

NASA HISTORY NEWS AND NOTES

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FORTHCOMING IN THE NASA HISTORY SERIES

Coming in time for the holidays is a major new publication in the NASA History Series. Edited by John M. Logsdon in collaboration with Linda J. Lear, Jannelle Warren-Findley, Ray A. Williamson, and Dwayne A. Day, *Exploring the Unknown: Selected Documents in the History of the U.S. Civil Space Program, Volume I, Organizating for Exploration*, will be published late in 1995 as NASA Special Publication (SP)-4407.

Even critics would admit that the civil space program of the United States has been one of the most interesting and significant activities of the nation in the latter half of the twentieth century. Even at this juncture, only a little more than a generation after the first orbital flights, the compelling nature of space exploration and the activity that it has engendered on the part of many people and government organizations makes the U.S. civil space program a significant area of investigation.

At the same time, questions about why it took the shape it did; which individuals and organizations were involved; what factors influenced particular choices of scientific objectives and technologies to be used; and the political, economic, managerial, international, and cultural contexts in which the events of the space age have unfolded are especially pertinent as the U.S. government seeks to come to grips with future space policies and programs.

When completed, *Exploring the Unknown* is projected to be a three volume series containing a selection of key documents in the history of the U.S. civil space program. Volume I, dealing with organizational developments, includes more than 200 key documents on the development of the space age, edited for ease of use. Many of these are published here for the first time. Each is introduced by a headnote providing context, bibliographical information, and background information necessary to understand the document. These are organized into four major sections, each beginning with an introductory essay that keys the documents to major events in the history of the space program.

The first chapter in Volume I will deal with the "Prelude to the Space Age." An introductory essay will be followed by publication of selected materials relative to the dream of spaceflight, the pioneering rocketry of Robert Goddard and Herman Oberth, the theoretical studies of Konstantin Tsiolkolskiy, studies of spaceflight in the 1940s and 1950s, and a reprinting of several of the Wernher von Braun articles from *Collier's* magazine. Chapter two will deal with space policy in the 1950s, especially the origins of satellite reconnaissance. Chapter 3, "The Evolution of Space Policy and Plans," reprints many of the major studies, essays, letters, and memoranda related to planning for space exploration from the creation of NASA to 1990.

The last chapter in this volume deals with the organizational evolution of NASA. The volume concludes with a glossary of acronyms, an extensive biographical appendix, and a comprehensive index.

We believe this documentary history will become an essential reference for anyone interested in the U.S. civil space program and its development over time. It will serve as a valuable source both for students and scholars. Two additional volumes that trace relations with other organizations and the programmatic developments in the history of the U.S. adventure in space will appear later. Stay tuned for additional information about this publication in coming months.

FIFTIETH ANNIVERSARY OF THE THEORY OF SATELLITE COMMUNICATIONS SYMPOSIA PLANNED

October 1995 marks the fiftieth anniversary of Arthur's C. Clarke's article in *Wireless World* in which he proposed the use of satellites placed in geosynchronous orbit for communications relay sites. To commemorate, there will be two events taking place during the middle of October 1995.

First, the NASA History Office will be cosponsoring with the IEEE History Center a symposium entitled "Beyond the Ionosphere: The Development of Satellite Communications," at the NASA Headquarters Auditorium on 17-18 October 1995, in Washington, D.C. Scholars from around the world will gather at NASA for an in-depth examination of the field from its origins to its current status. The key objective of the conference is to bring scholars and practitioners together and to stimulate scholarly interest in the history of satellite communication. In order to reach as wide an audience as possible, NASA plans to publish the proceedings of the conference.

Second, the Space Policy Institute of the George Washington University is planning a one-day celebration entitled, "Communicating via Satellites: A Partnership That Works," for 16 October 1995, the kickoff event in a three-day examination of the history of satellite communications. Following a videotaped introduction by Arthur C. Clarke, panel discussions by practitioners will explore the reasons why the combination of innovative technology and creative institution-building, both flowing from a close government-industry partnership, was able to deliver to the world so quickly the immense benefits of satellite communication capability. This meeting will be held in the 400-seat Dorothy Betts Marvin Theatre on the campus of The George Washington University in Washington, D.C.

These symposia immediately precede the annual meeting of the Society for the History of Technology in

Charlottesville, Virginia. Scholars participating may wish also to attend the nearby SHOT and 4S meetings as well. Further information about these events can be obtained by contacting Dr. Roger D. Launius at the NASA History Office, Code ZH, NASA Headquarters, Washington, DC 20546; telephone 202-358-0384; Fax 202-358-2866; e-mail rlaunius@codei.hq.nasa.gov. All meetings are open to the public free of charge.

