

THE INSPIRATION OF ASTRONONICAL PHENOMENA

Proceedings of the Fourth
Conference on the Inspiration of
Astronomical Phenomena, Magdalen
College, Oxford, 3-9 August 2003.

Editor
Nicholas Campion

THE INSPIRATION OF ASTRONONICAL
PHENOMENA

Edited by Nicholas Campion

A special issue of *Culture and Cosmos*
Vol. 8 no 1 and 2
Spring/Summer and Autumn/Winter 2004

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Published by Culture and Cosmos
And Cinnabar Books
PO Box 1071,
Bristol BS99 1HE,
England

culture@caol.demon.co.uk
www.cultureandcosmos.com

in association with
The Sophia Centre for the Study of Cultural Astronomy and Astrology,
Bath Spa University College,
Newton Park, Newton St. Loe,
Bath BA2 9BN, UK.
www.bathspa.ac.uk/sophia

British Library Cataloguing in Publication Data
A catalogue card for this book is available from the British Library

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ISSN 1368-6534
ISBN 1-898485-10-0

Printed in Great Britain by Cromwell Press Ltd., Trowbridge, Wiltshire BA14 0XB.

Culture and Cosmos/Proceedings of the INSAP IV Conference

Dedication

It is with deep respect and thanks that we dedicate this volume to the memory of Raymond E. White, Jr.

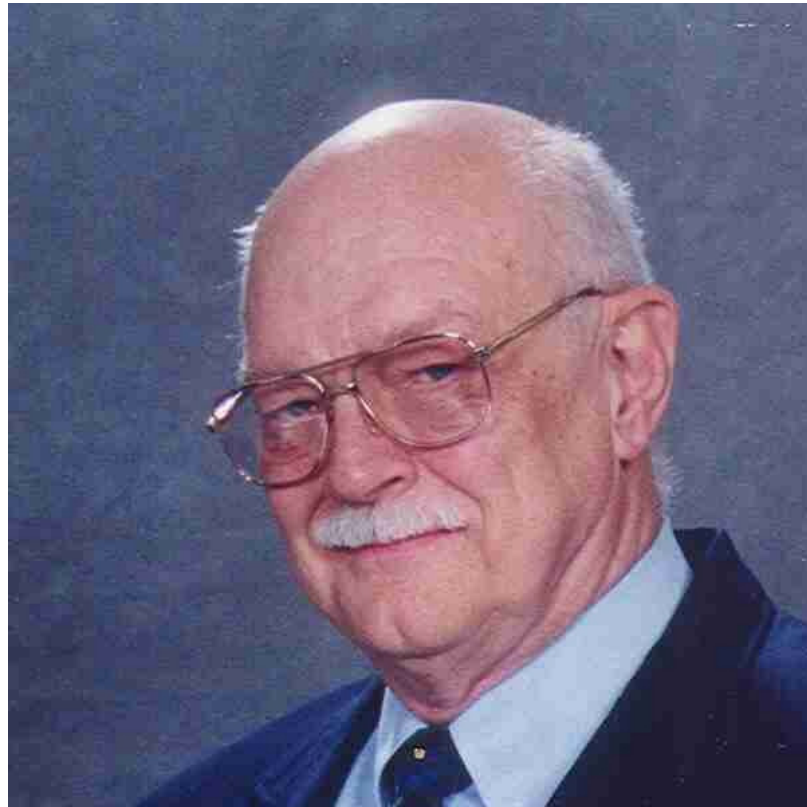
Ray played a critical role in initiating the INSAP Conferences. The idea for these conferences started in Ray's living room one Sunday over morning coffee, when Ray and I were planning a more specialized conference in archaeoastronomy. As we thought and talked about the limits on such a meeting, we realized that we had overstepped them and had entered into a totally new idea for a conference that would look at the impact of astronomical phenomena on the development of human culture.

Ray invited George Coyne (the Director of the Vatican Observatory) to come over, and a few minutes later George joined us. Before we had finished, the three of us had sketched out the meeting and George turned it into reality by suggesting we hold it at the Observatory at Castelgandolfo in 1994.

This first meeting was a success. The idea caught on and the next three meetings followed: Malta (1999), Palermo (2001), and the present meeting in Oxford (2003). And we can look forward to a fifth meeting in Chicago in June 2005. Through all of this Ray made sure that the meetings stayed relaxed, collegial, and diverse, while maintaining academic rigor, so that they evolved into the meeting we enjoyed in Oxford.

Ray left us all with happy memories. We are grateful that we had the chance to know him and work with him.

