே;
ஆளுக அடிமையாய் மதியிலிச் சந்திரனை;
நாளும் தளரற்க நலமும் ஊக்கமும்;

ஞான நல் நாட்டமும் அருளும் நிறைக,
ஊனத் துயர்கள் உறுத்துதல் ஓய்க,

விதப் பல சுற்றம் வேட்டு நிற் காக்கவும்
வதுவை நீ கொண்ட மனைமகள் மகிழவும்
இடர் எது சாரினும் தற்காப்பு உணர்ச்சியில்
ஒடுங்கி, வியன்சுருள் அரணிலே தூங்கும்
ஆயிரம் காலி அச் செங்கறு அட்டைபோல்,

ஆயிரம் திங்களொளி நின் முகம் குவிந்ததால்
பாயிர விளக்குமாய்ப் படர்க நின் நாளே.

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“AyirathOn”

(In Tamil by Prof. K. N. Sundaresan)

Translation: S. Naranan

“THOUSANDER”

As we celebrate counting a thousand moons
From your happy day of birth,
We see your power and vigour undiminished,
Your long life as the thousand-pillared temple *mandapam*.
We applaud you as a “thousander”. (1)

We see in the painting yonder,
The golden lotus with thousand petals
Enshrine the venerated goddess Saraswathi.
Do only a thousand delicate petals adorn the golden Goddess ? (2)

We see the swaying branches of the majestic trees
Called the “thousand-fruiter” coconut trees.
As the trees bear bunches of coconuts every month
Do they cease yielding after one thousand nuts? (3)

We see the sprawling street drenched in light
By the thousand-rayed Sungod.
For the rays to illumine the myriad homes
Will one thousand rays suffice? (4)

Like the lotus, the Sun and coconut trees
May your glorious life be long amidst us;
Not a slave to the mindless moon-count,
Prosper with unwavering health and cheer. (5)

May your life be a quest for knowledge
With God's blessing, free of bodily ills. (6)

As your numerous kin faithfully stand guard
And your spouse delights in your happiness
Protect yourself against any harm
Like the thousand-legged millipede
Lying curled up in the attic. (7)

As one thousand moons brighten your face
May your life shine forth with thousands of lights. (8)

Chennai
22 December 2010.

Some remarks about “*Ayirathon*” (K.N. Sundaresan).

First I had intended to write the gist of the poem in prose, but as I started writing, I was bold enough to attempt free verse. This is my maiden effort at translation, but I enjoyed it, because of the beautiful concepts in the original. I translated ‘*AyirathOn*’ literally as “thousander” – a word not to be found in the dictionary. I was skeptical of this poetical licence, until I realized that my father would have approved of it! “Thousander”- a noun - sounds also like an adjective (comparative degree) suggesting “more than a thousand”, which captures the main theme of the poem. Thousander is not too radical a word coinage, when compared with the common words fiver, sixer and tenner.

I am tempted to add a few remarks about the theme of the poem. In practical terms “thousand” means ‘many’. Thousand is a number, a marker – here biological and astronomical – but no more. Author cites three instances of the attribute ‘thousand’ in common parlance: the lotus, the *AyiramgAchi* coconut tree and the Sun. Lotus is the seat of the Goddess Saraswathi symbolizing knowledge, the *AyiramgAchi* is a metaphor for long and productive life and the Sun is the supreme ‘giver of light’, in this case giving enlightenment. Quest for knowledge and good health are emphasized. The poem starts with a comparison of life to the strong thousand-pillared mandapam and ends, somewhat in an anticlimax, with a reference to the vulnerable thousand-legged millipede. From lofty idealism to earthy pragmatism, the poem covers all phases of human life, a common feature in many poems by K.N.Sundaresan (KNS). KNS was averse to superstition and rituals and this is reflected in ‘not a slave to the mindless moon-count’.

The original Tamil poem was written by my father KNS around mid 1960’s to felicitate Sri S. Vaidyanatha ayyar, father-in-law of his daughter India Devi, when he completed 80 years. However its universal theme makes it apt for all thousands. It was published in one of his early books, called “*Minnitru*”. My sister Selvi discovered it recently and decided to include it in the album of felicitations prepared for my 80th birthday. The task was completed in record time with help from brothers Seenu and Rangan, Professor George Hart and my daughter Gomathy. Imagine a son receiving felicitations from his (late) father for his 80th birthday! I am overwhelmed and deeply touched by all the effort put in by so many for including this gem of a poem in the album.

S. Naranan

Chennai, 23 December 2010.

**Talk by S. Naranan at the lunch hosted by Venil and Sumantran
for his 80th birthday on 21 March 2010 at the Madras Race Club.**

I would like to begin narrating an event I will never forget – actually an embarrassing experience.

About 50 years ago (early 1960's), I was working at the Cosmic Ray Laboratory of the Tata Institute of Fundamental Research (TIFR) in the Kolar Gold Fields. For the inauguration of the new experiment we had built, my senior colleague B.V. Sreekantan had invited our Director Dr. Homi J Bhabha. We had invited many top engineers and officials of the Kolar Gold Fields to attend. At the end of function I had to give the vote of thanks. My speech lasted less than a minute. I simply thanked all the members of the audience for taking the time to attend.

Later, after many years I realized the big bloomer I had committed. While casually mentioning to my father that I gave a vote of thanks, he remarked that it is one of the most difficult tasks. One has to be sure to thank every individual who contributed to the success of the function, by name. Now recalling the KGF inauguration, I realize how naïve I was about 'vote of thanks'. I did not thank by name even Dr. Bhabha, or the top management of the Mines –all busy men – who came for the meeting. More amazing was the fact that no one pointed out my folly, not even Sreekantan or Bhabha. It was as though I did the right thing, which was certainly not true.

So, I am a poor thanks-giver. But now, I thank all of you for attending this excellent lunch hosted by my daughter Venil and her husband Sumantran. I learn that the idea came from Sumantran. Venil tells me she had lot of help from Bhama in arranging the lunch. So, my special thanks to these three.

Sundari persuaded me to give this talk since I have rarely talked to any one about my life as a scientist. At age 80, perhaps it is appropriate that I talked about it a little.

Now, I would like to recall a few memorable moments, “feel-good moments” as a student.

I missed my first rank in my University (Utkal) in Intermediate Science (I.Sc) in 1946 but never knew about it. Fact was that I never cared about my rank. Later, Prof. P.S. Sundaram, a Professor of English, a family friend and a member of the University Academic Council, told me that he tried hard to convince the Council that I deserved to be declared as first rank. The ambiguity about choice for top rank arose as follows. Some colleges offered an extra course, in addition to the compulsory subjects English, Mathematics, Physics and Chemistry, such as Economics and Civics. A student taking the extra course was eligible for bonus marks, which was calculated as the excess over 35 %. So if a student got 50 % in Economics, 15 bonus points would be added to his aggregate marks. But only a few big colleges offered the option and my college was not among them. Prof. Sundaram argued that for the choice of top rank the bonus marks should not be counted. But the Academic Council did not agree and I missed being the top rank. Prof. Sundaram felt so strongly about the injustice done that every time I met him in later years, he would refer to it.

The second memorable moment is my getting the University First Rank in B.Sc in 1948. Unlike many other universities, Utkal had no ‘Main’ or ‘Subsidiary’ subjects: Mathematics, Physics and Chemistry all carried equal weight. I scored high marks in one of the Chemistry papers, Inorganic Chemistry. I learnt that this was responsible for my top rank.

There is an interesting story behind this. The Professor who was the examiner and also set the Inorganic Chemistry question paper gave his report

about students' performance at the Academic Council meeting. He mentioned that there was one very outstanding answer paper from student # 17. My father who attended the meeting (as Prof. of Mathematics) later introduced himself to the Chemistry professor, as the father of # 17.

But how did I score high in Inorganic Chemistry ? Inorganic Chemistry as taught in colleges, was the most boring subject and required memorizing lots of chemical reactions and manufacturing processes. I ignored the subject. But a few months before the exam, I had picked up an Inorganic Chemistry textbook from a vendor of waste paper. (It was one of a few excellent textbooks I bought from the vendor). The book by Caven and Landor was an eye-opener. The subject was propounded in terms of the Periodic Table of Elements, which was actually Modern Physics, and properties of elements and compounds were discussed with reference to the Groups I, II, III, IV to which they belonged. For example, Hydrogen, Lithium, Sodium and Potassium ... would be discussed in the same chapter (Group I) and their properties discussed in terms of valency, chemical bonds etc. I thoroughly enjoyed reading the book, knowing well that it would not be of any help for my exams.

There were no model question papers to test ones preparedness. It just happened that the question paper for Inorganic Chemistry that year, was inspired by the methodology of Caven and Landor! I was just lucky and so scored better relative to other students in that paper.

I was very proud of the reference made by the examiner to my answer paper. It meant more than my getting the first rank.

The third memorable event is my getting first rank in M.Sc.(Physics) in the Benares Hindu Univeristy (BHU) in 1950, but missing the University Gold Medal for all M.Sc. subjects put together. Normally the topper in M.Sc. (Physics) would also win the Gold Medal. One would expect that M.Sc. (Maths) students had better

chances of Gold Medal but unfortunately M.Sc. (Maths) was the last preference for students to enroll and did not attract bright students. But that year (1950) was an exception. I had heard about a brilliant Maths student, one Mishra, who was tipped for the Medal and got it too. He was also from Orissa like me.

Now, I will mention a few memorable events from my professional academic life as a scientist.

I worked in TIFR (Mumbai) for 42 years from 1950 to 1992. The first half was devoted mostly to Cosmic Ray Astrophysics (Experimental). Research in Cosmic Rays was truly an adventure, working at mountain altitudes (Ooty) and in Gold Mines (Kolar). The depths at which we worked in KGF ranged up to 3 km (10,000 ft.) even greater than the altitude of Ooty 2.2 km (7200 ft.). We also worked with detectors under water in the Mettur Dam. The later half of my career was devoted to X-ray Astronomy, a field that burgeoned as a distinct new discipline only in early 1960's. I was in this research from 1967 to 1992, for 25 years. Experiments had to be done with instruments above the atmosphere. We used balloons (up to 40 km), rockets (150-200 km) and satellites (300 km). Huge balloons that can carry a ton of load were flown from Hyderabad, rockets from Thumba near Trivandrum and satellites from Sriharikota. Earlier in my career I worked on experiments launched on rockets and satellites by NASA in the U.S.A. I had the privilege of working with pioneering groups in the forefront of X-ray Astronomy such as M.I.T (Boston), Naval Research Laboratory (Washington D.C.), NASA Laboratories in Washington D.C area and Huntsville, Alabama, and the Max Planck Institute in Munich, Germany. I spent a total of 7 years with the groups. There are numerous memorable events such as the first successful rocket experiment from Thumba, the first successful balloon experiment from Hyderabad and the first successful satellite experiment from Sriharikota. There is a particularly special event: invitation from the Naval Research Laboratory as a

visiting scientist for one year in 1973. NRL's work was mostly classified and only US citizens were admitted. But Dr. Herbert Friedman, Director of Space Science Division of NRL was keen on getting me as a visiting scientist and it took him nearly a year to get the clearance from the Navy.

Now I will talk about my research in areas outside Physics and Astronomy starting from late 1960's. My first foray was in Bibliometrics (also known as Scientometrics or Information Science). Its aim is to study the 'Science of Science' – its growth, practice etc. A well-known law in the field was Bradford's Law. The law is about the distribution of scientific papers in a field (say Immunology) among journals. A large number of journals carried few papers each, whereas a small number of journals carried many papers each. The latter are the core journals. The law is the forerunner of the famous '75%-25% law' in behavioral sciences. For example in Economics: in a group of rich people, 75 % of the total wealth is in the hands of 25 % of the number in the group. I found out that Bradford's Law had a very simple mathematical formulation. The number of journals carrying x number of articles is inversely proportional to x^2 . Such functions – called Power Laws – occur frequently in Cosmic Rays. For example, the number of primary cosmic rays with energy E is inversely proportional to E^2 . This is called the energy spectrum of cosmic rays.

Fermi, the famous nuclear physicist and the 'father of nuclear reactors' had published only one paper in Cosmic Rays – a model for the energy spectrum. I cooked up a model for Bradford's Law on the lines of the Fermi model. Basically Bradford's Law is a consequence of two facts about growth of science: exponential growth in time of the number of journals in a given field of science and concurrently similar growth in the number of papers carried by an individual journal. A short paper on this model was published in Nature in 1970 and it

attracted much attention, particularly in the East European countries. This model of ‘back-to-back exponential growth’ was extended to many other statistical laws in Bibliometrics in a subsequent long paper in the Journal of Documentation in 1971. My daughter Venil told me recently that this is one of my most cited papers.

Soon after my Nature paper, I received an invitation from the President of the Hungarian Academy of Sciences to join the Editorial Board of their journal Scientometrics and also act as a referee for the journal. I politely declined the offer stating that the Nature paper was the only paper I have ever published in the field. (I could not resist comparing myself with Fermi who published only one paper in Cosmic Rays).

My first leap was from Physics to Bibliometrics and then on to Linguistics, DNA sequences, evolutionary genetics, all related to Power Laws. Meanwhile a revolutionary development occurred in 1979 in the field of cryptography, the science of secret codes. I was drawn to it by its very innovative concept based on Number Theory. This led to fascinating studies on coding and Information Theory. A former colleague from TIFR, Dr. V.K. Balasubrahmanyam also got interested and we both collaborated on applying Physics-based models and Information Theory to studies in linguistics, DNA sequences etc. We have jointly published 12 papers between 1992 and 2005.

My retirement from a professional career in 1992 was actually welcome because I could focus more on my interdisciplinary research. The time spent on this has been and continues to be rewarding. For this I am thankful to three different factors: (1) easy access to a top-class library in Matscience (Institute of Mathematical Sciences, Taramani) (2) collaboration with VKB and (3) Prof. Kohler and Prof. Altmann, two German editors of an European Journal, the Journal of Quantitative Linguistics. They wrote to us inviting our contributions to the Journal, after seeing our first two papers on linguistics published in Current

Science in 1992. They have greatly encouraged us in continuing to publish our work and sustain our interest in research in linguistics.

My latest adventure in research is about statistical analysis of failures in solving crossword puzzles. Ten years of patiently accumulated data showed a certain regularity and the statistical function that best describes the data is known as the Negative Binomial Distribution (NBD). Just like Power Laws, NBD also occurs in many areas of behavioral science, e.g. car insurance industry. It was fascinating to realize that a model similar to one in insurance industry about car accidents, will work for the failures in crossword puzzles. I have recently found that NBD has some interesting applications in linguistics too.

Every data collected in general, deserved an understanding and if possible an explanation. Trivial observations can some times lead to profound new ideas. Here the 'curiosity' to understand is the driving factor.

I will conclude by expressing my thanks to the extended ARS family members in Chennai who have been bulwarks of support to me and my wife Visalam. We are fortunate that my second daughter Venil moved to Chennai three years ago. She and her husband Sumantran have been of great help to us in many ways.

Speaking for myself, the ARS family connection is through Visalam, who has been the woman behind all my successes.

Chennai

S. Naranan

21 March 2010

MY FATHER-S.NARANAN, ON THE OCCASION OF HIS EIGHTIETH BIRTHDAY

My earliest recollection of my father is a sensory one- sleeping on his chest when I was about 2 yrs. old to keep warm during the frigid Ooty winters. Memories of walking through the beautiful Botanical gardens with Amma to visit Appa at the T.I.F.R Cosmic Ray lab are as clear as 53 yrs. ago.

As a 3 yr. old I have another vivid memory of Appa carrying me whilst crossing a busy street in Andheri to buy me a ball from the store. I probably remember this incident because the traffic seemed loud and scary, but Appa's warm, protective presence as he weaved through the traffic enveloped me like a comforting blanket!

Around the same time, my parents took me to my first movie. It was a black and white Tamil film and the image of a beggar pleading for alms from an unfeeling householder is indelibly stamped in my mind. I remember crying, asking my parents to give the beggar some money, having no concept that it was just "make believe". Instead of dismissing it (as most parents would have), Appa threw some coins in the direction of the screen to pacify me. I sometimes wonder if the seeds of my interest in Social Work were embedded in my psyche during this episode!

As I grew older, I realized that my father was a brilliant scientist, passionate about math and science, but able to explain complex concepts in simple, understandable terms. He had the knack of engaging a person (regardless of their age) at their level, without "talking down" or appearing condescending. His passion for his work was evident and my mother, sisters, aunts and cousins cherished the hours spent listening to him expound the latest theories about 'black holes', 'quasars', 'neutron stars', Einstein's theory of relativity, etc. Despite his brilliance, I have never heard him "tooting his own horn".

Appa is an agnostic who believes "Truth is God". Amma, on the other hand is deeply religious, visiting temples weekly and celebrating all the religious festivals. The only festival Appa would participate in was 'Saraswati Puja'. This could have led to friction in some families, but Appa and Amma respected each other's beliefs and encouraged us to follow our own path. I have never heard either make a sarcastic comment about the other's spiritual beliefs, even though they were so disparate.