Preliminary Agenda for "Beyond the Ionosphere: The Development of Satellite Communications"

SESSION 1: The Prehistory of Satellite Communications

- "Radio Versus Cable: International Telecommunications before Satellites," *Daniel Headrick, Roosevelt University, Chicago, IL*
- "Moon-Relay Experiments at Jodrell Bank," *Jon Agar, University of Manchester, England*
- "Moon in their Eyes: Moon Communication Relay at the Naval Research Laboratory, 1951-1962," David K. van Keuren, Naval Research Laboratory
- "Something of Value: *Echo 1* and the Beginnings of Satellite Communications," *Donald Elder, University of the Redlands*
- "Establishing the Ground Station Aspect of Satellite Communications: Goldstone, Holmdel, and Project Echo," *Craig Waff, Collier's Encyclopedia*

SESSION 2: U.S. Satellite Communications Efforts

- "Billion Dollar Technology: The Origins of Communication Satellites, 1945-1965," *David J. Whalen, Asia Satellite Telecommunications Co., Ltd.*
- "NASA Experimental Communications Satellites, 1958-1995," *Daniel Glover, NASA Lewis* Research Center
- "From Advent to Milstar: The Political, Technical, and Institutional Challenges of Air Force Satellite Communications," *David N. Spires, University of* Colorado-Boulder

"A Review of Space Communications R&D at Lincoln Laboratory," William Ward, Lincoln Laboratory

SESSION 3: Satellite Communications in Europe

- "Launching the European Telecommunications Satellite Program," Arturo Russo, ESA History Project, European University Institute, Florence
- "Early Communication Satellite Research at the Centre National d'Etudes de Télécom- munications," Patrice Carré, CHT/CNET
- "The Availability of American Launchers and the European Decision 'To Go It Alone', 1968-1973," Lorenza Sebesta, ESA History Project, European University Institute, Florence
- "The Formulation of British and European Policy Toward an International Satellite Telecommunications System: The Role of the British Foreign Office," *Nigel Wright, University of Manchester, England*
- "The Impact of Domestic Politics on the Foreign Policy Aspects of U.S. Communications Satellites," Jonathan Galloway, Lake Forest College, Lake Forest, IL

SESSION 4: Satellite Communications in Global Development

- "Cuba's International Communications: From Short Wave and Scatter to Satellite," *José Altshuler*, Centro de Historia de la Ciencia, Havana, Cuba
- "Indian Satellite Communications: Technology, Politics, and Personalities," *Raman Srinivasan*, *Rockefeller Foundation, New York City*
- "Footprints to the Future, Shadows from the Past: A History of Communication Satellites in Asia," Brian Shoesmith, Edith Cowan University, Mt. Lawley, Province of Western Australia
- "Project SHARE: A Contribution to Global Development by Satellites," *Joseph N. Pelton, University of Colorado-Boulder*
- "Net Gain: The Use of Satellites at MCI in the 1980s," *Adam L. Gruen, MCI, Inc.*

A REMINDER ABOUT THE NASA HISTORY LISTSERV

A reminder from the last issue of the newsletter, if you have e-mail capability, you can now subscribe to NASA History: News and Notes via a standard listsery. This will save NASA time and money in mailing, something we all want, and will also help with the more timely delivery of this information. To subscribe send a message to domo@hq.nasa.gov. Leave the subject line blank. In the text portion type "subscribe history" without the quotation marks. Type only that, leave out your name unlike many other listserv programs, and you will receive confirmation that your account has been added to the list. The NASA History List will be a relatively low volume listsery; we intend to use it to send out the newsletter and to make other announcements as appropriate. It will not be a true discussion list, although if you would like to see one created, or if you have difficulties or questions please call or send a message to Roger D. Launius, NASA Chief Historian, Code ZH, NASA Headquarters, Washington, DC 20546; 202-358-0384, 202-358-2866, e-mail: rlaunius@ codei.hq.nasa.gov.

GOOD-BYE AND ALL THAT

After almost four years in the NASA History Office, J.D. Hunley, known to all as Dill, is departing effective August 20, 1995, for the Dryden Flight Research Center (DFRC), where he will work in the Office of External Affairs as the DFRC historian and will also do public affairs work. Besides preparing the annual Aeronautics and Space Report of the President, Dill has edited The Birth of NASA: The Diary of T. Keith Glennan, coedited The Problem of Space Travel: The Rocket Motor, a translation of Hermann Noordung's classic early discussion of the engineering aspects of a space station with related treatment of other matters concerning space travel, and helped compile An Annotated Bibliography of the Apollo Program.

He has also written several articles, including "The Enigma of Robert H. Goddard," *Technology and Culture* 36 (April 1995): 327-50, and he has helped edit several of the recent and forthcoming NASA publications. Dill has been an enormous asset to the NASA History Office over the last four years, offering stability and reflectiveness as well as superb historical skills. We will miss him, and consider the move positive for the History Office only insofar that we will continue to work with him in his role as Dryden Historian.

His replacement in the NASA History Office is Stephen J. Garber, who comes here from the NASA Office of Space Science, where among other duties, he contributed to last year's *Aeronautics and Space Report of the President*. Steve has a strong background in research, writing, and editing, and he wrote several reports on aerospace topics while on a Presidential Management Intern rotation at the Congressional Research Service. He has a Master's degree in public and international affairs and a strong research interest. Steve is already beginning to work on the *Aeronautics and Space Report of the President* and to do research in several other areas. We welcome him to the office.

