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**HISTORY OF AERONAUTICS AND ASTRONAUTICS**  
**A PRELIMINARY BIBLIOGRAPHY**

**Katherine Murphy Dickson**

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HISTORY OF AERONAUTICS AND ASTRONAUTICS  
A PRELIMINARY BIBLIOGRAPHY

(HHR-29)

Compiled by Katherine Murphy Dickson  
Science and Technology Division  
Library of Congress

Sponsored by NASA Historical Division

National Aeronautics and Space Administration  
Washington, D.C.  
October 1968



## F O R E W O R D

From the Wright brothers into the space age, evolution of a practical technology for flight has been an increasingly prominent influence upon the history of the twentieth century. Little of the antecedent ideas and early steps, much less the full history of aeronautics and astronautics, has yet been of interest to professional historians.

This pioneering preliminary bibliography, sponsored by the NASA Historical Division and prepared by Katherine M. Dickson of the Science and Technology Division of the Library of Congress, was intended to help fill one gap in the historical literature.

There has been no dearth of technical, speculative, or preliminary analyses in the literature of aeronautics and astronautics, as this bibliography makes clear. The many disciplines and interests represented seemed all the more reason why a comprehensive bibliography reaching beyond the technical literature was needed. This bibliography was intended to be a working tool for historians and other serious students of the recent history of science and technology and their impact upon society. Beyond its reference value, it is hoped this volume will serve as a reliable launching pad for sustained interest, scholarship, and reflection.

The NASA Historical Division is presently completing a companion guide to documentary sources and facilities, as well as a suggested list of research topics for academic papers and theses. Readers of this long-needed bibliography may find these compilations useful at a later date. While any worthy bibliography on a dynamic subject becomes dated, Mrs. Dickson's contribution should help enlist the necessary scholarly attention in what has been a neglected area.

  
Eugene M. Emme  
NASA Historian



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## PREFACE

"By a fiction as remarkable as any to be found in law, what has once been published . . . is usually spoken of as 'known' and it is often forgotten that the rediscovery in the library may be a more difficult and uncertain process than the first discovery in the laboratory." -- Lord Rayleigh, 1884 (Published in his Scientific Papers, New York, Dover, 1964. v. 2, p. 351)

This annotated bibliographical guide to basic sources on the history of aeronautics and astronautics from earliest times to 1967 is designed mainly for historians. It is hoped that it will be of use to scholars, teachers, students, researchers, librarians, and all who require access to the literature of this subject. It was compiled at the Library of Congress, Science and Technology Division, for the NASA Historical Division, which originally sensed the need for such a bibliography in view of the fundamental importance of the subject and the lack of comprehensive bibliographies in the field. Primarily the resources of the NASA Historical Division; the holdings of the Library of Congress; and other libraries such as the NASA Headquarters Library, Federal Aviation Administration Library, Smithsonian Institution Museum of History and Technology Library, and the National Air and Space Museum Library, have been utilized in the preparation of this guide.

The aim of this bibliographical guide is to list the more important published historical sources, in whatever form they appear, in all languages, pertinent to the full history of flight and space exploration and thereby provide access to the literature on which historians and others may base their inquiries. No attempt is made at the comprehensiveness of including everything published; this listing should be considered the result of a partial search of the literature for historical materials. Inclusion of works has been highly selective and determined largely by the nature of the literature itself and the fact that the literature of aeronautics has somewhat different origins

from that of astronautics. For instance, one finds in the historical literature of aeronautics many separately published bibliographies, histories, histories which contain bibliographies, and published catalogs of collections, while the existing historical literature for the more recent space science and technology more usually appears as parts of indexing and abstracting services or else as appendices to books, technical reports, and journal articles. Thus the items listed reflect a wide variety of sources and vary all the way from vast bibliographies to out-of-the-way journal articles.

No attempt has been made to include textbooks, directories, dictionaries, juvenile literature, technical literature, house organs, paperbacks, highly popular works, or fiction. As a rule, guides to the technical literature are not included except when they reflect an all-encompassing comprehensiveness as do Scientific and Technical Aerospace Reports (STAR) or International Aerospace Abstracts. It is hoped that the scope of this bibliography may in time be further widened to more completely include biographies, government and official documents, archives, journal literature, history making works, and other primary sources. The arrangement of materials in the guide is alphabetical by author under broad, representative subject categories. Author, title, and subject indexes are included. The annotations have been prepared to include, where possible and where pertinent, the following information: scope and purpose of the work, the way in which the work is related to aeronautics and astronautics, the author's affiliation and/or reputation, language in which the work was written, special features, bibliographies, chronologies, limitations, comparisons with similar works, arrangement, content, form, indexes, and time covered.

A preliminary edition which listed only those items having bibliographies was published in May 1967.

