



THE ICHA NEWSLETTER
NEWSLETTER OF THE INTER-UNION COMMISSION FOR
HISTORY OF ASTRONOMY

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A. Sydney and Beyond

The Sydney GA represented a key turning point for C41/ICHA in many respects. In particular, the status of the ICHA within the IAU and IUHPS has remained a matter of considerable confusion for many years. Thanks to the extensive efforts of the outgoing President, Vice-President and Secretary, both in the run-up to Sydney and at the GA itself, this situation has been clarified. We are considerably strengthened and in a strong position to move forward.

The first milestone was achieved in 2001, when the status of the ICHA was formally recognised by both Unions. The document entitled “Status of the Inter-Union Commission for History of Astronomy (ICHA)” was signed by the General Secretaries of both Unions and sets out various defining principles. It is reproduced in this newsletter (item D).

In the run-up to the GA, the C41/ICHA Organising Committee strove to expand the membership of the Commission, both by encouraging astronomers interested in history to join the Commission, and by encouraging historians to apply for IAU membership, and supporting them in their efforts. As a result, the number of C41 members more than doubled in 2003 from 171 to 343, including 13 who were newly elected to the IAU at the Sydney GA (these are provisional figures taken from the Commission’s own lists, subject to confirmation by the IAU).

Nonetheless, many further IAU applicants were disappointed. The situation is explained in the “Information” document (item E). Fortunately, the ICHA Status now allows for a category of ICHA Membership that applies to non-IAU members—Associate Membership. Within the ICHA, Associate Members are regarded as having

equal academic status as Full Members (i.e. IAU members), although they can not stand for office. This situation is explained in more detail in the Memorandum (item F).

Thanks to these developments, we are now able to admit historians of astronomy who are not IAU members formally into the ICHA. Of course, it is necessary to ensure a level of scholarly quality compatible with the IAU's own admission criteria, and for this reason suitable admission procedures must be put in place. A set of criteria have been drawn up by the OC (item G) in accordance with the ICHA Status. Although they are subject to ratification by the ICHA Business Meeting in 2006, they permit us to begin the process of admitting Associate Members immediately.

Clive Ruggles

B. Minutes of the General Business Meeting held on 23 July 2003 in the Merino room of the Sydney Convention Center

1. Opening of Meeting

Commission President F. Richard Stephenson called the meeting to order at 9:00 am. Steven Dick was appointed Secretary for the meeting, with Woodruff T. Sullivan III and Suzanne Débarbat balloteers for the election. A moment of silence was observed in the memory of members departed over the last triennium, including I. Bernard Cohen (USA), J.-P. Cressent (France), H. von Dechend (Germany), G. Hawkins (USA), N.B. Lavrova (Russia), W. Petri (Germany), C. Ronan (UK), C. de Veigt (Germany), G. Whitrow (UK), and K. Yabuuti (Japan).

Apologies were received from Alan Batten (Canada), Elvira Botez (Romania), Mary Brück (UK), Ileana Chinnici (Italy), Brenda Corbin (USA), Rod Davies (UK), Jean-Francois Denisse (France), Wolfgang Dick (Germany), Hilmar Duerbeck (Germany), Alan Fiala (USA), Ian Glass (South Africa), Juergen Hamel (Germany), Ichiro Hasegawa (Japan), Jan Hers (South Africa), David Hughes (UK), Dorrit Hoffleit (USA), Michael Hoskin (UK), Rudolf Kippenhahn (Germany), Willie Koorts (South Africa), William Liller (Chile), Steve McCluskey (USA), Penka Muglova (Bulgaria), Adam Perkins (UK), Sara Schechner (USA), Felix Schmeidler (Germany), William Sheehan (USA), Irakli Simonia (Georgia), Slava Slysh (Russia), Jean Souchay (France), Duncan Steel (UK), John Steele (Canada), Alexey Stoev (Bulgaria), Govind Swarup (India), Robert van Gent (Netherlands), and Hugo van Woerden (Netherlands).

2. Minutes of Previous Meeting

John Perdrix moved, Brian Warner seconded, and the members approved the minutes of the previous General Business Meeting during Manchester's GA.

3. Reports

3.1 Formation of ICHA

Alex Gurshtein reported on the formation of the Inter-Union Commission for the History of Astronomy (ICHA), which General Secretary Hans Rickman lists as one of the IAU's primary administrative accomplishments of the past triennium. ICHA consists of members of Commission 41 (ordinary members), plus those elected through their connection with the International Union of the History and Philosophy of Science (IUHPS), who are associate members. Details may be found in ICHA Newsletter #1. New rules adopted at the Sydney General Assembly making Commission 41 part of a new "All-Union" Division XII have no impact on the status of ICHA (see 6.5 below). The status of C41 consultants is in question because there is no provision for consultants in the new rules, but they may become members of ICHA.

3.2 Triennial Report

President F. Richard Stephenson reported on the manifold activities of the last triennium. These include the formation of ICHA and its first conference on "Astronomical Instruments and Archives from the Asia-Pacific Region," held July 2-5, 2002 in Cheongju, Korea. Four Working Groups were formed (see 3.3 below). Five issues of the ICHA Newsletter were produced; its Editorial Board consists of Dr. Ileana Chinnici (Italy), Prof. Alex Gurshtein (Russia/USA), Dr. Wayne Orchiston (Australia), and Prof. F. Richard Stephenson (UK).

Professor Stephenson thanked Wayne Orchiston for his dedicated service as Secretary of the Commission over the last triennium.

3.3 C41/ICHA Working Groups

Wayne Orchiston reminded members that the committees of the four working groups (WGs) were recently re-organised, as follows:

Archives WG: Dr Ileana Chinnici (Italy), Ms Brenda Corbin (USA, Chair), Dr Suzanne Débarbat (France), Dr Wolfgang Dick (Germany), Mr Daniel Green (USA), Dr Wayne Orchiston (Australia), and Mr Adam Perkins (UK). *Contact person:* Ms Brenda Corbin, U.S. Naval Observatory, 3450 Massachusetts Ave NW, Washington DC 20392-5420, USA (e-mail: brenda.corbin@usno.navy.mil)

Astronomical Chronology WG: Dr Christine Allen (Mexico), Prof Adriaan Blaauw (Netherlands), Prof Alexander Gurshtein (Russia/USA, Chair), Dr Teije de Jong (Netherlands), and Prof Rajesh Kochhar (India). *Contact person:* Prof Alexander Gurshtein, Mesa State College, Box 2674, Grand Junction, CO 81 502, USA (e-mail: agurshtein@hotmail.com).

Historical Instruments WG: Dr Juergen Hamel (Germany), Mr Kevin Johnson (UK), Dr Tsuko Nakamura (Japan), Prof Nha Il-Seong (Korea, Chair), Dr Wayne Orchiston (Australia), and Dr Sara Schechner (USA). *Contact person:* Prof Nha Il-

Seong, The Nha Il-Seong Museum of Astronomy, San-133 Gamchon-myon, Yechongun, Kyongbuk 757-910, Korea (e-mail: SLISNHA@chollian.net).

Transits of Venus WG: Dr Steven Dick (USA, Chair), Dr Hilmar Duerbeck (Germany), Dr Robert van Gent (Netherlands), Prof David Hughes (UK), Mr Willie Koorts (South Africa), Dr Wayne Orchiston (Australia), and Dr Luisa Pigatto (Italy). *Contact person:* Dr Steven J. Dick, U.S. Naval Observatory, 3450 Massachusetts Ave NW, Washington DC 20392-5420, USA (e-mail: dick.steve@usno.navy.mil).

Wayne Orchiston also reported the formation at this General Assembly of a new C41/ICHA–C40 WG:

Historic Radio Astronomy WG: Dr Rod Davies (UK), Dr Jean-Francois Denisse (France), Dr Ken Kellermann (USA), Dr Masaki Morimoto (Japan), Dr Wayne Orchiston (Australia, Chair), Dr Slava Slysh (Russia), Dr Govind Swarup (India), and Dr Hugo van Woerden (Netherlands). *Contact person:* Dr Wayne Orchiston, Australia Telescope National Facility, PO Box 76, Epping, NSW 2121, Australia (e-mail: Wayne.Orchiston@csiro.au).

4. Membership

4.1 New C41 Members

Bruce McAdam moved, W.T. Sullivan seconded, and the members approved that C41 appoints the following new members, who are already IAU members, for a total of 160 new members:

Victor Abalakin (Russia), Helmut Abt (USA), B.S. Acharya (India), Christine Allen (Mexico), Roy Allen (Australia), B.G. Anandrao (India), David Andrews (England), G.M. Anupama (India), N.M. Ashok (India), G.S.D. Babu (India), Mark Bailey (UK), Lewis Ball (Australia), Goswami M. Ballabh (India), Katalin Barlai (Hungary), Francesco Bertola (Italy), V.B. Bhatia (India), Harish Bhatt (India), Pijush Bhattacharjee (India), Reinhold Bien (Germany), Adriaan Blaauw (The Netherlands), Freimut Boerngen (Germany), Alessandro Braccisi (Italy), Ron Bracewell (USA), Kenneth Brecher (USA), Wim Brouw (Australia), Russell Cannon (Australia), James Caplan (France), Juan Casanovas, S. J. (Italy), Jessica Chapman (Australia), Debi P Choudhary (India), P.K. Das (India), Rod Davies (UK), Emmanuel Davoust (France), Jean-Francois Denisse (France), Johann Dorschner (Germany), Bob Duncan (Australia), Guenther Eichhorn (USA), Robert Evans (Australia), Don Faulkner (Australia), Alan Fiala (USA), Julieta Fierro (Mexico), Roy H. Garstang (USA), Michael Geffert (Germany), Peter Gillingham (Australia), Miller Goss (USA), Aruna Goswami (India), John Graham (USA), Anne Green (Australia), David Green (UK), Ernst-August Gussmann (Germany), Petr Hadrava (Czech Republic), Pip Hamilton (Australia), Ichiro Hasegawa (Japan), S.S. Hasan (India), Hans Haubold (Austria), Hermann Haupt (Austria), Jan Hers (South Africa), Dorrit Hoffleit (USA), David W. Hughes (UK), Dick Hunstead (Australia), Hartmut Jahreiss (Germany), Paul Jones (Australia), R.C. Kapoor (India), Kinaki Kawabata (Japan), Colin Keay (Australia), Hans Ulrich Keller (Germany), Ken Kellermann

(USA), Franz Kerschbaum (Austria), Gopal Kilambi (India), Rudolf Kippenhahn (Germany), Robert Koch (USA), Baerbel Koribalski (Australia), Jerzy Kreiner (Poland), Thiruvankata Krishnan (India), Arkady Kuzmin (Russia), Kam-Ching Leung (USA), William Liller (Chile), Nick Lomb (Australia), Jean-Pierre Luminet (France), David Malin (Australia), D.C.V. Mallik (India), Dick Manchester (Australia), Brian Marsden (USA), Dave McConnell (Australia), Don McLean (Australia), Jack Meadows (UK), Karen Meech (USA), T.K. Menon (Canada), Doug Milne (Australia), Eugene Milone (Canada), M.R. Molnar (USA), Masaki Morimoto (Japan), Philip Morrison (USA), George Mumford (USA), Satya Narayanan (India), Jayant Narlikar (India), Nguyen Mau Tung (Vietnam), Ray Norris (Australia), Michael Odenkirchen (Germany), Ronald Olowin (USA), Arthur Page (Australia), Kevin Pang (USA), Jay Pasachoff (USA), A.K. Pati (India), Jörg Pfleiderer (Switzerland), Kameswara Rao (India), Gordon Robertson (Australia), Brian Robinson (Australia), Leif Robinson (USA), Stuart Ryder (Australia), A. Satyanarayanan (India), Bradley Schaefer (USA), Felix Schmeidler (Germany), Maarten Schmidt (USA), Anneliese Schnell (Austria), Gerhard Scholz (Germany), Andreas Schulz (Germany), Wilhelm Seggewiss (Germany), Salvatore Serio (Italy), Virendra Sharma (USA), Peter Shaver (Germany), Chandrakant Shukre (India), Dimitris Sinachopoulos (Greece), Jagdev Singh (India), Bruce Slee (Australia), Slava Slysh (Russia), Mitsuru Soma (Japan), Jean Souchay (France), Duncan Steel (England), Richard Strom (Netherlands), K.R. Subramanian (India), Govind Swarup (India), Roland Szostak (Germany), Gustav Andreas Tammann (Switzerland), Shin-ichi Tamura (Japan), Kiyotaka Tanikawa (Japan), Yervant Terzian (USA), Heinz Tiersch (Austria), Charles Townes (USA), Hans-Jurgen Treder (Germany), Sushant Tripathy (India), Gregory Tsarevsky (Australia), Milcho Tsvetkov (Bulgaria), S. Urban (USA), M.N. Vahia (India), Hari Om Vats (India), Alan Vaughan (Australia), P. Venkatakrishnan (India), R. Viollier (South Africa), Hans Heinrich Voigt (Germany), Fred Watson (Australia), Volker Weidemann (Germany), Werner W. Weiss (Austria), Gart Westerhout (USA), Raymond E. White (USA), Roland Wielen (Germany), Hugo van Woerden (Netherlands), Alan Wright (Australia), Johann Jakob Wuensch (Germany), and Michael Zeilik (USA).

A list of potential C41 members who were not yet IAU members was displayed for information only, and not voted on. Only a part of this list, to be determined, will be approved at the Sydney General Assembly. [The following were subsequently elected: James A Bennett (UK), Ron Burman (Australia), Allan Chapman (UK), Alexander Jones (Canada), Michel-Pierre Lerner (France), Anatoly Mikisha (Russia), Patrick Seitzer (USA), Michael Shank (USA), Xiaochun Sun (China), Liba Taub (UK), Robert Van Gent (Netherlands), Magda Vargha (Hungary), and Tom Williams (USA)].

4.2 New C41 Consultants

A list of potential consultants was displayed for information only. The new IAU rules are silent about consultants. In any case C. Ruggles, T. Williams and others expressed serious concern about such a large proposed list. It was decided the new OC would start afresh on consultants, if the category continues.

4.3 Reappointment of Existing Consultants

It was agreed that the following existing consultants be re-appointed for the 2003-2006 triennium if this category continues: Katherine Bracher (USA), Benno van Dalen (Germany), James Evans (USA), Ruth Freitag (USA), Klaus-Dieter Herbst (Germany), Peter Hingley (UK), Edward Kennedy (USA), David King (Germany), Dalong Lu (China), Stephen McCluskey (USA), Raymond Mercier (England), Moon-Hyon Nam (Korea), S.R. Sarma (India), Gilbert Satterthwaite (England), Virendra Sharma (USA), William Sheehan (USA), B.G. Sidharth (India), John Steele (Canada), Joseph S Tenn (USA), Jaroslaw Wlodarczyk (Poland), and Michio Yano (Japan).

5. Election of C41/ICHA Officers for 2003-2006

Elections duly held, taking into account absentee ballots, resulted in the following officers for the 2003-2006 triennium:

President	Alex Gurshtein (Russia/USA)
Vice-President	Il-Seong Nha (Korea)
Immediate Past President	F. Richard Stephenson (UK)
Organizing Committee	David DeVorkin (USA) Wolfgang Dick (Germany) Rajesh Kochhar (India) Tsuko Nakamura (Japan) Luisa Pigatto (Italy) Clive Ruggles (UK) Brian Warner (South Africa)

6. General Business

6.1 Meetings

Rajesh Kochhar announced that the General Assembly of the IUHPS/DHS will be held in Beijing in 2005. Alex Gurshtein issued a call for proposals for C41 historical sessions at the 2006 IAU General Assembly in Prague. Other C41/ICHA-supported conferences include those on “Multi-wavelength Investigations of Solar Activity,” in Russia in 2004; “Transits of Venus: New Views of the Solar System and Galaxy,” in the UK to coincide with the transit of Venus of June 8, 2004; and “Supernovae Remnants,” in Greece, also in 2004.

6.2 Resolutions

Alex Gurshtein proposed a Category B Resolution to declare a World Year of Astronomy in 2009, to commemorate the 400th anniversary of Galileo’s introduction of the telescope:

The 25th General Assembly of the IAU,

recalling

that the introduction of the telescope in astronomical observations brought about the first fundamental revolution in humankind's perception of the world outside the Earth,

recognizing

that the series of developments initiated by this event led, in time, not only to the vast and richly detailed view of the Universe and humankind's place in it which is modern cosmology, but to the entire framework of fact-based empirical investigation and analysis which underlies contemporary science and technology,

and considering

that the immediate appeal of astronomy to the imagination of humans in all walks of life remains one of the most powerful ways to kindle the interest of young people everywhere in scientific research and education, and thus to contribute to the progress of the quality of human life,

recommends

that the year 2009, the 400th anniversary of Galileo's accomplishments and the real birth of modern telescopic astronomy, be declared the "Year of Astronomy", in which the potential of astronomy to enlighten and enrich humans will be brought to the largest possible audience all over the world,

and requests

that the Officers and Executive Committee together with Commission 41 initiate prompt and effective action to organize this important worldwide event, in collaboration with all appropriate national and international organizations.

[This resolution was subsequently passed at the closing meeting of the General Assembly].

Wayne Orchiston proposed the following Category B joint C40-C41/ICHA Resolution on "Historic Radio Astronomy":

Recalling

that the birth of radio astronomy brought an exciting new added multiwavelength dimension to astronomical research;

recognizing

that this new investigative technique led to a major change in our perspective of the cosmos; and

noting

that many of surviving pioneers of radio astronomy from the era 1940-1960 are now elderly, and much of the instrumentation that was used for radio astronomical investigations during these formative years is now lost to us,

recommends

that every effort be made to identify, document and preserve surviving examples of historically-significant radio telescopes and ancillary instrumentation and to document the research programs carried out with this equipment, and

requests

that in order to pursue this important radio astronomical heritage project IAU Commission 41 and the Inter-Union Commission for History of Astronomy collectively form an Historic Radio Astronomy Working Group with a Committee comprising W. Orchiston (Australia – Chair), K. Kellermann (USA), M. Goss (USA, B. Slee (Australia) and W. Sullivan (USA).