In addition, Jennifer Skerrett, who had been working in this office as a contract archivist since last winter, left here in July to pursue graduate studies. She had been an excellent addition to the office staff and many researchers relied on her understanding of the NASA Historical Reference Collection computerized finding aid to identify materials for use. We wish her well in her graduate studies. She has been replaced in the office by Colin Fries, who started with the NASA History Office archival project on 1 August 1995. Colin has both a B.A. and an M.A. in history from the University of Maryland, Baltimore County. He also received a Masters in Library Science from the University of Hawaii. His previous experience included an internship at the National Archives and a position as an archivist with the Hawaii State Archives.

NASA HISTORY PROGRAM REVIEW WORKING GROUP TO MEET

For several years the NASA History Program has held periodic reviews of its efforts by a panel of outside historians, archivists, and other professionals. The NASA History Program's annual review will meet at the Langley Research Center, in Hampton, Virginia, on September 21-22, 1995, for the fiscal year 1995 review. The actual review meeting will take place beginning 8:00 a.m. at the Langley Archives, which is located in the Technical Library. Individuals who are not members of the formal working group are invited to attend, but must reserve a space by contacting Roger D. Launius, NASA Chief Historian, NASA History Office, Code ZH, NASA Headquarters, Washington, DC 20546, 202-358-0383, fax 202-358-2866, e-mail rlaunius@codei. hq.nasa.gov.

A tentative agenda for this review, but subject to change includes the following: overview of NASA History Program; history publication program status review; new historical projects; new methods of contracting for NASA historical works to reduce costs and improve results; and outreach services and staff support.

SPACEFLIGHT REVOLUTION PUBLISHED

Spaceflight Revolution: NASA Langley Research Center from Sputnik to Apollo, by James R. Hansen, has recently appeared as NASA SP-4308, in the NASA History Series. A lengthy book of 542 pages, with foreword by Laurence K. Loftin, Jr., is one of the most significant historical studies to emerge about NASA in recent years. It analyzes the dramatic changes taking place within NASA as a result of the success in space of the Soviet Union and the response of the United States. Focusing on Langley Research Center at Hampton, Virginia, during the late 1950s and 1960s, Hansen assesses the transformation of a government research laboratory during a pivotal era. Langley, established as the original laboratory of the National Advisory Committee for Aeronautics (NACA) in 1917, had long been involved in cutting-edge aeronautical research and development.

The flight of Sputnik I in 1957, however, prompted important changes in the center's focus and method of operation. It became part of NASA in 1958 and its leaders shifted the workload from almost exclusively center-unique aeronautical research to efforts that involved other research facilities and dealt much more fully with the challenges of spaceflight. It is must reading for anyone seeking to understand the development of aerospace activities in the United States.

Spaceflight Revolution is one of a series of histories presently underway by the NASA History Office dealing with the development of NASA institutional structure. It joins volumes that have appeared on other NASA centers—Ames, Dryden, Johnson, and Lewis—as well as an earlier volume on Langley that deals with its activities under the NACA.

To purchase a copy of this book contact the NASA Information Center, Code JOB-19, NASA Headquarters, Washington, DC 20546, or call 202-358-0000. Order SP-4308, \$30.00. For credit card orders call the U.S. Government Printing Office at 202-512-1800, fax 202-512-2250, and order no. SN 033-000-01149-1.

POWERING APOLLO IN THE NEWS

The recently released *Powering Apollo: James E. Webb of NASA* ("New Series in NASA History," the Johns Hopkins University Press, 1995), by W. Henry Lambright, has enjoyed an exceptionally fine reception. It recently received excellent reviews in *Science* and *Air & Space/Smithsonian*. In *Science* for 14 July 1995, Alex Roland, professor of history at Duke University, commented that Lambright has written a "spare yet

informative biography." He describes the career of James Webb, noting that "his great ambition, [was] to manage public enterprise. ...Webb was equal to the task."

Roland concludes: "Today, when 'bureaucrat' has become a pejorative term, James Webb's history is instructive. This consummate bureaucrat managed a team of 400,000 people in one of the great technical achievements of this or any other time. He reached the moon by sheer energy, will, and hard work. He gave to his country better than he got. This fine biography will keep his memory warm until a better day when he and Apollo may look more important than they do now."

Martin Collins, writing for August/September 1995 issue of *Air & Space/Smithsonian*, also thought Lambright's administrative biography of worth. He finds that *Powering Apollo* is a "singular contribution to our understanding of the most dominant figure of the Space Age."

The book is available for \$35.95 from The Johns Hopkins University Press, Hampden Station, Baltimore, MD, 21211, telephone 800-537-5487.

A SHAMELESS PLUG FOR THE NOORDUNG TRANSLATION

Last spring the NASA History Office released The Problem of Space Travel: The Rocket Motor, NASA SP-4026, edited by Ernst Stuhlinger and J.D. Hunley with Jennifer Garland, and including a foreword by Frederick I. Ordway III. This was the first fully-edited, complete English translation of Hermann Noordung's 1929 classic book on spaceflight, Das Problem der Befahrung des Weltraums. It received a positive review from Michael Ciancone in the Spring 1995 issue of Quest: The History of Spaceflight Magazine. Ciancone concludes, "For those who do not read German (or who do not have access to the original), and who are interested in the early history of space travel concepts, this is an invaluable addition to one's reference library. It's been a long time coming, but well worth the wait."

