

A Clique in Sight ... suddenly disappears ... to resurface again ... in a milder form ...

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It is an honour to ruminate over my years of friendship with Bimal and Bikas – known as “Statistical Twins” in the statistical community at large. I have known them since the summer of 1962, when we entered Asutosh College, Calcutta, as first year Stat. Hons. students in B.Sc. Degree Course. In those days, they were very much look alike, in appearance, and also in outfits. And, surprisingly, our classmates found similarity in my physique too with those of Sinha Brothers and we were a classic example of a ‘clique’ – in the terminology of graph theory! And this continued even in later years when we were at ISI, Kolkata as faculty. We were labeled as an example of ‘uniform distribution’! We were, at times, sources of ‘joy and confusion’, without any clarification as to “who is who” and we very much enjoyed this episode amongst us. After completion of college program in 1965, Sinha Brothers joined the Calcutta University Department of Statistics [CUDS] for their Master’s program, while I left for the Indian Agricultural Statistics Research Institute (IASRI) [called IARS at that time], under the I.C.A.R., in New Delhi, for my Master’s program. Our friendship temporarily ended at that moment. That was in 1965 and I lost contact with them. Our ‘clique’ was reduced to an ‘edge’ between them while I was left as an ‘isolate’. Truly I was in “isolation” in a new place and I had to find my new friends and, against my timid nature, a few unexpected foes as well!

At IASRI, fortunately, everything was smooth for me. By 1970, I had the M.Sc. and Ph.D. Degree of IARI (IASRI) and I was inducted as a junior faculty over there. My specialization was in the area of Design of Experiments (DoE). In December 1970, there was an Annual Conference of IASRI which was held in the premises of University of Madras. I attended the same and delivered a technical talk as well. While I was addressing the gathering, I was pleasantly surprised to see my ‘old friends’ among the audience!

Sinha Brothers were up to attending Science Congress in Bangalore University the following week. It was a moment of immense joy for us to sit and talk and talk, with another friend Srijib Bagchi [of Asutosh College] being with them. They were in the doctoral programme at CUDS and Bikas was working in the area of Optimal Experimental Designs. They both had [Late] Professor H.K. Nandi as their supervisor while I had worked with [Late] Prof. M.N. Das. All of them were at the final stages of their research for Ph.D. This surprising encounter acted as an inspirational moment for them since my nametag was prominently displaying Ph.D. Degree! We exchanged addresses and phone numbers.

In due course, Sinha Brothers obtained their Ph.D. Degrees, and Bimal [Thesis in the area of Bayesian Inference] joined the Research and Training School [RTS] of ISI, Kolkata in November, 1971, while Bikas joined CUDS soon thereafter. They both entered as Lecturers at their respective places.

At some point of time, I had expressed my inclination to join ISI to Bimal and he immediately spoke with the then Dean of Studies Professor Hanurao (now deceased). It so happened that ISI, Kolkata, also was then looking for a strong faculty on DoE! The Dean arranged for my interview with Professor C.R. Rao at Delhi ISI around 1972. I was

interviewed and offered a position and I took no time to opt for Kolkata Centre. After a long gap of almost 7 years (1965 – 1972), I returned to Kolkata and on October 3, 1972, I joined the Indian Statistical Institute, Calcutta, as a Senior Lecturer in the Research and Training School (RTS). My earlier stamp as an ‘isolate’ was re-labeled as a member of the clique with Sinha Brothers, but I must hasten to add that it was very much weighted network. Of course, the strongest tie [heaviest weight] was between them. To start with, I had ‘weak’ ties with them but very soon Bimal and I had worked together to strengthen the weight of the arc connecting us. My direct contact with Bikas could not be improved and it remained as a weak tie for a while. Distance between ISI Centre and CUDS/Sinha Residence was a major factor. How long would it remain so? We both wished to ‘come closer’ but who would be the catalyst?