[This resolution was not considered by the General Assembly because, in accordance with the new IAU By-laws, a creation of new WGs is a prerogative of Divisions].

Richard Stephenson proposed the following Category C (C41) Resolution for an applied historical astronomy database:

C41/ICHA,

recalling

that pre-telescopic astronomical records cover a substantial proportion of human history and originate from many different cultures,

recognizing

that these records are of a wide variety of celestial events, occurring both within the solar system itself and in the wider universe,

and considering

that such early records are of vital importance in identifying both rare events such as novae and supernovae and investigating long-term variations in such diverse phenomena as solar variability and Earth's rotation,

recommends

that a comprehensive data base of pre-telescopic records of celestial phenomena, with English translations and appropriate Julian or Gregorian dates, be assembled and made available to the astronomical community worldwide.

This resolution was approved by the meeting.

6.3 C41 Status in New Division XII

Commission 41 is now part of the new “All-Union” Division XII. In addition to History of Astronomy this includes Commissions 5 (Documentation), 6 (Astronomical Telegrams), 14 (Atomic and Molecular Data), 46 (Astronomy Education and Development), and 50 (Protection of Existing and Potential Observatory Sites). The President of Division XII is Virginia Trimble (a C41 member), and Johannes Andersen is Vice President. The new Division does not affect ICHA.

7. ICHA Membership

Two lists were presented for ICHA membership. The first list comprised the following current IAU members, IAU applicants, C41 members and C41 consultants:

Victor Abalakin (Russia), Helmut Abt (USA), B.S. Acharya (India), Christine Allen (Mexico), Roy Allen (Australia), Ralph Alpher (USA), B.G. Anandrao (India), David Andrews (England), S.M. Razaullah Ansari (India), G.M. Anupama (India), Shinko Aoki (Japan), N.M. Ashok (India), G.S.D. Babu (India), Ennio Badolati (Italy), Mark Bailey (UK), Lewis Ball (Australia), Goswami M Ballabh (India), A. Bandyopadhyay (India), Katalin Barlai (Hungary), Alan Batten (Canada), Martin Beech (Canada), Alfred Behr (Germany), Juan Belmonte (Spain), James A Bennett (England), Priscilla Benson (USA), Richard Berendzen (USA), Francesco Bertola (Italy), Mike Bessell (Australia), V.B. Bhatia (India), Harish Bhatt (India), Pijush Bhattacharjee (India), Reinhold Bien (Germany), Roy Bishop (Canada), Adriaan Blaauw (The Netherlands), Freimut Boerngen (Germany), Fabrizio Bonoli (Italy), Elvira Botez (Romania), Alessandro Braccisi (Italy), Ron Bracewell (USA), Kenneth Brecher (USA), Robert Breinhorst (Germany), Randall C Brooks (Canada), Peter Brosche (Germany), Wim Brouw (Australia), Mary Brück (Scotland), Jean-Pierre Brunet (France), Irmela Bues (Germany), Ron Burman (Australia), John Butler (Northern Ireland), Marinelli Calisi (Italy), Russell Cannon (Australia), James Caplan (France), John Carlson (USA), Juan Casanovas, S. J. (Italy), José Chabás (Spain), Allan Chapman (England), Jessica Chapman (Australia), Kwan-yu Chen (USA), Meidong Chen (China), Ileana Chinnici (Italy), Debi P Choudhary (India), Gale Christianson (USA), Gloria Clifton (England), Alan Cook (England), Christopher Corbally (USA), Brenda Corbin (USA), Alejandro A. Cornejo (Mexico), G. Coyne, S.J. (Italy), Shi-Zhu Cui (China), Zhen-Hua Cui (China), Christopher Cullen (England), Zarko Dadic (Croatia), Benno van Dalen (Germany), Emmanuel Danezis (Greece), P.K. Das (India), Rod Davies (UK), Emanuel Davoust (France), David Dearborn (USA), Suzanne Débarbat (France), Terence J. Deeming (USA), Willi Deinzer (Germany), Bruno Deiss (Germany), Elly Dekker (The Netherlands), Jean-Francois Denisse (France), David DeVorkin (USA), Jean-Francois Denisse (France), David W Dewhirst (England), Steven J Dick (USA), Wolfgang R Dick (Germany), Jerzy Dobrzycki (Poland), Bill Donahue (USA), Johann Dorschner (Germany), Hilmar W Duerbeck (Germany), Simone Dumont (France), Bob Duncan (Australia), Sven Dupré (Belgium), Mike Dworetz (England), Bruce S Eastwood (USA), John A

Eddy (USA), Frank K. Edmondson (USA), Phil Edwards (Japan), Shurat Ehgamberdiev (Uzbekistan), Ron Ekers (Australia), Cesar Esteban (Spain), James Evans (USA), Robert Evans (Australia), Anthony Fairall (South Africa), Don Faulkner (Australia), Petr Fedorov (Ukraine), Johannes Feitzinger (Germany), J. Donald Fernie (Canada), Alan Fiala (USA), Julieta Fierro (Mexico), Maria G. Firneis (Austria), Petros S Florides (Ireland), Giorgia Foderà Serio (Italy), Kenneth Freeman (Australia), Ruth Freitag (USA), Klaus Fritze (Germany), Jesus Galindo (Mexico), Robert F Garrison (Canada), Roy H. Garstang (USA), S.C.B. Gascoigne (Australia), Michael Geffert (Germany), Robert van Gent (The Netherlands), Edward H. Geyer (Germany), Peter Gillingham (Australia), Owen Gingerich (USA), Ian Stewart Glass (South Africa), B.R. Goldstein (USA), Miller Goss (USA), Aruna Goswami (India), John Graham (USA), Anne Green (Australia), Daniel Green (USA), David Green (England), Alexander Gurshtein (USA), Ernst-August Gussmann (Germany), Petr Hadrava (Czech Republic), Hahn Young-Ho (Korea), J Hamel (Germany), Pip Hamilton (Australia), Won-Yong Han (Korea), Ichiro Hasegawa (Japan), SS Hasan (India), Hans Haubold (Austria), Hermann Haupt (Austria), Avram Hayli (France), Raymond Haynes (Australia), Roslynn D. Haynes (Australia), John Hearnshaw (New Zealand), André Heck (France), Albert Van Helden (The Netherlands), Mary Kay Hemenway (USA), Gerhard Hemmleb (Germany), Klaus-Dieter Herbst (Germany), Tibor Herczeg (USA), Dieter B. Herrmann (Germany), Jan Hers (South Africa), N.S. Hetherington (USA), Bambang Hidayat (Indonesia), Peter Hingley (England), Masanori Hirai (Japan), Thomas Hockey (USA), Dorrit Hoffleit (USA), Michael A. Hoskin (England), Karl Hufbauer (USA), David W. Hughes (England), Dick Hunstead (Australia), Kiitiro Hurukawa (Japan), Edmund J Hysom (England), Siek Hyung (Korea), Grigorij Moiseevich Idlis (Russia), Mohammad Ilyas (Malaysia), Hartmut Jahreiss (Germany), Paul Janiczek (USA), Richard Jarrell (Canada), Gérard Jasiewicz (France), Dave Jauncey (Australia), Jang Hae Jeong (Korea), Xiao-yuan Jiang (China), Jing Bing (China), Shigeru Jochi (Taiwan), Kevin Johnson (UK), Alexander Jones (Canada), Paul Jones (Australia), Teije de Jong (The Netherlands), Bozidar Jovanovic (Yugoslavia), Subhash Kak (USA), R.C. Kapoor (India), Kinaki Kawabata (Japan), Colin Keay (Australia), Hans Ulrich Keller (Germany), Ken Kellermann (USA), Edward S. Kennedy (USA), Franz Kerschbaum (Austria), Gavriil S. Khromov (Russia), Tao Kiang (Ireland), Gopal Kilambi (India), Chun Hwey Kim (Korea), Yonggi Kim (Korea), David King (Germany), David S King (USA), Henry C. King (England), Rudolf Kippenhahn (Germany), Vitalij Kislyuk (Ukraine), Robert Koch (USA), Rajesh Kochhar (India), Wolfgang Kokott (Germany), Baerbel Koribalski (Australia), Jerzy Kreiner (Poland), Richard Kremer (USA), Kevin Krisciunas (USA), Thiruvankata Krishnan (India), Edwin C. Krupp (USA), Paul Kunitzsch (Germany), Erich Lamla (Germany), Kenneth R. Lang (USA), Jim Lattis (USA), Francoise Launay (France), Eun-Hee Lee (Korea), Lee Jung-Bok (Korea), Woo-baik Lee (Korea), Yong-Sam Lee (Korea), Michel-Pierre Lerner (France), Kam-Ching Leung (USA), Eugene H. Levy (USA), Di Li (China), Li Zhisen (China), William Liller (Chile), Per Olof Lindblad (Sweden), Rudy Paul Lindner (USA), Ci-Yuan Liu (China), K Locher (Switzerland), Nick Lomb (Australia), Rosaly Lopez-

Gautier (USA), Carlos Lopez (Argentina), Dalong Lu (China), Yang Lu (China), Jean-Pierre Luminet (France), Chun-yu Ma (China), David Malin (Australia), D.C.V. Mallik (India), Dick Manchester (Australia), Santi Mancuso (Italy), Brian Marsden (USA), Donald S. Mathewson (Australia), Bruce McAdam (Australia), Daniel P. McCarthy (Ireland), Stephen McCluskey (USA), Anita McConnell (England), Dave McConnell (Australia), Lawlor Susan McKenna (Ireland), Don McLean (Australia), Jack Meadows (UK), Karen Meech (USA), T.K. Menon (Canada), Raymond Mercier (England), Michael E. Mickelson (USA), Joseph Sidky Mikhail (Egypt), Doug Milne (Australia), Eugene Milone (Canada), Kazuhiko Miyajima (Japan), Kristian Peder Moesgaard (Denmark), M.R. Molnar (USA), Giuseppe Monaco (Italy), Patrick Moore (England), Masaki Morimoto (Japan), Leslie Morrison (England), Philip Morrison (USA), R.R. de F. Mourao (Brazil), George Mumford (USA), Robert Nadal (France), Tsuko Nakamura (Japan), Shigeru Nakayama (Japan), Moon-Hyon Nam (Korea), Satya Narayanan (India), Jayant Narlikar (India), Nguyen Dinh Huan (Vietnam), Nguyen Mau Tung (Vietnam), Nha Il-Seong (Korea), Efthymios Nicolaidis (Greece), Ray Norris (Australia), John David North (England), Peter Notni (Germany), Michael Odenkirchen (Germany), Kyu Dong Oh (Korea), Nagayoshi Ohashi (USA), Yukio Ohashi (Japan), Hans Oleak (Germany), Ronald Olowin (USA), Tiberiu Oproiu (Romania), Wayne Orchiston (Australia), Donald Osterbrock (USA), Arthur Page (Australia), Kevin Pang (USA), D. Papathanasoglou (Greece), Jay Pasachoff (USA), A.K. Pati (India), John L. Perdrix (Australia), Charles John Peterson (USA), Werner Pfau (Germany), Jörg Pfleiderer (Switzerland), Luisa Pigatto (Italy), David Pingree (USA), Howard Plotkin (Canada), Dimitrij Polozhentsev (Russia), Neil A. Porter (Ireland), Emmanuel Poulle (France), Theodore Prokakis (Greece), Edoardo Proverbio (Italy), Izold Pustyl'nik (Estonia), He-jun Quan (China), V. Radhakrishnan (India), Theodore Rafferty (USA), Kameswara Rao (India), Tom Ray (Ireland), Gibson Reaves (USA), Gordon Robertson (Australia), Brian Robinson (Australia), Leif Robinson (USA), Kristen Rohlf (Germany), Giuliano Romano (Italy), Marc Rothenberg (USA), Gerhard Ruben (Germany), Hanns Ruder (Germany), Clive Ruggles (England), Stuart Ryder (Australia), Kuniji Saito (Japan), George Saliba (USA), S.R. Sarma (India), Gilbert Satterthwaite (England), A. Satyanarayanan (India), T. Sbirikova-Natcheva (Bulgaria), Bradley Schaefer (USA), Sara Schechner (USA), Wolfhard Schlosser (Germany), Lutz D. Schmadel (Germany), Felix Schmeidler (Germany), Karl-Heinz Schmidt (Germany), Maarten Schmidt (USA), Theodor Schmidt-Kaler (Germany), Anneliese Schnell (Austria), Gerhard Scholz (Germany), Wilfried Schröder (Germany), Andreas Schulz (Germany), Wilhelm Seggewiss (Germany), Waltraut Seitter (Germany), Patrick Seitzer (USA), Salvatore Serio (Italy), Michael Shank (USA), Virendra Sharma (USA), Peter Shaver (Germany), William Sheehan (USA), Yunli Shi (China), K. Shukla (India), Chandrakant Shukre (India), B.G. Sidharth (India), Monique Signore (France), Zdislav Sima (Czech Republic), Irakli Simonia (Republic of Georgia), Allen Simpson (Scotland), Dimitris Sinachopoulos (Greece), Jagdev Singh (India), Bruce Slee (Australia), Slava Slysh (Russia), Keith Snedegar (USA), Yousef Sobouti (Iran), Martin Solc (Czech Republic), Mitsuru Soma (Japan), Boonraksar

Soonthornthum (Thailand), Jean Souchay (France), Maria Stathopoulou (Greece), Magdalena Stavinschi (Romania), Duncan Steel (England), John Steele (Canada), Klaus-Guenter Steinert (Germany), Helmut Steinle (Germany), Bruce Stephenson (USA), Richard Stephenson (England), Chris Sterken (Belgium), Alexei Stoev (Bulgaria), Michelle Storey (Australia), Richard Strom (The Netherlands), B.V. Subbarayappa (India), K.R. Subramanian (India), Woodruff T. Sullivan (USA), Xiaochun Sun (China), Anita Sundman (Sweden), Sotirios Svolopoulos (Greece), Govind Swarup (India), Noel M. Swerdlow (USA), Roland Szostak (Germany), Kiyoshi Takada (Japan), Gustav Andreas Tammann (Switzerland), Shin-ichi Tamura (Japan), Kiyotaka Tanikawa (Japan), Rene Taton (France), Liba Taub (England), Joseph S. Tenn (USA), Yervant Terzian (USA), Efstratios Theodossiou (Greece), Heinz Tiersch (Germany), William Tobin (New Zealand), Charles Townes (USA), Hans-Jurgen Treder (Germany), Virginia L. Trimble (USA), Sushant Tripathy (India), Gregory Tsarevsky (Australia), Gerard L'E Turner (England), Sean Urban (USA), Peter Usher (USA), M.N. Vahia (India), Magda Vargha (Hungary), Gheorghe Vass (Romania), Hari Om Vats (India), Alan Vaughan (Australia), P. Venkatakrishnan (India), Jean-Pierre Verdet (France), Andreas K. Verdun (Switzerland), R. Viollier (South Africa), James Voelkel (USA), Hans Heinrich Voigt (Germany), Margarita Volyanskaya (Ukraine), Craig Waff (USA), Christopher Walker (England), Richard Walker (USA), De-chang Wang (China), Brian Warner (South Africa), Fred Watson (Australia), George Webb (USA), Volker Weidemann (Germany), Werner W. Weiss (Austria), Barbara Welther (USA), Richard M. West (Germany), Gart Westerhout (USA), Ewen A. Whitaker (USA), Graeme L. White (Australia), Raymond E. White (USA), John B. Whiteoak (Australia), Sandy Whitesell (USA), Roland Wielen (Germany), George Wilkins (England), Tom Williams (USA), Curtis A. Wilson (USA), Axel Wittmann (Germany), Jaroslaw Wlodarczyk (Poland), Hugo van Woerden (The Netherlands), Patrick Woudt (South Africa), Alan Wright (Australia), Johann Jakob Wuensch (Germany), Ze-zong Xi (China), Zhen-tao Xu (China), Hitoshi Yamaoka (Japan), Michio Yano (Japan), Kevin K.C. Yau (USA), Donald Yeomans (USA), Michael Zeilik (USA), Pei-yu Zhang (China), Wei-feng Zhuang (China), Irina D Zosimovich (Ukraine), and Endre Zsoldos (Hungary).

Under the current ICHA rules, these are accepted automatically as ICHA members, except for those whose IAU membership is still pending.