The Problem of Space Travel may be obtained from the NASA Information Center, Code JOB-19, NASA Headquarters, Washington, DC 20546, telephone 202-358-0000. Order "NASA SP-4026." The cost is \$11.00. All orders should be prepaid. For credit card orders call the U.S. Government Printing Office at 202-512-1800, fax 202-512-2250, and order no. SN 033-000-01147-4.

NASA HISTORY ON THE INTERNET

The NASA History Office continues to develop a presence on the World Wide Web. We have a Project

Apollo exhibit available at: http://www.gsfc.nasa.gov/hqpao/apollo_11.html. The main history homepage—http://www.gsfc.nasa.gov/hqpao/history.html—is growing rapidly. It lists a series of sites containing information on the following topics: astronautics, aeronautics, personnel, timeline, NASA pocket statistics, and centers. We presently have some information under every topic and are expanding our presence almost every week with the addition of new material.

We have also placed on-line several NASA histories. Thus far, *Orders of Magnitude: The History of the NACA and NASA*, 1915-1990 (NASA SP-4406, 1989), by Roger E. Bilstein; *On the Frontier: Flight Research at Dryden*, 1945-1980 (NASA SP-4303, 1985), by Richard P. Hallion; *The Problem of Space Travel: The Rocket Motor* (NASA SP-4026, 1995), edited by Erst Stuhlinger and J.D. Hunley; and *Toward a History of the Space Shuttle: An Annotated Bibliography* (Monographs in Aerospace History, No. 1, 1992), compiled by Roger D. Launius and Aaron K. Gillette, are available. Stay tuned for more information.

HIGHLIGHTS IN AEROSPACE HISTORY FROM THE FORTHCOMING SHOT AND 4S ANNUAL MEETINGS

A joint meeting of the Society for the History of Technology (SHOT) and the Society for the Social Studies of Science (4S) will be held in Charlottesville, VA, on 19-22 October 1995. The program of that joint meeting has several sessions, as well as some disparate papers, relating to aerospace history. Some of these sessions were organized under the auspices of this office, others were not, but we wanted to inform those interested in the NASA History Program of this important upcoming event.

At the SHOT meeting two sessions deal directly with the history of spaceflight and another relates to the development of aviation. On the opening day of the conference, 20 October 1995, J.D. Hunley, the NASA Dryden Flight Research Center Historian, will be participating in a session that he organized entitled, "That Solid Rising Sensation: German and American Rocket Development." The next day Deborah Douglas, of the NASA Langley Research Center has organized a session entitled, "Recent Studies on Western European Space Activities." There is also a session that has been organized with the title, "Air: Computing Technology," that should interest many students of aerospace history.

The 4S program also has one session directly related to aerospace history, as well as several sessions discussing the social construction of technology and the nature of scientific knowledge. The aerospace history session is entitled "Political Construction of

Technological Systems: The Case of Space Exploration," and it was organized by W.D. Kay of Northeastern University.

The individual papers related to aerospace history are shown below.

SHOT Aerospace Papers

Session: "That Solid Rising Sensation: German and American Rocket Development"

Chair: Linda Neuman Ezell, NASM, Smithsonian Institution

"The Guggenheim Aeronautical Laboratory at Caltech and the NASA Creation of the Solid Propellant Rocket (1936-46)," *Benjamin S. Zibit, CUNY*

"The Jet Propulsion Laboratory's Role in American Missile Development," J.D. Hunley, NASA Dryden Flight Research Center Historian

"Rolf Engel vs. the German Army: A Nazi Career in Rocketry and Repression," *Michael J. Neufeld*, NASM. Smithsonian Institution

Commentator: P. Thomas Carroll, RPI

Session: "Recent Studies on Western European Space Activities"

Chair: Deborah Douglas, NASA Langley Research Center

"Big Technology, Little Science: The European Use of Spacelab," *Arturo Russo, University of Palermo*

"The Politics of Big Technology in Europe," *John Krige, European University Institute*

"The FGB Core Module of the International Space Station Alpha: A Historical Overview of Its Lineage and Organizational Origins," *Dennis* Newkirk, Motorola, and Asif Siddiqi, Yes Computers

Commentator: Cathleen S. Lewis, NASM, Smith-sonian Institution

Session: "Air—Computing Technology"

Chair: Janet Abbate

"Some effects of New Global Interactions Through Computer Networks in a Community of Research," *Phillippe Hert, University of* Strasbourg

"The Role of Data in EOS and the EOS Data Information System," *Dave Irvine, Hughes STX* Corporation

"Socio-Technological Interaction on the Macro-Level: Computing Technology in the 20th Century," *Jan van den Ende, Delft University of Technology*

Commentator: Pierre Mounier-Kuhn, CNRS

Individual Papers of Interest

"The Ups and Downs of the Mass-Produced Airplane in America, 1926-1930," *C. Derek Johnson, Northwestern University*

