

## 12 Observatories

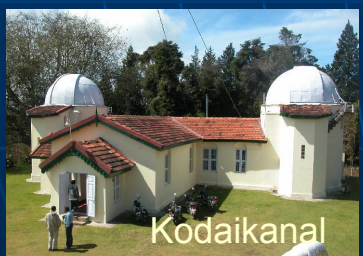
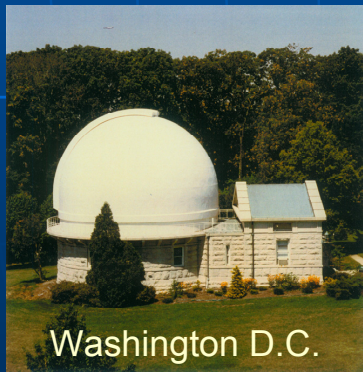
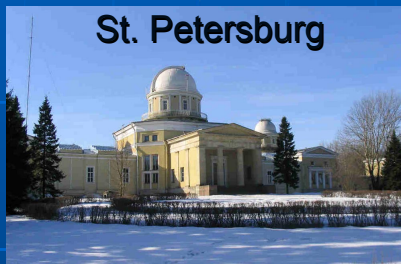
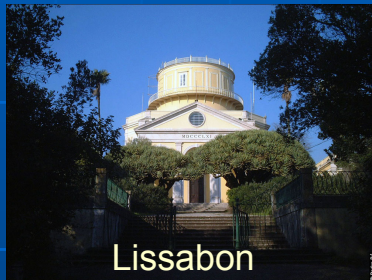
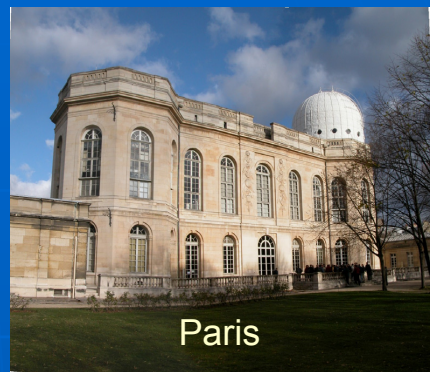


Figure 40.1: 12 observatories aiming for a serial trans-national application for inscription in the UNESCO World Heritage List

# 40. Summary and Results

## Cultural Heritage of Astronomical Observatories

### From Classical Astronomy to Modern Astrophysics

*Gudrun Wolfschmidt and Frank Pieter Hesse (Hamburg, Germany)*

On the occasion of the 175th anniversary of the Hamburg Observatory as a State institute the international ICOMOS symposium “Cultural Heritage: Astronomical Observatories (around 1900) – From Classical Astronomy to Modern Astrophysics” was held from 15 to 17 October 2008 in Hamburg-Bergedorf in the Haus im Park of the Körber Foundation and inside the Observatory itself. The symposium was organised by the Institute for the History of Science at the University of Hamburg, by the Conservation Department Hamburg as well as by ICOMOS Germany, with support from the University of Hamburg, the Senatskanzlei Hamburg, the Bezirksamt Bergedorf, the Buhck Foundation, the Körber Foundation, and the Bergedorfer Zeitung. It was prepared and chaired by Prof. Dr. Gudrun Wolfschmidt (University of Hamburg / Institute for History of Science).

The objective of the symposium was to discuss the relevance of modern observatories for the cultural heritage of humankind and to win partner observatories, which due to the time of their erection or to their architectural or scientific importance are comparable to the Hamburg Observatory, as international cooperation partners for a serial trans-national application. Such a trans-national serial application corresponds to the “global strategy for a credible, representative and balanced World Heritage List” as has been pursued since 1994 by the World Heritage Centre (WHC) and the World Heritage Committee of UNESCO in order to fill existing regional, geographical and thematic gaps, as defined in 2004 by ICOMOS International with its action plan “Filling the Gaps”.

For Hamburg the symposium was the start of the “International Year of Astronomy 2009”, which was decided by the General Assembly of the United Nations in 2007. The conference was carried out in accordance with the initiative of the World Heritage Centre (WHC) of UNESCO, which since the 32nd session of the World Heritage Committee in 2004 has been attending to the topic “Astronomy and World Heritage”. The person responsible for this initiative in the WHC was invited to the conference; as she could not attend her contribution was read out.