Sometime in 1974, to our utter surprise, Professor C.R. Rao called upon Bikas at ISI; also called me at his office and told both of us about Visiting Faculty Positions in one Brazilian University, initially for a period of 2 years. Primary responsibilities would be to focus on Faculty Development Programme in Statistical Theory and Applications. He would be ready to recommend if we were willing to go. We spontaneously agreed.

Professor Rao had been Ph.D. Thesis Examiner for Bikas at CUDS. Both Bimal and Bikas have been extremely energetic and systematic in their thoughts and actions. Honestly, my position is almost in the ‘opposite pole’. I am, most of the time and in most cases, slow-moving – by nature. Bikas joined The Institute of Mathematics, Federal University at Bahia, Brazil sometime around November, 1975 while I took my own time to reach there sometime in April, 1977. By the twist of Professor Rao’s hands and his blessings, this time I developed a very strong tie with Bikas while the tie with Bimal started fading away! Bikas and I were together in Brazil for more than 2 years.

In September 1979, Bikas returned back home and joined Stat-Math Division of ISI, Kolkata. I was told – [Late] Professor J.K. Ghosh was interested in absorbing Bikas at ISI and Professors C.R. Rao and [Late] D. Basu made the recommendations! I returned in April, 1980 to my position in the same division of ISI, Kolkata. Our tie continued to strengthen over all these years till the time of our retirement around 2008-2011. I may add that one node of the clique has been designated as ‘Prabhu’ by the other two and this labeling has been quite popular among our friends and relations – far and near. We leave it to the readers to solve the mystery behind the special designation “Prabhu” – why so!

Meanwhile, Bimal was shuttling between ISI, University of Montreal (Canada) and University of Pittsburgh (USA). Eventually, Bimal left ISI for USA in August 1980. In 1985, Bimal joined University of Maryland – Baltimore County [UMBC] as Founder-Professor of Statistics Graduate Programme.

Regarding our marriage and nurturing respective families, I got married first, then Bimal and then Bikas. I have two daughters, Bimal has two sons while Bikas has one daughter and one son.....you may draw your own conclusions accordingly – whom to rely to play a game with 50-50 chance of win. Naturally Bikas became smarter after observing our outcomes and played unbiasedly!

During the period of our stay in Brazil, Bikas and I had to learn Portuguese language for teaching Brazilian students and Faculty and for carrying on our social lives. We discussed various topics for teaching and preparing notes. Somehow we could work on one research

problem in the area of DoE and it was eventually published. Much later, I had another opportunity to interact with Bikas at ISI, Kolkata on another research problem – formulated by him, along with S.B. Rao and Prasad Rao.

With Bikas, I had developed mutual friendship and regard to the extent that we used to [and still] address each other as “Chefe” – meaning ‘Chief’ in Portuguese. In this connection, I should mention that my “Chefe” wrote a book on sampling methods in Portuguese while in Brazil. And I had prepared some Lecture Notes on DoE in Portuguese while in Brazil.

I must say that Bikas had many areas of research interests, while I had interest only in the construction and analysis of Design of Experiments in a variety of application areas like agricultural experiments, industrial experiments, animal experiments, bioassays etc. I may also mention here that on a request from my dear ‘Chefe’, I wrote the Foreword of his Monograph on “Optimal Covariate Designs”, co-authored by Premadhis Das, Ganesh Dutta, Nripes Mandal and Bikas K. Sinha in the year 2015.

On a very personal note of gratitude, I must add that my Chefe had helped me in my visits to Penn State University during 1987-88, and for a subsequent visit to Western Michigan University at Kalamazoo, during 1988-89.

Sinha Brothers were brilliant as students all along, and as we all know now, later on, they turned out to be brilliant researchers and teachers too, in their fields of interest in Statistics. This is why the publication of a Volume in their honor is very much desirable, and welcome on their 75th birthday! This collection is a reflection of their collective research interests in Statistics and the chapters are contributed by their students / fellow researchers / research collaborators and admirers. I am sure it will serve as a reference of great use to the future research scholars in so many areas of statistical theory and applications.

May my friends cherish their retired lives to their fullest satisfaction academically and socially.