"Technology in the Twilight: A Cultural History of the Communications Satellite, 1957-1962," *Lisa Parks, University of Wisconsin, Madison*

4S Aerospace Papers

Session: "Political Construction of Technological Systems: The Case of Space Exploration"

Chair and Discussant, Patrick W. Hamlett

"New Materials for STS, or Just a Complicated Bicycle?" *Edward J. Woodhouse*

"Political Construction of NASA," Roger D. Launius

'Public Policy and Private Enterprise Above the Atmosphere," W.D. Kay

'Going Ballistic: Packaging the Strategic Defense Initiative," A.D. Van Nostrand

CALL FOR ARTICLES: IEEE TECHNOLOGY AND SOCIETY MAGAZINE

IEEE Technology and Society Magazine invites commentaries, special articles, and feature articles (refereed) on topics within the scope of the IEEE

Society on Social Implications of Technology (SSIT), in the broad areas of social implications of electrotechnology, history of electrotechnology, and engineering ethics.

Submitted manuscripts for articles should typically be no longer than 12-15 double-spaced typed pages, but longer feature articles (up to 30 pages) will be considered. Commentaries (2-4 double-spaced typed pages) and letters to the editor (1-2 double-spaced pages) usually focus on previously published papers, IEEE and SSIT affairs, and conferences.

Four copies of papers and commentaries (two copies of letters) should be submitted to the Editor. References and footnotes should appear as separate lists at the end of the paper. After acceptance, authors must supply an electronic version of their manuscript by disk, e-mail, or modem. Additional information will accompany the acceptance letter.

Submit manuscripts to Professor Ronald Kline, Department of Electrical Engineering, Cornell University, Ithaca, NY 14850, e-mail rkline@paxvax.ee.cornell.edu.

THE HAGLEY ANNOUNCES ITS 1995-1996 RESEARCH SEMINARS IN THE HISTORY OF TECHNOLOGY

The Hagley Museum and Library, Wilmington, Delaware, has announced its 1995-1996 research seminars in the history of technology. All seminars meet in the Hagley Library, Copeland Room. Reception at 6 pm, seminar at 6:30 pm. For further information contact Carol Lockman at crl@strauss.udel.edu or 302-658-2400.

The museum also invites historians to propose papers for the 1996-1997 research seminars. Researchers interested in proposing a paper should write by November 30, 1995 to Dr. Philip Scranton, Director, Center for the History of Business, Technology, and Society, Hagley Museum and Library, P.O. Box 3630, Wilmington, DE 19807-0630.

HISTORY DISCUSSION LISTS ON THE INTERNET

The Information Revolution is bringing dramatic changes in the communications infrastructure worldwide, especially the Internet system that links academics together in a fast, free and friendly environment. H-Net is an international initiative to assist scholars to go on-line, using their personal computers. It operates daily newsletters edited by some 140 scholars in North America, Europe, Africa, and the Pacific.

H-Net sponsors 70 electronic discussion groups or "lists" by and for professional scholars in the humanities and social sciences. Subscribers automatically receive messages in their computer mailboxes. These messages can be saved, discarded, dwnloaded to a PC, copied, printed out, or relayed to someone else. Best of all, the reader can immediately REPLY. The lists are email newsletters that are published daily. There is currently no subscription charge or fee of any kind.

H-Net lists reach over 30,000 subscribers in 61 countries. Each lists publishes 15-60 messages a week. Subscription applications are solicited from scholars, college professors, researchers, graduate students, librarians and archivists. Each list is edited by a team of scholars and has a board of editors; most of the lists are cosponsored by a professional society. The editors control the flow of messages, commission reviews, and reject flames and items unsuitable for a scholarly discussion group. They also control H-Net, which has financial support from the National Endowment for the Humanities, and is hosted by Michigan State University, the University of Illinois-Chicago, and several other schools.

Important lists that might be of interest to aerospace historians might include the following, however there are several other lists on a variety of other subjects:

H-Diplo diplomatic history, international affairs

H-Law legal and constitutional history

H-Mac Macintosh users

H-MMedia teaching; multimedia; cd-rom

H-Review H-Net book reviews [reviews only,

.no discussions]

H-Rhetor history of rhetoric & communications

H-Teach teaching college history

H-Pol American politics
H-War military history
H-Business business history
Databases historical databases

For detailed information on H-Net, send this message to Listserv@uicvm.uic.edu. In the body of the message write, get H-NET WHATIS. Or write us at: H-Net@uicvm.uic.edu. Also call Richard Jensen, the Executive Director at 615-552-9923.

CALLS FOR PAPERS OF INTEREST TO AEROSPACE HISTORIANS

The School of Engineering and Applied Science at the University of Pennsylvania has issued a call for papers for a symposium commemorating the 50th anniversary of the Moore School Lectures. The subject of this symposium will be on the history of computing, information processing, communications, electronics, systems analysis, and related areas of study. For further information contact Atsushi Akera, Summer Symposium, Department of History and Sociology of Science, University of Pennsylvania, 3440 Market St., Suite 500, Philadelphia, PA 19104, or aakera@sas.upenn.edu.

