BetteringHumanity:HistoricSecularMovementsTheConference



Lui Lam

San Jose State University, USA; Chinese Academy of Sciences, and China Association for Science and Technology, China



Beijing, China

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WORKING LIFE

From physics to revolution and back

Lui Lam

<u>As a boy, I was not interested in science; I was interested in girls</u>. Upon graduating from high school in Hong Kong, I did not particularly want to work in science; I just wanted a job, because I rarely left the dinner table with my stomach full. For graduate school, I went to Columbia University with a scholarship. There, I was surrounded by Nobel laureates— Isidor Isaac Rabi, Polykarp Kusch, Tsung-Dao Lee—and laureates-in-waiting: James Rainwater, Jack Steinberger, Leon Lederman. The most important moment in my physics education was when I noticed Lee standing next to me in the men's room, peeing. Nobel laureates are ordinary people, I learned, just like you and me. At Columbia, I was influenced by the student antiwar movement and the Cultural Revolution that was raging in China. I and several others (including Peter Kwong, now at Hunter College, and Jean Quan, who would become the mayor of Oakland, California) started the Chinatown Food Co-op; our aim was to "serve the people." I wasn't interested in solving small problems; I wanted to save the world, to return to China and join the revolution.

I finally made it in 1978, at the beginning of the country's "reform and opening up" movement. I was assigned to do physics at the Chinese Academy of Sciences' Institute of Physics. In China, the spring of 1978 is called "Science Spring" because for 10 years science had come to a virtual halt. Basic science was banned. My colleagues and I resumed the work with great enthusiasm; if China was in ruins, we figured, the best option was to fix it. I helped open the door to the West, discovering bowlics—a type of liquid crystal—and publishing the first paper by mainland-only authors ever to appear in Physical Review Letters.



"I wanted to save the world, to return to China and join the revolution." ILLUSTRATION: ROBERT NEUBECKER

2002

Lui Lam published first paper on Histophysics, combining a humanities discipline with physics

Modern Physics Letters B, Vol. 16, No. 30 (2002) 1163-1176 @ World Scientific Publishing Company

HISTOPHYSICS: A NEW DISCIPLINE*

LUI LAM

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Received 17 June 2002

History is the most important discipline of study. The system investigated in history is a many-body system consisting of biological material bodies, *Homo* aspienz, and hence can be studied scientifically. The unique role physicists can play in advancing the science of human history is presented. We will discuss the methods of study in history; worldviews; modeling history as a complex, dynamical system; predicting the future and retrodicting the past; and artificial history. In particular, active walk is shown to provide the foundation for a new worldview, and found to be widely applicable in modeling history, as illustrated by three examples from economic, evolutionary and social histories, respectively.

Keywords: Histophysics; history; physics; complex systems; artificial history; active walk.

1. Introduction

New disciplines of study are born from time to time, like in the case of human babies, but less frequently. Or, for that matter, like new stars emerging in the sky, being suddenly noticed after a long period in the making.

Historically, when physics is combined with other natural sciences, new disciplines are created and we have astrophysics, biophysics, geophysics, and so on. More recently, econophysics was born when physicists ventured into economics, a branch of the social sciences.¹ (Similarly in the field of biology, in 1975, sociobiology was created when biology was merged with sociology by Edward Wilson.²) In this article, physics is linked to history, giving birth to a new discipline — histophysics.

Since the nineteenth century, history has been treated as a science intermittently through the efforts of Condorost, Comte, Buckle, Taine, Adams, and others.^{3,4} The progress has been uneven, and there are even doubts as to whether this endeavor is at all possible, given the complexity and the irreproducible nature of historical processes. As argued in this article, the system under study in history is actually

*Contribution to the International Symposium on Frontiers of Science. In Celebration of the 80th Birthday of Chen Ning Yang (June 2002, Beijing).



22nd International Congress of History of Science

Lui met Maria



Maria Burguete July 29, 2005 Friendship Hotel, Beijing



Lui visited Maria









Vila Galé



Seoul, Korea

The Two Cultures and The Real World

L. Lam



The Pantaneto Forum, Issue 24 (2006)

C. P. Snow (1905-1980)

2007 May Ericeira, Portugal

- First scimat conference
- Scimat Program begins
- "Everything in Nature is part of science"
- In particular, human-related matters (humanities and social science) should be and could be studied scientifically--based on Lam's analysis of the two culture problem in 2006, i.e.,

Humanities are science matters !