I spent many happy years at my grandparent's home, but would look forward to the weekends when I could stay with my parents and savor Amma's delicious food. My interest in cooking is attributable to her and I started helping out in the kitchen at an early age. (the green beans had to be cooked till they were "just done" and did not lose their color). Amma would send the most amazing meals in a tiffin carrier when I was studying at St. Joseph's in Bandra, a sharp contrast to Mahadevan's dreary offerings when I was studying at Walsingham House school. One's birthday was extra special because you got to choose the menu and Amma would make it, no matter what!

Despite her life long struggle with depression, Amma was everything you could wish for in a mother. I am sure there were days when she did

not feel like "getting out of bed ", but through sheer determination and will power, she not only ran a household and raised a family but completed her teacher training program and worked for years as a dedicated school teacher. A prize winning B.Sc. Chemistry graduate, she also excelled in the creative arts and learned ceramics, wood carving, doll making and flower arrangement during her years in Japan and the US. She was also an accomplished seamstress and made some exquisite dresses for us as we were growing up. One in particular was my favorite- a black and white polka dotted A-line dress with a black Chinese collar which was tailored so perfectly that it looked like it was taken off a rack of a fancy clothing store!

As a pre-teen, I went through a 'Western' craze and wanted to see a Clint Eastwood Western that no one else was interested in. It was running at a theatre so far away that one had to take 2 buses to get to it. Amma offered to accompany me to the movie and I remember it to this day!

Appa loved photography and took wonderful photos of Venil, Mathy and myself as children. He even had his own 'darkroom' in the early days where he developed his pictures. His collection of Super 8 films shot during the cross country trip with Ramachandran Mama and family were interesting and educational and we never tired of watching them. Later he would take us on 'photo jaunts' around T.I.F.R. The fascinating letters he and Amma wrote from the US were as eagerly anticipated as Harry Potter fans awaiting each succeeding sequel! Appa was ambidextrous and would draw beautiful, symmetrical designs using both hands simultaneously on our chalkboard before leaving for work daily!

He is a kind, gentle father. I do not ever recall him yelling at me, though he and Amma were firm in their upbringing of my sisters and myself. One incident comes to mind when I was about 10 yrs.old. Our close friends, the Ramanamurthys' had been invited to dinner. I had finished eating earlier and was immersed in a novel. When my parents asked me to fetch some 'ghee' from the kitchen, I set it down on the dining table with a thump. My parents waited till our guests had departed and then insisted that I go to their house and apologize. At that moment, the punishment seemed harsh, but I later realized that they were trying to teach me that you treat everyone with respect and kindness and guests to one's home should be treated with that extra special touch!

When I was a young child, Appa would give me page long 8 digit numbers to add and compliment me when I got them correct. I enjoyed math and science, but as I got older, I realized my true love was the Arts and chose to pursue psychology in college. Neither of my parents tried to coax or persuade me to major in science, but instead supported and encouraged me in a career of my own choosing for which I am most thankful.

Appa was a master storyteller and would keep us spellbound listening to plots of movies he had seen. I recall sitting with my aunts at Devonshire House, hanging on his every word as he recounted the latest Hitchcock movie plot. Besides suspense films, he also loved classics such as Fred Astaire and Ginger Rogers films, Disney animated films and especially slapstick comedy including Laurel and Hardy, Chaplin, Keaton

et al. He would laugh till tears came to his eyes. My parents never missed taking us to a Disney or Laurel and Hardy film that came to Bombay. I vividly recall Venil (about 7 or 8 yrs. old) watching 'Four Clowns' and laughing so hard that she broke the theatre seat she was sitting on!

Appa loved Hindi films as well and often played Hindi songs as I was growing up. I would tease him about his favorite actress Asha Parekh and that he rarely missed any of her films.

He amassed an enviable collection of Super 8 films from the Blackhawk catalog and we spent many an evening at our Colaba flat with relatives and neighbours enjoying 'Cinderella', 'Sleeping Beauty', L&H classics etc. projected on the collapsible screen. Later, he branched into collecting VCRs of science programs like 'Nova'. 'Cosmos', National Geographic specials that were not only enjoyed at home, but also shown at the Homi Bhabha Auditorium for all T.I.F.R families to enjoy. The 'Ascent of Man' was a big hit. Appa's scientific, methodical mind catalogued and color coded every program he owned.

My parents loved to travel and took us on several trips within India and abroad. In 1973-74, the entire family accompanied my father to the Washington D.C area. Even though Appa had just learned how to drive and did not enjoy it, he insisted on taking us on several long road trips so we could view the Fall colors, visit Boston, Niagara Falls etc. during a relatively short duration of 14 months.

Even after his retirement from T.I.F.R after 42 productive years, Appa has kept physically and mentally active and has broadened his interests to such diverse fields such as genetics, cryptology, linguistics and his latest work on 'kolams' and 'crosswords'. During my trip to India in 2008, I would often wake up at midnight to find Appa working on his 'kolam' paper and was amazed at his dedication and passion.

I feel proud and lucky to have such wonderful parents. I know everyone thinks their parents are special, but I hope these incidents will throw some light on how fortunate Venil, Mathy and I are in having Amma and Appa as our parents.

Love,

Vidya

For Prof. Naranan's 80th birthday celebration

I first met Prof. Naranan in the fall of 1972, in Maryland. To be quite honest, I did not get to know him much at our first meeting, or even the next few meetings, because his daughter Vidya & I established such a bond from the start that we tended to go off into a quiet corner and talk to each other while we ignored all the hullabaloo going on around us (which, some might argue, is the best way to get through some of these functions).

After Vidya & I got married (to each other - just to clarify), I got to know Prof. Naranan much better. I found him to be a very nice, humble person. Even though he was a leading scientist at one of the most prestigious organizations in India - TIFR - he never put on any airs. He was very happy at the fact that I, too, had a Physics degree, and although I had abandoned Physics to do my M.B.A., and subsequently embarked on a non-Physics career, he never once called me an 'Infidel' or 'Non-believer'. Not that I would ever expect him to; for Prof. Naranan is a gentle soul. (In fact the only time I ever saw him get into an argument was with a fellow scientist over whether it was an apple or a pear that fell on Newton's head that led him to theorize about the force of gravity).

All joking aside, Prof. Naranan is a wonderful man. He is patient, brilliant, and always ready to help others. He can explain high levels of Physics and Mathematics in a way that makes any listener understand what he is talking about. And what is more remarkable, he is not just a serious scientist immersed in positrons and gamma rays; Prof. Naranan has a very good sense of humor, with a keen appreciation for Wodehouse, Laurel & Hardy, and the like. He also loves good films, and music. All of this makes him a very well-rounded individual.

To sum up, I am honored to have an individual like Prof. Naranan as my father-in-law.

Ramanan

I took a long time to write this letter to my grandparents. At first I convinced myself that I was a busy man, too involved with my work to spare the time for my personal life. As the days went by I realized that it wasn't my schedule that kept me from completing this letter but instead my own ineptitude. I was expected to summarize the impact both grandparents had on my life in a few short paragraphs. This task seemed impossible, as I found myself struggling with the words to convey just how important my grandparents have been to me throughout my life. So instead I decided to write about the most memorable moments I've had with my Tha tha and Patti.

When I was old enough to understand the entirety of my grandfather's lifetime accomplishments I was thoroughly intimidated. Here was a man that was possibly one of the most brilliant scientific minds of his generation, and that has made incredible contributions to his country and community. Needless to say, we had very few things to talk about. I was very young, and while his concerns were quantum mechanics and scientific dissertations, mine were about television and middle school. To me he seemed like someone I could not connect with, my own life and worries seemed trivial compared to his.

Surprisingly, I realized his own humor and personal tastes matched my own while watching a series of "Laurel and Hardy" episodes. The specifics of the exact episode are vague; but I remember that for some reason Laurel and Hardy needed to sneak into their boss's house. Hardy, in an attempt to keep his boss asleep, would sing to him. "Go to sleep my baaaabbbby, my baaaaabbbby, my baaaaabbbby." Unfortunately for Hardy, Laurel would chime in, "My BA-BY," with a horrible high pitched tone. The boss would almost wake up, Hardy would have to shush Laurel, and poor Laurel would look around in a confused state, not realizing what he had just done.

During this episode my grandfather would burst into laughter to the point where he was almost in tears. His face would turn red, and after a few moments he would be gasping for breath. To be honest, I was quite astonished by his reaction. His laughter seemed contagious, and within seconds my entire family was clutching their sides and enjoying this simple slapstick comedy together.

Although this may seem like an odd moment for me to remember; I recall this moment as the first time I truly understood and connected with my grandfather. Even though he was capable of such brilliant thought, my grandfather could still enjoy the timeless humor of Laurel and Hardy. To me, this symbolized that, even though I was not half as intelligent as him, we could still have fun and be a family together.

The most vivid memory I have of my grandmother is also one the most embarrassing moments of my life. I was 16 or 17, and visiting my grandparents in India. I remember there being some construction going on next door, and as a result there were some cockroaches that had entered the water pipes. One morning while I was in the shower one of these insects crawled up though the shower drain. It may just be my imagination, but I remember this cockroach breaking the Guinness world book of records for the largest and most disgusting bug ever seen by any human being. As I ran around the bathroom in a panic looking for something to kill this cockroach with, three more crawled out, as if they were having some kind of cockroach party I was unaware of! At that point what little courage I had left

fled my body, and I ran from the bathroom into the bedroom and slammed the door shut. For several minutes I worked up an inner monologue to try and restore my bravery. I kept telling myself, "They're only bugs, you're about 100 times bigger than them, just be a man and go back in there!". Finally, I worked up the fortitude to reenter the bathroom. To my surprise there were no cockroaches to be seen! As I began to breathe a sigh of relief, I noticed a buzzing movement on the edge of my vision. I turned my head to see a cockroach inches from my face hanging onto the bathroom door.

I'm hoping that my screams were not as effeminate or loud as I remember, but they must have been quite terrifying because my Patti came running into the room. She asked me what had happened and I told her, as calmly as I could, that the mutant offspring of some horrible government cockroach experiment had escaped and found their way into the shower. She gave me a quiet little smile and proceeded to pick up a nearby broom and head towards the bathroom door. A minute or two later she reemerged and told me that the bathroom was safe once more. I tried to give her a manly grunt of thanks as I cautiously went back to finish my morning routine.

I hope the irony of that last story was not lost on anyone. I was a strong young man and from the minute I stepped foot into my grandparents' house I expected to be the one to care for my grandparents, not the other way around! After the initial embarrassment vanished I felt a great sense of relief knowing that despite my Patti's age she still had the ability to take care of me when I needed help. And trust me, I've needed a lot of help throughout the years.

I hope that this letter shows how much I respect both my grandparents, but also how I have enjoyed the time I spent with them. To acknowledge someone's greatness is not the same as to connect with them as family and I'm proud to say that I have done both during my time with my Tha tha and Patti. Thank you for everything you've done for me; you two have truly been an inspiration in my life.

Love,

Ashwin

Grandparents are a family's greatest treasure, the founders of a loving legacy, the greatest storytellers, and the keepers of traditions that linger on in cherished memory. Grandparents are the family's strong foundation. Their very special love sets them apart. Through happiness and sorrow, through their special love and caring, grandparents keep a family close at heart. – Margaret Mead

During my childhood, I always treasured the special visits from my Tha-tha and Patti, where they would endure nearly two days of extensive travel across numerous countries and continents to spend them with their children and grandchildren living in the United States. My parents, brother, and I would typically pick them up from the airport, bustling with excitement and anticipation for their long-awaited arrival. From the moment my Tha-tha and Patti stepped off the plane to the conclusion of their stay, they showered us with unconditional love, wisdom, compassion and fortitude. They reminded us of our cultural history and background, yet always accepted our “Americanized” attributes and dispositions without criticism. They respected our creativity and encouraged us to think outside of the box no matter what we pursued in school or in our careers. Without fail, their presence birthed a plethora of fond memories and unforgettable experiences. As I reflect on my Tha-tha as he celebrates his monumental 80th birthday, there is one particular memory I hold in my heart that truly epitomizes how I will always remember my grandparents.

When I was ten years old, my grandparents visited during my Tha-tha’s sixty-fifth birthday. Being a fan of birthday celebrations myself, I determined that my Tha-tha deserved the best birthday party imaginable and was adamant to throw him one all on my own. As fate would have it, my parents and Patti decided to take my grandfather out for the day, so I had the entire house to myself to coordinate the party preparations. Instantly, my mind wandered to how I could construct adequate decorations and entertainment given my limited access to funds and resources. I soon learned that I would have to improvise and ran up to Ashwin’s toy chest. I grabbed as many tiny action figures as could fit in my tiny fingers and starting tossing them throughout the floor of the living room, dining room, and stairs. Inspired by their colors and textures, I envisioned them as fun and festive confetti. For the entertainment portion, my mind immediately dwelled on the idea of a puppet show. I snatched a few brown paper bags from the kitchen, drew faces on them with markers and crayons, and pinned a sheet to my bunk bed to suggest an amateur puppet theater stage. Now, I was left awaiting my grandparents’ return from their outing.

About an hour later, my parents and grandparents arrived at the house. I ran to greet them, showing off the décor I had assembled in the living room and led them upstairs. From there, I reenacted a puppet show in my room, acting out several characters and presenting my Tha-tha with a gift at the end. My eagerness for his reaction was quickly dissolved when I saw my mother’s approving, yet disappointed face from my doorway. She commended me for what I had done, yet complained that I made a complete mess of the house and how Tha-tha and Patti might trip over my “confetti” (a very logical point in retrospect, I should add). My Tha-tha and Patti glanced at my face and somehow could magically understand exactly how I felt – a combination of wanting to make them happy mixed in with shame. In a calm and soothing voice, my Tha-tha said “It’s alright, Vidya. She wanted to give me a birthday party, and she gave me the best celebration I could ask for.” Instantly, my fears dissolved and a huge smile appeared on my face. After the celebration was complete, Tha-tha and Patti helped me clean up the house, laughing playfully and reciting some of the dialogue I created for the puppet show. Both avid storytellers and life-long teachers, my Tha-tha and Patti still tell everyone they meet the story of my Tha-tha’s sixty-fifth birthday. Tha-tha, as you celebrate your 80th birthday, I wish you nothing less than “the best birthday party imaginable.”

I love you,

Amrita

From Rugminy Mami

This happened around the year 1974.

We met Naranan and Family the day after they landed in Maryland.

Naranan had just received an assignment from NASA.

Naranan and his family were introduced to us by V.K.B. who is our friend, Philosopher and guide.

Naranan and family took up an apartment in the same area where we were living.

This gave us an opportunity to develop our friendship. Visalam used to come over to our house and spend a lot time with my grandson (then two year old) Anish. Visalam is great with children and she spent a lot of time with Anish.

Visalam and I discussed about cooking, stitching, religious books, among other things.

I really enjoyed her company.

This is how I would describe Naranan.

He is a man of few words. He is very intellectual, well mannered and down to earth.

I have never heard him say anything bad about anybody.

He only has words of appreciation for everyone.

We started as friends and now we are family.

I wish him a long and productive life with good health and to continue to be a moral example for others.

To My Appa on the Occasion of his 80th Birthday!

Venil

Dearest Appa,

Here are some of the things I admire and cherish about you.

1. Curiosity and wonder about the way the world works. I remember how you marveled at small flowers, spiders' webs etc. You also took close-ups of various ordinary objects (buttons, keyholes etc), and gave them a new life through your photographic skills ! I think this curiosity about the natural world is something I learned from you.
2. Your ability to teach science struck me early. It started with my 2nd grade assignment on the atom...Ms. Rose, the teacher was quite awestruck. I realized how thorough a job you did much later...but it was too late, I could not save the document you wrote. However, it made an impression on my mind, and I found science fascinating.
3. Your mind is very expansive and has depth ! This is not merely in your chosen field, but also in every topic you take up. Even your casual browsings show a true scientific nature. We had good discussions on DNA. But, I also remember your questions on blood glucose measurements, metabolic rate etc. Very few Life Science students show as much interest as you did !
4. I think you have a gentle but firm approach towards people and students. Perhaps your parents taught you this. So, your nature attracts students and lay

people. I learned to control my temper and be patient from you and Amma (who also has these qualities). But, I cannot match what you have.

5. Amma pointed out your most noble quality. This is your habit and principle of never speaking ill of others. I am sure there are many who let you down or maybe even wronged you..but you have endured it all with grace and fortitude. This is a very rare quality, and I try to emulate it. But, again, I am no match!

6. For the past few years I have been in Chennai, and I try to be of help to you and Amma. There are times I get quite annoyed with one or both of you. I am sure you have also been annoyed by me at times. But, overall-IT IS A TREAT FOR ME !! Afterall, not many people get to spend quality time with their aging parents. I admire both of you for your independence and your willingness to take my advice at times! You are also willing to adapt to new situations and problems, and be reasonable.