The American Astronautical Association (AAS) will be holding its annual meeting at Marina Del Rey, CA, on 4-6 December 1995. The AAS History Committee is planning to organize a session on the development of solid rocketry. Anyone wishing to present a paper on this subject should contact, Dr. Donald C. Elder, History Department, University of Redlands, 1200 E. Colton Avenue, Redlands, CA 92373.

The Western History Association has issued a call for papers for its annual meeting on 9-12 October 1996 in Lincoln, NE. Proposals should be sent by 1 September 1995 to John Mack Faragher, Department of History, Yale University, New Haven, CT 06520-7425, telephone 203-432-0727, Fax 203-432-7587.

The Business History Conference has issued a call for papers for its meeting of 15-17 March 1996 to be held in Columbus, OH. Paper and session proposals should be sent by 1 October 1995 to Mansel Blackford, Department of History, The Ohio State University, 230 West 17th Avenue, Columbus, OH 43210; telephone 614-292-6341; Fax 614-292-2282; e-mail blackford.1@osu.edu.

The Southwest Historical Association will meet in conjunction with the Southwestern Social Science Association in Houston, TX, 20-23 March 1996. Proposals for papers or sessions Pedro Santoni, Department of History, California State University-San Bernardino, 5500 University Parkway, San Bernardino, CA 92407-2397; telephone 909-880-5530; e-mail PSantoni@wiley.csusb.edu. The deadline for proposals is 1 October 1995.

The Western Social Science Association Conference invites proposals for papers and sessions to be delivered at its annual meeting on 17-20 April 1996, to be held in Reno, NV. To propose send a 150-word abstract ad vita by 20 November 1995 to Daniel J. McInerney, American Studies Section Coordinator, Utah State University, Logan, UT 84322-0710, 801-797-1283, fax 801-797-3899, e-mail: DANIELJ@HASS.USU.EDU.

The Society for Military History has issued a call for papers for its annual meeting in Washington, DC, on 18-21 April 1996. Contact Dr. Kevin C. Ruffner, SMH 1996 Program Coordinator, History Staff, Central Intelligence Agency, Washington, DC 20505,

telephone 703-351-2621, Fax 703-522-9280. Deadline for proposals is 1 November 1995.

The first History of Philosophy of Science conference will be held at the Hotel Roanoke, Roanoke, VA, on 19-21 April 1996. Proposals for papers and sessions are invited. A selection of conference papers will be published as a special issue of the journal, *Perspectives on Science*. For additional information contact Dr. Eric Palmer, Department of Philosophy, Box 137, Allegheny College, Meadville, PA 16335, epalmer@alleg.edu. The deadline for proposing is 1 November 1995. Please direct registration inquiries to Dr. Cassandra Pinnick, Department of Philosophy, Western Kentucky University, Bowling Green, KY 42101, pinnick2@ wkuvx1.wku.edu.

The International Symposium on Technology and Society 1996 (ISTAS'96) has issued a call for papers for its 21-22 June 1996 meeting at Princeton University, Princeton, NJ. The theme of the symposium "Technical Expertise and Public Decisions." Proposals should consist of a one page abstract of a paper or poster, or a proposal for a paper session or panel discussion. Contact Professor Clinton J. Andrews, ISTAS'96 Chair, Program in Science, Technology, and Public Policy, Woodrow Wilson University, School. Princeton Princeton, 08544-1013, e-mail istas@wws.princeton.edu, Fax: 609-258-1985. Deadline for proposals is 15 December 1995.

The Society of Historians of American Foreign Relations has issued a call for papers for its annual meeting, 21-24 June 1996, at the University of Colorado at Boulder. Contact Diane B. Kunz, Chair, SHAFR Program Committee, Yale Center for International and Area Studies, Box 208206, Yale University, New Haven, CT 06520, fax 203-432-5963. Deadline for proposing is 15 November 1995.

The Third British-North American Joint Meeting of the Canadian Society for History and Philosophy of Science, the History of Science Society, and the British Society for History of Science has issued a call for papers for its annual meeting in Edinburgh, Scotland on 23-26 July 1996. Contact program representatives from the respective societies, HSS—Bob Hatch, Department of History, University of Florida, Gainesville, FL 32611, telephone 904-392-0271; Fax 904-392-6927; email ufhatch@ nervm.nerdc.ufl.edu; CSHPS—Hannah Gay, Depart-ment of History, Simon Fraser University, Burnaby, B.C. V5A 1S6 Canada, telephone 604-291-3648; Fax 604-291-5387; e-mail hgay@sfu.ca; BSHS—Stephen Pumfrey, Department of History, Lancaster University. Lancaster LA1 4YG. ENGLAND; telephone 0524-592508; Fax 0524-846102; e-mail hia004@lancaster.ac.uk.

FELLOWSHIP AND GRANT OPPORTUNITIES

The AT&T Archives seeks two postdoctoral fellows (degrees in hand) for two year appointments to research and write a history of manufacturing at AT&T (including the Western Electric Company). Start as soon as possible. For information contact Dr. Sheldon Hochheiser, AT&T Archives, 5 Reinman Road, Warren NJ 07059, fax 908-756-2105, sheldon@library.mt.att.com.

