

All are Welcome

## Prof. Madhav Gadgil

D.D.Kosambi Visiting Research Professor

Speaks on

### “Our Evolutionary Future”

Date: 1 August 2013; Time: 3:00 pm.

Venue: Conference Hall, Administrative Building, Goa University



#### Prof. Madhav Gadgil

Ph.D. in mathematical ecology from Harvard University.  
Worked as BM Fellow of the Computing Centre,  
Research Fellow in Applied Mathematics and  
Lecturer in Biology at Harvard University.  
Founded the Centre for Ecological Sciences,  
Indian Institute of Science, Bangalore

#### Served as:

Visiting Professor at Stanford  
Distinguished Visiting Lecturer at the University  
of California, Berkeley.

#### Research interests include:

Population biology,  
Conservation biology,  
Human ecology  
and ecological history

#### Publications:

Over 215 research papers

#### Books:

*This Fissured Land*  
*Ecology and Equity*  
*Diversity : The cornerstone of life*  
*Nurturing Biodiversity: An Indian Agenda*  
*Ecological Journeys*  
*People's Biodiversity Registers:*  
*A Methodology Manual*

#### Was a member of:

The Science Advisory Council to the  
Prime Minister of India (1986–90).

#### Recipient of:

Shanti Swarup Bhatnagar  
Award for Biological Sciences  
Vikram Sarabhai award  
Ishwarchandra Vidyasagar award.  
Centennial Medal for the year 2002  
from Harvard University, USA  
Volvo Environment Prize in 2003.

#### Conferred:

Padmashri and Padma Bhushan  
Rajyotsava Award by the  
Government of Karnataka.  
Firodia Award for excellence in science  
and technology in 2007.

**ABSTRACT:** Life, a manifestation of replicating entities with heredity and variation, has flourished on planet earth over the last 3.8 billion years. It has expanded and diversified, occupying an ever greater range of habitats and utilizing newer and newer forms of resources. This has involved the evolution of ever more complex organisms, animal societies and biotic communities.

This evolutionary process has given rise to two other forms of replicating entities besides genes, namely, memes or behaviour patterns propagated through replication, and artifacts. The development of memes has led to the most recent major transition in the saga of life on earth, namely, from primate societies to human societies with an elaborate symbolic language, and capable of producing highly sophisticated artifacts.

Indeed the last few centuries have witnessed the gradual elaboration of a system of positive feedbacks that today promotes the production of ever larger numbers of more and more complex artifacts. Groups of people each with a highly specialized set of memes are today organized in conjunction with complex sets of artifacts as industries, dedicated to the production of a range of other artifacts.

The demands of industry and individual and institutional consumers are stimulated by propagation of special memes—memes that attach social prestige to the possession of more and more artifacts, in the form of consumer goods, and national prestige to the possession of more and more weaponry, serving as handicaps signaling the ability of individuals, and institutions, including nation states, to bear large costs. These associations of prestige with handicaps are promoted by specialized groups involved in commercial advertising or political propaganda. It is not at all clear whether the ongoing proliferation of artefacts genuinely enhances the quality of human life.

At the same time, the joint culmination of evolution of memes and artifacts leading to the present day information and communication technology has brought us to the threshold of an exciting evolutionary transition of great potential, namely, from language based human societies to human societies with global access to entire stock of human knowledge.

Our evolutionary future will evidently be moulded by the future evolution of memes and artefacts. Indeed, the world as shaped by these memes and machines would decide the way our genes evolve. There are many imponderables, and the precise course of our evolutionary future is utterly unpredictable.