A Batsheva
Interdisciplinary Workshop
Jacques Loeb Centre Third Annual
International Workshop

programme

Understanding Scientific Progress
Developmental-Genetic
Explanation of Evolution:
Reflections on the History
of Evolutionary Thought and
Relations with Mechanistic
Bioscience

W.A. Minkoff Senate Hall, BGU Marcus
Family Campus, Beer-Sheva

8-9 June, 2010

Further information is available from
tavist@bgu.ac.il
Tuesday, 8 June 2010

10:30-10:50
Welcoming Remarks
Jimmy Weinblatt, Rector, Ben-Gurion University of the Negev
Eviatar Nevo, Director, International Graduate Center of Evolution, University of Haifa
Ute Deichmann, Director, Jacques Loeb Centre, Ben-Gurion University of the Negev

10:50-13:15
Michel Morange, Ecole normale supérieure, Paris
Evolutionary Developmental Biology: Its Roots and its Meaning for an Explanation of Evolution
Ute Deichmann, Ben-Gurion University of the Negev
Early 20th-Century Research at the Interfaces of Genetics, Development and Evolution: Reflections on Progress and Dead Ends
Comment: Smadar ben-Tabou de-Leon

14:15-16:15
Eric Davidson, California Institute of Technology
Comment: Manfred Laubichler

16:15-16:45
Coffee break

16:45-18:15
Michael Levine, University of California, Berkeley
Evolution of Gene Regulatory Networks in the Drosophila Embryo and Ciona Tadpole
With an introduction from Michel Morange
Michael Lässig, University of Cologne
The Arrow of Time in Evolutionary Biology
Ulrich Charpa, Ruhr University Bochum
Models of Scientific Change and Progress in Biological Research

18:30
Musical Interlude, Reception, and Dinner (at the University) for invited speakers
Wednesday, 9 June 2010

9:00-10:40
Naama Barkai, Weizmann Institute of Science
How the BMP Morphogen Gradient is Adjusted with Embryo Size
Comment: Siegfried Roth

Siegfried Roth, University of Cologne
Mathematics and Biology: Lessons from the Theory of Pattern Formation
Comment: Naama Barkai

10:40-11:10
Coffee break

11:10-12:40
Smadar ben-Tabou de-Leon, California Institute of Technology
Cis-Regulation of Foxa, a Key Endodermal Regulatory Gene, as a Guide to Conservation and Change in the Endoderm Specification Network

Benny Shilo, Weizmann Institute of Science
What Have We Learned from Drosophila about Regulation and Evolution of Receptor Tyrosine Kinase Signalling Pathways?
Comment: Dan Mishmar

14:00-17:30
Douglas Erwin, Smithsonian Institute, Washington
Asymmetric Patterns of Originations in the Fossil Record, and Implications for Developmental Mechanisms
Comment: Ariel Chipman

Ariel Chipman, Hebrew University of Jerusalem
The Origin of Segmented Body Plans – When Embryos and Fossils Disagree
Comment: Ram Reshev

Dan Mishmar, Ben-Gurion University of the Negev
The Population Genetics within Us – Mitochondrial DNA Variation within Individuals and the Global Human Populations

Round table discussion on general questions raised during the workshop

19:00
Dinner for invited speakers
The Jacques Loeb Centre for the History and Philosophy of the Life Sciences, inaugurated on 4 March 2008, is engaged in advanced research covering all relevant topics related to the life sciences. The Centre offers post-doctoral and graduate fellowships in the history and philosophy of modern biological, biochemical and medical sciences. It organises bi-weekly seminars and international conferences.

The Centre is named after German-American physiologist Jacques Loeb (1859-1924), legendary experimentalist and seminal thinker in the history of biology, and an example of a scientist deeply influenced by philosophical ideas. It strives to integrate historical and philosophical thought with the natural sciences. We believe that history and philosophy of science should not be separated, with history providing details of scientific developments and philosophy leading to an understanding of science and its progress. Moreover, the interaction between historians and philosophers with scientists is mutually beneficial; many great scientists were (and are) aware of the history of their fields and the concepts that they are working on as well as of philosophical traditions.

The Centre pursues a wide range of investigations into the modern experimental life sciences and serves as an interdisciplinary forum. Research topics include, but are not restricted to: history of concepts and research practices in biology, analysis of scientific progress and dead ends, ethics of research, the influence of politics, various ideologies and religion on the conduct and advancement of science, the nature of the connections between bio-scientists and industry.

The biweekly seminars provide an interdisciplinary forum in which historians and philosophers of science as well as scientists present and discuss new research related to the life sciences. Case studies and surveys examine the impact of political, socio-economic and personal factors on the conduct of science, the ethics of research, and the causes of progress and setbacks in science. Faculty and students from all disciplines are invited to participate.

The following international workshops have taken place:
“Philosophies in Biology” (4-5 March 2008)
“Darwinism and Functional Biology, Other Sciences, and the Humanities” (30 March-1April 2009)

Proceedings from the workshops were published as special editions/sections of:
*History and Philosophy of the Life Sciences* 30 (2008)
*Journal for General Philosophy of Science* 41 (2010)