The second list comprised the following potential ICHA members:

A.H. Aaboe (USA), Peter Abrahams (USA), Sang-Hyeon Ahn (Korea), Olov Amelin (Sweden), Jørgen From Anderson (Denmark), Robert Anderson (England), Stuart Anderson (UK), William Andrewes (USA), Ermelinda Antunes (Portugal), Robert Ariail (USA), Roger Ariew (USA), Anthony Aveni (USA), Lajos Bartha (Hungary), Ian Bartky (USA), Josep Batllò (Spain), Barbara Bauer (Germany), Richard Baum (England), Barbara Becker (USA), Olof Beckman (Sweden), Helga Beez (Germany), Trudy Bell (USA), V. Bialas (Germany), Laurence Bobis (France), Marvin Bolt (USA), Katherine Bracher (USA), Lis Brack-Bersen (Germany), Ron

Brashear (USA), Dino Bravieri (Italy), Gerhard Brey (Germany), Walter Breyer (USA), John W Briggs (USA), Johanna Broda (Mexico), Peter Broughton (Canada), Stephen Brush (USA), Jed Z. Buchwald (USA), Hans Illgaard Buhl (Denmark), Robert Burnham (USA), Gary Cameron (USA), Nicholas Campion (England), Catarina Isabel Carvalho (Portugal), Mauricio de Carvalho (Portugal), Paolo Casini (Italy), Pattrick Catt (USA), Robert Chadwick (Canada), Joseph Chamberlin (USA), François Charette (Germany), Michael Chauvin (USA), Jiu Jin Chen (China), Markiyana Chubey (Russia), Roy Clarke (USA), Michael J Crowe (USA), Clive Davenhall (Scotland), Chris de Coning (South Africa), Gregg DeYoung (Egypt), Wolfram Dolz (Germany), Jenny Downes (UK), Shengyun Du (China), M.T. Edalati (Iran), Joann Eisberg (USA), Inga Elmqvist (Sweden), A.I. Eremeeva (Russia), David S. Evans (USA), R. and B. Evans (USA), Fernando Figuereido (Portugal), Ben Finney (USA), Maurice Finocchiaro (USA), Menso Folkerts (Germany), John Fountain (USA), Dana Freiburger (USA), Bart Fried (USA), Tomoko Fujiwara (Japan), Kam-Wing Fung (China), Paolo Galluzzi (Italy), Alessandro Giostra (Italy), Leonor González (Spain), Michael Gorodetsky (Russia), Marcus Granato (Brazil), Valentin Grigore (Romania), Ingrid Guentherodt (Germany), Victor Guijarro (Spain), George Gumerman (USA), Peter Habison (Austria), Willem Hackmann (England), Alena Hadravova (Czech Republic), Robert Hambleton (USA), Haramundanis (USA), Robert Hatch (USA), Klaus Hentschel (Germany), Richard Hirsh (USA), Alan Hirshfeld (USA), Jarita Holbrook (USA), Gustav Holmberg (Sweden), Gerald Holton (USA), David Iadevaia (USA), E. Ihsanoglu (Turkey), Nicholas Jardine (England), Jeong Seong-Hee (Korea), Stephen Johnston (UK), Akiko Kawawada (Japan), Inge Keil (Germany), Peggy Kidwell (USA), Anthony Kinder (England), Stefan Kirschner (Germany), Chris Kitchin (England), Thomas Klöti (Switzerland), Eberhard Knobloch (Germany), Jack Koester (USA), Willie Koorts (South Africa), A.V. Kozenko (Russia), Jesse Kraai (Germany), Fritz Krafft (Germany), Helge Kragh (Denmark), Gary Kronk (USA), Gerd Kueveler (Germany), Andreas Kühne (Germany), Gennadij Kurtik (Russia), Arkady Kuzmin (Russia), Thierry Lalande (France), Tzvi Langemann (Israel), John Lankford (USA), Ken Launie (USA), Françoise Le Guet Tully (France), David Levy (USA), Uta Lindgren (Germany), Mark Littman (USA), Richard Paul Lorch (Germany), Ron Maddison (USA), Yasukatsu Maeyama (Germany), Sabino Maffeo, S. J. (Italy), Frank J. Manasek (USA), Jordan Marche (USA), Bob Marriott (England), Roberto de Andrade Martins (Brazil), Andreas Maurer (Switzerland), Robert McCutcheon (USA), Leopold Mersich (Austria), Mara Miniati (Italy), Tatiana Moiseeva (Russia), Charles Mollan (Ireland), Willem Morzer Bruyns (The Netherlands), Albert Moyer (USA), Hermann Mucke (Austria), Penka Muglova (Bulgaria), Michael Nauenberg (USA), N.I. Nevskaya (Russia), Sarah Nha (Korea), Menuwo Nishiyama (Japan), Günther Oestmann (Germany), Roberta Olsen (USA), Joann Palmeri (USA), Alex Soojung-Kim Pang (USA), Park Seong-Rae (Korea), Jon Patrick (Australia), Cláudia Penha dos Santos (Brazil), Barlow Pepin (USA), Adam Perkins (England), James Peters (USA), Jim Peters (USA), Aleksandar Petrovich (Yugoslavia), Peter Plassmeyer (Germany), Erling Poulsen (Denmark), Anjing Qu (China), Jamil F. Ragep (USA),

Michael A. Rappenglück (Germany), Jessica Ratcliff (England), Dennis Rawlins (USA), Karin Reisch (Germany), Jürgen Rendtel (Germany), Steven Renshaw (Japan), Mike Reynolds (USA), Peter H. Richter (Germany), Jack Robinson (USA), G. Rosinska (Poland), M. Eugene Rudd (USA), Rino Russo (Italy), Hamid Sadsaoud (Algeria), Juan José Saldaña (Mexico), Walter G. Saltzer (Germany), Julio Samso (Spain), Reinhard E. Schielicke (German), Ronald Schorn (USA), Oliver Schwarz (Germany), M.A. Segonds (France), A.R. Serban (Israel), Thomas Settle (USA), Hendro Setyanto (Indonesia), Paul Shankland (USA), William Shawcross (USA), Jeff Shy (USA), Georg Singer (Germany), Miroslav Slechta (Czech Republic), R.W. Smith (Canada), Dr Sokolovskaya (Russia), Norman Sperling (USA), Klaus Staubermann (The Netherlands), Burkhard Stautz (Germany), Mina Stoeva (Bulgaria), David Strauss (USA), Guido Tagliaferri (Italy), Jan Tapdrup (Denmark), Joseph Tatarewicz (USA), Jürgen Teichmann (Germany), Yoshio Tomita (Japan), Gerald Toomer (USA), Carlo Triarico (Italy), Pasquale Tucci (Italy), Steven Turner (USA), Oktyabr Tursunov (Uzbekistan), Daniel Varisco (USA), J. Vernet Gines (Spain), Thorsteinn Vilhjalmsón (Iceland), Deborah Warner (USA), Spencer Weart (USA), Robert Westman (USA), Richard Wilds (USA), Rolf Willach (Switzerland), David Wilson (USA), Peter Wisse (The Netherlands), Peter Wlasuk (USA), Gudrun Wolfschmidt (Germany), D.C. Wright (England), Yi Shi-tong (China), Valeria Zanini (Italy), and Joerg Zaun (Germany).

The new OC will look at those on this list, and their membership will be subject to the provision of appropriate documentation.

For the record Steven Dick proposed a vote of thanks to Richard Stephenson, Wayne Orchiston and the entire OC for their tireless work over the last triennium.

Professor Stephenson closed the meeting at 10:30 am.

Steve Dick, Secretary for the Meeting

C. Minutes of the Meeting of the Organising Committee of C41/ICHA held at the Sydney Convention Centre on 2003 July 23, at 16:00 (UT+10)

Present: Alexander Gurshtein [President], Nha Il-Seong [Vice-President], Rajesh Kochhar, Tsuko Nakamura, Luisa Pigatto, Clive Ruggles, Brian Warner.

1. Secretary to the OC

- It was agreed to appoint Clive Ruggles as Secretary to the OC for the coming triennium.

- It was noted and understood that the Secretary has no funds, institutional, departmental or otherwise, at his disposal in support of any activities as C41/ICHA secretary and agreed that it would not require him to make any financial commitment in support of these activities.

2. C41/ICHA Website

It was agreed:

- to confirm Wolfgang Dick as webmaster for the C41/ICHA website, subject to his agreement.

3. C41/ICHA Newsletter

It was agreed:

- to confirm Ileana Chinnici as Editor-in-chief of the C41/ICHA newsletter, subject to her agreement. The remainder of the board of editors will comprise Alexander Gurshtein, Rajesh Kochhar, and Richard Stephenson (subject to his agreement).
- to continue publishing the newsletter at six-monthly intervals if possible.
- to explore the possibilities of continuing to produce the newsletter in paper form.
- in any case, to publish the newsletter in electronic form, posted on a web page, either within, or linked to from, the C41/ICHA website. This might also be expanded to include reports on ongoing research.

4. Proceedings of the meetings at the Sydney GA

It was agreed in principle:

- to take steps to bring written versions of papers presented at Sydney to publication in appropriate journals.
- to take steps to ensure that all such papers are properly refereed, in line with what is currently a general requirement for all papers in IAU publications.

It was agreed in particular:

- that the Committee would appoint an editor for each of the C41/ICHA meetings at Sydney, giving them authority to act on the Committee's behalf.
- that the editors would be responsible to editorial boards, also appointed by the Committee, each of which would include at least two members of the Organising Committee.
- that information about the sessions and the proceedings arising from them would be posted on the C41/ICHA website.

The meeting closed at 16:45.

Clive L. N. Ruggles, Secretary to the OC

D. Status of the Inter-Union Commission for History of Astronomy (ICHA)

Following the established tradition which has existed for half a century, the International Astronomical Union (IAU) and the Division of the History of Science of the International Union for History and Philosophy of Science (IUHPS/DHS) as parental Unions agree jointly on the following status of the Inter-Union Commission for History of Astronomy (ICHA).

The ICHA is an international body established for the development of this field of research with the purpose of representing the interests of all professional historians of astronomy, regardless of their educational backgrounds, within the framework of the worldwide scientific community. The ICHA encourages research into the history of astronomy, facilitates communication between researchers, organizes scientific meetings, and undertakes collaborative projects of international importance. It also prepares recommendations for the IAU and the IUHPS, and when necessary liaises with other international scientific organizations.

The rights and obligations of the ICHA as a scientific and organizational body are determined and approved jointly by the parental IAU and the IUHPS, both of which it represents.

Since of the two above-mentioned parental Unions only the IAU has personal membership, the ICHA is formed on the basis of Commission 41 (C41), which remains a Commission of the IAU. Membership in the ICHA is awarded to members of the IAU (who become full members of the Commission) and to those who conduct their research through an association with the IUHPS (who become associate members). All members of the ICHA are elected at business meetings held during the triennial General Assemblies of the IAU, in accordance with personal applications. Both parental Unions approve the final membership of the ICHA.

The ICHA is governed by an Organizing Committee (OC) with a President, a Vice President, an Immediate Past President, a Secretary, and six ordinary members, who would normally represent various regions of the world, different research areas, and various scientific schools. The election of the OC of the ICHA is conducted by all of its members at the General Assemblies of the IAU but only full members of the Commission are eligible to stand for office. The members of the OC are to be approved by the Executive Committees of both parental Unions. All candidates nominated for the above-mentioned offices must be announced in the Commission's Newsletters prior to each AGM.

The ICHA Newsletters are to be published "Under the joint auspices of the IAU the IUHPS", and this should be stated in the subtitle of each Newsletter. The editing of the Newsletters is the responsibility of an Editorial Board appointed by the OC. This Board will comprise an Editor and three other members. The general policy of this publication and its format are determined by the OC.

This status is approved and signed:

For the International
Astronomical Union

Dr. Hans RICKMAN
IAU General Secretary

For the Division of the History of
Science of the International Union
of History and Philosophy of Science

Dr. Robert HALLEUX
IUHPS General Secretary

Note: the given Status was approved in 2001.

E. Information: The acceptance of new members into IAU at Sydney

Every member of the IAU can become a member of C41 by personal request. However, acceptance into membership of the IAU is regulated not by the Commissions but by the Executive Committee of the Union. The by-laws of the IAU permit individuals to seek admission into the Union in two different ways: sponsorship by a National Member (i.e., by the National Committee of the individual's country), or sponsorship by the appropriate specialized scientific body within the Union. (Normally this would be the Division, but until 2003 C41 was not part of any Division and was able to act by itself in this regard.) During the triennium 2000–03, the C41 Organizing Committee sought to recruit a good many new members to C41 by the second route; however, this approach encountered a number of problems in practice at the Sydney General Assembly.

The basic problem is that the admittance of new members into an International Union is bound up with the scientific policy of each country, particularly since increasing the number of members from a given country can change its financial category and thus affect its membership fees. Each candidate who has been recommended by a Commission or a Division must then be approved by the IAU Nominating Committee, which consists of national representatives. This Nominating Committee, for its own reasons, does not always agree with the recommendations of Commissions or Divisions. In Sydney, sixty-seven individuals were recommended for nomination by C41. This was much larger than the number recommended by any other commissions, and generated a generally negative reaction from the Nominating Committee. As a result, the decision on most of the candidacies was postponed. Only thirteen historians of astronomy, all of whom had sent their application forms through their National Committees, were accepted into the Union.

On behalf of the C41, we sincerely congratulate those historians of astronomy who became members of the IAU and C41, and consider it our duty to apologize to those candidates who were supported by Commission but whose applications were not considered in Sydney. In order to simplify the admittance into the IAU of astronomers who work in the field of history of astronomy, and to avoid further complexities that will arise during the current triennium from the fact that C41 now resides in a Division—it being at the Divisional level that recommendations will now have to be tendered—we strongly recommend that individual candidates follow the traditional way of applying through their National Committees.

C41 President: *Alexander Gurshtein*

F. Memorandum: Concerning the Acceptance of New Members into the Inter-Union Commission on History of Astronomy (ICHA)

Most historians of astronomy of the older generation know that the two major international bodies in their field – Commission 41 within the International

Astronomical Union and the Division of the History of Science within the International Union for History and Philosophy of Science – have for many years encouraged the existence of a Joint Commission on the History of Astronomy. This Commission did not, however, have any formal status. Only in 2001 did both parent Unions reach an understanding that permitted the formal establishment of what was henceforth called the Inter-Union Commission on the History of Astronomy (ICHA).

Once the Status of the ICHA had been approved, the Organizing Committee of the Commission took the initiative in creating a membership drive with the goal of including in its activities not only historians of astronomy affiliated with IAU Commission 41 but also a wide circle of scholars affiliated with the IUHPS. Dr Wayne Orchiston, then the ICHA Secretary, volunteered to conduct this important membership drive. This proved a laborious and time-consuming task, for while the IAU has a personal membership comprising well-established and well-known scholars, the IUHPS does not have personal membership. This makes it difficult to locate historians of astronomy who are not also astronomers.

Dr Orchiston performed a tremendous service in communicating with potential members of the ICHA. He contacted several hundred scholars from various regions of the world. His work revealed a wide group of individuals whose active involvement would significantly increase the range and quality of C41/ICHA's activities.

Following the business meeting of the ICHA, which took place in August 2003 in Sydney at the 25th General Assembly of the IAU, it is now possible to admit non-IAU members into the ICHA as Associate Members, who have equal academic status to Full Members (IAU members).

Confirming the importance of adding new members to the activity of the ICHA, the Organizing Committee of the ICHA for the current triennium invites all interested historians of astronomy, and especially those already contacted by Dr Orchiston, to apply formally for membership of the ICHA. The Procedures for admitting non-IAU members to the ICHA are published in C41/ICHA Newsletter #6 and also on the C41/ICHA web pages, along with a sample application form. Applications for Associate Membership should be directed by mail to the Secretary of the ICHA who is now Prof. Clive Ruggles, School of Archaeology and Ancient History, University of Leicester, Leicester LE1 7RH, U.K. They may be submitted at any time but will be considered on a twice yearly basis, following deadlines on June 30 and December 31.

ICHA President

Alexander Gurshtein

ICHA Past President

F. Richard Stephenson

G. Procedures for Admitting non-IAU Members to the ICHA

The following procedures are composed on the basis of, and in accordance with, the document entitled “Status of the Inter-Union Commission for History of Astronomy (ICHA)”, hereinafter “ICHA Status”, jointly approved in 2001 by the

International Astronomical Union (IAU) and the Division of the History of Science of the International Union of the History and Philosophy of Science (IUHPS/DHS) as parent Unions.

1. Purpose and status of these procedures

- 1.1 These procedures exist to permit the admission to the ICHA of a suitable number of historians of astronomy who are not IAU members while ensuring a level of scholarly quality compatible with the IAU's own admission criteria.
- 1.2 These procedures are approved by the consensus of the C41/ICHA OC in accordance with ICHA Status and enter into force on March 1, 2004. They are subject to ratification by the ICHA Business Meeting in 2006.
- 1.3 Thereafter, the right to amend these procedures belongs exclusively to an ICHA Business Meeting.

2. Categories of membership

- 2.1 There are two categories of membership of the ICHA: full membership and associate membership. No person may be at one and the same time both a full member and an associate member of the ICHA.
- 2.2 Every member of IAU Commission 41 is *ipso facto* a full member of the ICHA. Acceptance into C41 membership is regulated by the IAU.
- 2.3 Every person who, prior to the 2003 business meeting, was a Consultant to IAU Commission 41, and was not elected to the IAU in 2003, thereafter becomes an associate member of the ICHA.
- 2.4 Associate membership of the ICHA may be awarded to historians of astronomy of appropriate academic standing, regardless of their educational backgrounds, associations with the IAU, and current affiliations.

3. Admission procedures for associate members

- 3.1 Acceptance into associate membership is conducted by the ICHA Organizing Committee in accordance with personal applications. In order to unify the paperwork, the ICHA utilizes the same application forms that are in use for applicants to the IAU (see attachment). This application form includes titles and references of main publications of an applicant.
- 3.2 An applicant for associate membership of the ICHA is required to submit a brief curriculum vitae with his/her application. No recommendations are mandatory but, nevertheless, in order to speed up the process of acceptance, the applicant is encouraged to attach up to three short references from existing IAU or ICHA members, either from the applicant's country or from abroad.
- 3.3 Acceptance into associate membership of the ICHA is conducted through a simple majority vote of the members of the Organizing Committee, with at least two members of the OC voting in favour. If the OC is short of two members for

such a recognition, the OC may consult with other members of the ICHA, either from the applicant's country or from abroad. This work may be performed by members of the OC through correspondence.

- 3.4 An applicant accepted by the OC as an associate member may participate in ICHA activities from the date of the OC's decision, although his/her membership is subject to ratification at the next triennial business meeting of the ICHA and by the corresponding Executive Officers of both parental Unions.
- 3.5 Associate membership of the ICHA is normally granted for life, except where the associate member is subsequently admitted to IAU Commission 41 and thereby becomes a full member. The termination of ICHA associate membership may follow as the result of a personal request from the member, a decision by the business meeting of the ICHA, or a decision by the leadership of the parental Unions.
- 3.6 Applications for associate membership of the ICHA are to be delivered in written form to the Secretary of the ICHA Organising Committee by June 30 or December 31 in any year. They will be reviewed by the OC and a decision returned within six months of the relevant closing date.