The following representatives either attended the scientific conference (introducing observatories or other topics) or provided an abstract for the booklet:

Argentina: Sofia A. Cora, Dr. Juan Carlos Forte (La Plata Astronomic Observatory)

Austria: Dr. Anneliese Schnell (University Observatory of Vienna)

Brasil: Prof. Dr. Marcus Granato (Polytechnic Observatory Rio de Janeiro/Museu de Astronomia e Ciências afins)

Czech Republic: Prof. Dr. Martin Šolc (Observatories of Prague and Ondřejov)

England: Dr. Gloria Clifton, London (Royal Observatory Greenwich, London)

Estonia: Reet Mägi (Tartu, Old Observatory)

France: Dr. Suzanne Débarbat (Observatory of Paris and Meudon), Dr. Françoise Le Guet Tully, Nice, and Dr. Hamid Sadsaoud, Algiers (Observatory of Nice, Observatory of Algiers), Dr. James Caplan (Observatory of Marseille), Dr. Jean Davoigneau, Paris (University Observatory of Strassburg), Dr. Christophe Benoist (University Observatory of Kandili in Istanbul/Turkey)

Germany: Prof. Dr. Gudrun Wolfschmidt (development of astrophysics in international comparison), Dr. Matthias Hünsch and Henry Schlegel (Hamburg Observatory), Dipl.-Phys. Björn Kunzmann and Dr. Peter Kroll (Observatories in Sonneberg, Bamberg and Hamburg), Prof. Dr. Ruth Keller-Kempas and Beatrix Alscher, FHTW Berlin (restoration), Dr. Peter Müller, Cologne (observatory architecture compared internationally), Frank P. Hesse, Dr. Agnes Seemann, Conservation Department Hamburg, Ilka von Bodungen, Authority for culture, sports and the media, Hamburg, Prof. Dr. Rudolf Kippenhahn, Göttingen, and Prof. Dr. Dieter Reimers (Hamburg Observatory)

Hungary: Prof. Dr. Lajos G. Balász and Magda Vargha (Konkoly Observatory, Budapest)

India: Dr. Shylaja B.S., Bangalore (Kodaikanal Solar Observatory of the Indian Institute of Astrophysics, Kodaikanal and other Indian Observatories around 1900)

Italy: Dr. Ileana Chinnici, INAF Palermo (various observatories and collections of instruments in Italy)  
Dr. Paolo Brenni, Florence (scientific instruments on observatories)

Portugal: Pedro Raposo, Oxford (Observatório Astronómico de Lisboa)

Romania: Prof. Dr. Magda Stavinschi, CÆtÆlin Mosoia (Bucharest Observatory)

Russia: Prof. Dr. Viktor Abalakin (Nikolas Central Astronomical Observatoy Pulkovo, St. Petersburg)

Turkey: Gaye Danisan and Füsün Limboz (Observatories of Istanbul)

Venezuela: Pedro Chalbaud Cardona (Observatory of Cagigal – a copy of Hamburg)

USA: Dr. Brian D. Mason (US Naval Observatory/USNO, Washington)

Furthermore, lectures were given by Prof. Dr. Rajesh Kochhar, Chandigarh/India, Org Secy IAU Commission 41 “History of Astronomy” and Prof. Dr. Michael Petzet, Munich, ICOMOS. In addition other guests from Germany participated as well. Dr. Inga Elmqvist Söderlund, Sweden, and Dr. Vidar Enebakk, Oslo, Norway took part as chairpersons.

The conference was extremely fruitful, especially with regard to the information and findings on the history of the observatories presented and in combination with their individual equipment and the persons decisive for the development of astronomical science and instruments. Although many papers dealt with the building history and architectural features of the observatories, a detailed description of the buildings and an analysis of their architectural relevance and urbanistic disposition, as well as an evaluation of the inherent artistic and aesthetic values of the various observatories remain a desideratum. At similar or thematically more focussed meetings these aspects should be followed up. However, it needs to be emphasised that several papers addressed the conservation of the buildings and instruments either with the observatory still in regular use or with it being used as a museum or for continuing education. A comparative survey on the architecture of the observatories around 1900 was given by Dr. Peter Müller as a possible basis for a “comparative study”, as needs to be provided for a World Heritage application.

It also became clear that the urbanistic complex, the buildings and their architecture, the quality of instruments, the scientific archives (collections of photographic plates, chronicles, observation books, correspondence, star catalogues, etc) as well as the scientific/intellectual achievements, inventions and discoveries made by the persons related to the individual observatory are all to be understood as categories of the

cultural heritage (also in terms of scientific heritage). This corresponds to the four main categories according to which the “outstanding universal value” of the observatories will have to be evaluated: historic, scientific, and aesthetic. Explicit reference is made to the “Operational Guidelines” of the WHC, where under section 77 the criteria for the “outstanding universal value” are named and according to which criteria ii, iv and vi are relevant:

The Committee considers a property as having outstanding universal value (see paragraphs 49–53) if the property meets one or more of the following criteria. Nominated properties shall therefore:

- ii. exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;
- iv. be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;
- vi. be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance. (The Committee considers that this criterion should preferably be used in conjunction with other criteria).