The American Council of Learned Societies supports through a fellowship program post-doctoral research in all disciplines of the humanities. For additional information contact the Office of Fellowships and Grants, ACLS, 228 East 45th St., New York, NY 10017-3398, fax 212-949-8058. Requests for application forms must be received by 29 September 1995.

The Air Force Historical Research Agency announces research grants up to \$2,500 to encourage scholars to study the history of air power at its collections at Maxwell Air Force Base, Alabama. Applications can be obtained from the Commander, Air Force Historical Research Agency, 600 Chennault Circle, Maxwell AFB, AL 36112-6424. The deadline is 1 October 1995.

Located in the heart of Washington, D.C., the Woodrow Wilson Center awards approximately 35 residential fellowships each year for advanced research in the humanities and social sciences. Men and women from any country and from a wide variety of backgrounds (including government, the corporate world, the professions, and academe) may apply. Applicants must hold a doctorate or have equivalent professional accomplishments. Fellows are provided offices, access to the Library of Congress, computers or manuscript typing services, and research assistants. The Center publishes selected works written at the Center through the Woodrow Wilson Center Press. Fellowships are normally for an academic year. In determining stipends, the Center follows the principle of no gain/no loss in terms of a Fellow's previous year's salary. For application materials write to: Fellowships Office, Woodrow Wilson Center, 1000 Jefferson Drive S.W., SI MRC 022, Washington, DC 20560; 202-357-2841. The application deadline is 1 October 1995.

The National Humanities Center invites applications for post-doctoral studies in history and other fields of the humanities. Contact the Fellowship Program, National Humanities Center, P.O. Box 12256, Research Triangle Park, NC 27709-2256. The application deadline is 15 October 1995.

The Newberry Library invites applications for short-term residential fellowships in the humanities for 1995-1996. Contact the Awards Committee, Newberry Library, 60 W. Walton St., Chicago, IL 60610, call 312-255-3666. The application deadline for fellowships for the first half of 1996 is 15 October 1995.

Columbia University's Society of Fellows in the Humanities invites recent recipients of the Ph.D. to apply for fellowships that include one half research and one half teaching. To obtain an application contact the Director, Society of Fellows in the Humanities, Box 100, Central Mail Room, Columbia University, New York, NY 10027. The deadline is 16 October 1995.

The National Endowment for the Humanities Reference Materials Program invites grant applications for projects to prepare reference works that will improve access to information and resources. For information contact Reference Materials, Room 318, NEH, Washington, DC 20506. The deadline is 1 November 1995.

The American Philosophical Society is inviting applications for grants to support scholarly research. Contact the Committee on Research, American Philosophical Society, 104 S. 5th St., Philadelphia, PA 19106-3387. The next deadline is 1 November 1995.

The Rockefeller Archive Center invites applications for its program of Grants for Travel and Research at the Center. The competitive program is aimed at graduate students and postdoctoral scholars who are engaged in research that requires use of the Center's collections. Contact Darwin H. Stapleton, Director, Rockefeller Archive Center, 15 Dayton Ave., North Tarrytown, NY 10591-1598. The deadline is 30 November 1995.

UPCOMING MEETINGS

The International Congress of International Sciences will be held in Montreal on 27 August-3 September 1995. Registration information is available on the Universite du Quebec a Montreal Gopher <gopher.uqam.ca>. Select "Calendrier des evenements a l'UQAM," then "Congres et colloques", then "CISH 1995/ICHS 1995." Contact the Congress Organizing Committee at <cish95@ugam.ca>.

The seventh Conference of Historic Aviation Writers will take place in Dayton, OH, on 29 September-1 October 1995. For information contact Sunflower University Press, 1531 Yuma, Box 1009, Manhattan, KS 66502-4228, fax 913-539-2233.

Three sessions on spaceflight history will be held at the 46th International Astronautical Federation meeting in Oslo, Norway, 2-6 October 1995. For information contact Frederick I. Ordway III, 2401 N. Taylor St., Arlington, VA 2207; Fax 703-524-3856.

A conference, "Boundaries and Bridges: Interdisciplinary Perspectives Among Science, Technology, and the Humanities," sponsored by the Social and International Studies Department at the Southern College of Technology and the Humanities and Technology Association, will be held in Atlanta, GA, on 19-20 October 1995. For information contact Julie R. Newell, Director, Department of Social and International Studies, Southern College of Technology, 1100 South Marietta Parkway, Marietta, GA 30060-2896.

A joint meeting of the Society for the History of Technology and the Society for the Social Studies of Science (4S) will be held in Charlottesville, VA, on 19-22 October 1995. Contact Dr. Bruce E. Seely, SHOT Executive Director, Department of Social Sciences, Michigan Technological University, Houghton, MI 44931-1295.

The Oral History Association will hold its annual meeting at Milwaukee, WI, on 19-22 October 1995. Contact Michael A. Gordon, Department of History, University of Wisconsin-Milwaukee, Box 413, Milwaukee, WI 53201.