7. Helping with your eye surgeries gave me a special joy, because the gift of sight can never be substituted by anything else! I feel this is one of the best things I could ever do (short of doing the surgery myself!)

So, My very dear Appa, I wish you a very Happy 80th Birthday.

Love

Venil

25 Dec 07

I am a good and kind person. I have always helped and cared for others.

I am a good mother and wife, and always do my best for my family, my relatives, and my friends.

I am honest, sincere, and simple; and the people I know appreciate and respect me for these qualities.

I never speak ill of others and always admire other people's achievements.

I never tried to force others, my children to do something they didn't want. Instead, I set a good example, and never nagged my children about anything.

These qualities are rare in parents! My children admire and respect these qualities in me.

I have also been a good, respected, and kind teacher to all my students in Mumbai and Chennai. I have good abilities in Maths and Science, and I have tutored students for these subjects.

After I retired from school, I voluntarily taught dyslexic students. After retirement, I also learned new slokams, and some Sanskrit. I also attended religious retreats such as Siddhabari and Sai-Bhabha seva.

Earlier, I learned various Arts and Crafts. The dolls and wood carvings I have made are of professional quality.

I have always had very deep and unselfish faith in God. I pray sincerely for others-rarely for myself.

My family members always ask me to pray for them because they know that my heart is pure and that God likes such people and listens to them!

* MESSAGE from Venil Sumantran to her mother

Dearest Amma,

15 Oct 2004

It's 4am Tuesday Oct 12-04. I am reading Lalitha Sahasranamam & Mahisima slokas. I feel somewhat guilty because I don't do it regularly - but then I realized a few things!

- ① It is you who have taught me to appreciate and respect God. This has helped me become a more humble and careful person.
- ② It is you who has given me words (with English meanings)! that I can say/sing to understand God.
- ③ It is your actions and your treatment of people that has taught me to be less proud and more considerate towards others.
- ④ Your deep religious faith is something I can never have - but I see how much power it has. It has made you the wonderful caring person that you are!
- ⑤ You have given all this to me all these years. It is only now that I value it and respect it! Better late than never!!
- ⑥ It is my deep sorrow that you don't see all these qualities in yourself. But, that is part of your grace and wisdom - and it must make you "better" yourself.

So - Amma, there is really nothing else you can give anyone. You gave me life and you gave me the tools to live it as a decent human being.
I salute you - Love, Regards - Venil

For Dr. S. Naranan, on the occasion of his Eightieth Birthday

For nearly twenty years I have been Son-in-Law of Dr. Naranan, having married his third daughter, Gomathy, in 1991.

We first met at Gomathy's residence in Pleasanton, CA, where Gomathy and I were (at the time) friends and neighbors. I knew of Dr. Naranan's education/career and, having an interest in amateur astronomy, I engaged him in conversation of some aspect of this, though this was a little intimidating! I was struck by his gentle ability to distill his complex ideas and knowledge of such a subject and communicate so clearly with a layperson such as myself, never being condescending or disinterested.

As time passed, I did marry Gomathy, in India. This occasion in particular and others later, of course, gave opportunity to spend time with, and get to know, both Dr. and Mrs. Naranan. From the very start they were kind and gracious to me, though I was a Foreigner and Westerner. This is more common now, in the modern world of their extended family, but was a little unusual twenty years ago and must have been some concern to them both. Yet, from the start, I saw and felt nothing but kindness and acceptance. I am forever grateful for this to you both!

But even if I had, somehow, never met Dr. Naranan and knew nothing of his accomplishments, I would still be very aware of his nature and his qualities as person in this world: I merely have to witness the tears that appear in the eyes of my wife, Gomathy, when she reflects on and shares her childhood memories of her Beloved Parents, Naranan and Visalam.....

A Very Happy Birthday to you, Naranan !

Love,

Your Son, Jon

A LETTER TO APPA and AMMA

Where do I begin, to tell the story of how great two parents can be☺☺☺?

Looking back over my 47 years, I know that many aspects of my life, big and small have been shaped and influenced by you both, and the way you have lived your lives. In Indian culture, we are not encouraged to speak or openly share our feelings and emotions, so I am glad of this opportunity...the occasion of Appa's 80th birth year, to do so. I have always felt blessed and so fortunate to have you both as my parents (my good karma), and do thank God for it.

Appa, you have led your life by example; by your values of honesty, integrity, hard work and a love of knowledge (in any form). Often, you have guided me when I needed it, not forcefully but gently and wisely. I will note a few that stand out for me.

I remember the time, when I was in my early teens and you were upset with me for a reason I can't remember. I was too stubborn to apologize and accept my error. You taught me a lesson in a most unusual way...something you told me your father had done when he was upset with his children. You refused to eat your dinner that night, while I along with the rest of the family had to eat ours. I won't forget the sadness and guilt I felt, for denying you your dinner, and I came to my senses quickly after. I learned a valuable lesson that night, i.e. to admit to my mistakes and accept responsibility for them, without letting my pride and ego get in the way. You guided me into Engineering, when I was unsure about what career to pursue. I enjoyed Maths, especially in UAH (University of Alabama, Huntsville) and Virginia Tech, but I wanted to pursue a career where I could be financially independent (i.e. not dependent on marriage to be financially stable). You helped me with my decision to pursue a Major in Engineering and a Minor in Maths, which I am so thankful for. Your support of my marriage to Jon was unwavering. You saw that I was happy and you did not question our decision or shed any doubt. Your support and blessings meant a lot to both of us, for which we are forever grateful.

It was the night before my History ICSE exam, one that needed a lot of memorization. I was fairly decent at it, but that night due to nervousness, I was forgetting major areas of the portion, that I had memorized before. I panicked and was in tears! I did not want to eat any dinner, and just continued to sit in your bedroom, and continue to try. Vidya came in and helped me calm down. We focused on topics I could remember, and slowly but surely my confidence improved. She talked to you, and you allowed her to bring my dinner into the room (something we never did) and thanks to Vidya and you, I was able to score a first class percentage in my History exam. Many other memories come to mind...all of us looking forward to our favorite Sunday lunch that Amman would make (potato roast curry and onion sambhar... mmm, yummy and us all having a very satisfying "siesta" afterwards☺), you bringing home from the TIFR cafeteria hot pakoras, which was such a treat, long walks on the TIFR seashore (remember your "armchair rock"?), etc. I loved going to the TIFR building...the busts of Bhabha and other scientists, the auditorium, the library...a sacred and special place. I enjoyed writing and drawing on your fiberglass blackboard and looking through your books, papers and photos, and the dinners and occasional lunches we went to at the TIFR east and west canteens.

My stay in Hyderabad for my firsthand experience of a balloon flight was one I won't forget. Though I did not want to go at first (can't remember why), once I was there I enjoyed every aspect of it: observing the rocket payload and associated experiments and instruments, meeting your colleagues and engineers

(Malkar, Kothari), watching you up close at work, watching the balloon lift off in the early AM (exhilarating), the payload recovery efforts and last but not least, the delicious canteen meals.

When doing my undergraduate in UAH in Huntsville, Alabama I was lucky to have spent it at home with both of you. I have many fond memories of that time, which includes the time that Thatha stayed with us. I was taking pre engineering courses, and I specially enjoyed my maths courses...number theory, linear algebra. I was lucky enough to have great teachers like Dr. Watson and Dr. Cromer, and Appa; you nurtured my interest and learning, and were to a large extent responsible for my decision to minor in maths, which I did, in UAH and continuing on in VPI&SU.

Your lifelong love of learning, which continues to this day, has been inspirational to me. By your example, you taught me very early on that you have to love what you do, and always be curious and interested in learning new things and delving into new areas. I also came to realize that any and every subject is fascinating..you just have to go into it, to appreciate and understand it. To love learning for learning's sake..how beautiful...

A lot of fun memories and incidents come to mind too...Venil and I explaining Asterix comics to you laughing all the while, guessing "what in the world" photos of amazing close-ups of objects (ping pong ball, our tortoise Aristotle, etc.), the stunning astronomy slides with classical music played in the background, that you showed to us and our friends, images of the "diamond ring" total solar eclipse, your reviews and rankings of my singing vs. my competitors at my annual school music competition, the hilarious comic movies of Chaplin, Keaton etc. and the lovely Disney movies of Cinderella, Sleeping beauty, etc, the challenging Sequence card games, monopoly and scrabble, old Hindi music tapes and Greek music, not to forget the peanut shells you used to crack by hand (and we helped) and cook resulting in the softest and tastiest peanuts I have ever had,the list goes on...

Though these are just a few snapshots and incidents in my life, suffice it to say that you are a wonderful father, a wise and patient teacher, a role model and a friend. Thank you for being all this and more...

Amma, you and the way you have lived your life has been an inspiration to me, at several levels. You are the strongest person I know. In spite of the obstacles you faced in your life, you overcame them and never gave up. You secured a Chemistry gold medal in college, and in Japan you learned woodcarving, enameling, flower arrangement and doll making. You studied Library science and succeeded in becoming a first class school teacher. Your natural affinity with children is a gift, as are your patience and gentleness. I am awed by all the children you have helped...normal and dyslexic, over the years. I will never forget that boy and his mother, stopping to thank you, when we were all at Eden's for lunch a couple of years ago. I got teary eyed. All this, while being a devoted housewife and mother, not to forget your special cooking (puri/sago, tomato rice, vegetable pullav, adai/vengayam chutney, idli/tomato gotsu, porichkoramb/podimas and many more...too many favorites for me to list all☺) and seamstress skills. I remember you taking multiple buses and trains every day to visit Appa at the hospital when he was recuperating from his heart attacking, with fresh rasam shadham in a stainless steel Tiffin carrier. When I look back at childhood photos, I see all the pretty dresses that you stitched for me and I wore proudly to the talent contests and other events.

From you, I learned the valuable lesson of perseverance and hard work, and never giving up. Your volunteer work at schools, for blind students, for mentally disadvantaged children was inspiring and

motivates me to always look for opportunities to volunteer my services to charities and causes that were doing good work. Service to others is most important and I learned that from you. I also attribute my religious faith to your influence. I looked forward to the Mahalakshmi and Siddhivinayak kovil visits with you. I felt closer to God there, when I was with you, during prayers at the temple, or at home in our Puja room. Our festival celebrations were occasions of joy...Krishna jayanti, Ganesh chaturthi, Deepavali, Saraswati puja, etc. Our prayers, the wonderful bakshanams you made, and social visits from/to friends and neighbors. You taught me several prayers and chants, many of which I practice regularly. Your religious tolerance indicated your open mindedness. I remember going to the church near my school and enjoying the peace and sanctity of it. You never discouraged me in this, and in fact you occasionally visited churches as well, and attended Novena there. You told me you derived joy and peace from the service ...after all GOD is everywhere, within and without, and what we choose to call him, or where we choose to pray are small matters. I learned all of this from you.

A lot of fun memories and incidents come to mind too...our overnight train trips, with our tiffin carrier of your yummy food (vethakoyamb rice, yogurt rice, vadams etc.) and trying to memorize the train station names between Bombay and Chennai, haggling amiably with the vegetable vendor on our weekly market trips, the beautiful brooch you especially bought from U.S for my angelic teacher Mrs. Mary D'Cruz, eating rasam rice (with ghee) and yogurt rice in the 301 "naani", delighting in the new dresses you stitched for me (in my younger days), waking up early morning on deepavali and having an oil bath and eating "lehiam", our tortoise Aristotle following you for food, to the frig,...the list goes on...

You encouraged me in all my extra curricular activities, whether it was music (vocal, violin), tennis, ping pong etc. and I always felt supported by you and Appa. You have lived your life with courage and kindness, and I have tried to do the same in mine.

You are a strong, loving, kind, generous and talented mother. Thank you for being all this and more.

So, to the two best parents anyone could wish for, a big THANK YOU, for all you have been and continue to be....

Your loving daughter,

Mathy☺☺☺

Always there for me.

by

Selvi

Celebrating Nannu's 80 years birthday with mannie Visalam is a very special event for me. Nannu and mannie have played very crucial roles in my life and this gives an opportunity for me to tell how much they cared for me and how fortunate to have a brother like Nannu and mannie Visalakshi.

I am the third surviving child of five children my parents had. India Devi, Naranan (we call him fondly Nannu) me, Rangan and Seenu. Between Nannu and me, my parents had three boys Kannan, Ponnan and Ramanan. Unfortunately Kannan passed away when he was two years old and Ponnan and Ramanan lived only a few days. So I was born in hospital at Berhampur.

India Devi got married when I was 4 years old, so Nannu was the one older than me and I looked up to him.

I joined grade school little late, after the school opened for some reason. Nannu was the one copied the first lessons for me in his beautiful Telugu handwriting in the ruled note books, for Geography, History and Science. Also he was very good in putting nice brown covers for all the books and putting labels, writing my name and the subject in English.

I remember very well once I asked Nannu to help put some covers on text books. Nannu said "Write it on the wall that, I will do tomorrow for sure" so I will remember and do it. So I did. Next day I asked him and he asked me to look what I wrote on the wall. He said "See it says tomorrow!" smiling. But any way he did put the brown paper cover. He did this every year when the school started, we got new note books and text books, with a new class after summer until he went to Benares for his M. Sc. when I was 10 years old. Nannu was only 18 years old. I remembered this when Hari went to College in USA at 18, the students just finished high school.

Also remember Nannu took me on his bicycle with his friend to Gopalpur on beach (a fancy resort, even at Berhampur railway station there will be a sign on the place where we see the name of the place when the train arrives , saying "ALIGHT HERE FOR GOPALPUR ON BEACH" which was like 9 miles each way. IT HAD A FAMOUS PALM BEACH HOTEL and I saw in a news paper advertisement later with map this was only one in Asia then. WE heard with awe that each room in this hotel had a radio. Also I used to see foreigners in their colorful bathing suits going to the ocean waters.

In Chennai when I asked Nannu about this bicycle trip he laughed and said, that he took me all the way to Gopalpur, to the ocean to get a feel for me to get wet in Ocean water, but I refused to go near the water.

Also I talked with Nannu when I started writing ‘Selvi Self Story’ about our making Kumpis for Deepavali. Nannu was the one in charge to make these Kumpis (Flower pots) as he was the big brother. He remembered even the formula we used and he wrote it for me.

Here it is:

<i>Potassium Nitrate</i>	<i>1 part</i>
<i>Manganese Dioxide or Aluminum Dioxide</i>	<i>1/2 part</i>
<i>(This will give two different varieties of flowers and color,</i>	
<i>a) Gas light Kumpi</i>	
<i>b) Mandhara slightly rust color</i>	
<i>Sulphur</i>	<i>1/4 part</i>
<i>Bituminous coal</i>	<i>1/8 part</i>
<i>Castor Oil</i>	<i>1/16 part</i>

We got these ingredients in a special store a fortnight before. Also we bought two sizes of earthenware pots to identify the two types of Kumpis we will make. Our mother helped to make the powders to prepare the mixture. Then we all were given pots to stuff the mixture. Then to identify who made which one we marked our initials on the pots. The way we stuff the mixture is critical. The pots when lighted are supposed to shoot up straight and sprinkle the sparkling flowers. WE used to have a small competition between our wonderful neighbors Yedavalli family. Chinna nani really will make fun when our flower pots did not shoot up straight. Some of our flower pots will shoot up at different angles and we were teased for that.

The same mixture we used to make sparklers. With old newspaper we made like 10 inches long and ½ inch diameter tubes, and sealed them in one end. We will stuff ash first, like up to 3 inches, so we can hold it with our hand and not get burnt. Then fill the rest with mixture and close it. These sparklers we used it in the back yard, as our father used to say, the smoke will kill the insects like mosquitoes.

It was a family affair and that is what the festivals are about.

When Nannu left for Benares to study M.Sc. to study I became the eldest child at home and I started cooking when mother was out of doors. Nannu used to make very good Vengaya Vatha Kuzambhu very well.

Whenever somebody went to Benares, mother will send sweets called *manaoharam* that Nannu liked a lot it seems. I knew embroidery, mother taught me and I made a dozen nice hand kerchiefs for Nannu and sent them along with sweets.

Mother used to worry about Nannu. She was hoping Nannu does not go to Ganges River to take bath. She was scared he might drown. I think the reason our Chella Patti's husband when very young went to Kaveri River, to take a bath and drowned.

WE always looked forward for Nannu coming home for a month vacation during Dasara holidays and the summer vacation.

Our Golu was a big hit in Berhampur. Arranging the clay figurines on the steps we made with doors and boxes was a family affair. Nannu used to help make some faded figurines look new by repainting them and putting tinsel powder. He brought us beautiful Benares Plaster of Paris figurines, Siva, Saraswathi, etc... These figurines looked very delicate and beautiful colors always got the attention of the visitors who come to see our Golu.

WE all are aware how proficient Nannu was typing both in English and Tamil languages. I remember Nannu typing India Devi's Tamil novel during one summer vacation sweating, his shirt all wet.

Also he used to laugh very loud when he read the Woodhouse books.