Clive L. N. Ruggles, Secretary to the OC

For the ICHA Organizing Committee

President: _____ Secretary: _____

Sample application form for ICHA membership

Family name: _____ First name: _____ Middle name: _____

Sex: ☐ Male ☐ Female

Date of birth: Day Month Year

Institutional address: _____

Telephone: _____ FAX: _____

E-mail: _____

Nationality: _____

Graduated from: _____

Year of Ph.D. or equivalent: _____

Present position: _____

Main fields of Research: _____

Titles & References of three Scientific papers or Publications

Proposed by (optional): _____

Date _____ Signature: _____

H. The C41/ICHA History of Astronomy Program at the Sydney General Assembly

At the Sydney GA, C41/ICHA offered an extensive and wide-ranging programme that was unprecedented in its quality, scope, and level of participation. One of the principal aims was to attract a large number of historians of astronomy to Sydney. Given the cost of attending the meeting and other concerns about international travel, this was a remarkable success. Over 250 different people attended one or more of the sessions, many of whom had only rarely, if ever, been to a GA before.

For the first time, meetings were included to support the different history Working Groups. In total, there were nine different Science and Working Group Meetings, organised in 1/4-day sessions as follows:

- SM1:** Applied Historical Astronomy (2 sessions)
- SM2:** The Early Development of Australian Radio Astronomy (4 sessions)
- SM3:** Recent Research (2 sessions)
- SM4:** Ethnoastronomy and Archaeoastronomy (1 session)
- SM5:** Pioneering Observations in Radio Astronomy (2 sessions)
- WG1:** Astronomical Archives (2 sessions)
- WG2:** Astronomical Chronology (1 session)
- WG3:** Historical Instruments (2 sessions)
- WG4:** Transits of Venus (2 sessions)

Regrettably, it was not possible to run the programme without parallel sessions (to do so would have taken five days, which was not permissible). Nonetheless, several were full to capacity, and almost all were oversubscribed in terms of the oral papers and posters submitted. A complete programme listing will be found on the C41/ICHA web-site.

Given Australia's pioneering efforts in international radio astronomy, it was fitting that one of the main themes should be historical radio astronomy. C41/ICHA combined with Commission 40 (Radio Astronomy) to offer a day and a half of sessions in this area (SM2 + SM5). This represents an important collaboration between two separate Commissions, from two separate Divisions; important not only in its content but also in demonstrating and promoting wider networking within the IAU structure, with C41/ICHA taking an active part. This collaboration is set to continue in the context of the joint Working Group on *Historical Radio Astronomy*.

Another important innovation was the inclusion of ethnoastronomy and archaeoastronomy within the history of astronomy programme. Archaeoastronomy has been recognised within the range of C41/ICHA ever since a session on "megalithic astronomy" was first held at the 1976 GA in Grenoble, but the emphasis here on ethnoastronomy represents a further development, one that reflects the lack of hard-and-fast boundaries between studies of the past and of the indigenous present.

Unlike some past meetings, prior arrangements were made to publish many of the papers from the different sessions, and in some cases such arrangements have been made subsequently. Thus, for example, some of the papers from the Historical Instruments Working Group meeting will be published in the 2004 and 2005 issues of the *Journal of the Antique Telescope Society (JATS)*, while some from the ethnoastronomy and archaeoastronomy session will appear in vol. 18 of the University of Texas Press journal *Archaeoastronomy*. In addition, some of the papers from the Transits of Venus Working Group meeting will appear in the June issue of the *Journal of Astronomical History and Heritage*, while twelve papers from the Archives Working Group meeting and the archives session at the 2000 Manchester General Assembly are to be published in the *Journal of Astronomical Data*. A full list will be provided in due course on the C41/ICHA web-site.

A final indication of the success of the history input at Sydney was the torrent of historical articles appearing in the daily conference “newspaper” *Magellanic Times*. It is rumoured that, in the end, the editor was having to ration them in order to keep a balance!

Clive Ruggles
Wayne Orchiston

I. General Information about the Working Groups

The Commission’s four Working Groups were formally approved, in Sydney, to continue for the 2003-2006 triennium. In addition, *Historical Radio Astronomy* was established as a joint Working Group of C41/ICHA and C40 (Radio Astronomy).

The details are as follows:

Archives

Dr Ileana Chinnici (Italy), Ms Brenda Corbin (USA, Chair), Dr Suzanne Débarbat (France), Dr Wolfgang Dick (Germany), Mr Daniel Green (USA), Dr Wayne Orchiston (Australia), and Mr Adam Perkins (UK).

Contact person: Ms Brenda Corbin, U.S. Naval Observatory, 3450 Massachusetts Ave NW, Washington DC 20392-5420, USA (e-mail: brenda.corbin@usno.navy.mil).

Astronomical Chronology

Dr Christine Allen (Mexico), Prof Adriaan Blaauw (Netherlands), Prof Alexander Gurshtein (Russia/USA, Chair), Dr Teije de Jong (Netherlands), and Prof Rajesh Kochhar (India).

Contact person: Prof Alexander Gurshtein, Mesa State College, Box 2674, Grand Junction, CO 81 502, USA (e-mail: agurshtein@hotmail.com).

Historical Instruments

Dr Juergen Hamel (Germany), Mr Kevin Johnson (UK), Dr Tsuko Nakamura (Japan), Prof Nha Il-Seong (Korea, Chair), Dr Wayne Orchiston (Australia), and Dr Sara Schechner (USA).

Contact person: Prof Nha Il-Seong, The Nha Il-Seong Museum of Astronomy, San-133 Gamchon-myon, Yechon-gun, Kyongbuk 757-910, Korea (e-mail: SLISNHA@chollian.net).

Transits of Venus

Dr Steve Dick (USA, Chair), Dr Hilmar Duerbeck (Germany), Dr Robert van Gent (Netherlands), Prof David Hughes (UK), Mr Willie Koorts (South Africa), Dr Wayne Orchiston (Australia), and Dr Luisa Pigatto (Italy).

Contact person: Dr Steven J. Dick, NASA Chief Historian, National Aeronautics and Space Administration, Headquarters, Code IQ, Room CO72, 300 E Street SW, Washington DC 20546-0001, USA (e-mail: steven.j.dick@nasa.gov).

Historical Radio Astronomy*

Dr Rod Davies (UK), Dr Jean-Francois Denisse (France), Dr Ken Kellermann (USA), Dr Masaki Morimoto (Japan), Dr Wayne Orchiston (Australia, Chair), Dr Slava Slysh (Russia), Dr Govind Swarup (India), and Dr Hugo van Woerden (Netherlands).

Contact person: Dr Wayne Orchiston, Australia Telescope National Facility, PO Box 76, Epping, NSW 2121, Australia (e-mail: Wayne.Orchiston@csiro.au).

*This is a joint WG of C41/ICHA and C40 (Radio Astronomy). Two further members may be added in accordance with the wishes of Luis Rodriguez and Virginia Trimble, the presidents of Divisions X and XII.

J. The IAU Historical Instruments Working Group; 1: Progress Report 2003 - 04

A key development since the WG3 (Historical Instruments) Working Group meeting was held at the July 2003 IAU General Assembly in Sydney is that the Board of the Antique Telescope Society has kindly agreed to publish some of the papers from that meeting in 2004 and 2005 issues of the *Journal of the Antique Telescope Society (JATS)*. The following authors plan to submit their papers to *JATS*:

Johnson, K. A glimpse at the astronomy heritage of the Science Museum, London.

Kaptüg, V.B., Chubey, M.S., Vereshchagin, S.A., and Sokolov, Y.A. On recovery and research work at the Russian Struve station on Gogland.

Lomb, N. Historically significant astronomical instruments at Sydney Observatory.

Nakamura, T. Early historic telescopes preserved in Japan.

Orchiston, W. History of the 'Catts Telescope': a nineteenth century 20-inch Grubb reflector.

Pigatto, L., Tomasella, L., and Zanini, V. Telescopes at the Astronomical Observatory of Padova, Italy. From the last refractor to the first reflector.

Shankland, P.D., and Orchiston, W. Lost and found: saga of the historic Clark refractor at the U.S. Naval Academy.

Watson, F. James Gregory and the invention of the Cassegrain telescope.

The paper by Kaptüg *et al.* has special significance to C41/ICHA as it relates to the IAU resolution passed in 1994 about identification, documentation and preservation of surviving instruments and sites connected with the measurement of the arc of the meridian made by F.G.W. Struve. For an overview of this important project, which is co-ordinated by the International Institution for the History of Surveying & Measurement, see Jim Smith's article on pages 38-42 in *ICHA Newsletter* No. 4 (December 2002).

A recent publication of interest to Working Group members is *Astronomical Instruments and Archives From the Asia-Pacific Region* (2004), details of which appear elsewhere in this *Newsletter*. Included are nine papers on ancient astronomical instruments from China, India, Indonesia and Korea, an astrolabe in the National History Museum in Mexico City, and nineteenth century optical and radio telescopes from Canada and Australia, respectively.

One of the papers in the above-mentioned book is by Sarah Nha (a daughter of Working Group Chair, Professor Nha Il-Seong), and deals with the web site set up by our Working Group to inventory historically-significant astronomical instruments world-wide. The URL is:

<http://www.nhamuseum.org/WG>

Although members of the new Committee (approved at the Sydney IAU General Assembly) are currently in the process of making some structural modifications to the web site, any C41/ICHA member who has relevant information on historically-significant astronomical instruments is encouraged to contact Sarah Nha and discuss including these instruments in the database. Her e-mail address is: christin@chollian.net

As a policy decision, Committee members of the Working Group have decided to attend various astronomical and scientific instrument meetings during the current IAU triennium, and describe the Working Group's research program and the database. Wayne Orchiston presented the first of these papers when he attended the 2003 Annual Convention of the Antique Telescope Society, in Denver (USA). His PowerPoint presentation is available upon request (e-mail: wo@aaoepp.aao.gov.au), but be warned, it is a 10Mb file that contains many coloured images.

The 2000–2003 Triennial Report of C41/ICHA published in *ICHA Newsletter* No. 4 (December 2002) included a list of references dealing with historic

astronomical instruments published during that period. Relevant books and papers published since that list was prepared include:

- Ackermann, S., 2003. Light on Byzantium – a universal sundial in the British Museum. In Entwistle, C. (ed.). *Through a Glass Brightly – Studies in Byzantine and Medieval Art and Archaeology Presented to David Buckton*. Oxford, Oxbow Books. Pp. 16-21.
- Beech, M., 2002. The mechanics of cometaria. *Journal of Astronomical History and Heritage*, 5, 155-163.
- Beretta, M., Galluzzi, P., and Triarico, C. (eds.), 2003. *Musa Musaei. Studies on Scientific Instruments and Collections in Honour of Mara Miniati*. Florence, Biblioteca di Nuncius Studi e Testi XLIX. [This contains many relevant papers.]
- Bobis, L., and Lequeux, J., 2003. *François Arago & l'Observatoire de Paris*. Paris, Observatoire de Paris.
- Bonoli, F., Miniati, M., Greco, V., and Molesini, G., 2002. Telescope optics of Montanari, Cellio, Campani and Bruni at the “Museo della Specola” in Bologna. *Nuncius*, 2, 467-475.
- Brosche, P., 2002. Köhler's sternphotometer von 1786. *Beiträge zur Astronomiegeschichte*, 5, 152-158.
- Debauvais, F., and Befort, P.-A., 2002. *Cueillir les Etoiles. Autour des Astrolabes de Strasbourg*. Strasbourg, Editions Ligne à Suivre.
- Dick, S.J., 2003. *Sky and Ocean Joined. The U.S. Naval Observatory 1830-2000*. Cambridge, Cambridge University Press.
- Dupré, S., 2003. Galileo's telescope and celestial light. *Journal for the History of Astronomy*, 34, 369-399.
- Gaab, H., 2002. Johann Philipp von Wurzelbau (1651–1725). *Beiträge zur Astronomiegeschichte*, 5, 47-114.
- Hooijmaijers, H., 2003. De omzwervingen van een telescoop. *Gewina*, 26, 40-45.
- Hoskin, M.A., 2003. Herschel's 40ft Reflector: funding and functions. *Journal for the History of Astronomy*, 34, 1-32.
- Le Guet Tully, F., and Sadsaoud, H., 2003. La création de l'observatoire d'Alger. *La Revue (du Musée des Arts et Métiers)*, 38, 26-35.
- Lindner, R.P., 2003. Rebuilding astronomy at Michigan: from Hussey to Goldberg. *Journal of Astronomical History and Heritage*, 6, 107-119.
- Maddison, R., 2003. Some typical design features of late eighteenth century Gregorian reflectors. *Journal of the Antique Telescope Society*, 25, 17-22.
- Malet, A., 2003. Kepler and the telescope. *Annals of Science*, 60, 107-136.
- Mörzer Bruyns, W.F.J., 2003. *Schip Recht Door Zee. De Octant in de Republiek in de achttiende eeuw*. Amsterdam, Edita Knaw.
- Nankivell, G.R., 2002. The Cooke Photovisual Objective and the 22.9cm refractor at the Carter Observatory, New Zealand. *Journal of the Antique Telescope Society*, 24, 4-8.

- Orchiston, W., 2002. From Crossley to Carter: the life and times of an historic Cooke refractor. *Journal of the Antique Telescope Society*, 24, 9-24.
- Orchiston, W., 2003a. Amateur telescope making in Australia. An historical perspective. In Cook, W.J. (ed.). *The Best of Amateur Telescope Making Journal. Volume 2*. Richmond, Willmann-Bell. Pp. 208-239.
- Osterbrock, D.E., 2003. Don Hendrix, master Mount Wilson and Palomar optician. *Journal of Astronomical History and Heritage*, 6, 1-12.
- Pettersen, B.R., 2002. Christopher Hansteen and the first observatory at the University of Oslo, 1815–28. *Journal of Astronomical History and Heritage*, 5, 123-134.
- Satterthwaite, G.E., 2003. Airy's zenith telescopes and "the birth-star of modern astronomy." *Journal of Astronomical History and Heritage*, 6, 13-26.
- Shankland, P.D., and Orchiston, W., 2002. Nineteenth century astronomy at the U.S. Naval Academy. *Journal of Astronomical History and Heritage*, 5, 165-179.
- Talbot, S., 2002. The astroscope by James Mann of London. The first commercial achromatic refracting telescope c.1735. *Bulletin of the Scientific Instrument Society*, 75, 6-8.
- Talbot, S., 2003. The first telescope dynameter as designed and constructed by Jesse Ramsden. *Bulletin of the Scientific Instrument Society*, 77, 8-9.
- Turner, A.J., 2002. The observatory and the quadrant in eighteen-century Europe. *Journal for the History of Astronomy*, 33, 373-385.
- Turner, G. L'E., 2003a. The Italian-hour nocturnal. *Annals of Science*, 60, 249-268.
- Turner, G. L'E., 2003b. *Renaissance Astrolabes and their Makers*. Aldershot, Ashgate Publishing.
- Véron, P., 2003. L'équatorial de la tour de l'est de l'Observatoire de Paris. *Revue d'Histoire des Sciences*, 56, 191-220.
- Whitesell, P.S., 2003. Detroit Observatory: nineteenth-century training ground for astronomers. *Journal of Astronomical History and Heritage*, 6, 69-106.
- Zuidervaat, H.J., 2003. "Zo'n mooie machine, waarvan de kwaliteit door alle astronomen wordt erkend." Een biografie van een vrijwel niet gebruikte telescoop. *Gewina*, 26, 148-165.

Particularly useful are the bibliographies prepared by the Scientific Instrument Commission of the IUHPS/DHS, as these include many astronomical entries. The URL of this web site is:

http://www.sic.iuhps.org/in_bibli.htm

Another invaluable resource, especially for those with an interest in the history of the telescope, is the following web site:

<http://www.europa.com/~telescope/tebibl.txt>

This was assembled by C41/ICHA member and former Antique Telescope Society President, Peter Abrahams.

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Wayne Orchiston (wo@aaoepp.aao.gov.au)

Sara Schechner (schechn@fas.harvard.edu)

IAU Historical Instruments Working Group Committee

K. The IAU Astronomical Archives Working Group; 2: Progress Report

One of the features of the July 2003 IAU General Assembly in Sydney was a half-day meeting devoted to astronomical archives. The WG1 Meeting attracted a good audience, and featured the following papers.

Jessica Chapman presented a paper co-authored by Wayne Orchiston and Barnaby Norris about the Historic Photographic Archive at the Australia Telescope National Facility (ATNF) in Sydney. This contains a unique photographic record of the development of radio astronomy in Australia from 1945 to the present day, as seen through the eyes of the photographers at the CSIRO's Division of Radiophysics and later the ATNF. After summarising the types of images preserved in the collection, Jessica discussed the current project to create a digital library of the most important images.

Brenda Corbin could not come to Sydney, so Steven Dick presented her paper about recent projects concerning the archives at the U.S. Naval Observatory. Brenda discussed the interest shown by people in the Library, partly as a result of the upcoming transits of Venus, and she discussed the Observatory's involvement in the 1874 and 1882 transits. Photography occupied a special place at this time, and she noted that some of the original plates are preserved at the Observatory. For further information, Brenda can be reached at: corbin.brenda@usno.navy.mil

Adam Perkins (Cambridge University Library) also was unable to attend the General Assembly, so his paper was represented by Richard Stephenson. Adam began by recalling what happened to the Royal Greenwich Observatory archival collection after it was moved from Herstmonceux to Cambridge just prior to the close of the Observatory. The RGO Archives span more than three centuries, and are now the responsibility of the Library's Department of Manuscripts. The collection includes documents from various overseas observatories, and many important record lots, including the Board of Longitudes archives and the Airy papers. More information about this important collection can be obtained from Adam (email: ajp21@cam.ac.uk).