October 1968

Katherine Murphy Dickson

GENERAL: THE MEANING OF SPACE EXPLORATION

1. Abstracts of Selected Articles from Soviet Bloc and Mainland China Technical Journals. Springfield, Va.: Clearinghouse for Federal Scientific and Technical Information, January 1961 to date. Monthly.

Series I: Physics, Geophysics, Astrophysics, Astronomy, Astronautics, and Applied Mathematics. Includes about 2,600 abstracts a year.

2. Adams, Carsbie C., et al., Space Flight: Satellites, Spaceships, Space Stations, and Space Travel. New York: McGraw-Hill, 1958. 373p.

References appended to each chapter. Includes "The History of Astronautics," pp. 1-35, with "Chronology," pp. 22-26, and "Bibliography," pp. 26-35; "The Rocket," pp. 36-66, with "Bibliography," pp. 64-66; and "Sputniks, Prelude to Man in Space," pp. 150-170, with "Bibliography," pp. 169-170.

3. Advances in Space Science and Technology. New York: Academic Press, v.1, 1959 to date. Annual.

Vols. 1-2 entitled Advances in Space Sciences. Each annual volume primarily technical but some of the contributions included may be of historical interest: v.3, "The Role of Geology in Lunar Exploration," by Jack Green and Jack R. Van Lopik; v.4, "On the Possibilities of the Existence of

Extraterrestrial Intelligence," by Roger A. MacGowan; v.6, "Space-Related Technology: Its Commercial Use," by Robert H. Waterman, Jr., and Lloyd G. Marts; v.7, "Progress in Rocket, Missile, and Space Carrier Vehicle Testing, Launching, and Tracking Technology, Part I: Survey of Facilities in the United States," by Mitchell R. Sharpe, Jr., and John M. Lowther; v.7, "Progress in Rockets, Missile, and Space Carrier Vehicle Testing, Launching, and Tracking Technology. Part II: Survey of Facilities Outside the United States," by Mitchell R. Sharpe, Jr., and John M. Lowther. Many of the contributions contain bibliographies.

4. Advances in the Astronautical Sciences. New York:

Plenum Press, 1957 to date. (An American Astronautical Society Publication)

Vols. 1-22 (1957-67) cover the Proceedings of the American Astronautical Society's Annual and West Coast meetings. Title varies: 1957-59, Advances in Astronautical Sciences. Distribution varies. The published proceedings contain technical and some more general papers, each of which usually contains a brief bibliography.

5. The American Heritage History of Flight, by the

Editors of American Heritage. Editor in Charge:

Alvin M. Josephy, Jr. Narrative Arthur Gordon.

With Two Chapters by Marvin W. McFarland. Introd.

by Carl Spaatz and Ira C. Eaker. New York:

American Heritage Publishing Company; book trade distribution by Simon and Schuster, 1962. 416p.

The story of flight from man's earliest hopes expressed in myths and legends to the beginning of his actual venture beyond the air. Includes many pictures, and quotations and anecdotes from air pioneers and philosophers of the various periods. "Acknowledgments," p. 408.

6. Ananoff, Alexandre, L'Astronautique. Paris: Libraire Arthème Fayard, 1950. 498p. (Collection "Savoir")

Profuse footnotes are scattered throughout the well-illustrated text of this history by the secretary of the Groupement Astronautique Français of the Société Astronomique de France and an organizer of the First International Congress of Astronautics held in Paris in October 1950. Includes bibliography, pp. 475-476.

7. Anoshchenko, Nikolai D., ed., History of Aviation and Cosmonautics. Washington: National Aeronautics and Space Administration, 1967, 1968. 5v. (NASA Technical Translations TT F-11427-TT F-11430, TT F-11851)

Translation of Iz Istorii Aviatsii i Kosmonavtiki (Moscow: USSR Academy of Sciences, Soviet National Association of Historians of Natural Science and Technology, 1964, 1965, 1967). Consists of papers presented at the sessions of the Aviation Section of the Soviet National Association of Historians of Natural Science and Technology. All papers deal with various aspects of the history (primarily Soviet) of aviation and astronautics. Some papers include a few footnote references.

8. Atkins, Charles M., comp., List of Academic Theses Since 1961 Related to The History of Aeronautics and Astronautics. Comment Edition. Washington: National Aeronautics and Space Administration, July 1966. 11p. (HHN-61)

A preliminary, selective listing of approximately 100 academic theses (primarily doctoral) prepared by a graduate student at MIT while a member of the NASA Historical Division Summer Seminar on "History, Social Science and Space." The 1961-1965 period is covered. The theses listed cover the following subject areas: history, social science, natural science, and engineering.

9. Bailey, James O., Pilgrims Through Space and Times: Trends and Patterns in Scientific and Utopian Fiction. New York: Argus, 1947. 341p.