Rolf Sinclair
Feb. 26, 2005



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**The Fourth Conference on the Inspiration of
Astronomical Phenomena
Magdalen College,
Oxford 3-9 August 2003**

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Professor Rolf M Sinclair	Santa Fe Institute, USA
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Dr Richard Poss	University of Arizona, USA
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Mr Peter Hingley	Royal Astronomical Society, UK

Acknowledgements

Sponsorship and/or support for INSAPIV has received from the following, for which thanks are gratefully expressed:

University of Luton:

Department of Art & Design, for support for the Exhibition

Quality Assurance Centre, for printing

Department of Finance, for handling of finances

Vatican Observatory, Castel Gandolfo, Italy

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Steward Observatory, Arizona
Magdalen College, Oxford
Royal Astronomical Society, London
Museum of the History of Science, Oxford
Bath Spa University College
Oxford University Museum
Blackwells Bookshop, Oxford
Craig-Piper Group
Yale University Press

The Conference organisers were especially appreciative of the supportive grants from the Vatican Observatory and the Royal Astronomical Society. In addition to these there are also a number of individuals who should be particularly mentioned. Thanks are due to the keynote and guest speakers (see below), especially Clive Ruggles and Mike Pitts for their participation in the excursion to Stonehenge and Avebury, and Dr Jim Bennett and colleagues at the Museum of the History of Science. Special thanks are due to Ms Catherine Hughes at Magdalen College Oxford for her enormous support and patience. Thanks should be expressed to Dr Bashir Makhoul, Department of Art & Design at the University of Luton for support for the exhibition, and to the Quality Assurance Centre, University of Luton. Thanks are also due Department of Finance at Luton. Particular thanks are also due to Jan White and her colleagues for undertaking the immense task of organizing the Exhibition (sponsored and brought all the way from New Zealand to the Oxford University Museum) and to our student exhibition volunteer, Natasha Wilder. Blackwells Bookshops kindly offered the Thursday evening reception and the Craig Piper Group were generous in their support in terms of their co-operation and provision of screening for posters and the exhibition. Yale University Press also made a contribution.

Sponsoring and Supporting Organisations

Vatican Observatory

<http://clavius.as.arizona.edu/vo>

The Vatican Observatory, one of the oldest astronomical research institutions in the world, has its headquarters at the papal summer residence in Castel Gandolfo, Italy, outside Rome. Its dependent research

centre, the Vatican Observatory Research Group (VORG), is hosted by Steward Observatory at the University of Arizona, Tucson, USA.

Steward Observatory, Arizona

www.as.arizona.edu

The University of Arizona Steward Observatory (established 1916) and its associated academic division, the Department of Astronomy, form one of the finest centers for astronomical studies in the world. Astronomers here are among the national and international leaders in observational and theoretical research in astronomy. At the same time, they are making breakthroughs in related technology development -- from new light detectors to giant telescope mirrors -- that promise to be a catalyst for a renaissance in optical and infrared astronomy. Steward Observatory scientists also have key roles in major space astronomy missions, including the Hubble Space Telescope and the Space Infrared Telescope Facility. Observing facilities were relocated in 1963 to a darker mountain site on Kitt Peak.

Museum of the History of Science, Oxford

<http://www.mhs.ox.ac.uk/about/index.htm>

The Museum houses an unrivalled collection of historic scientific instruments in the world's oldest surviving purpose-built museum building, the Old Ashmolean. By virtue of both the collection and the building, the Museum occupies a special position, both in the study of the history of science and in the development of western culture and collecting. As a department of the University of Oxford, the Museum has a role both in making the material relics of past science available for study by historians who are willing to look beyond the traditional confines of books and manuscripts, as well as presenting them to the public. The objects represented (approximately 10,000) cover almost all aspects of the history of science, from antiquity to the early twentieth century. Particular strengths include the collections of astrolabes, sundials, quadrants, early mathematical instruments generally (including those used in astronomy and navigation) and optical instruments (microscopes, telescopes and cameras), together with other scientific apparatus. In addition, the Museum possesses a unique reference library that includes manuscripts, incunabula, prints, ephemera and early photographic material

Oxford University Museum

Part of the University of Oxford, the Museum Oxford University Museum of Natural History was built in 1855 to accommodate the teachings of science in Oxford. Built in the Venetian Gothic style, it is widely regarded as a key example of Victorian Architecture, and the critic John Ruskin was both influential and instrumental in its creation. It presently houses the natural history collections of the University (from geological specimens to dinosaurs and the Dodo) and the general grandeur of the Museum, with its high glass roof and delightful detail of its carving and ironwork, make it a very special venue for the reception and exhibition.

Sophia Centre, Bath Spa University College

www.bathspa.ac.uk/sophia

The Sophia Centre for the Study of Cultural Astronomy and Astrology was established at Bath Spa University College in 2002. It is located within the history department but maintains a multidisciplinary remit. Its academic goals are 'to undertake the academic and critical examination of astrology and its practice' and 'to pursue research, scholarship and teaching in the relationship between astrological, astronomical and cosmological beliefs and theories, and society, politics, religion and the arts, past and present'. Its main academic programme is the MA in Cultural Astronomy and Astrology.