Another thing I remember very well is in hot summer evenings, Nannu will draw water from the well which will be cold (The tap water will be hot because of summer temperature) and will pour it on us. I used to love that feeling shivering with cold.

Next Nannu passed his M. Sc examinations in 1950 with flying colors and got job in Tata Institute of Fundamental Research in Bombay as a scientist. Also vague memory, parents want to find some body in Bombay so Nannu needs help can be nice to have. Bayammagaru who lived very close to us had a daughter I think in Bombay. So parents went to her house and got some information. Nannu will know more about this.

So now Nannu could come only once a year for vacation. From Bombay when he came he surprised all of us by bringing View Master Slides of Snow White, Sleeping Beauty and many other things. Our mother loved to look at the View Master pictures. Another fascinating thing was Coloring Magic books. We just use water and a brush; many colors come on the picture. Never understood how it can be. Nannu explained that some chemical substances are in the picture that in coming with contact with water brought those colors. This was really magic for us and a very nice avocation.

My mother was excited to see beautiful EMCO Fan. She used to say it was her dream to sleep near the fan. At Tiruchi at her uncle's house (very well to do family) she has seen ceiling fans and she loved it. Here Nannu made her dream come true. We have that fan at K4 home.

Another favorite thing for me, Rangan and Seenu (might have been with us but he was too young I think to follow it) all eagerly sit in our hall in the after noon waiting to listen to Nannu telling us Alfred Hitchcock's movies. Even now when I see in Turner Classic Movie channel these movies, those days flash back to me. Nannu had special way of narrating these stories. WE used to feel we were watching the movie.

Some times we played Caroms Board game. Nannu was very good at it. Some times when he starts to play the game he will finish all the white coins and the red one with out giving a chance to the other player!

I always wanted to have a celluloid baby doll. WE had beautiful, celluloid baby doll when I was small and it broke. I see about it in father's notes also about me 'ideas for children's poems'. This doll was a real size of a baby and very nice. So always wanted celluloid doll, but the kind I had was not available any more. So mother might have told Nannu and Nannu got me a doll, with beautiful dress that had laces also. It will close its eyes when laid it down and open it when we have up.

One thing I am ashamed to say now how silly I was but it meant a lot to me when I was growing up. It was about Pattu Paavadai (Silk skirt).

Yedavalli Chelli, a couple of years younger than me and a very good friend got a beautiful navy blue Pattu Paavadai that her mother asked India Devi to buy when she went to Chennai. This made me jealous. I am a TAMILIAN girl (Chelli was Andhra) and usually Tamilians have clothes made of pattu. So I wanted very badly to have a Pattu Paavadai like Chelli. My parents could not afford to buy Pattu Paavadai, may be it was half month salary of my father. But I was adamant. So mother wrote to Nannu and then Nannu brought me beautiful Mangoe color Pattu Paavadai.

So Nannu was always there making my wishes come true.

Nannu during one of his vacations came with his very close friend and colleague VK Balasubramanyan (VKB) from Bombay. Vkb showed us an electric iron that he was taking for his sister and never seen one before.

Later Vkb surprised us by sending apples from Kashmir where he did research work. Apples were considered very special and from Kashmir too!

In 1953, then the most exciting thing happened. The marriage of Nannu and Visalakshi was fixed and it would be at Chennai on 24th May.

We all went by train, took a passenger train which stopped almost in every station and took two days to reach Chennai. We stayed at Periyappa's lovely home 'Hamsa' almost for a month. We had great time with Hamsa, Kappu, Babu anna and Raju. Balu was in Karur. Periyappa family enjoyed having amma to take care of cooking chores. Periyappa was very helpful and we had memorable time.

When we were at ' Hamsa' Gomathy mami, Visalam's mother, with Ambuja came us to greet us with flowers, fruits, *kalkandu* etc... They invited us to their home to meet Visalam. So we fixed a day and all went and met Visalam our future mannie for the first time in person. We have seen her picture. Only Nannu went and saw Visalam at her parents place in Chennai before the marriage was fixed.

Also I had a pleasant surprise that ARS (short for ARSundaresan) family said I will also get a silk sari as the groom's sister. Usually the eldest sister who was India Devi would get a silk sari for tying the third knot on the **Thali**. Nannu will tie the first two knots. India Devi chose my sari which had a temple border that was the latest design then. I was wearing still Paavadai and Dhavani then.

I was very eagerly looking forward to take part in this wedding as I was only four years old when India Devi got married. But I could not as the day before I was out of doors and the arrangements were made for me to watch the wedding from upstairs window along with Gomathy mami's elder sister Cheeni Periyamma and another girl.

The reception was great and I liked mannie's sparkling tissue sari she wore. I remembered also the orange drink was delicious.

On August 5th ARS mama came with mannie to Berhampur home so mannie will be initiated with Varalakshmi Vratam by our mother. It was Saturday morning when I was away at half day school which was from morning 7am to 10am, mannie came. So when I came home mannie was there and it was very nice to see her. Then when Sri ARS mama left to go to Chennai, appa told us actually that we all should be very nice to mannie. She has come to our home, leaving her parents where she grew up all this time.

One of the things I was fascinated was to see mannie had a cute locket in her chain, heart shape I think that had beautiful picture of Nannu.

Then Dasara came and the Golu was set up. But this time we added mannie's silver artifacts '*seeru*' given to her by her parents, next to the Golu. Our parents did not demand any dowry, mannie's parents wanted to do this to their daughter on their own will. Also our Berhampur friends had chance to meet mannie.

Suddenly a very pleasant surprise arrived in March my birthday month. The postman brought a package for me! It was the first time I got a package and when I opened it was a beautiful green (parrot green) Mysore Crepe silk sari with black jarigai border. Even now every birthday I think of that event. I gave credit to mannie. So here I have another wonderful person always there for me along with dear Nannu I felt.

Every year during the beginning of school year from then on Nannu and mannie send me five dhavanies (which was worn over the skirt, before wearing sari) with matching blouses. I wore saris only in my B. Sc. class. They were beautiful white printed cotton saris with matching blouses. I used to wash them, starch them and iron them every Sunday. Mannie was the one taught us to wear matching blouse with the sari. Also she had another suggestion that even now I follow is any black blouse would go with any sari. Also mannie showed a special way to fold the blouses that I still do it.

Mother used to say Visalam has 'Visala Manasu'. That means very generous heart. I agree.

Then in 1954 Vidya was born and I became athai. India Devi did not have children so here we have first grand daughter in our family. Nannu and mannie came with the baby Vidya to Berhampur and it was a great joy to see sweet child in our home.

I started my college education in 1954. I went on three excursions the college offered for girls, always father was one of the chaperones. But in 1956, we had different professor for excursion to Bombay, Aurangabad to see Ajantha and Ellora caves. So here I had a chance to see Nannu's family. Then mannie was doing her B. SC and staying with her parents who moved to Bombay. Nannu was in the hostel. So Nannu picked me up at the Hotel one evening and took me to Devonshire House. I saw baby Vidya, Gomathy mami and others. Then mannie told me that she was going to order a Mysroe Crepe sari through Gomathy mami's sister (younger sister) for me also and the color would be HELIOTROPE. I said fine but I did not have any idea what that color was. I found out when I got it in the mail it was a shade of purple.

Mannie wanted also to treat me with ice cream in a very special place. So in the car we went and I remember mannie showing on the way a store called A to Z. The ice cream can't remember the flavor but was heavenly. I never tasted such a delicious ice cream.

Then Venil was born in 1959 but we saw her only when she was almost three years old. Bombay was too far away from Berhampur. But Nannu sent many pictures of Venil, He not only took them and also developed them. He always kept in touch with us with his beautiful letters.

Mannie came with Venil I think in 1963 March to spend time with us for a couple of months. So Venil was admitted in a convent school. She looked gorgeous in her uniform and we enjoyed her very much. Vidya stayed with her other grand parents at Bombay.

This is the time I was a school teacher and we had Founder's day and Mannie, Venil attended. Mannie found out I was called by my students 'AMMA GARU'. . This is the Telugu name for teacher. So mannie some times will call me fondly ***Chellammagaru***.

Mannie brought me a fancy, nice white hand bag so I can take it to school. I used a small black leather bag which looked like a big black envelope (I have it still with me here) and I was very shy to use this new hand bag. I did not want to be a fashionable modern teacher.

Around this time we found out mannie is going to have another baby. So took her to general hospital for checkups. Mathy was born that September

I remember mannie telling mother that I was 25 years old and they should look seriously for a suitable boy for me and see I get married.

In 1964 I attended my dear friend Tayi Saroja's wedding in Tirupahty along with my colleagues Syamala and Vizaya. I had an idea to suggest my mother that may be if my marriage was fixed may be it can be celebrated at Tirupathy. The reason was that mother used to have a concern where my marriage to be performed, as Berhampur was too far for our relatives to attend. So I did tell her. My mother was not sure. Usually this kind of vow made to have a wedding at Tirupathy may trigger some doubts to the groom's party as there may be a flaw in the girl not getting married this long. I told her then have some time frame. Nannu when heard this "Are you bargaining with God?"

Soon after this Nannu contacted VK Balasubramanyan (VKB) in USA, who has seen me and our family at Berhampur few years ago, suggesting me for his brother VK Viswanathan (VKV) who was also in USA as a possible alliance. Nannu, Mannie were very close friends with Vkb and his wife Saroja when they were at Bombay and were currently living in USA. Vkb replied Nannu to contact Vkv directly.

Here I should write in detail how much time Nannu spent in conveying the information between VKV and him to all of us in our family. His typing skill really came handy as he could type several copies. Nannu contacted VKV in New York City and the letters exchange began between them. VKV wrote by hand. So Nannu typed VKV's letters and sent those copies to father where I was living, India Devi, Rangan and Seenu. Also the replies Nannu sent to Vkv also he copied to all of us. So I also read those letters. WE were all impressed by VKV's letters.

Then the hardest part is to send a picture of me to Vkv. Nannu was known for taking nice pictures but had always hard time to take my picture. I did not like the idea the picture will be sent to the boys. So the picture never came good. So India Devi came with a solution. She also came to Thota Photo studio (I think she came from Cuttack, 120 miles from Berhampur) and sat next to me. Then India Devi picture was taken away leaving mine. Vkv's photo was sent by Nannu to us. Father showed it to me. Nannu sent the letter with good news to all that Vkv liked my picture. Then the marriage date was fixed. Vkv agreed to have the wedding at Tirupathy, saying all his friends got married there and we can have a small wedding. The problem was Vkv was coming for Music season in Chennai that starts from Dec 18th and that was the month MARGAZHI, marriages were not celebrated. So THE DATE WAS CHOSEN as Jan 16th 1967 for our wedding. It was very rare with out seeing boy and girl in person the date being fixed. I guess we had great regard and respect for our brothers.

So in November 1966 end with my parents and sister India Devi I came to Bombay. India Devi had a belief if three people go for an important event it may have hurdles and fail. So she wanted to be the fourth person. So we all stayed with Nannu's family.

Nannu and mannie had to take care of many things as I have to get passport, visa, health certificate etc. Nannu took one month leave to get this paper work done. Mannie also took me to places like doctor's office etc. Mannie's father Sri ARSundaresan was very helpful. He provided transportation some times with nice car.

Also mannie with Bama's help took me to store to get material for coat and tailor it as I will be going to USA in February when it would be very cold.

Ambuja and Ramani helped us with Transportation bus from Chennai to Tirupathy. Also Ambuja helped to get silk sarees for my wedding at Chennai. I had to stay at Bombay as I had to get married on Jan 13th according to Bahai ceremony. Bama was the one drove us. So ARS family was very helpful in many respects.

The wedding went well at Tirupathy and we all came back to Bombay. We found out at Bombay I could not get visa (green card) to go with Vkv on Jan 29th. I got my visa in the first quota in February. So I had to fly alone on Feb 5th. I never even went to school as a student or teacher alone in Berhampur. Always I had a friend with me. Also never flew either. I thought I can go with Nannu and mannie in a couple of months and that was ruled out rightaway.

For me and sure for our parents too it was never expected when I get married I will be going far away to USA and will not be able to see them for a long time. But again the big comfort for everybody in our family was ***NANNU AND MANNIE WILL BE COMING TO USA IN A COUPLE OF MONTHS FOR TWO YEARS TO BOSTON, NOT FAR FROM NY CITY. THEY BOTH WILL BE THERE FOR ME IN UNITED STATES OF AMERICA TOO!***

Nannu and mannie came as planned. It was really great to see them. India Devi sent a very beautiful silk sari for me through them. We had many opportunities to see them. We visited them at Boston, or Vkb's place in Maryland or at our place in Manhattan. I did see mannie was missing Vidya, Venil and Mathy very much.

For Deepavali and some festival occasions Nannu and mannie presented me very useful things like stainless steel Pressure cooker, Corning ware set. I have them still.

The most memorable thing was going to **National Parks** with Nannu and mannie in 1968. I was working in Telephone Company then. Nannu asked us that with Ramachandran (mannie's brother) family they are planning a 6 week coast to coast trip going by car with a trailer. Vkv rightaway said I should go with them. VKV, with Saroja, Ravi and Raghu did that trip few years back, and VKV may not be able to do this again, so encouraged me to go with them. Vkv helped to draft a nice letter to my supervisor at work and I got permission to go. This trip opened my eyes how to appreciate nature (learnt the word MOTHER NATURE used by the rangers) and also the visit to Disney land revealed what a human mind can achieve with perseverance and imagination. Also gave an opportunity to know Ramachandran, Ganga, Sundar and Gomathy. Staying in the trailer, right at the camp grounds, cooking food, and listening to the ranger's programs was great way to learn about the national parks and its importance. It was an experience which will not be forgotten. Nannu was in charge of keeping the accounting. It was hard to believe it cost only \$200 + for whole trip for me. Nannu and mannie went back to Bombay as per their schedule.

Then an opportunity came to go to India when brother Seenu's wedding was fixed with Suganhda for Dec13th 1970. I missed Rangan and Kamala wedding in 1968.

When I reached K4 where my parents lived, there were no words to say to each other. It was a very emotional time and only I know we all had tears. It took few minutes to settle down.

After Seenu's wedding, in India Devi's car I also joined to visit temples in South India. Then we came to Bombay.

At Bombay I found out I am pregnant, the most awaiting and exciting news everybody looking forward to hear. Gomathy mami and mannie took me to Dr.Sankari, their family doctor. When Nannu came from office, mother told Nannu "Selvi Pillyandirukka", Nannu asked smiling "How do you know it is Pillai?"

So this very exciting news of me going to become mother, we found out at Nannu and mannie's home in Bombay.

In early seventies Nannu came to Washington D.C with family. He was allowed to bring some furniture from India, so he asked us whether we need any thing. We bought a house in 1969 at New City NY. VKV and I wanted to have some beautiful artifacts from India and here was the opportunity we had through Nannu. So Nannu got us Kashmir wooden screen, inlaid work (Mysore Raja's procession) rosewood coffee table, brass tables, lamps etc. So this was first collection we started and tried to keep our home with Indian art work.

Several times Nannu and mannie came to USA. We also moved to Boston, MA, Yorktown Heights NY, and Los Alamos NM and they visited us. The years went by and we were all busy bringing up our own families. During one of the visits I told Nannu that VKV when retires want to spend six months in Chennai to work on his Madurai Mani Iyer Project. Nannu right away said, may be it was not a bad idea to consider buying a flat.

In 1993 VKV retired and VKV wanted to go to Chennai like for six months every year during winter months here. I remembered what Nannu said and told VKV. VKV said he will find out about it. In 1995 I also quit Real Estate. Our nephew Picha had a nice flat built in Tiruvanmiyur where Nannu lived and we rented it. I wanted to know whether I can make adjustment. I found out I can spend few months in Chennai. I convinced VKV that we should buy a flat. By a stroke of luck Aravindh, our friend showed an ad by Alacriti, going to build flats just a block from Nannu's place and also near Ocean. We rightaway acted on it, discussed with Nannu also and reserved a flat. We had to give a big deposit, but we were going to Bangalore. So Nannu helped to take that money to Alacriti builders office. When we were here Nannu and mannie helped to look after the wood work needed in the kitchen and bedroom wardrobes. Also before we could go, Nannu arranged *Paal Kaichal* event. Vks came from Bangalore. It made me feel very good that Nannu and mannie were there to do all these things. Again Nannu and mannie were there for me as always. .

We moved to Alacrit flat, named 'Padmalaya' Goddess Lakshmi daughter of Ocean, as our home at Los Alamos on 'Hill' was named 'Srinivas', Lord of Seven Hills.

So we now have to settle down in the home and start to cook and needed utensils. Nannu and mannie said "Selvi! We have the whole set of stainless steel utensils we bought before your wedding for you, they are here and you can have them". So while Nannu was giving the box, smiling Nannu said "It is really some thing, these things meant for you will be given to you after all these years."

I enjoyed staying at 'Padmalaya' and thanked God for finding a place so close to Nannu and mannie.