Wayne Orchiston presented a paper about the Tebbutt Collection in the Mitchell Library, which is part of the State Library of New South Wales in Sydney. Although he was amateur, Tebbutt was Australia's foremost nineteenth century astronomer, and he carried out an amazing range of observations, published prolifically, and maintained a voluminous correspondence with amateur and professional astronomers from around the world. Tebbutt's records are an invaluable resource for those researching the history of Australian astronomy during the period 1850-1915, but they also throw useful light on aspects on overseas astronomy. Wayne discussed the different types of records found in the Tebbutt Collection, and gave various examples of how data in different records could be used for historical research.

Tsuko Nakamura gave a paper on the current status of the project to establish a general inventory of astronomical archives preserved in Japan. Till now, the project has focussed on archives predating 1870, but in the future it will be expanded to cover more recent records. Many of the early archives are in the form of hand-written documents. A book has already been published about the project, and it is hoped that another progress report will be given at the Prague General Assembly in 2006. In the interim, Tsuko is happy to provide further information (e-mail him at: tsuko@cc.nao.ac.jp).

Suzanne Débarbat and **Laurence Bobis** (the Curator at Paris Observatory) discussed the "Alidade Project", which was initiated by Nandou Daliès, one of their predecessors. The idea was to establish an inventory of astronomical archives in French repositories, and this project has been carried out in collaboration with other relevant institutions, such as the Académie des Sciences. A recent development has been the application of computers to this Project. The inventory for the Paris Observatory is more or less complete, and can be found at the following web site: La.Bibliotheque@obspm.fr

Luisa Pigatto presented a paper she prepared with Maurizio Salmaso and Valeria Zanini on the letters written by Laurenzoni and Tacchini during the period 1870-1904 and preserved in the archives of Padova Observatory. Both scientists were well-known, particularly in the field of solar astronomy, and along with Secchi played an important part in the development of astrophysics. From the letters, the authors were able to show how this field evolved in Italy during the second half of the nineteenth century, and they emphasized the value of such archives in making better known certain facts concerning some important events.

Magda Stavinschi presented a paper that she and V. Mioc prepared about how, in Romania, monasteries have served a vital role in the long-term preservation of astronomical archives. They gave examples of some of the notable archives found in these monasteries, mostly located in the northern part of the country, and noted that such archives mainly record astronomical events that were observed in Romania.

Mary Brück and **Karen Moran** (the Librarian at the Royal Observatory Edinburgh) prepared a poster paper about the Crawford Collection at the Observatory. This contains around five thousand items, including many old

documents and rare books. Most of the collection came to the Observatory as a gift from the 26th Earl of Crawford; other acquisitions derived from Babbage, of computer fame. For more information about the Crawford Collection and the ROE Library contact Karen (e-mail: ksm@roe.ac.uk).

Irakli Simonia prepared a poster about astronomical archives preserved in Georgian institutions. These include some very old documents, with contain a range of information that could be of use to historians of astronomy. Irakli's poster included a number examples, supported by photographs of selected pages from some of the manuscripts.

A key development since the Sydney General Assembly is that Dr Chris Sterken has kindly agreed to publish papers from the Archives WG Meeting in a 2004 issue of the *Journal of Astronomical Data (JAD)*, along with some of the papers from the archives session at the 2000 Manchester GA. *JAD* is an electronic journal, and can be accessed via the following web site:

<http://www.vub.ac.be/STER/JAD>

The journal is also issued annually on a CD, and at this stage, the following authors have already agreed to submit their papers to *JAD*:

- Ansari, R. Astronomical archives in India.
- Corbin, B. Archives in the U.S. Naval Observatory—recent projects.
- Débarbat, S., and Bobis, L. The Alidade Project—work in progress.
- Dick, W. German astronomical archives.
- Moran, K., and Bruck, M. The Crawford Collection at the Royal Observatory Edinburgh.
- Nakamura, T. Progress report on the Japanese astronomical archives project.
- Orchiston, W. An introduction to the astronomical archives of Australia and New Zealand.
- Orchiston, W. Highlighting the history of Australia astronomy: the Tebbutt Collection in the Mitchell Library, Sydney.
- Pigatto, L., Salmaso, M., and Zanini, V. The Lorenzoni-Tacchini correspondence in the Padova Observatory Archive. The 'true' history of Italian astronomy in the second half of the nineteenth century.
- Simonia, I. Old Georgian astronomical manuscripts.
- Stavinschi, M. and Mioc, V. Storing astronomical information in the Romanian territory.
- Wilkins, G. The archives of the Norman Lockyer Observatory.

Meanwhile, we have noticed the following recently-published papers about astronomical archives:

Ansari, R., 2002. Practical astronomy in Indo-Persian sources. *Indian Journal of History of Science*, 37, 255-265.

Débarbat, S., 2003. The IAU, astronomical archives and commission 41 and the ICHA. *Journal of Astronomical History and Heritage*, 5, 181-183.

Another location where papers on astronomical archives can be found is the Proceedings of the conference on astronomical history held in Cheongju (Korea) in July 2002 (see the separate report elsewhere in this *Newsletter*).

One further ‘publication’ relating to astronomical archives deserves to be mentioned, and this is a CD-Rom that was issued by the University of Bologna in 2003. Edited by Marina Zuccoli and Laura Peperoni from the Departments of Astronomy and Economics, respectively, this concerns a project titled “Science for Everyone. From Bologna’s Astronomers’ Documents to their Books”, which aims to teach people about the old Astronomical Observatory (which is now an museum), the Archives (where the astronomers’ manuscripts are preserved) and the Library (which houses used and/or published by the Observatory’s astronomers). The CD explains what the University’s astronomical archive is, how it was formed, and how people may access it. Useful lists of manuscripts, letters and books housed in the Department of Astronomy at the University are also given. We thank Marina and Laura for kindly providing us with a copy of the CD-Rom, and Luisa Pigatto for preparing this account.

Two other developments will also be of interest to members. The U.S. Naval Observatory recently sent twenty-four manuscript volumes of Hertzsprung’s measurements of photographic plates to the Hertzsprung archives in the Department of Science at Aarhus University in Denmark, and Klaus-Dieter Herbst is working on a multi-volume publication that will include all known astronomical letters to and from Gottfried Kirch.

Finally, we are excited by a new archives-related initiative that C41/ICHA has become involved with. The International Union for History and Philosophy of Science has recently obtained funding for an international project titled “World History of Science Online: Databases of Bibliographical and Archival Sources”. From the start, the IAU has been a Supporting Applicant for this project, and we anticipate that our Working Group will be closely involved in helping develop the astronomical components of the databases, in collaboration with the Library and Information Services in Astronomy group (LISA), which comes under the umbrella of IAU Commission 5 (Documentation and Astronomical Data).

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Suzanne Débarbat (debarbat@danof.obspm.fr)
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Adam Perkins (ajp21@cam.ac.uk)
IAU Astronomical Archives Working Group Committee

L. The IAU Transits of Venus Working Group; 3: Progress Report

This Progress Report follows the introductory report on the Working Group, which was published in the December 2002 *ICHA Newsletter* (pp. 30-34) and in the *Journal of Astronomical History and Heritage* (see Orchiston *et al.*, 2002, below). With the up-coming June transit, it is no surprise that there has been a worldwide flurry of recent interest in transits of Venus.

As would be expected, various historic re-enactments of earlier transit observations have been arranged for June 2004. The National Trust of Australia (New South Wales) has arranged for observations to be carried out at Woodford, in the Blue Mountains west of Sydney, a site used by one of the Sydney Observatory transit expeditions in 1874. In South Africa, Willie Koorts has arranged for observations to be made at Wellington, the site where the 1882 U.S. transit party was based, and where women from the Huguenot Seminary for Girls also carried out observations. From Touws River (known as Montagu Road until 1883), the site of the 1882 British expedition to South Africa, the local tourism office is busy arranging a Transit Festival and observations from this site, where the hand-inscribed piers of the expedition have survived. At the former "Royal Observatory" in Cape Town, where David Gill observed the transit, re-enactments are planned, which will involve the public and particularly school groups. Sara Schechner (Curator of Harvard University's Collection of Historical Scientific Instruments) is organising a re-enactment at Harvard of John Winthrop's observations of the 1769 transit of Venus from Cambridge (Mass.). Winthrop also observed the 1761 transit (from Newfoundland), and some of the instruments from both transits may be used in the re-enactment. Meanwhile, Rolf Willach (Switzerland) is planning to view the transit through an historic eighteenth century heliometer.

Peter Broughton (Canada) has chased up transit of Venus plaques, with the aid of various colleagues around the world, and on 22 March 2003 provided a list on H-ASTRO. Since then, others have supplied further examples, and we end up with the following list:

- 1639: Horrocks, at Carr House, near Much Hoole, UK
- 1639: Crabtree, in 'The Cliff' district of Manchester, UK
- 1769: French-Spanish expedition, in the Casa del Culura, San Jose del Cabo, Baja California Sur, Mexico
- 1769: Cook, at Venus Point, Tahiti
- 1874: US expedition, in Queenstown, New Zealand
- 1874: British expedition, at the Hulihee Palace, Kailua-Kona, Hawaii
- 1882: German expedition, at Trinity College, Hartford, Conn., USA
- 1882: British expedition, at the All Saints Garrison Church, Burnham, New Zealand
- 1882: Marth, Stevens and Thornton, in Touws River, South Africa
- 1882: On the summit of Transit Hill, Lord Howe Island, Australia

Peter Broughton also reports that "... a plaque will definitely be erected in St. John's, Newfoundland, to recognize the observations near there by John Winthrop on 6 June 1761 ... the initiative is coming from the RAS of Canada ... [and] Professor Frederick Smith of the Memorial University of Newfoundland has determined the site as Kenmount Hill (see JRASC, 97, 291 for details)." Meanwhile, in South Africa, Willie Koorts and some colleagues plan to install of a plaque and sundial at Wellington, South Africa, to commemorate transit of Venus observations made there in 1882.

Various museums, observatories, planetariums and science centers have arranged special transit of Venus displays, and in addition to those already mentioned in the previous report these include an exhibit titled "Chasing Venus: observing the transits of Venus, 1631–2004" which opened at the National Museum of American History in Washington, D.C., on 23 March. This was organised by the Smithsonian Libraries, with support from the Peter Gruber Foundation, NASA and the U.S. Naval Observatory. At Harvard, Sara Schechner is organising a display for the permanent gallery featuring instruments used by John Winthrop and Harvard students to observe the 1761 and 1769 transits, and both the National Trust's Woodford Academy in Australia and the Wellington Museum in South Africa are busy planning temporary transit of Venus displays. NASA organised a Sun-Earth day on 19 March, in connection with the upcoming transit of Venus, and the following web site contains details of the various activities:

http://www.sunearth.gsfc.nasa.gov/sunearthday/2004/index_vthome.htm

There is also a plethora of transit of Venus special lectures, seminars, workshops and conferences. The key conference is IAU Colloquium 196 "Transits of Venus: New Views of the Solar System and Galaxy", organised by Gordon Bromage and Don Kurtz from the University of Central Lancashire in Preston, UK (where the Conference will be held). C41/ICHA is well-represented, with Suzanne Débarbat (France), Steven Dick (USA), Julieta Fierro (Mexico), Wayne Orchiston (Australia), Jay Pasachoff (USA), and Luisa Pigatto (Italy) on the Scientific Organising Committee; Peter Hingley (UK) on the Local Organising Committee; Allan Chapman (UK) as a Keynote Speaker; and Steven Dick, Wayne Orchiston and Richard Strom (Netherlands) as Invited Speakers. For further details of this Conference see the following web site:

<http://www.transit-of-venus.org.uk/conference>

Immediately prior to the IAU Colloquium, Paul Marston (also from the University of Central Lancashire) has organised a weekend residential conference on "Jeremiah Horrocks and Transits Ancient and Modern" for amateur astronomers and interested members of the general public. C41/ICHA members speaking at this event are Allan Chapman, Mary Brück (Scotland) and Wayne Orchiston.

On 9 January 2004 a seminar was held in Germany to mark the 65th birthday of Dieter B. Hermann, Director of the Archenhold Observatory and a renowned astronomical historian, and Hilmar Duerbeck gave a paper on "Big science at the Kaiser's time: the German Venus transit expeditions". Each year, Sydney

Observatory features its prestigious annual *By the Light of the Southern Stars Lecture*, and on 26 March 2004 Wayne Orchiston lectured on “Transits of Venus: Uncovering the Human Face of History”. Last September he gave a paper on the Cook’s 1769 transit expedition at the Annual Convention of the Antique Telescope Society in Denver (USA), and the following month presented a research seminar at the University of Washington (Seattle) on the 1769 and 1874 transits. On 7 May the Australian Science History Club will hold a one-day seminar on “The Transit of Venus” at Sydney Observatory, and speakers include Wayne Orchiston and Nick Lomb (C41/ICHA member, and Curator of Astronomy at the Observatory). On June 1, a transit of Venus colloquium will be held in Utrecht, Holland, and in South Africa, an international conference will be held in the Pilanesberg National Reserve to coincide with the transit. A public lecture is planned for nearby Sun City the night before the transit, which will then be viewed from the Bakubung Game Lodge.

For details see

<http://www.tuningfork.co.za>

In July, Sara Schechner will deliver the Helen Sawyer Hogg Public Lecture of the Royal Astronomical Society of Canada and the Canadian Astronomical Society on John Winthrop and the transits of Venus.

Further to the list of references that appeared in the December 2002 *Newsletter*, other transit of Venus publications we have noted are:

- Brück, H., 1992. Lord Crawford’s Observatory at Dun Echt 1872-1892. *Vistas in Astronomy*, 35, 81-138 [pages 88-89 and 111 deal with the ToV expedition to Mauritius].
- Brück, M., 2003. The C41/ICHA Transits of Venus Working Group. 2: Lord Lindsay’s Transit of Venus expedition to Mauritius 1874. *Journal of Astronomical History and Heritage*, 6, 64.
- Dick, S.J., 2004. Transits of Venus. *Scientific American*, May issue, in press.
- Duerbeck, H.W., 2004. The 1882 transit of Venus—as seen from Chile. *Orion*, 2(321), 10-15.
- Duerbeck, H.W., 2004. The beginnings of German governmental sponsorship in astronomy: the solar eclipse expeditions of 1868 as a prelude to the Venus transit expeditions of 1874 and 1882. In *Development of Solar Research*, 2003 Colloquium of the Working Group for the History of Astronomy, in press.
- Duerbeck, H.W., 2004. Venusdurchgänge zu Kaisers Zeiten: die Deutschen Expeditionen von 1874 und 1882. *Sterne und Weltraum*, in press.
- Gent, R. van, 1993. De Nederlandse Venusexpedities van 1874 en 1882. *Zenit*, 20, 332-337.
- Gent, R. van, 1993. *De reizende astronoom: Nederlandse sterrenkundige expedities naar de Oost en de West*. Leiden, Museum Boerhaave.
- Hudon, D., 2004. A (not so) brief history of the transits of Venus. *Journal of the Royal Astronomical Society of Canada*, 98 (6), in press.

- Koorts, W.P., 2003. The 1882 transit of Venus and the Huguenot Seminary for Girls. *Monthly Notices of the Astronomical Society of South Africa*, 62, 198-211.
- Koorts, W.P., 2004. The 1882 transit of Venus: the British expeditions to South Africa. *Monthly Notices of the Astronomical Society of South Africa*, 63, 34-57.
- McDonald, P., 2002. The transit of Venus on 2004 June 8. *Journal of the British Astronomical Association*, 112, 319-324. [Note: while details of the up-coming transit are very useful, there are some glaring errors in the account of previous transits.]
- Orchiston, W., 2004. New South Wales observations of the 1874 transit of Venus. *Anglo-Australian Observatory Newsletter*, in press.
- Orchiston, W., Dick, S., Gurshtein, A., and Pigatto, L., 2002. The C41/ICHA Transits of Venus Working Group. 1: An introduction. *Journal of Astronomical History and Heritage*, 5, 185-188.
- Simaan, A., 2002. *La Science au Péril de sa Vie. Les Aventuriers de la Mesure du Monde*. Paris, Vuibert & Adapt [a section of this book deals with the French 1761 and 1769 transit of Venus expeditions].
- Simaan, A., Blamont, J., Cannat, G., Delaye, Y., Laudon, M., Luminet, J.-P., Sellers, D., et Roode, S. M. van, 2003. *Vénus Devant le Soleil. Comprendre et Observer un Phénomène Astronomique*. Paris, Vuibert & Adapt.
- Young, A.T., 2001. Venus and refraction. *The Observatory*, 121, 176-178 [about contact timings and the 'black drop' effect].
- Zuidervaat, H., 1999. *Van 'Konstgenoten' em Hemelse Fenomenen: Nederlandse Sterrenkunde in de Achttiende Eeuw*. Rotterdam, Erasmus Publishing [Ph.D. Thesis, University of Utrecht; the transits are treated in Chapters 12-17].

The web site of the Royal Astronomical Society of Canada also contains a lengthy paper on "Transits of Venus from a Canadian perspective." The URL is:

<http://www.rasc.ca/historical/transit.pdf>

The June 2004 issue of the *Journal of Astronomical History and Heritage* will be devoted to transits of Venus, and will contain the following papers:

- Duerbeck, H. The German transit expeditions of 1874 and 1882: organisation, methods, stations, results.
- Edwards, P. Charles Todd's observations of the 1874 and 1882 transits of Venus.
- Fioravanti, R., Monaco, G., Pigatto, L. and Zanini, V. Italian observations of the 1882 transit of Venus.
- Gent, R. van, Staubermann, K., and Hooijmaijers, H. The Dutch transit of Venus expeditions to Réunion (1874) and Curaçao (1882).
- Orchiston, W. The nineteenth century transits of Venus: an Australian and New Zealand overview.

