

## **A Symposium in memory of Ernst Mayr and John Maynard Smith**

The Mayr – Maynard Smith Memorial Symposium took place on the 27<sup>th</sup> of April at the Faculty Hall. Organized by the Ecology Students' Society of the Centre for Ecological Sciences, it was held to honour two of the giants of Biology who passed away in the last year, Ernst Mayr (1904 – 2005) and John Maynard Smith (1920 – 2004). It also was a celebration of their work and an effort towards familiarizing the campus community with the profound contributions that they have made to Biology.

The morning session was dedicated to Ernst Mayr. Anindita Bhadra started off the program with a biographical sketch of Ernst Mayr. Ernst Mayr was one of the chief architects of the Evolutionary Synthesis, which succeeded in bringing together the research programmes of geneticists and field naturalists to provide a unifying framework for understanding the process of evolution. She recounted anecdotes of why the young Mayr abandoned a career in Medicine to take up Ornithology, in which he obtained his Ph. D. in only 16 months!! She also paid tribute to his tenacity, pointing out how he published more than a hundred papers and many books after his retirement in 1972.

Dr. Rohini Balakrishnan followed Anindita with a talk titled “Evolution and Classification: The Inconvenient Marriage”. The talk was centred around the problem of what basis should we use to classify the living world into groups. Should our classifications reflect evolutionary relationships? Should they reflect morphological or genetic differences? How do we decide how different is different? She gave the audience a historical perspective, starting from Aristotlean to modern day concepts that have been used for classification, as well as elaborating on the problems that arose out of using each of these approaches. This put Ernst Mayr's own contribution in perspective.

The next speaker was Prof. Renee Borges whose talk was entitled “Ernst Mayr and Evolutionary Biology”. She pointed out that although the 20<sup>th</sup> century saw the consolidation of the theory of evolution, it had more than its share of controversy, and Ernst Mayr was often at the centre of it. He often took extreme positions to provoke debate. Prof. Borges elaborated on the questions that he raised in debates with Haldane, Fisher and Wright: How much does the study of dynamics in gene frequencies of populations contribute to our understanding of evolutionary phenomena such as the origin of diverse life forms? How much of the biological variation we observe is there because it is useful for the organism, and how much is there due to chance alone? What made the talk especially interesting was that it was replete with quotations made during their scientific debates, which often seemed quite bitter.

However, despite this, Mayr and Haldane were close friends as was realized in the next session in when Dr. Veena Rao read out excerpts from correspondence between Mayr and Haldane and Haldane and Maynard Smith. The letters added a delightful personal touch to the programme and showed how scientific disagreements never spilled over into their personal lives. Perhaps

there's lesson for us there somewhere.

The afternoon session was dedicated to John Maynard Smith. After lunch, Smitha Kumar gave a brief biographical sketch of John Maynard Smith. She told us how, although he was an aeronautical engineer by training, he turned his sights on some of the most fascinating problems in biology. Smitha also brought out how he was inspired by his mentor, J. B. S. Haldane.

This was followed by Prof. Vidyanand Nanjundiah giving a talk entitled "John Maynard Smith's contributions: An Overview". He began by sharing a personal account of his encounters with John Maynard Smith and showing us photos of the Mahabaleshwar conference attended by John Maynard Smith. The rest of the talk was a discussion of Maynard Smith's most important papers and books. What came across most strikingly was the sheer variety of problems he had tackled: from developmental genetics of symmetry to understanding animal behaviour using game theory. Prof. Nanjundiah pointed that perhaps the one contribution that Maynard Smith will always be remembered for will be his work towards understanding the evolution of sexual reproduction. He also praised Maynard Smith's popular writing citing books like "The Theory of Evolution" and, to a lesser extent, "The Problems of Biology" as having important scientific concepts presented clearly and understandably for the layman.

The final talk was given by Prof. Raghavendra Gadagkar. It was entitled: "The Peacock's Tail and other biological signals: need they always be honest?" The talk was split into three parts. In the first part, he began by discussing work done to see if the tail fanning displays of peacocks attracted the peahens and if they did, whether the displays corresponded to some measure of the fitness of the males such as longevity or reproductive success. If they did, then they would be "honest" signals. In the second part of the talk, he discussed this in light of a theory proposed by Amotz Zahavi called the handicap principle. This theory claims that all biological signals have to be honest. In the case of the peacock, the data indicate that the signal is honest.

However, as Prof. Gadagkar went on to ask: is this necessarily true in all cases? He focused on the debate between Maynard Smith and Zahavi on whether the handicap principle was a valid theory at all and pointed out the extreme position taken by Zahavi that the handicap principle could be used to explain almost everything from suicide to lace-making.

Finally, in the third part of his talk, he talked of how scientific theories develop and what use an extreme position like Zahavi's could serve.

The symposium was tremendously inspiring, informative and often entertaining. It paid homage to both the personalities and the contributions of Mayr and Maynard Smith. They stood out as guiding lights of how to stand above one's work and ask fundamental questions that could only be answered by combining an understanding of process and pattern, mathematics and observation, molecular biology and organismal biology. In addition, they also will always be remembered

for their great contributions towards popularizing biological concepts and ideas through the numerous books they wrote.

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