From 1998 to 2004 we had 'Padmalaya'. Vkv and I were there usually from December to April. Our wedding anniversary in January and my birthday in March were always celebrated by going to lunch to Nannu's home. Mannie is an exceptional cook. She made the vegetables which we do not get in USA. The way she made *Kottavarangai Kari* I have to mention. She will take enormous care to cut the vegetable into very very tiny pieces in uniform size with special Japanese knife. Then she will cook in such a way the vegetable will look still very green and it was delicious. She always made two kinds of vegetables. Later India Devi also followed that idea. Also I will be presented with a nice sari and money as gifts. Mannie will say I was 'Aathhu Ponnu'.

Nannu was the one in charge of serving fruit. Nannu also takes good care to cut the fruits, like watermelon especially in very nice uniform pieces. Also some times his favorite Aavin *Thirattupaal* would be there too.

Always mannie and Nannu made sure we have Mangalore ubbuttu (Grand Sweets) for dessert. They knew that is one of the few sweets I liked a

In between during our stay Nannu will suddenly knock on our 'Padmalaya' door and will bring some dishes mannie made that I like, for instance the Potato masala kari the way our mother used to make. Another time one morning he brought Aavin buttermilk packets with spices that I love. I had my favorite *Ilandha vadam* also.

A couple of times I got sick and Nannu took me to their doctor. So it was a great comfort to have Nannu and mannie for me living very close. I was very fortunate to find a place, only one block from Nannu's home. They were there always in need.

Last but not least, I should say about mannie's family. Gomathy mami had a soft corner for me. Mannie's sisters and brothers families are fun to be with. Many times there were get together parties and always invited us. In 2003 at one of these parties, Mangala said "If Hari is interested in getting married I have two nice girls and I can chaperone also and have them to come to California." I asked her who are they? The first one she said "She is very attractive, tall and plays Veena beautifully, learnt from Veena Gayatri's mother" I knew it sounded exactly like Gowri whom VKV and I have not only met and actually stayed one night with her in Dallas. So I asked Mangala what is the name? Mangala replied "It is Gowri Srinivasan". So I told Mangala, we know who this Gowri is, when the time comes I will tell Hari. And with in few months Hari and Gowri wedding date was fixed.

So Gowri's father, with his brother and his wife went to Nannu and mannie's home as we were here, officially to talk about the wedding preparations.

Hence the title 'Always there for me' I have given speaks for itself.

My sincere prayers on this special event are that May God Grant dear Nannu, Mannie along with Vidya, Ramanan, Ashwin, Amrita, Michael, Venil, Sumantran, Mathy and Jon a Long, Healthy, Happy Life and also to be ALWAYS THERE FOR ME.

MY PERSONAL REACTIONS ON Dr.S.Naranan's 80th Birthday

I thank Mathi for allowing me to reflect on this occasion. I do not believe in celebrating the biological marker of a chronological occasion marking TIME but still feel it is worth noting down my observations on this commonly accepted occasion for reasons stated below:

To me both VKB & Naranan represent an era of HEROES TO ME. They are both “Heroes with a thousand faces” as expounded by the greatest philosopher of twentieth century Joseph Campbell who combined Anthropology, Mythology, and Philosophy to explain the contributions of great persons who innovated in a practical fashion the innate fundamental truths of human existence and advancement of many human beings close to them.

The contributions of Naranan as a competent scientist are well known. But the unique insight in combining Physics with varied and seemingly unconnected areas of Kolams with the Fibinocchi series and linguistics with Shannon's contributions etc are quite unique. It is no wonder both collaborated in some of these areas. To me they represent the follow up of the great Indian tradition in Science in the post Raman-Bhabha era of the glorious period which has inspired countless number of prospective scientists like me. The other common thread has to do with how they pretty much qualify for Campbell's vision of heroes with a thousand faces in the way they have lifted those around and close to them to far greater heights by their example and involvement. Of course Naranan's personal sacrifices in this process of those close to him in terms of his family commitments as well as respect for his parents and devotion to his wife and children are legendary in nature.

I also admire his patience and a certain introverted approach in not openly being critical of any one or their views though his views most likely were quite different on many subjects which requires enormous discipline.

I am thankful for the opportunity to express my views on this happy occasion.

V.K.Viswanathan

Nannu Mama has greatly affected my life from the beginning. My parents met only because Nannu Mama and Vkb introduced them. My first memories of Nannu Mama were that he would play fun card games with me and he would show me card tricks. Visalam Mami was always a lot of fun too. She stayed at our house several times and always played many games with me. I also loved eating the idli that she would make that came out nice and soft. I was often thrilled to see any visitors leave so I could get back to the business of playing but this was not the case when Nannu Mama and Visalam Mami visited. We always see them on our visits to India today and it is very interesting for me to observe how good they are with Aditya which must be why I was always happy for their visits as well.

It seemed like the puzzles Nannu Mama would show me always taught me something. He also knew a great deal about the Disney movies that I was a huge fan of. I was thrilled that an adult was conversant on the topics that I liked! As is typical of most kids, I had no idea that Nannu Mama was a famous scientist who worked for NASA. He certainly showed no attitude or arrogance and was very good at explaining complicated topics even to a little kid like me. He would often talk about space which also happened to be one of my favorite topics. I always looked forward to seeing Nannu Mama because it seemed like many of our interests were very much the same. I'm sure that this isn't a coincidence. I think my father, Vkb and Nannu mama were instrumental in me to going into science myself. Looking back, I'm amazed at how Nannu mama can adjust his level of discussion so that I could understand what he was talking about. As I grew older, he would talk about more advanced topics but he seemed to always know what level I was at. I also found it very interesting that Nannu Mama and Vkb kept publishing scientific papers well after their retirement. I figured that if they kept wanting to work after retirement, their work must be really fun! I also observed how they were able to take concepts known to them from physics and how they applied them to linguistics. Often scientific disciplines are quite "stove-piped" and people do not introduce techniques from one field to another. However, if done successfully, great progress can be made as was the case with the linguistics work. I try to follow their example in my work today.

Even now, when I visit, Nannu Mama often asks questions that cause me to think quite a bit. Recently, when Gowri and I visited he asked us why the eight megapixel digital camera that we had seems to be producing pictures that are just as good as film even for large 8"x10" prints. We knew this was the case since we did all sorts of tests before switching from film to digital. However, he showed us how film definitely has more resolution than an eight megapixel camera so there must be a reason for why the digital camera seems to produce pictures that look just as good. In this case, it turns out the printer was the culprit and therefore, the higher resolution film could not be taken advantage of unless the prints were enormous. So for all practical purposes, digital was fine. Gowri and I were amazed at how he got us thinking even after such a short discussion.

Nannu Mama has always been nice to me and I've never seen negative emotions coming out of him over all these years. That is something I can't say about almost anyone else. He does not speak ill of others, doesn't gossip, and seems to always have a pleasant demeanor. He has been a very influential figure to me and a great Uncle. We hope Nannu Mama has a great 80th Birthday year and that both Visalam Mami and Nannu Mama have many happy years ahead!

Love,

Hari, Gowri and Aditya

ALWAYS AIMING HIGH

(Rangan)

It was 1957 – the beginning of my first academic year in engineering college in Sambalpur, Orissa. I had recently moved away from my hometown and was already feeling homesick. The surroundings were new and the hostel food was terrible. It would take me a couple of months to get adjusted to the new place.

Then I received a letter from Nannu. He wanted to know how I was doing. He was eager to know what I thought of my new teachers and the courses. “I hope you find the classes interesting – in their scope and orientation,” he wrote. “I am not sure what advice I can give you except to say that you must always aim high.”

ALWAYS AIM HIGH: Those three words sum up Nannu’s motto in whatever he set out to do. Commitment to excellence is the essence of his life and it shows up in each and every activity he does – from the simplest to the hardest – whether it is writing a letter, telling a story, or explaining a scientific idea or a theorem to the uninitiated or writing a research paper.

Let us start with his letter writing. He studiously avoids clichés and innocuous sentences. And how many details he used to pack in a postal card! Every alphabet – its stroke and bent - would be clear and distinct, and he would write in a card what an average person would in an inland letter. We regularly heard from him and my mother would often say, “Tomorrow is 15th, and Nannu’s letter should be arriving.” And she would be right.

Even now, despite the distance of time, I can still vividly recall the first time I heard Nannu narrate stories of Dial M for Murder, Vertigo and The Night of The Hunter, well before I actually saw them in a theatre. These are movie classics and nowadays when I watch them on Cable TV my thoughts immediately go back to those early days when I first heard about them from Nannu and admired his story-telling.

Analytical geometry didn’t make much sense to me until Nannu spent one summer with me and Selvi (he was home on vacation) explaining the Euclidean concepts and how a theorem is proved by pure deduction and axioms. To me, the way he explained the theorems seemed to have stripped away the ‘mystery’ in analytical geometry as taught in my high school.

Nannu has been an inspiration to all at home and naturally I saw him as a role model. I think he inherited the best qualities of our parents: father’s inquiring mind and a passion to bring a fresh and original perspective to matters and mother’s innate sense of pragmatism and common sense. He never compromises on quality and when I send him, from time to time, books from US, I am very sensitive to his tastes – because he has time only for the best. Athimbare, sister India’s husband, used to say that Nannu is the most level-headed person among our family members. He cited the fact that Nannu spent two years in Benares Hindu University but never got radicalized by RSS or its politics.

At Khallikote College some of the teachers often reminded me about Nannu - their former student - and how different I was from him. The comparison was not on the academic performance (I was good in studies and got a first class in I.Sc.) but on my avid interest in movies. When Mr. P.V. Jagannatha Rao, the chemistry professor – came to know that I had seen three movies in four days in Calcutta (we were on an excursion tour, in 1956) he gently chided me for my addiction. “You are so different from your brother; you say you have seen this movie in Telugu; then, why do you need to see it, again, in Hindi?” he asked. I was about to reply that Nannu too liked and watched movies and that he even meticulously recorded in a diary the movies he saw and his own reviews: this was when he was a student in BHU, but I managed to stay mum.

To me, the most distinguishing quality in Nannu is his unwavering conviction and ongoing commitment to the personal goals and dreams he formed so early in life. He knew exactly what his career would be like and also how he would spend the years after retirement. I remember before he joined TIFR there was a mild suggestion that he might consider taking a lecturer’s job in the local Khallikote College. Later, there was some discreet advice that he might consider a career in Indian Administrative Services – which would add to his prestige and also improve his marriage prospects. But Nannu wouldn’t waver from what he had planned to do. He was a cosmic ray scientist but his interests outside his career were varied and his passion extended to number theory, cryptography, linguistics and crossword puzzles. The last one is quite revealing: he was solving and collecting the crossword puzzles from *Times of India* and *The Hindu* for over many years, meticulously itemizing the errors and then wrote a paper based on a statistical analysis of those *errors* and it was deemed worthy of publication in a prestigious journal. I think somewhere in his mind Nannu knew he would be writing a technical paper on his errors. This, I think, is what one means by the expression ‘making lemonade out of a lemon.’

Here I must also mention Visalam Manni who has been a source of strength to Nannu for so many years.

I have read somewhere that the greatest gift a father could give to his children is to love their mother. How true! This seems obvious but I am not sure if it is true of every father.

Vidya, Venil and Mathy were the first children we ever got to know in our family. Over the years I am glad that Kamali and I are able to keep in touch with them. We love them and admire their love and dedication to their parents. Mathy makes it a point to visit her parents every year. Venil, living close to her parents, and Sumantran, are also a great help to Nannu and Manni.

Kamali joins me and a host of others – friends, relatives and acquaintances – in wishing Nannu and Manni many more years – as we continue to be inspired by them.

I once heard someone say, “When you recall your life, you don’t recall it as a movie, but as a series of still shots or photos frozen in time.” These still shots are moments -- memories that we recall and cherish fondly many many years after.

I recall my times spent with Nannu Periappa and Visalam Periamma as a series of specific moments or still shots frozen in time– two are from my early childhood, and two are more recent. There aren’t many photos of me as a toddler or a young girl, but any that do exist were probably taken by one person in the family – Nannu Periappa. I have a photo of me as a six or seven year old girl sitting on the rocky seashore, wearing a maxi (all the rage back then, and now in fashion again!), and another of me glancing at something or another at a distance, and when I see these, I remember Nannu Periappa. I don’t necessarily recall the photo sessions, but these photos are imprinted with his name, his face.

A small tortoise scuttles slowly across the floor, with a cabbage leaf in its mouth. This is my second still shot – a memory from a brief vacation I spent with Periappa and Periamma in Bombay when I was maybe seven or eight. The tortoise belonged to cousin Venil. I had never seen a tortoise before, and I was fascinated.

And then my brain fast forwards more than twenty years, to Gowri and cousin Hari’s marriage. I stayed with Periappa and Periamma in Chennai during marriage time, and we attended the wedding together. What I recall very specifically from that holiday is the aroma of the delicious food Periamma prepared daily at home. I knew her health was not very good, but she cooked and served happily, and lovingly, not showing any sign of discomfort or pain. I smell the idlis and sambar, morekoyambe and sweet; I ate it all, and licked my lips wanting more.

I last met Periappa and Periamma in 2007, when my husband Ajay and I visited them at home in Chennai. The still moment is frozen in my memory – I see Periappa sitting on the living room sofa and Periamma sitting across from him, and Ajay next to Periappa on his right, and Periappa in the midst of a scintillating discussion about kolams and mathematics and his passions in life. Being an academic himself, Ajay was immediately captivated by this first encounter with Periappa and they talked on and on, for who knows how long. Ajay and I left, and remarked to ourselves afterward, “How wonderful that Periappa is still curious and excited about learning new things, about writing papers, about the process of growing intellectually. And how nice to see a couple growing old together.”

And so Periappa, now that you have reached eighty, Ajay and I wish you many more happy years exploring new intellectual pursuits, and enjoying life with Periamma and close loved ones.

Lovingly,

Anu, Ajay, and Abhimanyu

Although I know that I must have spent time with Nannu Perriappa and Visalam Perriamma as a child, my recollection of those days are fuzzy. Instead, the interactions with Perriamma and Perriappa that I fondly remember occurred much later in life – specifically, during the summer after my college graduation. At the time, I decided to travel to India by myself to visit family and do some sightseeing. I spent many happy days in Perriappa and Perriamma's home in Madras chatting with them about my life back in the States, reading back issues of Reader's Digest (a favorite of Perriappa's, I came to discover), going with Perriappa to Hot Breads to buy some of the most delicious theriti paal I have ever tasted, as well as eating Perriamma's delicious food. Although I wasn't surprised to discover that Perriamma was a wonderful cook, I was pleasantly surprised to learn that Perriappa had a culinary skill of his own – every morning, he painstakingly went through a ritual of heating milk, adding it to an existing yogurt culture, allowing the yogurt to form, and then placing it in the refrigerator. It is not an exaggeration to say that Perriappa made the best homemade yogurt I've ever had in my life! When I asked him what his secret was, he laughed and said that it wasn't a big deal. I never did find out the special recipe, but I did look forward to polishing off every one of Perriamma's scrumptious meals with a generous dollop of Perriappa's creamy yogurt.

One day during my visit, Perriappa decided that I should have some portraits taken of myself. One evening before dusk, I dressed up in a paavadai chattai dhavani and went with Perriappa upstairs to the terrace. He spent over an hour taking photos of me, and later developed them so that that I could take them home with me. I appreciated the thoughtfulness of the gesture as well as the time and care that Perriappa devoted to making sure that the photos turned out well.

Although I had originally intended to spend a week at Perriappa and Perriamma's place, I was having such a good time that I asked Perriappa if I could spend an extra week with them. He readily agreed and I spent several more days enjoying their company. It was a very memorable visit and one that I would always remember with great fondness.

A few years later, Ravi and I were fortunate to have Perriamma and Perriappa attend our wedding festivities. They were the only family members from India who were able to make it to our celebration, and it was very special to have their blessings on such an important day. Coincidentally, our wedding coincided with Perriappa and Perriamma's 50th wedding anniversary. We felt that it was important to recognize this important milestone in their lives, and surprised them at the wedding reception with a cake in their honor. It was poignant that while Ravi and I were starting our lives together, Perriamma and Perriappa were celebrating an epic milestone in their marriage.

Perriappa has passed down his intelligence, kindness and warmth to his family. Mathy and I have been close for several years ever since she lived with us when I was a child. Although I don't see her as often as I would like, we can spend hours chatting about everything under the sun when we do see each other. I have also enjoyed getting to know Vidya over the last few years, and we make it a point to see each other when she comes to DC to visit Amrita. Not only has Vidya taken after Visalam Perriamma in the cooking department (I can never forget the amazing carrot cake she made for Amrita and Ashwin's birthdays when we were kids), but she is a very sweet person. Finally, Ravi and I have been fortunate to spend a lot of time with Amrita over the last few years in DC. Her passion for the arts, love for learning, and sweet disposition remind me a lot of her Thatha!