Orchiston, W., and Buchanan, A. 'The Grange', Tasmania: survival of a unique suite of 1874 transit of Venus relics.

Sterken, C., and Duerbeck, H. The 1882 Belgian transit of Venus expeditions to Texas and Chile—a reappraisal.

All of these papers derive from the WG4 (Transits of Venus) meeting at the July 2003 General Assembly of the IAU in Sydney.

Meanwhile, the next issue of the *Journal of Astronomical Data* (*JAD* 10, to appear at the end of 2004) will have a special Transit of Venus section. Foreseen contributions are:

Gent, R.H. van. Transits of Venus bibliography.

Misch, A. & Sheehan, W. The 1882 transit of Venus reanimated.

These are provisional titles and have yet to be finalised. Since *JAD* is issued on CD, contributions containing extensive observational data, tables, color and B&W images, archive listings, etc., are especially welcome, but also standard historical articles are accepted. Since the papers go through a refereeing process, submission before July 1 is encouraged, but late submissions are possible if the editors are informed about the contents and approximate size of the contribution by July 1. The editors are Chris Sterken (csterken@vub.ac.be) and Hilmar Duerbeck (hilmar@uni-muenster.de).

Those wanting to chase up already-published papers about different transits of Venus should consult the excellent bibliography prepared by Robert van Gent. See the following web site:

<http://www.phys.uu.nl/~vgent/venus/venustransitbib.htm>

And for a comprehensive transits of Venus web site, with plenty of historical information, readers are referred to:

<http://www.transitofvenus.org>

In the previous Newsletter we erroneously reported that the Scientific Instruments Society was jointly developing a transit of Venus web site. In fact, this web site is the work of the SIC Transit of Venus Committee of the Scientific Instrument Commission of the IUHPS/DHS. We regret this error, and look forward to working closely with the Commission and its Committee. Sara Schechner reports that the web site is still under construction, and contains a searchable database of linked instruments, people, places and transits, with relevant photographs. The site is organised as follows, and encourages people to contribute to it:

- Introduction—what is a transit of Venus, and who observe it?
- Stories—highlights from our resources
- Browse—explore the online collection through categories, people, places and dates
- Search—a free-text search for detailed questions
- Links—online resources, museum exhibits and events, and web sites devoted to the 2004 transit of Venus

- Contributors—view the contributors to the site and find out how to add your own resources to this web site

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IAU Transits of Venus Working Group Committee

M. The IAU Historic Radio Astronomy Working Group; 1: Progress Report

This new Working Group was established at the July 2003 IAU General Assembly in Sydney, with a view to:

- (1) assembling a master list of surviving historically-significant radio telescopes and associated instrumentation found world-wide;
- (2) documenting the technical specifications and scientific achievements of such instruments;
- (3) maintaining an on-going bibliography of publications on the history of radio astronomy;
- (4) monitoring other developments relating to the history of radio astronomy.

This was a joint initiative of Commissions 40 (Radio Astronomy) and 41 (History of Astronomy), and as such the new WG comes under the umbrella of both Commissions and Divisions X and XII.

Coincident with the formation of the WG at the General Assembly were 1.5 days of meetings about the history of radio astronomy, organised jointly by Commissions 40 and 41. Given Australia's pioneering efforts in international radio astronomy, it was only natural that such sessions should form part of the program at the Sydney GA, and it was pleasing to see that they drew capacity audiences. Science Meeting 2, on "The Early Development of Australian Radio Astronomy", ran all day on July 21, and attracted the following oral and poster papers:

- Sullivan, W. A half-century of Australian radio astronomy, 1939-1988: from wartime radar to the Australia Telescope.
 Minnett, H. Fifty years of radio science and its applications.
 Murray, J. The Penrith and Dapto solar radio spectrographs.
 Robinson, B. Joe Pawsey and his influence on the development of Australian radio astronomy.
 Slee, B. Early Australian measurements of radio source structure.
 Robinson, B. Early observations of the H-line in Sydney.

Murray, J. Development of the Murraybank multi-channel H-line receiver.
 McLean, D. The solar radio astronomy program at Culgoora: an historical overview.
 Suzuki, S. The Culgoora Spectropolarimeter.
 Duncan, R.A. History of the determination of Jupiter's rotation period.
 McAdam, B. From Molonglo Cross to MOST: a scientific appraisal.
 Batchelor, B., Brooks, J., & Sinclair, M. "Receiver development for the Parkes Radio Telescope."
 Milne, D., & Whiteoak, J. The impact of Frank Gardner on the first years of research with the Parkes Radio Telescope.
 Finlay, E., & Jones, B. The 30 MHz array at Fleurs.
 Robinson, B. URSI (Sydney) 1952: the first international meeting of radio astronomers.

Most of these papers dealt with the work at the various C.S.I.R.O. Division of Radiophysics field stations and at Parkes, although Bruce McAdam gave an excellent review paper about the University of Sydney's Molonglo Cross. Apart from Woody Sullivan's introductory overview—which effectively set the scene for the day—all of the papers were prepared by retired radio astronomers who were actively involved in Australian radio astronomy at one time or another during the period 1945–1988. In addition to the various papers, a video about Grote Reber was screened during lunchtime. This Science Meeting was organised by Miller Goss, Dave Jauncey, Ken Kellermann, Wayne Orchiston (Co-Chair), and Woody Sullivan (Co-Chair).

For those wanting yet more, Wayne Orchiston and Bruce Slee organised Science Meeting 5 on "Pioneering Observations in Radio Astronomy", which was held on the morning of July 22. This featured the following oral and poster papers:

Kellermann, K. Grote Reber: maverick scientist and father of radio astronomy.
 Radhakrishnan, V. Olof Rydbeck and early radio astronomy in Sweden.
 Sullivan, W. Wurzburg dishes: German WWII radar antennas vital to early radio astronomy in every country but Germany (and Australia).
 Orchiston W. Dr Elizabeth Alexander: first female radio astronomer?
 Goss, M. Ruby Payne-Scott (1912-1981): Australian pioneer in radiophysics and radio astronomy.
 Kardashev, N., & Matvenko, L.I. The early development of USSR radio astronomy.
 Goss, M., McGee, R., and Slee, B. The discoveries of Sagittarius A in New South Wales in 1951 and Sagittarius A* in West Virginia in 1974.
 Morimoto, M. Early Japanese mm-wave observations and their impact on international radio astronomy.
 Débarbat, S. Fifty years of radio astronomy in France.
 Jauncey, D., Lovell, J.E.J., Koyama, Y., Fey, A.L., Edwards, P.G., Aller, M.F., Aller, H.D., Klein, M.J., & the GAVRT Team. Interstellar scintillation observations: back to the future.

Orchiston, W., Chapman, J., Parsons, B., Sharp, P., Slee, B., & Wilcockson, B. Interpretation of the historic Dover Heights field station: an ATNF heritage project.

In addition to the two specialized sessions mentioned above, other historic radio astronomy papers were given in Science Meeting 1 (on a possible 500–2000 yr old SN in the Crux-Centaurus region recorded in Maori ‘star lore’), and Working Group Meeting 1 (an account of the ATNF’s Historic Photographic Archive and development of a digital database). It is hoped that all Australian-related papers from these various meetings will be brought together in a book.

Meanwhile, publications on the history of radio astronomy that have appeared since 1998 include:

- Birthday dish [40th Birthday of the Parkes Radio Telescope]. *Sky & Space*, 14(5), 18-27 (2001).
- Bracewell, R.A., 2002. The discovery of strong extragalactic polarization using the Parkes Radio Telescope. *Journal of Astronomical History and Heritage*, 5, 107-114.
- Davies, R.D., 2003. Fred Hoyle and Manchester. *Astrophysics and Space Science*, 285, 309-319.
- Finley, D.G., and Goss, W.M. (eds.), 2000. *Radio Interferometry: The Saga and the Science*. Green Bank, National Radio Astronomy Observatory (Workshop Number 27).
- Kellermann, K.I., and Moran, J.M., 2001. The development of high-resolution imaging in radio astronomy. *Annual Review of Astronomy and Astrophysics*, 39, 457-509.
- Menon, T.K., 2001. The discovery of the first HI shell in the Galaxy. In Taylor, A.R., Landecker, T.L., and Willis, A.G. (eds.). *Seeing Through the Dust. The Detection of HI and the Exploration of the ISM in Galaxies*. San Francisco, ASP (Conference Series, Volume 276). Pp. 23-26.
- Moran, J.M., 1998. Thirty years of VLBI: early days, successes, and future. In Zensus, J.A., Taylor, G.B., and Wrobel, J.M. (eds.). *Radio Emission from Galactic and Extragalactic Compact Sources*. San Francisco, ASP (Conference Series Volume 144). Pp. 1-10.
- Orchiston, W., 2001. Focus on history of Australian radio astronomy. *ATNF News*, 45, 12-15.
- Orchiston, W., 2004a. From the solar corona to clusters of galaxies: the radio astronomy of Bruce Slee. *Publications of the Astronomical Society of Australia*, 21, 23-71.
- Orchiston, W., 2004b. The rise and fall of the Chris Cross: a pioneering Australian radio telescope. In Orchardson, W., Stephenson, R., Débarbat, S., and Nha, I-S. (eds.). *Astronomical Archives and Instruments in the Asia-Pacific Region*. Seoul, Yonsei University Press. Pp. 157-162.
- Orchiston, W., and Slee, B., 2002a. The Australasian discovery of solar radio emission. *AAO Newsletter*, 101, 25-27.

- Orchiston, W., and Slee, B., 2002b. The flowering of Fleurs: an interesting interlude in Australian radio astronomy. *ATNF News*, 47, 12-15.
- Orchiston, W., and Slee, B., 2002c. Ingenuity and initiative in Australian radio astronomy: the Dover Heights hole-in-the-ground antenna. *Journal of Astronomical History and Heritage*, 5, 21-34.
- Orchiston, W., Chapman, J., and Norris, B., 2004. The ATNF Historic Photographic Archive: documenting the history of Australian radio astronomy. In Orchiston, W., Stephenson, R., Débarbat, S., and Nha, I-S. (eds.). *Astronomical Archives and Instruments in the Asia-Pacific Region*. Seoul, Yonsei University Press. Pp. 41-48.
- Radhakrishnan, V., 2001. The first twenty years. In Taylor, A.R., Landecker, T.L., and Willis, A.G. (eds.). *Seeing Through the Dust. The Detection of HI and the Exploration of the ISM in Galaxies*. San Francisco, ASP (Conference Series, Volume 276). Pp. 6-18.
- Robinson, B., 1999. Frequency allocation: the first forty years. *Annual Review of Astronomy and Astrophysics*, 37, 65-96.
- Robinson, B., 2001. Reminiscences of early 21-cm research at the C.S.I.R.O. In Taylor, A.R., Landecker, T.L., and Willis, A.G. (eds.). *Seeing Through the Dust. The Detection of HI and the Exploration of the ISM in Galaxies*. San Francisco, ASP (Conference Series, Volume 276). Pp. 19-22.
- Robinson, B., 2002. Recollections of the URSI 10th General Assembly Sydney 1952. *The Radio Science Bulletin*, 300, 22-30.
- Steinberg, J.-L., 2004. Les cinquante ans de Nançay. *L'Astronomie*, 118, 5-9.
- Sullivan, W.T., 2000. Kapteyn's influence on the style and content of twentieth century Dutch astronomy. In Kruit, P.C. van der, and Berkel, K. van (eds.). *The Legacy of J.C. Kapteyn*. Dordrecht, Kluwer. Pp. 229-264.
- Sullivan, W.T., 2001. The cultural value of radio astronomy. In Cohen, R.J., and Sullivan, W.T. III (eds.). *Preserving the Astronomical Sky*. San Francisco, ASP. Pp. 369-376.
- Tarter, J., 2001. The search for extraterrestrial intelligence (SETI). *Annual Review of Astronomy and Astrophysics*, 39, 511-548.
- Westerhout, G., 2001a. The pioneers of HI. In Taylor, A.R., Landecker, T.L., and Willis, A.G. (eds.). *Seeing Through the Dust. The Detection of HI and the Exploration of the ISM in Galaxies*. San Francisco, ASP (Conference Series, Volume 276). Pp. 3-5.
- Westerhout, G., 2001b. The start of 21-cm line research: the early Dutch years. In Taylor, A.R., Landecker, T.L., and Willis, A.G. (eds.). *Seeing Through the Dust. The Detection of HI and the Exploration of the ISM in Galaxies*. San Francisco, ASP (Conference Series, Volume 276). Pp. 27-33.

We are keen to build up a definitive bibliography on the history of radio astronomy, and would like to hear of other recent publications—particularly in languages other than English—which are not included in the above list (e-mail details to: Wayne.Orchiston@csiro.au).

An up-coming conference with a significant historical radio astronomy component is “The New Astronomy: Opening the Electromagnetic Window and Expanding our View of Planet Earth. A Meeting to Honor Woody Sullivan on his 60th Birthday”. This will be held at the University of Washington, Seattle, from 16 to 18 June 2004, and a separate notice (including the URL of the web site) appears elsewhere in this *Newsletter*. Confirmed contributors of radio astronomy papers include Frank Drake, Miller Goss, Alastair Gunn, Richard Jarrell, Ken Kellermann, Wayne Orchiston and Richard Strom.

With the passing of the years, increasing numbers of radio astronomy pioneers are being taken from us. Those who have died within the last three years include Semion Braude (Ukraine), Frank Gardner (Australia), Robert Hanbury Brown (U.K. and Australia), Victor Hughes (U.K. and Canada), Harry Minnett (Australia), Grote Reber (U.S.A. and Australia), Gordon Stanley (Australia and U.S.A.), Kevin Westfold (Australia), and Don Yabsley (Australia). Obituaries for Gardner and Minnett are in active preparation, while for Hanbury Brown, Reber, Stanley, Westfold and Yabsley refer to the following publications:

Browne, G., & Burge, E., 2001-2002. Kevin Charles Westfold 24 August 1921–3 October 2001. *Trinity Today*, Number 59 [Electronic Newsletter of Trinity College, University of Melbourne. URL:

<http://www.trinity.unimelb.edu.au/publications/trinitytoday/>].

Hanbury Brown, R., 1991. *Boffin. A Personal Story of the Early Days of Radar, Radio Astronomy and Quantum Optics*. Bristol, Adam Hilger.

Kellermann, K., 2003. Obituaries: Gordon James Stanley. *Physics Today*, 56(2), 74-75.

Kellermann, K., 2003. Obituaries: Grote Reber, 1911–2002. *Bulletin of the American Astronomical Society*, 35, 1472-1473.

Kellermann, K.I., 2003. Obituary. Grote Reber (1911-2002). *Nature*, 421, 596.

Kellermann, K.I., Orchiston, W., and Slee, B., n.d. Gordon James Stanley and the early development of radio astronomy in Australia and California. Submitted to *Publications of the Astronomical Society of Australia*.

Orchiston, W., 2004. Solar radio astronomy at the short-lived Georges Heights field station. *ATNF News*, in press. [About Lehany and Yabsley]

Orchiston, W., and Slee, B., 2002. Vale Gordon Stanley. *ATNF News*, 46, 3.

Tyson, J.A., 2003. Obituaries: Grote Reber. *Physics Today*, 56(8), 63-64.

Hanbury Brown’s autobiography is captivating reading, and far more scintillating than any obituary!

Semion Braude was Ukraine’s foremost radio astronomer, and Gregory Tsarevsky kindly arranged for his colleagues to provide us with biographical notes which were used in compiling the following brief account.

Semion Yakovych Braude was born on 28 January 1911 in Poltava, Ukraine, and in 1932 graduated from the Kharkov Institute of Physics, Chemistry and Mathematics (now the Kharkov National University), where he had studied physics. He subsequently obtained a Ph.D. (1937) and Doctor of Technics (1943). From 1933

until 1955 he worked at the Institute of Physics and Technology of the Academy of Sciences of Ukraine, rising to Department Head (1949-1955). In 1955 he was appointed Scientific Deputy Director of the Institute of Radio Physics and Electronics Engineering, NASU, and from 1980 to 1987 was Head of the Department. From 1987 until his death he was a Councillor for the Directorship of the Institute.

Braude's initial research fields were radio-location and radio-oceanography, but in 1957 he turned his attention to radio astronomy. He then established an observatory in the Kharkov region where he and his colleagues erected a number of high-yield broadband decametric radio telescopes, the largest and best-known being the UTR-2. He was behind the URAN Project, which involved a VLBI network of decametric antennas that was used for a high-resolution survey of selected radio sources. He was an important pioneer in decametric radio astronomy.

Over the years, Professor Braude published more than 270 monographs and papers, and received many honours from both the Ukraine and the USSR. He was a man of talent, wide erudition, inexhaustible energy and capacity to work, rare charm and kindness. He was sociable and witty, and will be remembered by everyone who was lucky to commune with him. With his passing, on 29 June 2003 at the age of 92, the scientific community lost an outstanding radio astronomer.

Finally, like other C40 members we were shocked to hear of Lucia Padrielli's death on 22 December 2003. Lucia was Chair of Commission 40 when plans for the formation of our WG were in train, and she gave us her whole-hearted support and encouragement. We extend our condolences to her family, her colleagues and her institute.

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IAU Historic Radio Astronomy Working Group Committee

N. The Struve Geodetic Arc (Press Release)

The International Institution for the History of Surveying and Measurement - an Organisation within the International Federation of Surveyors (FIG) - is proud to announce that on 28 January 2004 a dossier, together with a letter from the Finnish Minister of Culture, Mrs Tanja Karpela, was submitted to the World Heritage Committee of UNESCO for the possible inscription of selected surviving survey stations of the Struve Geodetic Arc as a World Heritage Monument. This was done by the Government of Finland on behalf of the Governments of the ten countries

through which the meridian arc passes, i.e. the Governments of Norway, Sweden, Finland, Russia, Estonia, Latvia, Lithuania, Belarus, Moldova and the Ukraine representing their National Survey Departments.

