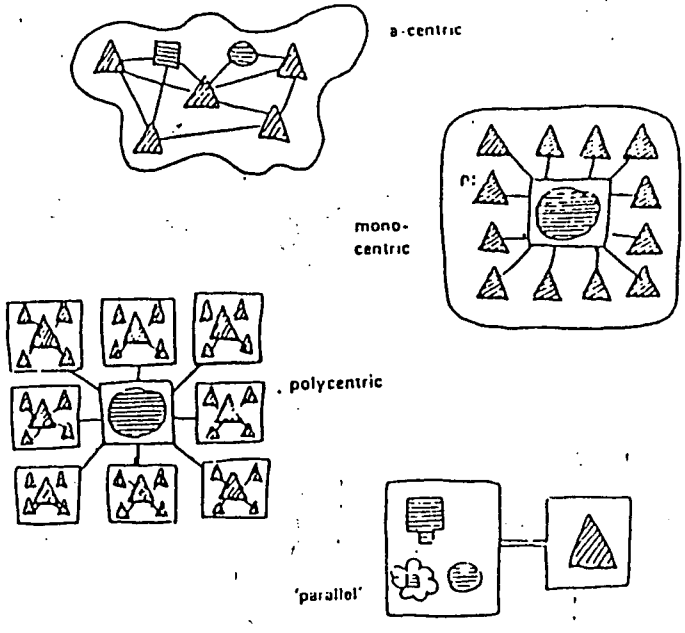
SCIENCE HELPS TO UNRAVEL OUR PAST

Programme Leader : Professor Senake Bandaranayake

Venue : IFS Conference Hall,
Hantana Road, Kandy.

21 March, 1987



Programme Director : *Professor Cyril Ponnamperuma*

Programme Coordinator : *Professor Kapila Dahanayake*

Programme Editor : *Daya De Silva*

TODAY'S PROGRAMME

10.00 am - 11.00 am	*"Science Helps to Unravel the Past" by* Professor Senake Bandaranayake
11.00 am - 11.30 am	*T E A*
11.30 am - 12.00 noon	*"The Beginning of Human Settlements in South Asia" by* Mr Sudharshan Seneviratne, Lecturer, Department of Archaeology, University of Peradeniya
12.00 pm - 12.30 pm	*"The Sigiriya Complex" - Illustrated Talk by* Professor Senake Bandaranayake
12.30 pm - 1.30 pm	*L U N C H*
1.30 pm - 2.00 pm	*"Science and the Conservation of Wall Paintings" - Illustrated Talk by* Mr Jagath Weerasinghe, Head Conservator (Mural Paintings) UNESCO - Sri Lanka Cultural Triangle Programme, Colombo 7.
2.00 pm - 3.00 pm	*Video - Presentation on "Sigiriya"*
3.00 pm - 4.00 pm	*Discussion over tea* *Panel:* Professor Senake Bandaranayake, Mr Sudharshan Seneviratne and Mr Jagath Weerasinghe
4.00 pm - 4.30 pm	*Quiz*

End of the Day's Programme

Science Helps to Unravel the Past

by

Professor S Bandaranayake

Archaeology is the study of the remains of past societies. By analysing such things as buried cities and old ruined buildings, irrigation works and village settlements, pottery and other domestic utensils, tools and weapons, food remains, skeletons and ancient works of art, archaeologists try to understand how man lived in the past. They try to reconstruct ancient ways of life; to find out exactly how old the remains they find are (this is called 'dating); to understand how ancient societies are connected to each other and how man's way of life has developed over hundreds of centuries to what it is today.

Modern Archaeology, therefore, is a branch of the Historical-Sciences-sub-section of the Social Sciences. Its subject is the study of human behaviour in the past, providing us with valuable insights into what we are today and how we have developed to that stage.

Archaeology has always been profoundly influenced by the Natural Sciences. In trying to understand the past it uses many techniques and methodologies of the Natural Sciences, including aspects of Geology and Geomorphology, Botany, Zoology, Physics and Chemistry--and also like all sciences, mathematics.

The earliest developments in Archaeology are closely linked with the development of Geology, the study of fossils and ancient stone tools, the measurement of geological time and the study of human evolution. Prehistoric, Archaeology in its early stages of development was considered almost a branch of Geology.

The Life Sciences contributed a knowledge of the plants and animals that were closely linked with man's life and his physical and cultural evolution. They formed part of a general theory of evolution, helping us to understand the position gradually achieved by man in the entire life-system of our planet. They also help us to examine the varying environments occupied by man through the ages and his creative interaction with different ecosystems.

Archaeologists therefore have always been like astronomers looking through their archaeological telescopes at the path followed by man through about 4 million years of evolutionary existence.

Physics and Chemistry arrived on the archaeological scene somewhat later, but today provide some of the most important techniques of investigation and analysis available to the archaeologist. Two particularly important aspects-are the laboratory analysis of materials-- giving us complex insights into ancient man's creative genius and technological brilliance -- and methods of absolute dating such as 14C and TLD, which provide the student of the past with a fairly exact calibration of time and technological progress.

These developments in Archaeology have helped us to improve our understanding of Sri Lanka's past, and also to contribute the experience drawn from our study of ancient man in Sri Lanka to the study of ancient man in general. While Sri Lankan Archaeology is not as fully developed as Archaeology in advanced countries, we have a longstanding tradition of modern historical and archaeological studies starting more than 1000 years ago.

In recent years we have made important advances in our archaeological knowledge, approach and methodologies. We know for certain now that man has lived for 25 or 50 thousand years or more in Sri Lanka, that animals such as the dog seem to have been domesticated by Sri Lankan man in prehistoric times; that wet-rice cultivation was developed in our country probably during the period between 1000 and 500 B.C. or a little earlier.

We also know that during the historical period, the Sri Lankans were amongst the most advanced hydraulic engineers in the world; that they evolved (with the help of examples from other countries, but essentially in their own right) a good command of surveying and planning mathematics- as seen in the brilliantly creative use of a mathematical module in laying-out the urban plan of Sigiriya.

A new emphasis in Archaeology the world over in recent times is the importance paid to conservation -- the attempt to preserve as far as possible environments, sites, monuments, objects and works of imagination (works of art) from the distant and recent past. The natural and material sciences play a very important role in this and in Sri Lanka today we are trying hard to develop the field of archeological conservation .

All this interest in the past is not just a form of entertainment or amusement -- or an escape from our present. Our knowledge of of the past -- whether it is to do with the origins of the universe, the evolution of life or the development of human society and culture -- is an important aspect of our knowledge of what we are today and of the world that is around us. It is a vital element of our scientific consciousness and of our resources of knowledge and experience for making a better future.

Young Sri Lankan scientists have important contributions to make in the development of a modern archaeology in our country.