Historical and analytical survey of science fiction written during the last three hundred years. Chapter six, "Beyond the Mountains of the Moon," pp. 119-187, deals entirely with science fiction. "Bibliography", pp. 325-333, lists approximately 250 titles.

10. Bates, David R., ed., Space Research and Exploration. Associate Editor: Patrick Moore. Contributors: A. C. Clarke [and others] New York: W. Sloane Associates, 1958. 287p.

An introduction to space exploration by a panel of twelve British experts. Includes

"History", pp. 29-41, by P. E. Cleator which has a brief bibliography of six references.

11. Benton, Mildred C., The Clock Problem (Clock Paradox) in Relativity: Theories, Both Pro and Con, Recorded in the Literature; an Annotated Bibliography. Washington: U.S. Naval Research Laboratory, 1959. 48p. (U.S. Naval Research Laboratory. Bibliography no. 15) (For sale by Clearinghouse for Federal Scientific and Technical Information, Springfield, Va., as report PB 151671)

Theory holds that a precise clock would run more slowly at extreme altitudes; this raises the question of whether extended space travel would lengthen life. Compiled by the librarian of the Laboratory, this is an annotated bibliography of 241 references from 1905 to 1959, including journal articles in all languages. A very few book and report references also included.

12. Benton, Mildred C., The Literature of Space Science and Exploration. Washington: U.S. Naval Research Laboratory, 1958. 264p. (U.S. Naval Research Laboratory. Bibliography No. 13)

An annotated list of 2,274 books, periodical articles, and research reports covering the period 1903 through June 1958. References are listed chronologically with an author and subject index. Emphasizes the progress, development, and scientific uses of instrumented vehicles.

13. Berkner, Lloyd V., and Hugh Odishaw, eds., Science in Space. New York: McGraw-Hill Book Company, Inc., 1961. 458p.

A compilation of 20 papers, some technical, some more general, by participating space scientists on such subjects as Gravity, The Earth, The Moon and Planets, Fields and Particles in Space, The Stars, and The Life Sciences. References follow each paper. An Appendix, pp. 429-436, contains a note on the Space Science Board, National Science Foundation, which generated this volume, lists its subcommittees and its reports.

14. Bernal, John D., Science and History. 3d ed. New York: Hawthorn Books, 1965. 1039p.

Deals with the complex interaction between techniques, science, philosophy, and society from earliest days of human society to the twentieth century. Excellent for historical development of modern science and the space age. Includes bibliography, pp. 934-948.

15. Bleiler, Everett, F., ed., The Checklist of Fantasy Literature: a Bibliography of Fantasy, Weird, and Science Fiction Books Published in the English Language. Chicago: Shasta, 1948. 455p.

Listed by author are approximately 500 titles, only some of which are science fiction. Includes title index. "Annotated List of Critical and Historical Reference Works", pp. 443-448, lists several prime sources for early interplanetary travel and science fiction.

16. Bober, Juraj, Vesmír Čeka na Človeka [Space Waits for Man] V Bratislava: Slovenské vydavateľ'stvo politickej literatúry, 1960. 175p.

Includes bibliography, p. 173, and some historical information.

17. Bretnor, Reginald, ed., Modern Science Fiction: Its Meaning and Its Future. New York: Coward-McCann, 1953. 294p.

Consists of eleven essays by different writers, one of which, by Arthur C. Clarke, is entitled "Science Fiction: Preparation for the Age of Space," pp. 197-220.

18. Bryden, Helena G., ed., Wings: An Anthology of Flight. London: Faber and Faber, 1942. 320p.

Contains selections from world literature as far back as the Bible, ancient Greek, Persian, and Indian sources, and selections on through the centuries to the time of balloons, airships, and the modern airplane in World War II. "Acknowledgements," pp. 317-320, lists the many sources from which the pieces anthologized were taken.

19. Budil, Ivo, ed., Do Blízkeho i Vzdáleného Vesmíru [Into Near and Far Away Space] Praha: Orbis, 1960. 320p.

A series of radio lectures by experts, many of them professors, on various aspects of astronomy and space flight. Bibliography, p. 307, lists a few additional references in Czech and Russian.

20. Butler, Stuart, and Harry Messel, eds., The Universe of Time and Space: a Course of Selected Lectures in Astronomy, Cosmology, and Physics. Oxford: Pergamon Press; New York: Macmillian, 1963. 291p. (The Commonwealth and International Library of Science, Technology, Engineering and Liberal Studies, 174)

Consists of material presented in the lectures of the sixth annual Nuclear Research Foundation Summer Science School held at the University of Sydney, January 7-18, 1963. Includes "The First Five Years of Space Research" by T. Gold, pp. 261-291.

21. Caidin, Martin, The Moon: New World for Men.

Indianapolis: Bobbs-Merrill, 1963. 406p.