Keynote Speakers and experts

The conference was most fortunate in being able to draw on a number of well known experts who were able to attend, make presentations and also engage in discussion. Since participants came from a huge range of disciplines and subject areas, we include some brief information about each (alphabetical order).

Dr Jim Bennett, Museum of the History of Science, Oxford

Director of the Museum of the History of Science, Oxford, Dr Jim Bennett's main interests and expertise lie in the areas of scientific instruments, astronomy, practical mathematics - and museums

Professor Allan Chapman, University of Oxford (History of Science)

An historian by training, Professor Chapman's particular research interests are in scientific biography and Astronomy. He is a fellow of

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Wadham College and teaches the History of Science in the Faculty of Modern History, Oxford.

Professor John Heilbron, Fellow of Worcester College Oxford

J.L. Heilbron is professor of history and vice chancellor emeritus of the University of California at Berkeley. He now lives near Oxford where he is senior research fellow at Worcester College and at the Museum for the History of Science. His book most relevant to the subject at hand is *The sun in the church* (Harvard, 1999). His most recent book is the *Oxford Companion to the History of Modern Science* (Oxford, 2003), of which he was general editor.

Professor Ronald Hutton, University of Bristol

A Professor of History in the Department of Historical Studies at the University of Bristol, Ron Hutton is a leading authority on history of the British Isles in the sixteenth and seventeenth centuries, on ancient and medieval paganism and magic, and on the global context of witchcraft beliefs. Also the leading historian of the ritual year in Britain and an expert on the history of modern paganism.

Professor Kristen Lippincott, Royal Observatory Greenwich

Director of the Royal Observatory at Greenwich in the U.K.—the start of Greenwich Mean Time. Professor Lippincott is particularly well known for the recent major exhibition at Greenwich which examined the nature of time, and the accompanying book, *The Story of Time. Other works, such as Astronomy (1999)*, focus on contemporary and historical developments in astronomy

Professor Paul Murdin, Institute of Astronomy, Cambridge

Astronomer, author, broadcaster and astronomy consultant, Paul Murdin is Senior Fellow at the Institute of Astronomy, Cambridge and Former Director of the Particle Physics and Astronomy Research Council.

Professor John North, Oxford University

John North's career has been divided almost equally between Oxford and Groningen, The Netherlands. He is now emeritus professor of the history of philosophy at the Rijksuniversiteit Groningen and Senior Research Associate of the Museum of the History of Science (Oxford University). He has written on many aspects of the history of cosmology.

Mike Pitts

Mike Pitts is a former curator of Avebury's museum and has directed excavations at both Stonehenge and Avebury monuments. He writes for newspapers, radio and TV, and was joint winner of the Archaeology Press Award in 2000.

Professor Clive Ruggles, University of Leicester

Having had a varied academic career passing from astronomy to archaeology to computer science and back to archaeology again, Clive Ruggles' research interests centre upon people's interests in, perceptions of, and uses of the sky and celestial objects in various social contexts – topics now encapsulated in the fields of study now known as archaeoastronomy and ethnoastronomy.

A special note on Gerald Hawkins

Gerald Hawkins was delighted by the acceptance of his latest paper to be read at INSAP4 (Oxford) in August 2003, His paper, produced jointly with Vance Tiede, was be presented by Vance Tiede on Wednesday 6 August, and a special session 'In Memoriam; Gerald Hawkins' on his life and work followed on the same afternoon – to be presented by Vance Tiede, Hubert Allen and others. A minute's silence was observed at the first opening session on Sunday afternoon.

The Story of INSAP

<http://ethel.as.arizona.edu/~white/insap> (general information)
<http://ethel.as.arizona.edu/~white/insap/insap3.htm> (for INSAPIII)
<http://www.astropa.unipa.it/INSAPIII/index.html> (for INSAPIII)
<http://ethel.as.arizona.edu/~white/insap/insap4x.htm> (for INSAPIV)
<http://www.adlerplanetarium.org/INSAPV/index.shtml>

There has long been scholarly discussion on the relationship between astronomy and an enormous range of aspects of culture - painting, architecture, sculpture, literature, philosophy and spiritual themes. However, as the founder members of INSAP (Dr. George V. Coyne, S.J., Dr. Rolf M. Sinclair and Professor Raymond E. White) came to realize some years ago after some literature searching, there had never been a conference over the many and varied cultural impacts of the perceptions about the day and night-time sky.