A conference sponsored by the Center for the History of Business, Technology, and Society at the Hagley Museum and Library, will be held on 27-28 October. For information contact Roger Horowitz, Associate Director, Center for the History of Business, Technology, and Society, Hagley Museum and Library, Box 363330, Wilmington, DE 19807, fax 302-658-0568

The annual meeting of the American Studies Association will take place in Pittsburgh, PA, on 9-12 November 1995. The theme of the meeting is "Toward a Common Ground." Contact the American Studies Association, 1120 19th Street, N.W., Suite #301, Washington, DC 20036.

The Australian National University, Canberra, Australia, is sponsoring a symposium entitled "Science, Politics and Evolution in Asia and the Pacific" on 20-21 November 1995. For further information contact Dr. Christine Dureau (telephone 06 249 4247) and Dr. Morris Low (telephone 06 249 3121), Division of Pacific and Asian History, Research School of Pacific and Asian Studies, ANU, Canberra, ACT 0200, Australia; Fax (06)249 5525; e-mail dureau@coombs.anu.edu.au mlow@ or coombs.anu.edu.au.

The annual meeting of the American Historical Association will take place in Atlanta, GA, on 4-7 January 1996. For information contact the AHA, 400 A. Street, S.E., Washington, DC 20003.

The HMGS Military and Naval History Forum will meet on 8-10 March 1996 at Lancaster, PA. For information contact Richard D. Brooks, South Carolina Institute of Archaeology and Anthropology, 1321 Pendleton St., University of South Carolina, Columbia, 29208, 803-725-3724.

The annual meeting of the Organization of American Historians will take place in Chicago, IL, on 28-31 March 1996. For information contact the OAH at 112 North Bryan St., Bloomington, IN 47408-4199.

The National Council on Public History will hold its annual meeting in Seattle, WA, on 10-13 April 1996. The theme, "History and the Public Interest," should interest aerospace historians. For further information contact NCPH, 327 Cavanaugh Hall-IUPUI, 425 University Blvd., Indianapolis, IN 46202-5140.

The Francis Clark Wood Institute for the History of Medicine of the College of Physicians of Philadelphia will hold a conference on 4-5 May 1995. For information contact Minique Bourque, Assistant Director for Programs, Wood Institute, College of Physicians of Philadelphia, Philadelphia, PA 19103, fax 215-561-6477.

BOOKS OF INTEREST TO AEROSPACE HISTORIANS

There have been a large number of very interesting books appear in the last few months. Here is a list of several that have not been noted before in this newsletter.

Atwill, William D. *Fire and Power: The American Space Program As Postmodern Narrative*. Athens: University of Georgia Press, 1994.

Crosswell, Ken. *The Alchemy of the Heavens:* Searching for Meaning in the Milky Way. New York: Anchor Books, 1995.

Elder, Donald C. *Out From Behind the Eight-Ball: A History of Project Echo*. San Diego, CA: Univelt, Inc., AAS History Series, Volume 16, 1995.

Head, William. Every Inch a Soldier: Augustine Warner Robins and the Building of U.S. Airpower. College Station: Texas A & M University Press, 1995.

Henbest, Nigel, and Couper, Heather. *The Guide to the Galaxy*. New York: Cambridge University Press, 1994.

Hoffleit, Dorrit. *The Education of American Women Astronomers before 1960*. Cambridge, MA: American Association of Variable Star Observers, 1994.

Hujsak, Edward. *The Future of U.S. Rocketry*. La Jolla, CA: Mina-Helwig Company, 1994.

Leary, William M. Editor. From Airships to Airbus: The History of Civil and Commercial Aviation,

Vol. 1: Infrastructure and Environment. Washington, DC: Smithsonian Institution Press, 1995.

Leary, William M. Editor. From Airships to Airbus: The History of Civil and Commercial Aviation, Vol. 2: Pioneers and Operations. Washing-ton, DC: Smithsonian Institution Press, 1995.

Longyard, William H. Compiler. *Who's Who In Aviation History*. New York: PRES, 1995.

McFarland, Stephen L. *America's Pursuit of Precision Bombing*. Washington, DC: Smithsonian Institution Press, 1995.

Matson, Wayne R. Editor. Cosmonautics: A Colorful History of the Soviet-Russian Space Programs. Washington, DC: Cosmos Books, 1994.

O'Leary, Michael. *High VIZ: U.S. Military Aircraft* 1954-1964. Osceola, WI: Motorbooks International, 1994.

Rowe, Frank, and Miner, Craig. *Borne on the South Wind: A Century of Kansas Aviation*. Wichita, KS: Wichita Eagle & Beacon Publishing Company, 1994.

Von Schomberg, Rene. *Contested Technology: Ethics, Risk and Public Debate.* Tilburg, the Netherlands: International Centre for Human and Public Affairs, 1995.

Wohl, Robert. A Passion for Wings: Aviation and the Western Imagination, 1908-1918. New Haven, CT: Yale University Press, 1994.

Young, Edward M. *Aviation in Thailand*. Washington, DC: Smithsonian Institution, 1994.