All earnest and honest human guests for knowledge are efforts to understand nature, which includes all human and nonhuman systems, the objects of study in science. Thus, broadly speaking, all these quests are science matters. The methods and tools used may be different for example, the literary people use mainly their bodily sensors and their brain as the information processor, while natural scientists may use, in addition, measuring instruments and computers. Yet, all these activities could be viewed in a unified perspective—they are scientific developments at varying stages of maturity and have a lot to learn from each other. In this conference, we invite experts from different disciplines worldwide to share their experience and outlooks, and hopefully plan the future together.

Many of the topics included in this conference are under the name of science and culture, science and art, science and society, etc. We do not think these descriptions are useful. For example, by saying "science and culture," it implies that science and culture are two different things, which could be opposing each other. Instead, we view them as different aspects of the same thing—the effort to understand nature, and a new word "science matters" is called for.

Invited Speakers

Leonor Béltran (Portugal, The nature of dance) Paulo Borges (Portugal, Buddhism, meditation & science of mind) Maria Burguete (Portugal, History & philosophy of contemporary chemistry) Paul Caro (France, Culture through science: A new world of images and stories) Clara Pinto Correia (Portugal, Biology: Manipulation of scientific information) Alfredo Dinis (Portugal, Has neuroscience any theological consequences?) Isabel Empis (Portugal, Psychology & life quality) Gilbert Fayl (Belgium, Policy fallacy: Stop talking, do it) Bernardo Herold (Portugal, Science & society) Brigitte Hoppe (Germany, The role of physiognomy in science and art) Lui Lam (USA, Histophysics: Integrating history with physics) Daguang Li (China, Science communication in China) Bing Liu (China, Philosophy of science and Chinese sciences) Dun Liu (China, History of science in globalizing time) Edgar Morin (France, Did a scientific revolution begin?) João Arriscado Nunes (Portugal, Unified science or ecologies of practices?) Maurizio Salvi (Italy, Science & ethics)

Nigel Sanitt (UK, The tripod of science: Communication, philosophy and education) Michael Shermer (USA, The science of good and evil)

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Further information WWW.ces.uc.pt/science_matters_meeting

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Cochairs

Maria Burguete (Portugal) Lui Lam (USA, lui2002lam@yahoo.com)

Contact

Maria Burguete Email: mariaburguete@gmail.com Fax: +351 239 855 570 Phone: +351 239 855 589 Scimat (Science Matters, 人科) is a new multidiscipline that deals with the science of humans. It aims to raise the scientific level of the humanities by encouraging collaboration between humanists and natural scientists.



Scimat Website: www.sjsu.edu/people/lui.lam/scimat

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Author, Cognitive Science, Literature and the Arts



Columnist, Scientific American; Editor, Skeptic Magazine



Nobel Laureate (2005)

Aim

To promote the scimat idea and push the International Scimat Program

World Scientific: Science Matter Series, book 1

Science Matters Humanities as Complex Systems



Maria Burguete and Lui Lam Editors

Remin University of China Press



Bento da Rocha Cabral

Todas as queetões humanas do conhecimento colocadas de forma honesta e sincera, constituem esforços para compreender a Natareza, nala se incluindo todos os seus objectos de estudo formados por sintemas humanos e esteranas não humanos. Assim, de um modo genil, todas estas queetões partencem ao dominio da cisecia. Os métodos e as ferramentas utilizadas podem ser disnantes, consoante es trate de um especialista da sina das ciencias humanas e accisis cu um especialista da sina das ciencias humanas e actividades, visualizadas numa perspectiva unificada, são actividades cujos desenvolvimentos científicos se encontram em estados de matuidade diremtas e que por conseguinte, tim imanas a aprendir umas com as outras.

A Ciência Humana (Science Mattera cu Scimat) é actore todo o conhecimento dependente da ser humano, no qual os seres humanos (o sistema naterial do Homo Sepiena), esto setudados científicamente, na perspectiva de sistemas complexos.

A Scinat inclui todos os tópicos abrangidos pelas hamanidades e ciências sociais comparticular nestos paras arte, a literatara, o cinema, a caltara, a história, a filosofía, as ciências da comunicação e os estados de ciência.