After consultation between the representatives of ICOMOS, the Conservation Dept. of Hamburg and the University of Hamburg / Institute for the History of Science it was proposed to invite 11 additional observatories for a serial trans-national application for inscription in the World Heritage List. This first proposal is based on the criteria of a comparability of the presented observatories in terms of the urbanistic complex and the architecture, the scientific orientation, equipment of instruments, authenticity and integrity of the preserved state, as well as in terms of historic scientific relations and the historic relevance of the persons who worked at the observatories. A significant fact was also that among these observatories there were some which are parts of an already existing World Heritage site, but which would nonetheless be of advantage in the separate nomination process for a series of observatories as World Heritage. The following observatories were recommended:

Algeria: Observatoire d’Alger

Argentina: La Plata Astronomic Observatory (proposed to lead this application)

Brasil: Polytechnic Observatory Rio de Janeiro/Museu de Astronomia e Ciências afins)

England: Royal Observatory Greenwich (component of WH 795 “Maritime Greenwich”)

Estonia: Tartu, Old Observatory (component of WH 1187 “Struve Geodetic Arc”)

France: Observatoire Paris-Meudon, Observatoire de la Côte d'Azur, Nice

India: Kodaikanal Observatory of the Indian Institute of Astrophysics

Portugal: Observatório Astronómico de Lisboa

Russia: Nikolas Central Astronomical Observatory Pulkovo, St. Petersburg (component of WH 540 "Historic Centre of Saint Petersburg and Related Groups of Monuments")

USA: US Naval Observatory (USNO), Washington D.C.

It became clear that endeavours to nominate these above-listed "observatories around 1900" need to be combined with the UNESCO initiative "Astronomy and World Heritage". This initiative is meant to be managed by an international steering committee made up of the National Focal Points and other protagonists. Therefore, the UNESCO World Heritage Centre has asked for an up-to-date list of national focal points referring to this initiative. The World Heritage Centre has already taken note of this conference.

Hence, it was suggested that Prof. Dr. Gudrun Wolfschmidt (University of Hamburg, Institute for History of Science) chairs a national focal point in Hamburg (as far as Hamburg is concerned together with the Conservation Department Hamburg). In correspondence with the UNESCO initiative the focal point will not be able to focus exclusively on "observatories around 1900". Instead it will have to look at the entire spectrum of historic institutions of astronomical research in Germany. The compilation of a well-founded survey of such sites on the national level is the indispensable precondition for a promising justification of the application. For this compilation Hamburg offers excellent conditions. Therefore, it would be necessary that the University of Hamburg, the authority for science and research or the authority for culture, sports and the media respectively provide the accordant resources. This would increase the chances for a successful application of the Hamburg Observatory together with other observatories.

The participants of the conference belonging to the recommended observatories were asked to confer with their local authorities, especially with the institutional sponsors and the responsible conservation authorities as well as with their national committees of ICOMOS, and to get acquainted with the "Operational Guidelines" of the WHC. They were invited to report on the steps taken by their institutions and authorities.

It is planned to intensify the network of observatories, institutions and authorities set up at the conference and to consult the national committees of ICOMOS. Prof. Petzet also pointed out that the topic of the next "International Day for Monuments and Sites" on 18 April 2009, "Science Heritage", could and should be used for more activities at the observatories.

At present, for Hamburg the first priority will be to install a national focal point for the initiative "Astronomy and World Heritage" at the University of Hamburg / Institute of the History of Natural Sciences. For this purpose, the necessary resources need to be made available and ICOMOS Germany and the Germany UNESCO Commission need to be consulted. The Hamburg Conservation Department will give an account of these activities at the next meeting of the heads of the Federal Conservation Departments at the beginning of December and suggest a cooperation via the European Heritage Heads Forum (EHHF).

We wish to thank all organisers, lecturers, participants, supporters and helpers in the background for making this such a fruitful and unobstructed conference. Hamburg, October 18, 2008

Frank Pieter Hesse  
Hamburg Conservation Department

Gudrun Wolfschmidt  
Institute for History of Science, University of Hamburg

<http://www.math.uni-hamburg.de/spag/\ign/events/icomos08.htm>



Figure 40.2: End of the ICOMOS Symposium (Photo: Yang-Hyun Choi)