Happy 80th birthday, Nannu Perriappa. I have greatly enjoyed our conversations over the last several years and look forward to seeing you and Perriamma in the near future. Ravi and I wish you many more years of good health, peace, and prosperity.

Love, Thaila and Ravi

To my Dear brother Nannu and Manni with gratitude

Seenu

In our family, we have this iconic photo where you see Nannu with Selvi, Rangan and me. It came about one sunny afternoon when sister India considered us pretty good looking I suppose, and asked Nannu to take us to a photo studio and have a group photo taken. I am not sure if we dressed up or just went as we were (looking at the photo, the latter must be true - I even had some stones and pebbles in my pockets). We scampered to Thota's Studio, about a mile away, and had this classic photo taken. It is iconic because it is very symbolic: Nannu giving us the confidence that he is there for us. That's how I have felt about Nannu and Manni throughout my life. This photo is on our mantle.



I leave it to Nannu's friends and colleagues to comment about his professional achievements because I am unfit on that area. This is about our relationship, and to let Nannu and Manni to know how they have influenced me throughout, even though they might not have been present physically close all the time. *One can have profound influence even from a distance...*

I was a carefree six years old when Nannu left for Benares. Then he joined TIFR. Nannu has said several times that we didn't have much of an opportunity to know each

other well when I was a kid. Between my father and sister India, they partially financed the Indian Postal Service! So, I think they must have kept Nannu aware of our activities. Since Nannu was a legend in Berhampur because of his academic achievements and great qualities, I was aware of him from early on. I was very proud of the fact that Nannu and sister India were our older siblings because that influenced how the whole town perceived us.

My childhood memories of Nannu are precious and deep seated. I used to get very excited, days before he came home for vacation from Benares or Bombay. He used to bring unique items as gifts. The “magic” water coloring books were a thrill to use. He would have written our names on the books *before* giving them instead of just handing over a book randomly. Such a simple act made me feel special because there was ‘some’ decision behind his giving that particular book to me. In our *Golu*, we had some of the most beautiful dolls he brought from Benaras; very elegant, delicate figurines of Shiva, Lakshmi, Saraswathi and Vishnu with beautiful facial features. We weren’t rich by any means, these cost money, but he knew how eagerly we looked forward to these. I have seen him clear the carom board in one attempt! Heard him laugh uncontrollably reading some books in the hall, which I found later as the Wodehouse books. At Srinivasanallur, I used to watch with awe as he and our cousins Seenu, Ramu, Ambi jumped into river *Kaveri* atop a tree branch. One fun activity when he was around was taking bath! He would draw buckets and buckets of very cold water from the well and pour on our (Selvi, Rangan and me) heads in turn. The cold water ran slowly down the face, almost to the point of our suffocating and gasping for air – oh, how exhilarating it was! Hard to explain! “More, more”, we would beg until mother put a stop saying, “Enough, come to eat!” His gift of a Table fan was heaven-sent for our mother. After her morning chores she would plump down in front of it and we could hear her ecstatically sighing, “*appadi*”, “*ammadi*”, surely blessing Nannu mentally every time! It was his famous handmade radio that entertained us daily for a long time.

In 1953 we welcomed our dear Manni into our home. I was 10½ years old, and the first wedding I remember attending. I fell in love with Manni right away because she was beautiful, nice and very friendly. She said she would call me “Jean Babu”, which felt very special. (Now, I wonder if I looked like that dwarf “Bashful” in Snow White, when she said that to me!)

In the summer of 1957, I was 14½. Nannu and Manni visited us with Vidya. It was lot of fun playing with her and showing off to friends and neighbors. This time, they gave me a box camera as gift, my very first camera! It was a thrill, as anyone can imagine, and I went crazy with it for a while. I have ever since been interested in photography and my very first ‘toy’, when I could afford one, was a Pentax Spotmatic SLR that I bought soon after joining IBM. You can see his influence emerging...

This was also the time when Nannu entertained all of us narrating Hitchcock's 'Dial M for Murder', 'The wrong Man', 'The man who knew too much' with the same nail-biting, sweating suspense as watching the movies! During the suspenseful scenes - either Grace Kelly grabbing the scissors, or the sniper hiding in the balcony waiting for the cymbals to crash - Manni's face would turn tense and she would shriek with her hands over her mouth, raising our fears further! Just imagine three 'kids' with gaping mouths, listening intently to Nannu, suddenly turning to Manni, with anticipation and fear of what to come next. At the end he would ask us to guess the clues if we could. It was thrilling listening to him, and by his gleaming face and mischievous laughter we could tell how much he enjoyed telling them. Watching Alfred Hitchcock movies again and again, has become a habit for me and I believe everyone else in our family.

Before their departure to Bombay, came one of the most exciting announcements to my ears. They had decided to take me - *just me* - back with them to Bombay. I had been to Madras before; but *Bombay was BOMBAY*, the city of skyscrapers, Marine Drive, Juhu Beach and of glamorous movie stars whose lives we knew by heart. My matinee idol Dev Anand lived in Juhu! What an experience it was. I stayed at the exotic Devonshire House all those days. Manni's parents and siblings were wonderful to me. Nannu made sure that he showed me around Bombay well: Malabar Hills, Kamala Nehru Park with the Shoe house, the Queen's diamond necklace that was Marine Drive at night, Gateway of India, his old TIFR labs etc. Going to the movie 'Boy on The Dolphin' at Metro was some experience. I didn't remember the movie at all (though it had Sophia Loren in it) but the theater was grand. The air-conditioned theater was cool and had a nice fragrance, the soft seats felt luxurious - a far cry from the bench seats at our Jyothi Talkies!

While in Bombay, Nannu bought me my first pair of sneakers, from *Bata*, another prized possession, which I used to full extent while playing cricket in High School. Could it be I became the captain and we were inter-school champions that year because of that?

An unexpected outcome of this trip was the bolstering of a "can do" attitude in me. It was my return trip, and I had to return home by myself. To make it easier, Nannu sent me to Madras on a direct train where Narasimha perippa received me. From Madras it was another straight ride home. I 'grew up' and felt mature, because Nannu had the faith and confidence in me. May be he felt so because he had seen me run errands back in Berhampur. I was after all 14½, may be he wanted me to get this experience under my belt. Whatever it was, it worked! It was a powerful endorsement to my abilities, particularly when it came from someone I admired and looked up to. Such gestures do lot of good when growing up. It was a delightful summer of many experiences and exposures, thanks to Nannu and Manni.

In 1958 I graduated from High School, went to college, suffered through Typhoid, and continued with B.Sc. During one of my father's Math's classes, I heard a voice from the back, "Seenu! You are useless!" It was Sisir Misra, the lovable class clown (who has since done real well as a movie producer and director), commenting on my intelligence to my father's proud pronouncement, "*When my son Naranan was sitting there years ago, he proposed an alternate solution to this!*" Just another example of how Nannu was always there in our minds.

In 1961, Rangan and I had our *Poonal* and being the younger of the two, I received my *Brahmopadesam* from Nannu and Rangan from our father. I don't think much about it, but the giver and the recipient may have some significant tie - unbeknownst to them.

In 1962, Nannu was in Madras when I joined MIT, Chromepet. He escorted me to the campus for admission. We went a week before the college opened – a big mistake! When we emerged from the Registrar's office, few students approached us and very politely asked Nannu, pointing to me, "Sir, can we take him aside for sometime?" Nannu probably knew their intentions. But, I had no idea what ragging was like and it took me a while to realize what really was happening. I was raw meat to these hungry jackals! They were mean and why were they uttering words I didn't understand? (It took me few weeks to catch on, and I have to confess some were really clever!) I could see Nannu few times, at a distance, watching helplessly, surely pitying his baby brother. After 45 mins, what appeared to be ages, they let me go. I was so happy that Nannu was there to get back to, at yet another major event in my life: starting my wonderful MIT days. (By the way, MIT being a small campus of 300 students, these 'jackals' became quite close after few days. No long-term harm done and *actually* my synonym and antonym skills improved!)

During 1962-65, while I was at Chromepet, I would meet Nannu and Manni whenever they came to Madras from Bombay. In our KNS family I probably saw them more often, though briefly. On their return from Japan in 1962, they brought me a beautiful Citizen wristwatch, which was flat and thin. It was gorgeous. Our father had an eye on it for a while, but I wouldn't give him! I used it for a long time.

* * *

In the autumn of 1966 there was one of those momentous, life-altering meetings with Nannu. By then his coming to the other famous MIT, the one in Boston, as a Visiting Scientist was already finalized. I was in Bangalore working at Aeronautical Development Establishment (ADE). He was passing through B'lore to KGF or the other way round. He took my roommate Sundaram, and me to dinner. Sundaram casually suggested to Nannu that when he was in America, perhaps he could make arrangements for "Seemachu" to go over there! Few days earlier Sundaram had suggested to me that *I should* ask Nannu. I was hesitant and moreover I didn't think that I was fit to come to the US. I was surprised when Sundaram took it upon himself to ask. Nannu might have had that idea himself but

I think this recommendation from my smart and intelligent friend might have solidified his mind. Within a few months after their coming to America in 1967), he gave me the green signal. He and Manni budgeted to save some money for my sake. I was happy to get into Polytechnic Institute of Brooklyn (Brooklyn Poly) – the alma mater of my Profs K.A.V. Pandalai and Sharad Patel. Unfortunately, it was an expensive private school. Yet, with Nannu’s financial backing and VKV’s affidavit of support, I arrived in Jan 1968 for the *Spring* Semester. There was a shock waiting for me! In Applied Mechanics Dept., all Paper I courses were offered in the Fall and Paper II’s in the Spring. I couldn’t take the II’s before the I’s! Thus, joining in the Spring added an extra semester for my graduation. Worse, I had unwittingly added an extra semester’s worth of financial burden on Nannu. He surely was unhappy, but being Nannu, he was quite stoic about it. So, even before my classes started I had this pressure. Add to that my panic that I couldn’t understand the accents of some of the professors! How was I supposed to study and do well? For several weeks I felt that I had made a big mistake coming to America leaving a good job and good friends. But slowly, the realization of their sacrifices and the faith Nannu and Manni had in me, kept me going. Selvi and VKV being close at Manhattan helped me mentally. At MIT, Sundaram used to say, “Seemachu, you don’t work hard enough. If you did, you will do fine”. I worked hard as never before. Somehow the stars lined up, things worked out, and I got lucky.

We didn’t realize it then, but that extra semester at Poly ended up to be a blessing in disguise. The first semester I took some optional courses, and Fortran IV was one of them - my first foray into computers. I did well on my project. In the Summer, by sheer persistence, I worked on a real “Aero” related summer job in Long Island, designing recoilless guns for Colt Firearms. In the Fall, my Fortran professor gave me a part-time programming work on campus. These \$3/hr jobs were a windfall. I could save enough money, thus freeing Nannu of that dreaded extra semester’s burden. It was very satisfying mentally. These work experiences also gave me a leg up and in December of 1968, just 11 months after arriving in America, IBM hired me on the campus. It was a proud moment for me and as well to Nannu and Manni, and a big relief for our mother! Our mother – who worried about everybody and everything – would remind me in every letter she wrote to pay back the money asap because, *‘avaaLukku mooNu peNgal irrukka!’* Nannu and Manni well know the depth of my appreciation for what they have done for me. To one of very early letters expressing my gratitude, Nannu wrote back, *“Seenu, it is one of the best investments I have ever made!”* It was wonderful to hear that.

Good deeds have a way of spreading. Their helping me had the domino effect of his children and Rangan’s family coming to America. I hasten to point out that all of them would have come to the States by themselves; it probably made it a bit easier.

In 1970, I landed in Bombay on my way to Trichy for my marriage to Suganda. Due to Airline’s strike, I couldn’t fly to Trichy. Instead, I traveled with Nannu’s family to Madras by train. This is when I heard of Martin Gardner. Nannu first posed, and

subsequently had to explain, couple of his puzzles. I could see clearly his esteem and admiration for Mr. Gardner.

Nannu and Manni were in US during 1973. Manni did *VaLaikappu* for Suganda in Washington and later came to Poughkeepsie alone; to help us after Divya was born. Saroja had come first, and as planned, manni came later to give us the much-needed additional assistance. Manni and Nannu had raised three wonderful daughters by then. You see the pattern again. Though we weren't physically close most of the time, they were somehow magically present at major milestones in our lives.

In 1976, when my mother had to be admitted to Vellore hospital Nannu rushed to her side immediately and stayed there, as long it was necessary. He ran the forty-seven days of "Vellore operation" so efficiently, juggling so many activities; I can't even imagine how he did it. *At times like these men become supermen.* I watched him do this firsthand for three weeks, while giving him some breaks, but not much. When Nannu was around, you always felt confident that things would somehow be taken care of properly! This was yet another reminder to our wonderful mother who must have felt *so* blessed in having him as her eldest son. Though not a fan of religious rituals, he did all the required rituals, religiously, when our mother passed away saying, "that's what *amma* would have liked." That's how Nannu is!

Our father came to America in 1981 and unfortunately passed away in 1983 in Dallas in our house. During 1983 Spring break, what would have been a wonderful trip of everlasting pleasant memories for both our families – a trip to Disney World – was shockingly cut short by our father's sudden illness, being admitted to the ER and passing away within days. Why am I writing about this sad incident in this note, you may ask? Well, there is an excellent reason. You see, Nannu and Manni very much wanted our father to visit America knowing well it was something he would enjoy. It became a reality thanks to all my siblings. In true form, father enjoyed it immensely from day one. He called the USA his "Fatherland". In his typical curiosity as a writer, he observed and appreciated every small thing. Watching characters on TV constantly on the phone, he regretted not using any phones in his plays! He was one Indian who did not complain *anything* about America, unlike most Indian visitors I knew (and still know). He embraced the diversity and differences in what he saw. Seeing Mother's Day being observed, he wrote a nice poem on motherhood. He stayed mostly with us while he visited Selvi, Rangan and Nannu. Those two years, my family and I had a great time with father. I can still see him pacing the driveway, waiting eagerly as I returned from work, to tell me about a new poem, a new idea, one of his revisions or some news item. He gave couple of talks of his works to our Tamil friends who admired him. He would watch the kids Divya and Ramya singing and dancing and once we saw him dance a few feet away, swinging his hips. True! He enjoyed his pizza and our occasional visits to McDonald's. He told Suganda that she was like "my mother, you are taking care of me so well." Though it is sad that father passed away while in Dallas, on a brighter side, I see his last

days with us a huge blessing and a gift to us. I understood him more than ever before. Came to realize what a creative genius he was. Thanks again to Nannu's insistence; this wouldn't have been possible otherwise. I regained some of my 'lost' time with our father. Priceless.

The last several years we the siblings got to work on couple of lively projects. I created a website in honor of sister India Devi (vindhiya.com) for which Rangan contributed with his skills of typing in Tamil, Nannu with his excellent intro and Selvi, in selecting the stories. Divya designed this very elegant site. Later, for our father's site (vindhiya.com/kns) Nannu wrote an excellent essay on father. Recently, I have added write-ups by Selvi, Nannu and Rangan on our beloved mother. The benefit of these activities has been a close interaction between us four, by email and phone. Rangan's books Cupid's Alarms and Krishna and Gandhari had similar benefits.

With Manni, we had some very memorable and lucky encounters the last two times we met, in 2007 and 2009. In 2007, she came to the US for Amritha's graduation. She also wanted to attend VKB's 80th birthday celebration in Minneapolis. Manni had to fly by herself. Security was tight and in spite of most everyone warning her about the troubles of traveling alone, she wouldn't budge! It was admirable that she was willing to go through the hardship, to be present herself, and represent Nannu at his best friend's special event. It was nice to see her after many years. For her flight back, Suganda and I volunteered to drop her off at the airport, so Selvi and VKV could leave earlier with Kannappa. I escorted Manni to the Gate while Suganda and Saroja waited downstairs. I had a one-on-one quality time with Manni talking on variety of topics: family, health, politics, religion etc. It was refreshing. She keeps up with world events and is so interesting to talk to. The flight was getting delayed and finally Murphy (law) struck, and the flight got canceled. There was lot of concern about how and when she would get back to Las Vegas. Luckily things fell in place and she could leave the very next day. Looking at it positively, we could spend several more hours with Manni. I was happy that I could be of some help. She even wanted to come to Austin to spend more time with us, unfortunately that didn't come to pass.