The Struve Geodetic Arc was measured over the 40 years from 1816 to 1855 and stretches from Fuglenaes near North Cape in Norway (latitude 70° 40' 11N) to near Izmail on the Black Sea (latitude 45° 20' 03N). A distance of 2820 km or 25° 20' 08 of arc. In longitude the 265 stations lie between 22° 30' and 30° E.

Actually 34 of the surviving station marks have been selected for the present submission and these lie in ten different countries in today's geography (see above). The idea to seek a declaration to preserve a selection of the remaining Struve Arc points as a World Heritage site was originally presented by Aarne Veriö at a Scientific Conference in Tartu in 1993 where a Resolution was made. A corresponding Resolution proposed by Seppo Härmälä was then made at the FIG Congress in Melbourne in 1994 and the work to get all the necessary material together from these countries was initiated by Jan de Graeve and Jim Smith of the I.I.H.S.M. It gathered pace during the latter five years particularly with the help of Vitali Kaptjug from Russia. For the last 1½ years the Survey of Finland under Surveyor General Jarmo Ratia and his colleague Pekka Tätilä took over the task of assembling, collating, checking and reproducing all the documentation for the final submission document. However the whole project would not have been possible without the exceptional and unstinting support of the survey organisations and appropriate government departments in all the countries named above.

It is understood that it might be June 2005 before a decision is known but aside from that the project has graphically illustrated how surveyors and their political masters across ten countries can cooperate on a scheme of this sort. In fact it is the first such multi-country, cross border submission of a project and of a scientific nature which in itself meant that there was little by way of a precedent to follow.

As the first multi-country meridian arc it was a great step forward and it was not initially planned as one system. F G W Struve was working to the north whilst initially unbeknown to him a Russian military officer Carl F de Tenner was operating in a similar manner to the south. When it was decided to link up it was not a simple case of observing a common triangle as there were problems of reconciling two different units of measurement, the different instrumentation used and the political goodwill between the countries involved.

In the late 1800s David Gill in S Africa was starting out on a similar arc that would eventually go from Buffelsfontein near Port Elizabeth right through E Africa to near Cairo. He had the notion that this arc could be connected to that of Struve and produce one arc of 105° length or over 11 500 km. He was of the opinion that Struve's son Otto had already extended the Arc of his father and Tenner to Crete but to date only details of the reconnaissance can be found, nothing to say that the work was actually carried out.

The preservation of these selected points will assist future generations to monitor the evolution of the geoid on which we live.

J. R. Smith

Contact addresses for further details of the arc measurement and the project as a whole:

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O. Earth Dial – a new project: Mars landers create opportunity for Web-linked sundials around the world (Press Release)

Herbert Hoover reputedly wanted a car in every garage and a chicken in every pot. Woodruff Sullivan would settle for a sundial in every backyard. Sullivan, a University of Washington astronomy professor, is teaming up with television personality Bill Nye, "the science guy," and The Planetary Society on EarthDial, a project to get schools, community organizations and individuals around the world to build their own sundials and display them on the Internet using 24-hour webcams.

Their hope is to have a broad sample of sundials from each time zone, illustrating the difference in shadows between the northern and southern hemispheres and the equator. The plan is to display the images together on a single Web site during the working life of two Mars landers, Spirit and Opportunity, that are scheduled to land on the red planet in January.

Both Spirit and Opportunity are equipped with sundials, referred to as Marsdials, that were largely designed and fabricated at the UW. They evolved from earlier Mars missions that were to land on Mars in 2002 but were postponed. In examining the plans for those missions, Nye noticed a small square and post that were to be used as a kind of test pattern to calibrate the spacecraft's color panoramic camera. He suggested that it could double as a sundial.

Now he and Sullivan, a sundial expert, have devised what they call the EarthDial project in which they are providing sundial construction plans that are adaptable for any place on Earth. Though each EarthDial will have room outside the main circle for individual touches and expressions of local culture, everything within that circle is expected to be relatively uniform so that they will be similar to each other and representative of the Marsdials.

"We'll have all the dials around the Earth and the two dials on Mars with the same general design," Sullivan said. "And they will have the same motto – 'Two Worlds, One Sun.'"

A big difference is that the motto, inscribed in English on the Marsdials, will be in the local language of each EarthDial built for the project. In addition, the Marsdials carry an inscription of "Mars 2004," while the EarthDials will be inscribed "Earth 2004," also in the local language.

The cost to individuals, schools and groups undertaking an EarthDial project is likely to be around \$50 for building materials, plus the cost of acquiring and maintaining a webcam with around-the-clock Internet connection that refreshes the image regularly.

The EarthDials will be about 32 inches across, 10 times the size of the Marsdials. At any time, half of the EarthDials will be in darkness, Sullivan said, but displayed together on a Web page they will provide a unique look at the world. "You'll get a palpable sense of what time is on this globe," he said. "As your eye sweeps across the screen, you'll see the shadow angles changing just like the hands on a clock in different time zones."

The project is being conducted in partnership with The Planetary Society, an organization that encourages exploration of the solar system and the search for extraterrestrial life. The society will host the EarthDial Web site throughout the Spirit and Opportunity missions on the Martian surface. Sullivan expects the project will prove to be a valuable education tool.

"Any teacher should be able to use this site for all kinds of interesting things having to do with timekeeping and with Earth as a planet," he said. Those who want to build their own EarthDials can find further information and construction plans at <http://www.planetary.org/mars/earthdial.html>

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P. Journals and Publications

✓ Archaeoastronomy. The journal of astronomy in culture

Vol. XVII, 2002 – 2003

- **Dennis Tedlock and Barbara Tedlock:** The Sun, Moon, and Venus among the Stars: Methods for Mapping Mayan Sidereal Space
- **Norm Hammond:** Solstice Markers at "House of Two Suns"
- **César Esteban:** Some Notes on Orientations of Prehistoric Stone Monuments in Western Polynesia and Micronesia
- **Patty A. Hardy:** The Cairo Calendar as a Stellar Almanac
- **Joan Relke and Allan Ernest:** Ancient Egyptian Astronomy: Ursa Major – Symbol of Rejuvenation
- **Marcello Ranieri:** Geometry at Stonehenge
- **Ioannis Liritzis and Helen Vassiliou:** Archaeoastronomical Orientation of Seven Significant Ancient Greek Temples

Book reviews:

- **Skywatchers**

A Review of: *Skywatchers* by Anthony F. Aveni (reviewed by Stanislaw Iwaniszewski)

- **Tombs, Temples and their Orientations**

A Review of: *Tombs, Temples and their Orientations: a new Perspective on Mediterranean Prehistory* by Michael Hoskin (reviewed by Juan Antonio Belmonte)

- **Angkor Wat: Time, Space, and Kingship**

A Review of: *Angkor Wat: Time, Space, and Kingship* by Eleanor Mannikka (reviewed by J. McKim Malville)

- **Il Disegno della luce nell'architettura cistercense**

A Review of: *Il Disegno della luce nell'architettura cistercense. Allineamenti astronomici nelle abbazie di Chiaravalle della Colomba, Fontevivo e San Martino de' Bocci* by Manuela Incerti (reviewed by Renzo Baldasso)

- **The Composition of Kepler's Astronomia nova**

A Review of: *The Composition of Kepler's Astronomia nova* by James R. Voelkel (reviewed by A. E. L. Davis)

Film review:

- **The Mystery of Chaco Canyon**

A Review of: *The Mystery of Chaco Canyon* by Anna Sofaer (reviewed by Ruth Van Dyke)

Constance McCluskey

✓ **Rittenhouse (Astronomical papers)**

Vol. 17 #2 (issue 58)

- **Thomas B. Greenslade Jr.**, Apparatus for natural philosophy: the radio micrometer of c.v. Boys, pp. 64-70.

Web page: www.rittenhousejournal.org (includes cumulative index to all 15 volumes)

Editor: Dr. Steven Turner, e-mail: turners@si.edu

Randall Brooks, Curator, Physical Sciences & Space
Canada Science & Technology Museum
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✓ Contributions on history of geophysics and cosmical physics

The following titles in this series of books appeared in 2003 or under press:

IV, 3: Noctilucent clouds (Development, History, Observations), 187pp, tables and photos.

V, 1: Hermann Fritz and the foundation of auroral physics. The book includes biography, new photos, and selected papers by Hermann Fritz, 60 pp, Photos.

V, 2: Wilhelm Foerster and the solar-terrestrial Physics. The book includes biography and selected papers of Foerster in astronomy, Krakatoa, geophysics and cosmical physics. Under press.

V, 3: Some aspects in the development of earlier solar-terrestrial physics. The book consists of an introduction, and selected papers by Alexander von Humboldt, K. Hardenberg, W. Ritter, H. Schwabe, and others from the 19th century.

Contact also: <http://verplant.org/history-geophysics>

For more information and order, contact: Science Edition Publ., Hechelstrasse 8, D-28777 Bremen, Germany

Books 2000/2003

- **Heck A.** (ed.), 2003. Organizations and Strategies in Astronomy, vol. IV <http://vizier.u-strasbg.fr/~heck/s4toc.htm>
- **Hentschel, K. and Wittmann, A.** (eds.), 2000: The Role of Visual Representations in Astronomy: History and Research Practice, Frankfurt: Harri Deutsch, (= Acta Historica Astronomiae, vol. 9; 148 pp., 33 figs.)
- **Hentschel, K.** (ed.), 2002. Mapping the Spectrum: Techniques of Visual Representation in Research and Teaching, Oxford and New York: Oxford Univ. Press, (xiii+562 pp., 131 b+w figs., 4 color plates).
- **Schröder, W.** (ed.), 2003. Hermann Fritz and the foundation of auroral research. D-28777 Bremen: Science Edition 57 page, 2 photo-tables.

Some research papers by C41/ICHA members - 2001/2003

- **Brush, S. G.**, 2001. "Is the Earth too old? The Impact of Geochronology on Cosmology, 1929-1952" in Lewis, C. L. E. & Knell, S. J., editors, The Age of the Earth: From 4004 bc to ad 2002, pages 157-175 (*Geological Society, London, Special Publications*, No. 190)
- **Hentschel, K.**, 2001. 'Das Brechungsgesetz in der Fassung von Snellius. Rekonstruktion seines Entdeckungspfadens und eine "Übersetzung seines lateinischen Manuskriptes sowie ergänzender Dokumente', *Archive for History of Exact Sciences* 55 [2001], pp. 297-344.

- **Hentschel, K.**, 2002. "Spectroscopic portraiture", *Annals of Science* 59, pp. 57-82.
- **Hentschel, K.**, 2002. "Why not one more Imponderable?: John William Draper and his 'Tithonic rays' ", *Foundations of Chemistry* 4, issue 1, pp. 5-59.
- **Hentschel, K.**, 2002. "Zur Geschichte visueller Darstellungen von Spektren", *Naturwissenschaftliche Rundschau* 55, pp. 577-587.
- **Hentschel, K.**, 2003. "Spectroscopy or Spectroscopies?", *Nuncius* 17, 2 [2002/03] pp. 589-616.
- **Heck, A.**, 2002. "The impact of new media on 20th century astronomy", *Astronomische Nachrichten* 323, 6, 542-547.
- **Orchiston, W.**, 2003a. Amateur telescope making in Australia. An historical perspective. In: Cook, W.J. (ed.). *The Best of Amateur Telescope Making Journal. Volume 2*. Richmond, Willmann-Bell. Pp. 208-239.
- **Orchiston, W.**, 2003b. Australia's earliest planispheres. *Journal of the British Astronomical Association* 113, 329-332.
- **Orchiston, W.**, 2004a. From the solar corona to clusters of galaxies: the radio astronomy of Bruce Slee. *Publications of the Astronomical Society of Australia* 21, 23-71.
- **Orchiston, W.**, 2004b. The rise and fall of the Chris Cross: a pioneering Australian radio telescope. In: Orchiston, W., Stephenson, R., Débarbat, S., and Nha, I-S. (eds.). *Astronomical Archives and Instruments in the Asia-Pacific Region*. Seoul, Yonsei University. Pp. 157-162.
- **Orchiston, W.**, Chapman, J., and Norris, B., 2004. The ATNF Historic Photographic Archive: documenting the history of Australian radio astronomy. In: Orchiston, W., Stephenson, R., Débarbat, S., and Nha, I-S. (eds.). *Astronomical Archives and Instruments in the Asia-Pacific Region*. Seoul, Yonsei University. Pp. 41-48.

Q. News

✍ **A new book: *Astronomical instruments and archives from the Asia-Pacific region***

In July 2002, C41/ICHA held an international conference in Cheongju, Korea, on "Astronomical Instruments and Archives from the Asia-Pacific Region". Most of the papers from this conference are now available in a hard-cover book, which has just been published by Yonsei University Press in Korea. This volume runs to 204 pages, and includes many coloured photographs.

Copies cost \$US85:00 (includes postage and packaging), and orders should be directed to Professor Nha Il-Seong by e-mail on: SLISNHA@chollian.net

Wayne Orchiston, Richard Stephenson, Suzanne Débarbat, Nha Il-Seong (Editors)

/// Astronomy In The Baghdad Of The Caliphs

A lecture on this subject has been held on June 13th 2003 in Frankfurt by Prof. David King, who has indicated the following related websites:

www.uni-frankfurt.de/fb13/ign/astronomy_in_baghdad/lecture.html

www.uni-frankfurt.de/fb13/ign/astronomy_in_baghdad/bibliography.html

King's Web-page: <http://www.uni-frankfurt.de/fb13/ign/ign2/people/kinge.html>

King's Publications to 2001 listed at: <http://www.ecademics.org/oasis/king.html>

For research in Frankfurt on medieval instruments see especially:

<http://www.uni-frankfurt.de/fb13/ign/instrument-catalogue.html>

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Secretary (Herr Wagner) –2337, Librarian (Herr Dyga) -2338

/// Doggett Prize

The Historical Astronomy Division of the American Astronomical Society is pleased to announce that Michael Hoskin has been awarded the fourth LeRoy E. Doggett Prize for Historical Astronomy. The award of the Prize was for his distinguished career and publication record that has significantly influenced the field of the history of astronomy.

With this award, the AAS has invited Michael to give the Doggett Prize Lecture at a plenary session at the AAS meeting in Atlanta, and it has been provisionally scheduled for Monday, January 5, 2004, at 11:40 am. For his Lecture, he will speak about "The REAL Caroline Herschel."

As a leading expert on William Herschel, Hoskin has written broadly on the Herschel family and its achievements. Last spring he published his latest contribution, *The Herschel Partnership: As Viewed by Caroline*. This work, which contains a wide variety of previously untapped archival material, will be the definitive source for Caroline Herschel's biography for many years to come. In a separate volume Hoskin has also edited the two autobiographies that Caroline wrote at different times of her life.

His other recent books demonstrate his broad perspectives in the field. They include *The Cambridge Illustrated History of Astronomy* (1997), *The Cambridge Concise History of Astronomy* (1999), and *Tombs, Temples and Orientations:*

A new perspective on Mediterranean Prehistory (2001). The last volume, which summarizes many seasons of fieldwork around the Mediterranean basin, is a significant and original contribution to archaeoastronomy.

Hoskin has long been renowned for both his scholarship and the high standards he has maintained in editing and publishing. In 1970 he founded the *Journal for the History of Astronomy* and has since served as its editor. The *Journal*, which is now in its 34th year, has helped to define the field of historical astronomy and give it a central focus. It was primarily for his lifetime work on *JHA* that he was honored in 2001, when Minor Planet (12223) Hoskin was named after him.

Since 1969 Hoskin has been a Fellow at Churchill College, Cambridge. When he learned that he was to be the fourth recipient of the Doggett Prize, he wrote: "The Prize is indeed a very great honour, and although it is the result of the initiative of the historians of a particular country, it is as yet the only prize in our field and this award to a non-American raises it to international status. I am very grateful to you and your colleagues for this compliment which will provide a highlight to my career."

His lecture will be preceded by the presentation to him of The LeRoy E. Doggett Prize for Historical Astronomy.

(Almost all of the preceding material was prepared by Barbara Welther, Past Chair of the HAD)

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brashearr@si.edu, www.sil.si.edu/SpecialCollections/index.htm

**/// The New Astronomy: Opening the Electromagnetic Window and
Expanding our View of Planet Earth"**

A Meeting to Honor Woody Sullivan on his 60th Birthday

University of Washington, Seattle (USA), 16-18 June 2004

LOC: Bruce Hevly, Karl Hufbauer (Co-Chairs), Bruce Balick and Jim Evans.

SOC: Wayne Orchiston (Chair), John Baross, Ron Bracewell, David DeVorkin, Steve Dick, Ken Kellermann, Robert Smith, Richard Strom and Virginia Trimble.

Conference Themes:

- (1) History of non-optical and space astronomy, and how it has changed astronomy overall (with some emphasis on radio astronomy).
- (2) A cultural look at how our views of planet Earth (and of us) have been changed by the past fifty years of astronomy and space exploration (with some emphasis on astrobiology topics, particularly extraterrestrial life).

Woody's Vision of 'Woodfest'

"In general I'm fascinated with the mutual influences of astronomy and culture on each other. I'd like to see the meeting be different from normal in having a much larger fraction than usual of papers that 'step back' and look at: where we are in astronomy and astrobiology (life in the Universe) and how we got here in the early twenty-first century, with a special emphasis on the past fifty years (but not strictly confined to that period). Current scientific research results are not excluded, but they should always be placed in the above context. Therefore, speakers should attempt much broader and integrative topics than they (perhaps) normally do. Talks should be as broad as speakers are willing to tackle, but of course still grounded in concrete examples and case studies. Here's a chance to try out some speculations, syntheses, assertions, etc.!"