Maria Burguete nasizou o seu Dostoramento en História das Cièncias (Duinica Contemporánea) na Universidade Ludwig Maximiliana en Munique, Alemanha en 2000. Foi a primeira Bioquinica a licencia-se na Faculdade de Cièncias de Lisboa en 1982, após a conclusato do Bacharelato en Engenharia Quinica en 1979 se l'arithuto Superior Engenharia de Lisboa (SEL). Cientista con vasta experisincia decente e de investigação numa gonade variadade de áreas científicas. Esta diversidade contribuis, para o deservolvimento de sas interdisciplinaridade e transdisoplimaridade. Actualmente, é investigadora no Instituto Investigação Científica Bento da Rocha Cabral em Portugal. Pablicos des lines científicos e cinco livres de poesia para siêm de mais de 30 artigos científicos, na sua maioria na area de História e Filosofia das Ciências. Deude 2010 é membro consepondente de Acodemia Europeia dea Ciências. Actes e Latras, fundada em Paris em 1990. Emel: manimeria e3448 ganal.com

Lui Lern, cientinte e humanista, obtive o seu Bacharelato em Ciências, com d'aringão da Universidade de Hong-Kong, o Master em Ciências da Universidade de Britán Columbia e o Doutomento na Universidade de Columbia. É portesor catechético de Fisica na Universidade de San Jose, California e Professor Adjunto em ambas as instituições: Academia das Ciências da China e da Asacciação Chinesa para a Ciência e Teorologia. Em 1982, o Professor Lam inventou "Bavilica" (un dos trisis topo de cristais façuidos existentes no mundo); em 1982 orios um novo paradigma para sistemas complexos, "Active Walk", e criou duas novas disciplinas: Histophysica (2003) and Scimat (Science Matters, 2007/2006). Lam publicou 14 foros e mais de 1803 antigas cientas (Science Matters, 2007/2006); Lam publicou 14 foros e mais de 1803 antigas cientas de foros: Science Matters (Morid Scientífic) e Astical Ordened Systema (Spingar). As asas aneas de investigação ato actualmente some histófisica, sistemas complexos e Science Matters. Emait hui2000 actualmente some histófisica, sistemas complexos e Science Maters. Emait hui2000 actualmente some histófisica, sistemas complexos e Science Maters. Emait hui2000 actualmente some histófisica, sistemas complexos e Science Matters.



Maria Burguete Lui Lam

Ciência Humana

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Uma Perspectiva Unificada em Humanidades e Ciências



Maria Burguete e Lui Lam Editores

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2009 Oct

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MARIA BURGUETE AND LUI LAM

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No. 3

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Third International Science Matters Conference

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Calouste Gulbenkian Foundation, Lisbon, Portugal November 21-23, 2011

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Founder and Editor: Lui Lam

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edited by Maria Berguete (Bents da Rocha Cabral Institute for Scientific Research) & Lui Lam (San Jose State University)

There is a lot of contaktion and misconception concerning science. The nature and contents of science is an unsettied problem. For example, Thates of 2,600 years ago is receptized as the tather of science but the word science was introduced only in the 14th contary, the definition of science is often available in books about philosophy of science. This book alms to clear up all these confusions and present new developments in the philosophy. Interv, sociology and communication of science. It also alms to showcase the achievement of China's top schedure in these areas. The 18 chapters, divided into five parts, are written by prominent schedars including the Nobel laureau Robin Warren, sociologie Harry Colline, and physicist-sumed historian Uterich Sauffer.

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Contents: About Science 1: Basics -- Knowledge, Nature, Science and Scimar (Luf Lam): About Science 2: Philosophy, History, Sociology and Communication (Lul Lam): Philosophy of Science: Towards a Phonomenological Philosophy of Science (Cuo-Sheng Wu); The Predicament of Scientific Culture in Ancient China (Hong-Sheng Wang); What Do Scientists Know! (Nigel Sanitt); How to Deal with the Whole: Two Kinds of Hollsm in Methodology (In-Yang Da); History of Science: Helicobactor: The Ease and Difficulty of a New Discovery (Robin Whenenic Science in Victorian Fee: New Observations on Two Old Thoses (Dun Lin): Medical Studies in Portugal Around 1911 (Maria Burguete); The Founding of the International Liquid Crystal Society (Luf Lam): Sociology of Science: Three Waves In Science Studies (Harry Collins); Solitons and Revolution in China: 1978-1983 (Lul Lam): Scientific Culture in Contemporary China (Bing Liu and Mel-Fang Zhangi: Communication of Science: Science Communication: A History and Review (Poter Broks): Popular-Science Writings in Early Modern China (Un Vin): Other Science Matters: Understanding Art Through Science: From Socrates to the Continuual Brain (Kajka Borg): Spy Video Carnes After 9/11: Narrative and Pleasure (Ting-Ting Wang): Statistical Physics for Humanities: A Tutorial (Diotrich Stauffer);

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Humanities as SCIENCE MATTERS History, Philosophy & Arts

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Casa do Infante, O'Porto PORTUGAL, 15th -17th, October 2013