Last year, in 2009, a series of lucky coincidences were responsible for the following experience with Manni. Suganda and I had planned a trip to Tirupathi for my *mottai* with her uncle RG and his wife. Arrangements were already made. A week before, when we were in Trichy, Manni called and asked softly, "Seenu, I want to come to Tirupathi, can you take me? I feel free to ask you. If it is difficult, I will understand. But, I didn't want to regret not asking you!" I surely was concerned about Manni's ability to handle the arduous task of standing in lines etc. And as we all know, a trip to Tirupathi is stressful for *anyone*. Suganda and I discussed and said, "yes". We decided to rent a bigger car etc. Two days before we were to leave, RG called and said that they had to drop out since their grandson had chickenpox! (I learnt that when someone in a family had pox, they shouldn't go to Tirupathi). RG was going to be our "escort"; I totally depended on

him. I get ‘panicky’ at religious places! What to do now? Nannu and Manni asked Ganga manni. She wasn’t well and she said she couldn’t go. I started getting worried. Few hours later, lo and behold, Ganga called back and said she would join us! Who/what changed her mind? Her doctor – bless his heart – told her that not everyone gets to go to Tirupathi, *unless* the Lord deemed it so. He told her not to forego this opportunity that has presented itself, and just go! We were relieved that she could come with us. (I am curious: What’s his name? Dr. Venkateswara, by any chance?) I felt that a minor miracle was in play, because Manni and Ganga weren’t part of the plan just a few days earlier. The logistics changed swiftly, and resulted in a memorable trip to Tirupathi. It happened to be a full moon day, which we weren’t aware of until someone at the Chowltry shouted, “The *pournami Garuda Vahana* procession has started, go join – *pongo, pongo!*” I had just returned from my *mottai*. Manni, who was carsick earlier and was resting, was game and ready to go. It doesn’t happen often to me, but it felt like we were in a totally different world the whole time – all four of us walking alongside the procession on the wide open *praharam*, lit with bright glittering lights, pleasant cool breeze blowing, under the soft full moon. I never could have imagined having this experience. Just happened. Next day, I even felt like a hero protecting Manni from the push and pull of the masses at the lower temple. Manni: It was an unforgettable experience. Don’t you think? Thanks for asking us to take you with us and thanks to Ganga manni for joining us.

* * *

Now come a couple of topics that have brought Nannu and me closer the last few years, thanks to our exchanges on his many hobbies.

1) I was struck immediately by the concept when Nannu shared his *Fibonacci Kolams* (FK) with me. He was creating totally new designs of *puLLi kolams* that South India is famous for, using the integers from Fibonacci series, for the sides of his *kolams*. I was very impressed by its elegance - more so because I could easily understand his paper! Later, with his input, I created a website for his papers and the foils he created when he taught at TCS’ IGNITE. The links are: <http://tinyurl.com/Naranan-kolams> or <http://tinyurl.com/Naranan-Fibonacci-kolams>

Since the concept of *Fibonacci Kolams* seemed to resemble some of Martin Gardener’s articles, I casually suggested to Nannu that he probably should write to him. That was almost two years ago while Nannu was dabbling on other areas. Finally, after I located the whereabouts of Mr. Gardner, Nannu wrote - not knowing what to expect when you send an unsolicited material to a famous person. Within days Nannu received this:

Dear Dr. Naranan:

Thanks for sending me those beautiful papers. If I were still with Scientific American I would be devoting one of my columns to them. They certainly deserve

publication. A periodical such as The Mathematical Intelligencer seems to me a good magazine to try, and certainly the Journal of Recreational Mathematics. Other possible periodicals are The College Math Journal, and in England the Mathematical Gazette. The internet will provide the names of editors and the magazine's address.

*All best,
Sd. Martin Gardner.*

This was a personal, typed letter sent by regular post, not email!

Look at the time-line:

- Nannu writes the cover letter on the April 16th, I sign his name and post the package on the 19th. Mr. Gardner receives it on the 21st, his reply is dated 22nd and he mails it on 23rd. Nannu receives it on the 30th. All this within 11 days!
- Sadly on Mon, May 24: Mr. Gardner passes away, about a month after writing to Nannu.

Here is my wonderment. With Mr. Gardner at age 95, and famous as he was, I had some doubts whether he would find the time to read these papers and respond to Nannu. Not only he read them, he found them fresh and unique and he took the time to *laboriously* write a personal letter. Laborious because, Nannu told me that there were several typos in Mr. Gardner's letter. Since he passed away just a month later, his letter has a powerful sentiment, *even to me*. He personally typed it – mistakes and all. The typos/errors were probably due to his failing eyesight, shaky hands and poor health; *and yet, he did it*. This shows how strongly he was inspired by Nannu's work. *Otherwise, he wouldn't have taken all that trouble*. He was driven to do it. And to acknowledge that he would have devoted a whole column in Scientific American is the epitome of his recognition of Nannu's work! I can't but help visualizing Mr. Gardner's activities on April 21st and 22nd in his house – reading the article, getting excited, crouching at the typewriter and typing! It is perhaps one of the last personal notes this famous man wrote and was thinking of Nannu and his *kolams!* I get goose bumps when I think about it.

I received this note from Nannu:

“A landmark event was the letter from late Martin Gardner. But for your goading, I would not have even written the letter to him to begin with. Having written, it was you who got it (along with hard copies of my articles on kolam) into MG's hands in record time, just a month before his death. MG's reply, written within 24 hours of receiving my letter, will remain the most cherished personal document in my life. I have to thank you for this.”

I felt like an accidental hero, getting credit for doing nothing but mailing a letter! This again is classic Nannu: no small gesture goes unrecognized. Though it is a case of '*kakka ukkara panampazham vizhundudam*', (my poor translation: 'just as the crow sat on the tree, the palm fruit fell'); I am glad that I was that *kakka*, a minor catalyst, in Nannu getting recognized from his life-long idol. I still remember the two MG puzzles Nannu posed on the train in 1970! And this letter happened 40 years later!

* * *

2) Between Feb 6th to Feb 17th 2009, Suganda and I had a long overdue time together with Nannu and Manni. It was memorable on many levels. In addition to the Tirupathi trip with Manni, here is another "accidental" experience with Nannu!

Few minutes after arriving at their home on Feb 6th, standing near their dining table I spotted a yellow sheet of paper. I don't pry into other's business – honestly – but this looked like something Nannu was working on. I asked him what that was. He said it was about crossword puzzles. That single sheet had a concise Table with a snapshot of his daily errors from a year's worth of (365) crossword puzzles of cryptic variety from Hindu. That was a "wow" moment! He showed me a manila envelope marked '2008', which had all 365 puzzles neatly stacked. Then, when he said he had more than 10 to 15 years' worth of data from Hindu and Times of India (TIO) puzzles, in separate envelopes, my jaw dropped! I was speechless. You have to believe me because, I am not a crossword buff and anytime I try to solve one, I invariably cheat, peek at the answers so I can solve some other clue! And here was my brother who not only was solving the puzzles honestly, but also kept track of each and every error - for years! Crazy amazing! I am not sure if he would have foreseen at that time, that someday he would use that unique data to analyze and come up with a methodology to forecast errors while solving crossword puzzles and that the well-known Journal of Quantitative Linguistics (JQL) would accept his paper within *hours* of it's receipt and publish it within six months! Since then, some have already referenced his work.

Now, why do *I* write about this? Imagine my amazement when Nannu sent me the PDF version of his paper, and as I scrolled down, on page 20, he had acknowledged me by name for *encouraging him* to write the paper. Well, other than the fact that my jaw dropped when I first saw this massive personal data, I did mention that he should complete his analysis and write a paper. I felt humble when he said that that gave him the impetus to pursue his work aggressively. I am happy to have been that "*kakka*" again! I am grateful to him that my name is now enshrined in a JQL paper!

I am thrilled for Nannu that these last two items have brought him so much joy, more recognition and fulfillment.

* * *

Being with Nannu is like being with “Knowledge” personified, Mani athimber used to tell me. He can explain complex topics in layman’s terms. I learn something new and always feel smarter after listening to him. Not all conversation is “intellectual”. We would talk about mundane and trivial stuff too.

Though, Nannu will disagree about his ‘super powers’ and ‘abilities’, we at home always felt he *can’t do anything wrong and he knew everything*.

As I grew up and we interacted more, I felt that our parents, and we the siblings, had the divine gift of having Nannu as our eldest brother. *Our Poorvajanma palan!* Not only Nannu had impact on all his siblings, he was a pillar of solid support for our parents. I wish that they, India and athimber could write about him. Imagine what that would be like!

One great thing about Nannu, in my experience, is he is never preachy nor condescending. You don’t come across many people like that. He will give advice when asked for but never force it on you.

Yes, Nannu is great in many ways, there aren’t enough adjectives in my vocabulary, however it is comforting to know that he is also like one of us. He enjoys Laurel and Hardy, Buster Keaton, Marx Brothers, MGR movies, Hindi and Tamil film songs and Anjali Devi is one of his favorite actresses! And he enjoys *Therattippal* like us all!

* * *

This note has become much longer than I expected! Sorry. Initially, I struggled about how and where to begin. When I decided to tell my story of gratitude with some interesting incidents, from my point view, I couldn’t control myself

* * * * *

Seenu
Oct 2010
(sseenu@gmail.com)

I feel inadequate to do justice to all of the fine qualities that I admire in Nannu.

First and foremost is the love and care that he has lavished on Visalam. We grew up together and were brought up in a time where at a very early age one was supposed to act tough. I only vaguely remember that my dad lavished his love by daily gifts till age of four or five. After that age all praise and encouragement were told only to others and never to me. Ambuja and I came out possibly toughened and ready to face the world but for Visalam this regimen undermined her confidence in herself. With Nannu, Visalam blossomed out. Her cooking, dressmaking skills are superb and in Japan she learnt the art of doll making.

As a person Nannu has been caring and thoughtful. I could appreciate this aspect of Nannu because we had the good fortune of a month long tour of the National Parks in USA. It was the summer of 1967. Nannu, Visalam, Selvi, Ganga, Sunder, Gomathi and I took this vacation. I had purchased a Plymouth Station Wagon - with automatic shift, power steering, air conditioning and a roof top carrier. One of my co workers (Bob Dreher) loaned me his tent trailer and this was towed behind us. Within minutes one could unhook the trailer, open it up and set up the tent and it also took little time to close it and hook it back to the car. We rehearsed these procedures before we started our journey. Our first test came on our very first day of the tour. We were planning to reach Wisconsin Dells and some where south of Chicago one of the tires on our trailer went flat and we had to get it fixed. Nannu suggested that we could eat our supper while waiting for the repair and snack later. Luckily this was the only major setback we had during this tour. We had a grand time and the slides and movies are a good record of this tour. Nannu was our chief photographer. There was so much to see but Nannu and Selvi would have done their homework so we could focus on the items to do and avoid wasting time on the less important areas. Visalam and Ganga would provide us with food. The cooking stoves etc., were built in the side of the trailer and they would organize the food supply. Sunder was our route mapper and Nannu on our return awarded him a medal as our Path Finder.

Nannu's professional activities after he left TIFR is awesome. First he seems to have truly retired from those interests when he was in TIFR. He has thus masterfully avoided conflicts of interest between him and his successors at TIFR. This has not stopped his spirit of scientific inquiry. He has branched out into new areas - Kolams, the structure and patterns in language and in solving cross word puzzles. He and VKB's contributions have been accepted by the Worlds Leading Publisher on Linguistics.

My family wishes Nannu, Visalam and his family a long, prosperous and happy future'

Ramachandran

Ever immersed in projects
Kolams, Crosswords, Numbers
Photography and Astrophysics
A veritable scientist
Interested in the what and why of matter.

Ever meticulous, organizer of
Tapes, Records, Movies, photos and slides.
Soft spoken, giver of knowledge.
Never to pettiness and gossip.

Caring Husband and a pillar of strength
To talented Visalam and loving children.
Admired and held in awe by siblings.
To that rarity among men our best wishes.

Ganga

Professor S. Naranan

Nannu athimber has been a source of inspiration for the whole family. He has been an insightful teacher for many of us and his discussions have inspired all members of our family to cultivate an interest and regard for mathematics, physics and science in general. The entire family admires his scholarship and tries their best to emulate him. This is difficult to do.

Nannu athimber's conversation is always uplifting and one always learns something new from him. The range of his investigation is vast. These studies range from the pattern of Kolams, to the frequency distribution of words in language, to prime numbers and cryptography and information theory and its relationship to DNA.

If one uses the google scholar search on him, one will find that the list contains 1,010 links and several of his papers have been extensively cited. The paper of his that is most cited is his paper on the "Power law in science bibliography- a self-consistent interpretation". This paper has been cited 55 times from the 1970s to 2008 and was published in 1971. When a work is well cited, this means that it is useful to others who are pursuing research in the field. It is very hard to have a paper still cited over 30 years of its publication. This indicates that other researchers consider this an important publication. Another well cited paper is the paper in Nature in 1970 on "Bradford's law of bibliography of science: an interpretation" .

Athimber is a person who shows that excellent scientific work can done with very few resources and a great intellect. Many of his well cited papers were written after retirement and pertain to fields that he examined outside his main area of research in cosmic rays. One example of this is the paper on "Models for Power law relations in linguistics and information sciences" that was published in 1998.

Athimber is also kind and generous with his time. He is a fantastic photographer with a wonderful sense or artistry. He has photographed all of us and provided us and our parents with beautiful snapshots of our journey through time.

We all look forward to seeing him when we come to Chennai and are always inspired to be better people and scholars after seeing him.

Sunder

DR. NARANAN & VISALAM

Naranan is the quintessential scientist. Apart from his research work in TIFR spanning four decades he studies every subject, which interests him with the same scientific fervor. His interests are diverse. I only know of a few from the ubiquitous 'Kolam' to cosmic rays and planets. He is nearing eighty but age has not diminished his passion. His most recent paper was on crosswords and he was immensely happy that his paper was accepted by the prestigious journal within hours. I leave it to others more competent to write about his achievements in science.

Photography is another field, which fascinated him when he was younger. His collection includes superb photographs of Nature; Ikebana Exhibitions in Japan and of course those of his children.

He has excellent communication skills. Young and old sit in rapt attention listening to him talk. The range was wide. He can describe Disney and Hitchcock movies and abstruse scientific concepts with equal ease.

He is a perfect gentleman. I have known him for more than fifty years. I have never heard him speak disparagingly about anyone.

He is a person of great personal integrity. After retiring from TIFR he never used the connection for any personal benefit. I have seen his colleagues; some of them with other personal incomes use the TIFR connection to wangle trips abroad.

He is not very demonstrative but has been a most affectionate and loving father and husband.

Visalam is a very gentle soul and an apt partner for Naranan. Like him she never indulges in gossip and never makes disparaging remarks about anyone. She is extremely accomplished. She is a superb artist. She is a perfectionist and infinitely painstaking. She excels in stitching, Flower arrangement, Japanese doll making and wood carving. Every

stitch of hers is perfect and in her Japanese dolls with their elaborate head dresses, not a hair will be out of place. She is a wonderful and patient teacher. Her students loved her. The only problem with her is her terrible diffidence. She could have had a lucrative career doing flower arrangements in big hotels or teaching that art or the art of making dolls. Even as a teacher she was offered a job in Cathedral school in Bombay to teach older kids. She felt she could not do it and no amount of persuasion by Mala would convince her. Later when she was teaching the kindergarten in Chettinad School she was offered the post of Headmistress. Her diffidence would not allow her to accept the offer. She is a gourmet cook and every dish she makes is delicious.

She has had health problems for a long time but through it all she ever strives to do her work without complaining. She is a most loving and affectionate sister. Her children adore her and so does her husband.

I wish Visalam and Naranan many more years of Health and Happiness.

Ambujam Venkatraman

I thought I would write and express my thoughts about Nannu Chithappa on the occasion of his 80th birthday.

As you may or may not know, when I was around 15, my parents were at their wits' end about my lack of prowess in Mathematics - the usual Tam-Brahm preoccupation. So Nannu Chithappa was prevailed upon to spend some time talking me through the intricacies of algebra and trigonometry. Unfortunately, my lack of performance was accompanied by a love of cricket, and Atul Tonwar (Suresh Tonwar's son) was a willing partner in crime in the beautiful TIFR campus. The sessions with Nannu Chithappa thus got off to a somewhat inauspicious start - his signal lack of affection for the great game of India and my propensity to play hookey made for a quick end of our first set of pedagogical interactions.

My mother persisted. At the age of 17, matters were serious. I had taken science as my major in junior college, and marks were imperative. Coaching classes weren't working, and she somehow managed to convince Nannu Chithappa that I was a reformed character. So we commenced our sessions once again. The intervening years had provided me with the ability to listen - and what I heard was what every young student should have the opportunity to experience at least once in their lifetime - which is the sound of a true enthusiast. Nannu Chithappa was far and away the best teacher of the sciences I have ever had. His eyes gleamed when he spoke about physics, and more importantly, about his true love, mathematics. While number theory, the Riemann Zeta function and Ramanujam's contributions to continued fractions were nowhere represented in the HSC curriculum, I was completely smitten. We spent hours chatting about cosmology, there were attempts to initiate me into the mysteries of relativity, and I was getting through popular science books rapidly in my spare time. My performance improved dramatically, I would look forward eagerly to every session with Nannu Chithappa (not to mention Vishalam Chitthi's delicious cooking), and I learned at least two important lessons at that pivotal point in my life.