Deadline for Offers of Papers: 15 April 2004.

Registration Fee: US\$80

Conference Dinner: Thursday 17 June (Woody's Birthday).

Optional Excursions: Saturday 19 June.

Further Details & On-line Registration:

<http://faculty.washington.edu/bhevly>

Wayne Orchiston
Anglo-Australian Observatory and Australia Telescope National Facility
wo@aaoepp.aao.gov.au or Wayne.Orchiston@csiro.au

/// Scientific Instrument Collections in the University

An International Symposium Co-Sponsored by the Scientific Instrument Commission, The National Science Foundation and Dartmouth College
Dartmouth College, 24-27 June 2004

Although hundreds of universities and colleges have preserved historic scientific apparatus, many of these collections remain less than fully accessible and may even be virtually unknown outside of (and within) their home institutions. Yet these collections, taken individually, provide unique windows into the history of scientific research, pedagogy and popularization. Taken collectively, they represent a vast resource for research and teaching that is not duplicated in large national collections of historic scientific instruments.

The purpose of the Dartmouth Conference is to stimulate creative thinking about potential futures for these university collections. In particular, we hope:

1. To encourage the development of a network among these collections and their caretakers.
2. To provide a forum to discuss practical problems that pertain to such collections, including acquisition, cataloguing and documentation, storage, access, exhibitions, preservation, environmental safety, and security.

3. To explore ways to raise the profile of these collections on campus and to enhance opportunities to use them for teaching and research.
4. To share scholarly information about scientific instruments at universities, their histories and the collections in which they reside.

In addition to several invited panels and a keynote address, the conference will feature contributed papers and posters. We invite proposals for paper or posters on the following topics:

- a. Practicalities of collection management, curatorial interpretation, and the relationship of the holdings and their caretakers to other university collections, departments, museums or administrative entities.
- b. Uses for university instrument collections, such as undergraduate or graduate teaching, research, online or onsite exhibitions, and celebration of local heritage.
- c. Histories of particular collections, collectors, or site-specific instruments; and histories of instruments or scientific practice as informed by the holdings of university collections considered collectively.

The SICU Planning Committee

Francis Manasek (chair), Richard Kremer, David Pantalony, Sara Schechner

/// The European Scientist-Symposium on the era and work of Franz Xaver von Zach (1754-1832), Budapest 15-17 September 2004

First Announcement

Purpose

This symposium celebrates the era and work of Franz Xaver von Zach on the 250th anniversary of his birth. The meeting will bring together international experts in the history of science to present papers on the following topics.

Topics covered

Biographical aspects, Scientific periodicals, Meetings of scientists, Enlightenment freemasonry and religious orders, Interaction with politics, The role of "managers of science", Gauss and the Hungarian science, The evolution of star catalogues, Minor planets and celestial mechanics, Astrogeodetic instruments, Local and global geodesy and navigation, Civil and military cartography, Geography and geophysics.

Dates

Sept. 15 to Sept. 17, 2004. The symposium precedes the autumn meeting of the Astronomische Gesellschaft, held in Prague at Sept. 20-25, 2004.

Venue

The meeting will take place in the main building of the Hungarian Academy of Sciences in Budapest, Hungary.

Accommodation

In medium category hotels, next to the building of the Hungarian Academy of Sciences, cost per night: 65 Euro in a single and 85 Euro in a double room (including breakfast).

Participation

Participation is open for everybody who is interested in this subject.

Registration

Interested participants are invited to register with the enclosed registration form. There is no registration fee. Accompanying persons are welcome.

Proceedings

We intend to publish proceedings of the symposium.

Scientific Organizing Committee:

Peter Brosche (Daun/Bonn, chairman), Jim Caplan (Marseille), Anita McConnell (London), Gudrun Wolfschmidt (Hamburg).

Local Organizing Committee (Budapest):

Bela Balazs, Lajos G. Balazs (chairman), Laszlo Parkos, Magda Vargha, Endre Zsoldos.

REGISTRATION FORM

The era and work of Franz Xaver von Zach

Budapest 15-17 September

Family name: _____ First name: _____

Postal address: _____

Fax: _____ E-mail address: _____

Number of accompanying persons: ☐

I would like to present a paper:

Title _____

Authors _____

Intended duration of talk: ☐☐

Abstract: _____

/// The Fifth International Conference on Oriental Astronomy

Chiang Mai, Thailand, 4-8 October 2004

The Fifth International Conference on Oriental Astronomy will be held in Chiang Mai University, celebrating its 40 years, Chiang Mai, Thailand, October 4-8, 2004. Besides sessions on historical records of observations, instruments and institutions, star atlases and catalogues, calendar and calendar makings, exchanges of information, and teaching of astronomy in the Orient, there are two special sessions. One is to commemorate the 200th anniversary of the birth of King Rama IV, father of Thai science, the other is to commemorate the 400th anniversary of the galactic supernova of 1604.

The formal announcement is given on the web-site:

<http://www.science.cmu.ac.th/icoa-5>

and the registration form is on:

<http://www.science.cmu.ac.th/icoa-5/icoaregis.html>

Kwan-Yu Chen

/// European Society for the History of Science

European societies or federations exist in a number of disciplines. Such bodies reflect a growing awareness of the benefits that international collaboration within Europe can bring. The benefits have been fully recognized within the International Council of Scientific Unions, and for some time now one of ICSU's priorities has been to further the coordination of scholarly and scientific activity on the European scale.

Despite recent progress, some fields still lack a European organization. The history of science is one of these. A recommendation in favour of the establishment of a European society was advanced by the European Union in 1998, and now, five years on, that recommendation has been implemented.

Following some months of discussion, the European Society for the History of Science was founded in October 2003 at a meeting in Paris attended by representatives from nine countries. At the founding General Assembly, held on 12 October 2003 in Sorbonne, in the premises of the Ecole Pratique des Hautes Etudes, IVe section, the following officers were elected:

Robert Fox (Oxford) President

Eberhard Knobloch (Berlin) Vice-president and President-elect

Claude Debru (Paris) Vice-president

Erwin Neuenschwander (Zurich) Treasurer

Stéphanie Dupouy (Paris) Secretary

The society is planning a number of initiatives aimed at promoting contacts between scholars across Europe and advancing the interests of the history of science in education. Its website is being developed as a means of coordinating and publicizing activities on the European scale. Another core initiative will be the

holding of regular European congresses. The first of these, organized in association with the Dutch national society Gewina and the University of Maastricht, will take place in Maastricht from 4 to 6 November 2004. Further details of this congress, which will Membership of the society will be open both to individuals and to societies and other institutions with appropriate aims. Arrangements for the collection of the annual subscription, currently fixed at 20 euros for individual members, 100 euros for institutional members, and a minimum of 200 euros for supporting members, will be announced in the society's first newsletter, to be published shortly in electronic form.

For further information about the society, please contact the secretary, Stéphanie Dupouy, Département de Philosophie, Ecole normale supérieure, 45 rue d'Ulm, 75005 Paris, France (email: stephanie.dupouy@ens.fr).

/// Sharing the celestial sphere: A conference under the joint auspices of IAU and IUHPS/DHS, July 2005

Ever since human beings learnt to walk upright, they have looked at the sky and wondered. The sky has remained the same but the human perception of it has evolved. First a divinity to be feared and propitiated; then a phenomenon to be observed and utilized; and finally now a physics laboratory: the outer space over the ages has acquired depth, figuratively and literally, in keeping with the changing patterns of humankind's relationship with its cosmic environment.

To know where we stand on the earth we must take the help of the stars. as well as have a collaborator (at a different longitude). We all carry our half of celestial sphere. No individual, group or nation no matter how wealthy, powerful or well equipped, can have the whole celestial sphere to oneself. Thus exploration and sharing have been the hallmark of astronomical studies.

How different cultural groups through the millennia have responded to the sky above them; how they have tried to learn about it; how they have utilized this knowledge; how this knowledge has shaped them; how science and technology have emerged from this exercise and how in turn they have influenced this quest are fascinating questions the answers of which are important in the context of different histories.

The purpose of this conference would be to formulate some of the questions and seek answers in a cross-cultural, civilizational perspective. Towards this end, it is proposed to have about 12 oral presentations, of 15-25 minute duration spread over three sessions and a number of poster papers. A Core Committee (see below) invites and will select oral and poster papers, on the basis of their content and intellectual rigour. All interested in various aspects of history of astronomical science are encouraged to submit extended abstract or full-length papers for consideration. You can e-mail to all the members who individually or multiply can act as referees.

Core Committee

Rajesh Kochhar (Co-chair), Alex Gurshtein (co-chair), Il-Seong Nha, Luisa Pigatto and Clive Ruggles.

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/// History of Astronomy Displays and Exhibitions

☞ Chasing Venus : Observing the Transits of Venus, 1631-2004
Smithsonian Institution Libraries, March 24, 2004 - April 3, 2005

The Smithsonian Institution Libraries is pleased to announce the opening of its current exhibition, "Chasing Venus: Observing the Transits of Venus, 1631-2004", at the Libraries' Exhibition Gallery located in the National Museum of American History, 14th & Constitution Ave. NW, Washington D.C. "Chasing Venus" will tell the story of the transits of Venus using the marvelous illustrations in the rich collection of rare books from the Smithsonian Libraries, supplemented by appropriate artifacts from the National Museum of American History and the United States Naval Observatory.

For further information go to:

www.sil.si.edu/exhibitions/chasing-venus

A series of five (5) noontime public lectures is scheduled to commence on April 8. Lectures start at 12:00 noon -- FREE and open to the public, Leonard Carmichael Auditorium, National Museum of American History, Behring Center. Lecture Series funding provided by NASA Office of Space Science.

For further information go to:

<http://www.sil.si.edu/exhibitions/chasing-venus/education.htm>

Ronald Brashear
Curator, "Chasing Venus: Observing the Transits of Venus, 1631-2004"
Head, Special Collections and Dibner Library,
Smithsonian Institution Libraries

/// Obituaries

Simeon Ya. Braude, outstanding radiophysicist, the founder of the decametric astronomy, the founder and former director of the Ukrainian Radio Astronomical Institute (Kharkov) passed away on July 1st 2003 of age 93.

Nikolay Kardashev, Gregory S. Tsarevsky

Bernard Cohen, Victor S. Thomas Professor of the History of Science Emeritus at Harvard University and one of the pioneering generation who established the study of the history of science in America, died at his home in Waltham, Massachusetts on Friday, June 20, 2003 at the age of 89. Although Cohen's research in the history of science covered a wide range of topics, he was best known for his work on Isaac Newton, the dominant figure of the scientific revolution and widely chosen as the most important person of the millennium. Cohen, together with the Latinist Anne Miller Whitman, who died in 1984, prepared the first complete English translation of Newton's *Principia Mathematica* since 1729. At the time of this translation's publication in 1999, Cohen commented, "I hope that, decades from now, when I and my other books have been forgotten, this will still be useful to scholars and students."

Born in Far Rockaway, Long Island, on March 1, 1914, Cohen graduated from Columbia Grammar School in New York City at the age of 15. After twice entering New York University as a freshman, only to leave at the end of a semester, and a brief period of study of veterinary medicine at the Farmingdale Agricultural Institute, Cohen attended the Valley Forge Military Academy in Wayne, Pennsylvania before entering Harvard as a freshman in 1933. He remained at Harvard until his retirement in 1984, and even then continued to teach courses in the Harvard Extension School and seminars for undergraduates through 2000.

Cohen received the B.S. degree in 1937, concentrating in mathematics. In 1947 he became the first American to receive a PhD in the history of science, having entered Harvard's Program in the History of Science and Learning a year after it was initiated by President James B. Conant in 1936. Cohen's teaching career at Harvard began in 1942 during World War II when he taught physics and mathematics to Navy personnel brought to campus for intensive learning. He taught undergraduate and graduate courses in history of science from 1946 on, chairing the graduate program for two decades and ultimately helping to transform this program into a Department. In 1977 he was named Victor S. Thomas Professor of the History of Science. Starting with the first in 1948, graduate students across four decades completed their PhD dissertations under his supervision, in the process receiving continual support and encouragement from him and his first wife, Frances Davis Cohen, who died in 1982. At the time of his retirement in 1984, a group of former students and colleagues published a volume in his honor, *Transformations and Transitions in Science*, edited by his long time colleague and former PhD student, Everett Mendelsohn.

Working with Conant in the 1940s, Cohen helped to establish Harvard's General Education program, in which he taught a popular course for undergraduates on the "Nature and Growth of the Physical Sciences." He subsequently taught an equally popular course, on the "Scientific Revolution," in Harvard's Core program, which had replaced General Education. Generations of Harvard students were introduced to the sciences through Cohen's use of the history of scientific ideas and practices. Physical demonstrations, audio-visual materials, and a high degree of lecturing drama made his courses memorable. A byproduct of his early undergraduate teaching of science to non-scientists was his book, *The Birth of a New Physics*, which was originally

published in 1959 and has been translated into many languages, including Chinese, Danish, French, German, Hebrew, Italian, Polish, Spanish, and Swedish.

Cohen's first book, a new edition of Benjamin Franklin's *Experiments and Observations in Electricity* published in 1941, became his PhD dissertation, at the suggestion of Crane Brinton and Cohen's mentor, George Sarton. The outline he had presented as the original proposal for his dissertation grew into his 600 page study, *Franklin and Newton, An Inquiry into Speculative Newtonian Experimental Science and Franklin's Work in Electricity as an Example Thereof*, published in 1956. He wrote several popular works on Franklin and other figures in early American science, including *Science and American Society in the First Century of the Republic*, published in 1961, and most recently his *Science and the Founding Fathers, Science in the Political Thought of Jefferson, Franklin, Adams, and Madison*, published in 1995.

In 1957 Cohen joined with the historian and philosopher Alexandre Koyré, then at the Institute for Advanced Study in Princeton, New Jersey, on the monumental project of preparing a variorum edition of Newton's *Principia*, covering not only its three published editions, but also the original manuscript and the voluminous corrections and annotations that Newton had made in his personal copies. After Koyré fell ill in 1962 and died two years later, the burden of this effort fell on Cohen, with the able assistance of Anne Whitman, who had received her B.A. from Harvard in 1959. The 900 page variorum edition was published in 1972, a year after Cohen's 380 page *Introduction to Newton's 'Principia'*, which provides a history of the composition of Newton's masterpiece and its subsequent editions. According to Cohen's friend and fellow Newton scholar, George Smith, the Acting Director of the Dibner Institute for the History of Science and Technology at MIT, "unlike most of what we historians and philosophers of science produce, both the variorum edition and the new translation will surely be standard reading for those drawn to Newton far beyond a hundred years from now."

In addition to these two special editions of Newton's *Principia*, Cohen published such books on Newton as *The Newtonian Revolution* in 1980 (originally delivered as the Wiles Lectures at Belfast University), *A Guide to Newton's Principia*, which accompanies the English translation, and his more general study, *Revolution in Science*, published in 1985, which reaches from Copernicus through Einstein. During the last ten years alone he co-edited three books on Newton, and over five decades he provided introductions and chapters to numerous other books on seventeenth and eighteenth century science. In addition to his more than 20 books, he published over 150 articles during his sixty year career, ranging from learned to popular journals. His thirteen articles in *Scientific American* from 1948 to 1992 covered such diverse topics as Franklin, Newton, Charles Darwin, Stephen Hales, Christopher Columbus, Florence Nightingale, and an interview with Albert Einstein shortly before Einstein died.

Although Cohen's primary focus was on Newton and science in the early United States, several other areas have benefitted from his attention. During the 1960s and 70s he participated in Harvard's Seminar on Science and Public Policy. This led to

interest in the ways in which the natural sciences came to furnish models and concepts for the social and behavioral sciences, which culminated in his book of 1994, *Interactions: Some Contacts between the Natural Sciences and the Social Sciences*. He developed an interest in the early 1950s in computers, consulting for IBM for many years and serving as co-editor of the MIT Press series, *History of Computing*, in which his own book, *Howard Aiken: Portrait of a Computing Pioneer* appeared in 1999. The manuscript of his last book, *The Triumph of Numbers*, was mailed to the publisher one week before he died.

During his retirement Cohen occupied the Bern Dibner Chair in the History of Science at Brandeis University for a year, and he was an Adjunct Professor of the Philosophy Department of Boston College throughout much of the 1990s.

Cohen served as President of the History of Science Society of the United States as well as President of the International Union of the History and Philosophy of Science. He was managing editor of *Isis*, the journal of the History of Science Society, under its founding editor George Sarton from 1947 to 1952, replacing Sarton as editor from 1952 to 1958. In addition to having been a Guggenheim Fellow and a National Science Foundation Senior Postdoctoral Fellow, he served as a vice-president of both the American Academy of Arts and Sciences and the American Association for the Advancement of Science. He was also an Honorary Life Member of the New York Academy of Science, a Benjamin Franklin Fellow of the Royal Society of Arts, a Fellow of the Royal Astronomical Society, a Corresponding Fellow of the British Academy, and a member of the International Academy of the History of Science.

He received honorary degrees from Brooklyn Polytechnic Institute, George Washington University, and the University of Bologna, the latter on the occasion of the 900th Anniversary of its founding. He was elected a Fellow of University College, London, Clare College, Cambridge, and Churchill College, Cambridge, and he was an elected member of both the American Philosophical Society and the Accademia Nazionale Dei Lincei. He was awarded the George Sarton Medal of the History of Science Society in 1974, the Pfizer Prize of this same society in 1986 for his *Revolution in Science*, and a Centennial Medal from the Harvard Graduate School of Arts and Sciences in 1998.

Cohen leaves his wife, Susan Johnson, a daughter Dr. Frances Cohen and granddaughter Angelica Koch of New York, and two stepsons, David Johnson of St. Louis and Benjamin Johnson of New York. Cohen was remembered at a service held on July 3 at the Follen Community Church in Lexington, Massachusetts, and at a memorial service at Harvard University.

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