East Anglia University, United Kingdom KAJSA BERG	Introducing NeuroArtHistory: Paintings and Neurons
Science history & philosophy professor, Portugal MARIA BURGUETE	Generation of 1911: A Case Study in Portugal
European Academy of Sciences, Arts & Letters, France JEAN CONNERADE	Science, Culture and Anti-science
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San Jose State University professor, United States LUI LAM	Science Matters: Its Philosophy and History
Arts professor, Portugal MARTA DE MENEZES	Art and Biology: A Story about Art Research
Biology Professor Minho University, Portugal ALEXANDRA NOBRE	Biology & Art Complicity
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Maria Burguete (Portugal, confsciencematters@gmail.com) and Nigel Sanitt (UK, nigel@sanitt.com)

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further information www.scimat-2013.com

SCIMAT SERIES

Scimat (Science Matters) is the new multidiscipline that deals with the science of humans. It aims to raise the scientific level of the humanities by encouraging interaction between humanists and natural scientists.

This book *Humanities As Science Matters* derives from the fourth international scimat conference of the same title, held in O'Porto, Portugal, in October 2013. It presents new developments in four humanities disciplines—history, philosophy, arts and sociology—as they are related to science. The interdisciplinarity is well portrayed in this volume which contains 11 chapters written by 12 expert humanists and scientists. We believe a new era of scientific knowledge is emerging with a new and unified perspective of the humanities (history, philosophy and arts in particular) in a unique multidiscipline called Scimat.

Maria Burguete is a scientist at Bento da Rocha Cabral Institute in Portugal. She has published 9 scientific books, 7 poetry books and over 30 scientific papers mostly in history and philosophy of science. She and Lui Lam started The Scimat Program in 2007. Since 2010 she is a corresponding member of the European Academy of Sciences, Arts & Letters founded in Paris in 1980.

Hauke Riesch is a lecturer in sociology at Brunel University London, where he researches on the public understanding of science, philosophy of science, environmental and energy policy. As a member of the newly created Brunel Centre for Comedy Studies Research, he has decided to do something fun for a change and look at the links between humour and science.

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Burguete & Riesch

HUMANITIES As Science Matters History, Philosophy & Arts

> Editors Maria Burguete & Hauke Riesch

Pantaneto Press



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San Jose, USA

The Scimat Program: Towards a Better Humanity

Maria Burguete¹ and Lui Lam²

¹ Rocha Cabral Scientific Research Institute, Lisbon, Portugal
² Department of Physics and Astronomy, San Jose State University, San Jose, CA 95192-0106, USA

Scimat (Science Matters), the new discipline initiated by Lui Lam in 2007/2008 [1, 2], treats all human-dependent matters as part of science. It thus includes all the topics in the humanities and social science. Scimat results from two recognitions: (1) Humans are a material system (made up of atoms); (2) Science is the study of Nature which includes all material systems (without appealing to God or any supernatural) [3]. The tradition of treating everything in the universe, human and non-human systems, from a unified perspective—starting with Aristotle and continued until the Renaissance—was broken with the rise of modern science in the last 400 years. Concerted efforts to revive this tradition happened from time to time and failed with one exception: the *Enlightenment* (1688-1789) with the aim to create a "science of man" succeeds in ushering in social science (Economics) but fails in turning the humanities into a science. It is an effort interrupted, partly due to insufficient understanding of the human system. The Scimat **Program**, started by Maria Burguete and Lui Lam in 2007, is the latest international effort to revive the Aristotle tradition of a unified knowledge...

2015 Oct

No. 5

Cascais, Portugal

5th International Conference on Science Matters

Interdisciplinary Education & Teaching in the 21st Century "Everything in Nature is part of science."

Scimat (Science Matters) is the new multidiscipline that treats all human-dependent matters as part of science, wherein, humans are studied scientifically from the perspective of complex systems. It encourages collaboration between the humanists and natural scientists. As our world (and job market) is ever changing, rapidly and unpredictably, and problem solving in the real world knows no disciplinary boundaries, interdisciplinary education and teaching have become important in universities worldwide. Accordingly, this fifth international conference in the biennial series covers Interdisciplinary Education, General Education, and Interdisciplinary Teaching. It features reviews by top experts from around the world, plus contributed papers