The first is that if you really want to deeply enjoy and understand something, a little bit of effort to be systematic about the way you approach it goes a long way - whether it be the history of film (one of his passions), mathematics, or physics. The second is the hackneyed but true observation that if you choose a job you like, you will never have to work a day in your life. Chithappa is an enormous inspiration in this regard - he goes about his business quietly, but he's burning with a great passion, which is evident to those of us who have had a chance to see it up close. There was another point at which he helped me, of course, which was a summer spent talking statistics when I was faced with the dreaded Ph.D. general examinations; econometrics and probability theory being particular fears. Most of my research is now highly applied and uses econometrics extensively - Chithappa has this judo-like ability to transform your intellectual weaknesses into your greatest strengths.

It's no exaggeration to say that Chithappa has been a role model - and that my choice of an academic career can at least in part be traced back to our sessions in TIFR. That was the first moment of awakening.

There are other lessons in his conduct as well, which I strive rather unsuccessfully to apply in my own life. He has no tendency to brag or boast about his considerable accomplishments. I know of his stellar publication record only by chance every time we chat about an idea and he pulls out a relevant reprint of one of his papers from a top journal. He abhors gossip of any kind, and is much more happy talking about interesting ideas than chatting about human follies. He has incredibly wide-ranging interests, and applies the scientific approach to each of them, pushing human knowledge a little further every time he is curious about a topic. He is quietly content because he has another intellectual world to tap into any time he wishes - the product of years spent building up a rich inner life. These are the sorts of attributes that the younger members of the academic community strive hard to achieve - and very few are able to acquire.

On the occasion of his 80th birthday, I wish Chithappa and Chitthi every happiness. They have lived a quietly exciting life, and I'm in the privileged position of having been able to share some of it.

Warmest wishes,
Tarun

Tarun Ramadorai

Saïd Business School
& Oxford-Man Institute of Quantitative Finance
University of Oxford

When you think about this idea of writing about Nannu Athimber, so many ideas float in. The one factor I want to emphasize is his analytical and scientific approach to anything. I like doing crosswords, but imagine writing a paper on it and getting this published in a reputed magazine. Once, Athimber asked me how long I took to solve one and I sheepishly answered that if I could get a few clues, I am happy.

From the time I have known him, all of us at home enjoyed his story telling. How many Hitchcock movies were woven into our minds scene by scene? It was better than seeing the cinema. I saw " I Confess" and "Strangers in a Train" much later, and I appreciated this so much. A more contented person I have yet to come across. Always busy working, reading and using his time so well. Never have I heard him talk ill about anyone. A true gentleman.

Sometime back he told us that when he was in America, he used to watch National Geographic and other good shows. He wanted to share this with all. He used to tape all the good programs. These tapes was stored and tabulated. These were shown in TIFR regularly. It must have been very educative and a lot of people would have benefitted by it. I wonder how many were aware of this?

He gave us a small talk about himself. I would like everyone to share it. A wonderful companion he has in Visalam. She is the most accomplished person. Wherever she went with Athimber she used her time. When she was in Japan she learned doll making. She made so many dolls, each one prettier than the other. She is a great teacher. She took a course to teach the learning disabled. I cannot end without saying about Visalam's cooking. She has what we call 'kai manam'. Even in everyday cooking she takes great pains to give her best.

Love, Bama

On May 24th 1953, the marriage of my sister Visalam and Athimber was solemnized at the ancestral home of our Grandfather A.V.Ramalingam . This was a grand mansion and the abode of our large joint family consisting of aunts, uncles and cousins. Befitting the house, the marriage was in a large scale and was in fun and frolic. We were in our new clothes (pattu pavadai, etc.) and there was a huge pandal encompassing the house. We circumambulated the marriage couple but shied away from engaging Athimber in conversing. It took us sometime to get used to the idea that Athimber was to be known as Naranan and not Narayanan. Later we came to know that Athimber's father was a Tamil scholar and a Mathematician and it was reason indeed for choosing this name.

We were in awe to know that Athimber was a brilliant scientist and engaged in cosmic ray research in TIFR. His studies were known to be path breaking. After the marriage, Athimber and Visalam went to Bombay to settle in life. Soon, Vidya was born in Devonshire House where we moved in shortly. Athimber was a keen photographer and took beautiful pictures. He took natural pictures of flowers and even of insects. We learnt to appreciate from him, the beauty of nature. We always looked forward to the fantastic slide shows he used to put up for us. He was a great storyteller and excellent narrator of his travels. He was a born teacher and had infinite patience, even with our slow grasp of Maths and Science.

Even though he was an intellectual giant he could bring himself down to our level and enjoyed watching movies with us. This enabled us to watch movies, which otherwise would have not been allowed by our stern parents. He was a man of varied interests. Even after retirement, he took up serious study of subjects like crosswords and Kolam. Athimber, a man of high attainments and a perfectionist is humble to the core and considers humility as the biggest virtue.

I have pleasure in saying the following self evident virtues of Visalam.

Firstly, I greatly admire her for having had the tenacity to complete her B.Sc degree after having an interruption of years.

In a short time of nine months she learnt in Japan Ikebana, Doll making, Woodcarving, Painting which is amazing and unbelievable.

She was good in stitching and tailoring frocks for Priya, Mathy, Vidya and Venil.

IN cookery she was a gourmet's delight and passed the acid test of ARS approbation.

She was an eminent teacher and popular with the children.

She had a lot of diplomas to her credit, like Montessori, specialization in dyslexia, etc.

We are indeed greatly proud of her, and none in our family can equal her, in her achievements.

They both truly make the best couple.

Renuka

I was very happy to be given the opportunity to write about Visalam and Nannu Athimbere, but apprehensive too as this would be read by a family of writers!!

As I sit down to write I remember so many wonderful incidents, it is lovely going back to the glorious days of our childhood. I was pretty young (not even nine) when they got married . We enjoyed the wedding playing with our innumerable cousins at Royapetta house. We never thought of Nannu Athimbere as a brother-in-law; he was our elder brother!! Appa shifted to Bombay in 1954 and Athimbere would visit us often. Visalam stayed with us when the kids were born and when she was studying in college, we had a lot of opportunities to spend time with them.

We listened, enthralled when he talked about the stars; pulsars, blackhole, the big bang etc. It was an adventure into space for us, little realizing how much we had learnt in the process!! I could get my doubts in science and maths cleared by him. He always made me feel good by saying, “what an interesting way of looking at the problem”. This boosted my confidence no end (maths being my bugbear).

There were not many opportunities to see movies, as Appa and Amma did not like it. Athimbere took us to quite a few of them; english, tamil and hindi. Even more enjoyable was listening to him tell the story very vividly scene by scene, especially Alfred Hitchcock movies such as “Rear window”, “Strangers in the train”, “I confess” etc. Later, when I went to see the movies with Hari, I felt as if I had already seen it .We loved to watch his wonderful slides collection.

When the opportunity arose, we loved to visit them and raid their kitchen. Visalam’s cooking was to die for!!! Poor Visalam never protested and allowed us the free use of her fridge. How can I forget the holidays spent with them in Ooty? Getting up late to the wonderful aroma of Visali’s cooking, wolfing down the yummy breakfast (every day a different menu), back to bed again, later walking down to the market with Visalam. She would buy fresh vegetables everyday and cut it herself just before cooking!!! A real definition of fresh food. They would take us to movies picnics and Athimbere’s lab near the Rajbahavan.

We were lucky to grow up with such a brilliant person as Nannu Athimbere. Even after his retirement we see him always working on varied subjects and publishing innumerable papers too!!! Athimbere was able to find even kolam and crosswords worthy of research and published very interesting papers. Wish we can all grow old like him.

Visalam is such a perfect partner for him; a very caring and sincere person. Whenever I am faced with some problems I just ask her to pray for me, and things work out very well!! She is always interested in learning. When she was in Japan she took classes in doll making and flower arrangement .In US she did courses in education. After they moved to Madras she went for classes to help dyslexic children. Ambuja and Visalam used to go very regularly to the blind school to help out. Well, they are a real inspiration to us all.

Well I can go on and on but I better stop now, since my grandsons are waiting.

Love, Mangala

As far back as I can remember which was when we first moved to Bombay From Madras in 1954, there have been many small incidents to cherish in my time spent with Visal and Athimber. I spent many weeks and months with them in their house at Bandra, while I was still in college.

Memories of these days have left me with deep impressions of the things that characterize my sister and her husband : whether it was Visalam's dedication and tireless effort to pass her B. Sc. or Athimber's total involvement in anything that he took up: from photography to his admiration for film star Asha Parekh !

As kids, our holidays were almost always predictably spent at Madras—at ARV periappa's house, or at Ambuja's at Velachery. It was to Athimber that we owed our experiences of other out of the way or exotic places : like the Khandala caves where he was doing the cloud chamber experiments or the stay at no less than the Governor's guest house in Ooty and meeting the Governor. It was always Visalam and Athimber who were there for us.

The high point of my life with Athimber was how in a matter of twenty days he coached me, or should I say crammed into me, all of Modern Algebra, and Vector Analysis of the whole Schaum series, so that I got full marks in those two papers. Out of the total eight papers in Maths I did not answer two papers and even to this day I do not know what they were and in the other six I could pass creditably and get my B. Sc. degree.

In later life, my memories of life with Visalam and Athimber include Visalam's great artistic talent in making Japanese dolls, flower arrangement and wood carving. They were always great.

I remember weekends spent at their Colaba flat in "Cobra" a beautifully constructed residential complex which he was proud of—the sea breeze and Visalam's "pachadi mangai" being prime attractions. The blackboard in their flat which they used as a family jotting pad was a novelty for me. I remember Athimber in those days after his first heart attack, with a new pastime—recording all the Carnatic music and other concerts on tapes and cataloguing them most methodically and meticulously.

Perhaps because my own handwriting is by all accounts quite illegible, I admire in Athimber his beautiful, beautiful handwriting. I remember days when he tried writing with both hands simultaneously to achieve a symmetrical drawing.

Ramani

A Brief Passage On Professor Naranan

I am the youngest of eight siblings. I have been fortunate to have moved closely with all my brothers-in-law especially the NARANAN Family.

My earliest recollections of Nannu Athimber ---All the sisters (or rather most of them; Ambuja was already married) gathered around listening to his stories. A great and vivid experience ! It was difficult to get permission from my father to see a movie. Nannu Athimber's stories of the movies he saw were gripping and we never felt the need to see one!! He could tell us the story scene by scene .I remember Madhumathi, I Confess , Bees Saal Badh ,and the best -- Ten Little Niggers.

The enjoyable holidays with all of them: The trips to Ooty, Mysore. I remember Venil falling in the pond at Brindavan not once but twice!!!!The slide shows were a real treat. Their trip to Europe and of course the road trip across USA. When I visited Yellowstone two years ago I had the memory of the beautiful slides to guide me.

It is a wonderful experience to interact with a good human being. He is always so cheerful and content. His passion and love for learning is a trait we all should emulate. His excitement and joy at solving a mathematical problem!! How wonderful to be immersed in study all day long.

My sister Vishalam is a wonderful person, very considerate and caring. She is always willing to pray for all of us. Both my children have so much of faith in her sincere prayers. A remarkable memory; she never forgets a birthday!!!!Very talented and excels in whatever activity she undertakes. It is no wonder she is an excellent cook. Everything is perfect: vegetables cut to perfection, spices roasted the right way never too brown , we all need to learn from her .

Sundari

Dr.Naranan's 80th Birth Day celebrations.

It gives me great pleasure to send my greetings to Dr. S .Naranan on his 80th Birthday celebrations in Chennai by his many relatives and friends this December. I would like to be present but I am unable to be in India at this time. So Saroja & I send this write up as asked by Selvi Viswanathan to be included in the book she is preparing to bring out on that occasion. Naranan has been vkb's friend for the past sixty years. Saroja & Visalam have known each other for the past 56 years and our children have known each other for a number of decades. If length of time and closeness of interactions are a criteria of friendship we can claim to be really close to Naranan with ample justification.

I (vkb) met Naranan in 1950 when both of us joined the Tata Institute of Fundamental Research(T.I.F.R) as research students in Cosmic Radiation research. As Naranan in his speech at Venil's house has spoken of his important role in science, I will confine myself only to my personal friendship with him and only peripherally comment on matters related to our work in scientific research. I request Selvi to include the draft of his speech in her book so that all those who did not have an opportunity to hear him are made aware of his contributions to the many fields of science and mathematics and the significance of these contributions.

When we joined the TIFR Scientific research as a lifetime avocation was not a very common career choice and opportunities were rare indeed. There were some brilliant scientists in a few universities who did significant research; but universities were essentially teaching institutions with other responsibilities .The Indian Institute of Science came close to TIFR in its emphasis on Research though teaching and training technical personnel were given more emphasis there. With India gaining freedom in 1947, Nehru's belief in the role of science in a country's future and his close friendship with Dr. Bhabha resulted in the TIFR becoming a premier institution for research in frontier areas of physics, theoretical physics, mathematics, nuclear science radio Astronomy etc. Bhabha also headed the Atomic Energy commission which did all the developmental work for applications of Nuclear science for the benefit of the country and greatly helped India to develop its scientific potential.

The genius of Bhabha in choosing subjects for research in TIFR and his meticulous care in selecting candidates for admission into TIFR soon resulted in developing TIFR as a first rate institution doing world class research. Cosmic Ray research abounded in outstanding and challenging problems where India could do first rate research contributions in spite of its late entry in field of science studies. We, as research scholars lived in a hostel attached to our labs . The library and labs was open 24 /7 . Naranan & myself (vkb) were hostel mates there. The usual routine every day will start with breakfast at the TIFR canteen, go to the lab, work till lunch , have lunch at the canteen and go to work in the lab till evening. Every evening Naranan & I will go for a walk along Marine Drive or to V.T. station and have dinner at some restaurant . The usual choice was The Modern Hindu hotel whose dining rooms were in the fourth floor (no lifts/elevators of course.). This restaurant owner who did not show much concern for its customers on 364 days a year will on the occasion of Ugadi will treat all its customers as Maharajas. On Ugadi the owner himself will welcome each customer personally and

serve sweets and Ghee etc to each customer. I do not know whether Naranan still remembers these occasions after such a long time. After dinner, we used to go to the library and up to midnight do library work, consulting journals and reference books etc.,

As for recreation we used to go to see films. Colaba where our Lab was located had quite a number of cinema theaters –Regal, Strand etc. Here I have to state an important contribution that Naranan made to my cultural life. I was fanatically attached to Carnatic music and till Naranan introduced me to Hindi films, & Hollywood films. Even Tamil Dramas by TKS brothers were not in my horizon. My interest was limited by my parochial horizons. Naranan widened it vastly and has my gratitude for doing so. Of course I did go to Matunga and attended music concerts with my other friends—most of them Mathematicians. Prof. Seshadri the eminent mathematician and I have walked back from V.T. station after concerts as buses used to stop at 10 P.M. on weekends. Our friendship apart from working on research problems of common interest grew more personal and when on a summer vacation trip Naranan took to Berhampur in 1952. I accompanied him and had an opportunity to meet with his parents, brothers, & sisters. We had interesting experiences due the railway bridge being broken & had to find our way to find food etc. in Rayagada (Orissa) along with a thousand other railway passengers stranded in that small town.

In 1953 Naranan Married Visalam IN Chennai & I attended their wedding. In 1954 I married Saroja. Saroja & Visalam became great friends & our friendship became more and more close. In 1962 I left TIFR for NASA & my career took a turn where work in NASA programmes became very attractive & fulfilling to me. In 1966 Viswanathan and Selvi married at Tirupati and from friends we became relatives. Naranan visited the US many times and stayed with us for some time during each visit.. Raghu(my second son) became particularly close to Naranan and we still remember their reading “Swami & Friends” by R. .K.. Narayanan and enjoying it together.

We used to admire the skills Naranan had in taking wonderful photographs and Visalam's cooking skills. The Vendaikai curry with the careful small size cutting and the care with which she used to make the curry is still in our memories. No one in the world can make such perfect sutta appalam as Naranan who used to remove all the shrinking parts meticulously till perfection was attained. Every time we came to Chennai, Naranan did not forget to give Saroja a packet of Aavin Thirattipal, her favourite sweet.

Later vkb & Naranan collaborated on some information theory applications to linguistics & other fields. From Bangalore we visited the Naranans. often. Visalam introduced us to Garden of Eden, Adayar with its fabulous Rumal Rotti. We had a marvelous time in restaurants in Chennai. My visit with Naranan to Mat.science library invariably included visiting the canteen where the best Thayir sadam in Chennai was available. Invariably after some library work we used to end the visit with a visit to the canteen. They also visited us in Bangalore several times between 1987 & 2004. We attended Venil's wedding in Chennai. Later we were at Mathy's wedding again in Chennai.. Vidhya married Dr. Revathy's brother. Dr. Revathy's first friend Washington was Saroja. who became our friend after a concert Saroja gave in Washington. So the networking was

very close. We wish Visalam &Naranan a long, healthy and prosperous lives .If life has been good to us, it has given us good friends and the friendship grows with time till it approaches infinity. Such is the case with our friendship with Naranan and Visalam .Best wishes from all of us.

V.K.B.&Saroja