Certainly there had never been such a conference providing a mechanism for a broad sampling of artists, historians, philosophers, and scientists to get together, compare notes, and to have the chance to ask those questions of one another about each other's work which may have been simmering away for decades. This lack, in the face of a burgeoning technological era which more and more isolates the general public from an understanding of "what are those guys (scientists/artists) doing now?", cried for redress. Thus, the idea for a triennial (or so) series of scholarly discussions over *The Inspiration of Astronomical Phenomena* (INSAP) was born – as Ray White, Rolf Sinclair and George Coyne expressed it 'practically as full-grown as Botticelli's Venus, stepping daintily out of her shell'.

INSAP I to INSAP III

The first three meetings took place at the Vatican Observatory, Castel Gandolfo (1994), Malta (1999) and Palermo (2001). Magdalen College, Oxford provides a superb location for the fourth. Thanks to the interest and support for the INSAP concept by Dr. G.V. Coyne, S.J., the first conference took place in Italy in 1994 and was held at the retreat house, "Mondo Migliore" above the Lago Albano, across the lake from the Vatican Observatory at Castel Gandolfo. Meetings in Malta and Palermo followed and full details of these are on the INSAP web pages including some abstracts, tables of contents and details of publications. Papers from the first meeting were published in *Vistas in Astronomy* (1995) and in

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Leonardo (1996), those from the second are scheduled to appear in book form, and those from the third were published in a special issue of *Memorie della Società Astronomica Italiana*.

INSAP IV

The INSAP IV Conference explored the fascination with the sky which has been a strong and often dominant element in human life and culture. It provided a meeting place for artists and scholars from a variety of disciplines (including Archaeology and Anthropology, Art and Art History, Classics, History and Prehistory, the Physical and Social Sciences, Mythology and Folklore, Philosophy, and Religion) to present and discuss their studies of the influences that astronomical phenomena have had on humanity.

The first three INSAP conferences successfully brought together people from just such a range of disciplines to address topics of common interest. The main theme and avowed aim of the conference series is to provoke interdisciplinary debate and to attempt in some measure to break down the barriers between subjects, disciplines and cultures – across institutions, media and conventional chronological periods. Many of the sessions therefore cut across not only science and the humanities but also across subject disciplines, and national boundaries, bringing together scholars from areas of activity that are often maintained as distinct and separate. Speakers were included from a wide range of countries and from varying academic, professional and institutional backgrounds. Sessions ranged chronologically from the ancient world to the present day, and even into the future. Geographically the themes span from America to China, Australasia and the Middle East (global, rather than Western or Eurocentric) - but also to some of the furthest points of the universe, as befits the nature of the conference. The programme included a rich and varied choice of visiting speakers and specially organized receptions and visits.

Exhibition: The Sublime Metaphor

A public exhibition at the Oxford University Museum was arranged to run alongside the INSAP conference. The organization of an exhibition to explore the effect that visual images of astronomical phenomena has had on humanity over the ages can only be beneficial to a very wide ranging audience. In addition, conference and exhibition activity was designed to contribute to subsequent international research activity and collaboration. The inclusion of an exhibition of work by artists from

several countries, part of which moved on to other locations, was intended to promote interest in links between the arts and astronomy.

The artists whose work was included in this exhibition explored the inspiration of astronomical and natural phenomena in a variety of media, using the physical bodies familiar to us in the night skies as metaphors for contemporary global social and political issues. These metaphorical emblems and symbols are also employed to represent the inner space of the psyche, to examine the human condition and the spiritual dimension in the context of this time and their place. This exhibition underlined the organisers' intention to bring together the sciences with the visual and literary arts, facilitating discussion and academic debate amongst scholars, writers and artists across the disciplines as well as opening up new international networks and co-operative collegial exchanges between the sciences and the humanities.

INSAP V

<http://www.adlerplanetarium.org/INSAPV/index.shtml>

As these Proceedings go to press the INSAP V conference is scheduled to be based at the Adler Planetarium and Astronomy Museum in Chicago from 26 June – 1 July 2005. INSAP V will increase both the knowledge and the experience of the astronomically inspired arts. Mornings and early afternoons are devoted to conference presentations. Afternoons will include field trips. Evenings will feature artistic performances, which will be open to the public. Venues include the University of Chicago's Oriental Institute, the Art Institute of Chicago, and the Adler Planetarium. INSAP V will be based at the Adler Planetarium & Astronomy Museum in Chicago from June 26 – July 1, 2005. Venues include the University of Chicago's Oriental Institute, the Art Institute of Chicago, and the Adler Planetarium.

Invited speakers include Barbara Stafford, Professor of Art History, University of Chicago; Jim Kaler, Professor Emeritus of Astronomy University of Illinois; John Carswell, formerly curator of Islamic art at the Oriental Institute and Sotheby's; Donna Cox, Professor of Art and Design, University of Illinois; Mary Quinlan, Professor of Art History, Northern Illinois University; Michael Shank, Professor of the History of Science, University of Wisconsin Madison.