Estalagem Muchaxo Hotel CASCAIS, Portugal * 28th -30th October 2015

Harvard University, Professor (USA) DEIRDRE BARRETT Dreams and Creative Problem Solving Rocha Cabral Institute, Researcher (Portugal) MARIA BURGUETE Interdisciplinary Concepts Euroscience, Hon. President (France) JEAN-PATRICK CONNERADE Teaching Science to Poets Braga University, Professor (Portugal) MANUEL CURADO Science as Mirror of the Scientist, not of the World University Paris Diderot (France) BAUDOUIN JURDANT Science and Literature San Jose State University, Professor (USA) LUI LAM Humanities, Science, Scimat: A New GE Course Group Analytic Psychotherapist (Portugal) ANA PAULA MOITA A Successful Therapy for Personality Disorders Evora University, Biology Professor (Portugal) MANUEL MOTA An Interesting History of Biology Engineering Education Society, President (Portugal) JOSÉ QUADRADO Interdisciplinarity in Education Pantaneto Forum, Director and Astrophysics (UK) NIGEL SANITT University Textbooks in the Digital World INIV/ IST (Portugal) António SARAIVA & Ricardo MIRANDA The Earth Chart: Challenges & Controversies Max-Planck Institute Berlin, Researcher (Germany) ANNETTE VOGT Science in Education Renmin University of China (China) Donghui ZHANG & Tianying XUAN General Education in China

University of Florence (Italy) ELISA GUBERTI Interdisciplinary Skills for Complex Global Environments Renmin University of China (China) YUE GUO Youth Image in Chinese and American Youth Films

Maria Burguete (Portugal) and Jean-Patrick Connerade (France/UK)

Manuel Bicho (Portugal); João Caraça (Portugal) ; Jean-Patrick Connerade (France) ; Patrick Hogan (USA); Brigitte Hoppe (Germany); Lui Lam (USA) ; John Onians (UK); David Papineau (UK) ; Michael Shermer (USA); Edward O. Wilson (USA) and Robin Warren (Australia)

FCT Fundação para a Ciência e a Tecnologia

This conference is under the auspices of the International Science Matters Committee: members: Manuel Bicho (Portugal), Peter Broks (UK), Maria Burguet (Portugal), João Caraça (Portugal), Paul Caro (France), Patrick Hogan (USA), Brigitte Hoppe (Germany), Lui Lam (USA), Bing Liu (China), Dun Liu (China), John Onlans (UK), David Papineau (UK), Nicel Sanit (UK), No Schneider (Germany), Michael Shermer (USA), and Robin Warren (Australia).



Science Matters Press: Scimat Series, book 1

INTERDISCIPLINARITY AND GENERAL EDUCATION IN THE 21st CENTURY

Editors Maria Burguete & Jean-Patrick Connerade



further information www.scimat-2015.com

2017 Oct Cascais, Portugal

No. 6

Sixth International Science Matters Conference

Bettering Humanity Historic Secular Movements

October 25-27, 2017 **Cascais**, Portugal

In the long fillen of barante development, ballous afferts to tester burnarity have less proposed. This conference and to review the secular momentum which are becalculy significant, to analyzined how and why they mustly lather and in what whet they incomedial as that we can being from them and do better with the Science sportach. Examples of these recomments in numbers are national the E-degime event, the Yearan Dock and the Neuranian seconds in 1000, conference, environment and presented by expects on the main theore of latticing framewide, line in previous Tribut methodoxes, papers on all other origins matters are even on a 10 also the occupant to constrain the tend annihilitary of the school continuous entire and the school Program.

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further information: www.scimat-2015.com



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Wednesday	Enlightenment, Vienna Circle, The Humanism Movement		
9:40-10:40	John Christie	Science, Secularism and Enlightenment: Then and Now	
11:10-12:10	Claudine Cohen	Jean-Jacques Rousseau on Bettering Humanity: Music, Politics and Education	
14:00-15:00	Manuel Mota	Bettering Humanity through Biology	
15:00-16:00	Annette Vogt	The Vienna Circle and the Role of Positivism	
16:30-17:30	Jean-Patrick Connerade	The Contribution of British Atheist Reformers in the XIXth Century	
17:30-18:00	Lui Lam	The Humanism Movement	
Thursday		Scimat Approach	
9:00-10:00	Miguel Pais	Bettering Humanity through Arts	
10:00-11:00	Lui Lam	Bettering Humanity: The Scimat Approach	
11:30-12:30	Cristina Jimenez	The Bilderberg Club from 1954 to 2017	
Friday		Other Science Matters	
9:00-10:00	Florentin Bosse	Letters Matters, Bibliotherapy and Mathematics	
10:30-11:30	Xiaomei Liu	Ancient Silk Roads and the Impact and Aspiration on Humanity	
14:00-15:00	Nigel Sanitt	The Eye in Ideas: Culture, Curiosity & Communication in Scientific Discovery	