Describes Project Apollo, the American moon program. Appendix v, "Chronology of the Apollo Program," pp. 361-388, covers the period 1957-1962. Other appendices include a 1959 Soviet report on Lunik III, official accounts of the U.S. Army's lunar construction and mapping program, the lunar charting program of the Air Force, and an account of Ranger IV. Also includes "Military Potential of the Moon" pp. 389-406, by Lt. Col. S.E. Singer, USAF.

22. Canby, Courtlandt, A History of Rockets and Space.

New York: Hawthorn Books, 1963. 112p. (The New Illustrated Library of Science and Invention, v. 1)

A concise, beautifully illustrated history of rocketry from its earliest uses by the Chinese, to its use as a military weapon in Europe in the 18th and 19th centuries, to its use in space travel today; also a history of the idea of space travel beyond earth from the earliest fictional accounts of imaginary voyages to its practical possibility today. "Chronology," pp. 106-110, covers the period from 150 B.C. to 1962.

23. Clarke, Arthur C., The Challenge of the Space Ship.

New York: Harper, 1959. 212p.

Consists of 20 articles by the former chairman of the British Interplanetary Society, published 1935-1959, in British and American periodicals. Discusses the implications of the beginning of the space age.

24. Clarke, Arthur C., Interplanetary Flight: an

Introduction to Astronautics. New York: Harper, 1951. 164p.

Deals with rocketry and interplanetary voyages. Chapter one is entitled "Historical Survey." Includes bibliography, pp. 160-161.

25. Clarke, Arthur C., The Promise of Space. New York:

Harper and Row, 1968. 347 pp.

Includes new material on scientific discoveries, technical development, and history and politics of American and British space programs. Four sections summarize scientific and imaginative theory on space potentials: Around the Earth, Around the Moon, Around the Sun, and Around the Universe.

26. Clarke, Arthur C., Voices from the Sky: Previews of the Coming Space Age. New York: Harper and Row, 1965. 241p.

A series of essays, some of which have been published elsewhere, on various aspects of space flight, astronomy, astronautics, artificial satellites in communication, and scientific fiction. Includes brief bibliographies at the end of some of the essays and a few bibliographical references scattered throughout the text.

27. Cox, Donald W., and Michael Stoiko. Spacepower: What it Means to You. Illustrated by N. Stanilla. Philadelphia: Winston, 1958. 262p.

Comprises discussion of rocketry yesterday, today, and tomorrow, satellites and society, the need for U.N. space law, and a U.N. space program. Excerpts from the "Preface" and ch. 2, and ch. 3, "Rocketry Today", also appeared in Smithsonian Institution's Annual Report, 1958 (Washington: 1959), pp. 261-284.

28. Deisch, Noel, "Navigation of Space in Early Speculation," Popular Astronomy, v. 38 (February 1930), pp. 73-88.

An essay on the history of man's interest in space flight from the fictional accounts of Lucian of Samosata to the practical work of Goddard, Oberth, and Esnault-Pelterie. Excellent brief historical survey which includes 24 footnote references.

29. DeLeeuw, Hendrik, From Flying Horse to Man in the Moon:

A History of Flight from Its Earliest Beginnings to the Conquest of Space. New York: St. Martin's, 1963. 310p.

Deals with aeronautics and astronautics mainly in the 20th century, although brief coverage is given to the lore and fantasy of flight, balloons, and dirigibles. It is perhaps worth noting that both the history of aeronautics and astronautics are treated here in one book.

30. De Santillana, Giorgio, The Origins of Scientific

Thought: from Anaximander to Proclus, 600 B.C. to 300 A.D. Chicago: University of Chicago Press, 1961. 320p. (History of Scientific Thought, v.1)

First of a series of five projected volumes on the history of scientific thought. Deals with the ancient Greek origins of those ideas that, reborn in the seventeenth century, played their part in the rise of modern science. Bibliography, pp. 314-317, lists approximately 30 titles on the history of ancient Greek science.

31. Dein Wunsch war immer—Fliegen! Wien: Manutiuspresse,

1958. 95p.

Brief excerpts from earliest times to the present from world literature showing the history of man's concern with flight. Arranged chronologically and includes statements by such writers as Bacon, Blériot, Bruno, Goethe,

Lilienthal, Lindbergh, Ovid, Rilke, Saint Exupéry, Santos-Dumont, Virgil, Wells, and the Wrights.

32. Department of the Army, Army Library, Space Travel, a Selected List of Titles for Lecturers and Students.

Washington: Army Library, 1956. 11p. (Its Special Bibliography, no. 2)

Compilation of about one hundred annotated English language books and periodical articles published 1954-56 intended to provide source material for popular lectures and students.

33. Duhem, Pierre M., Le Système du Monde; Historie des Doctrines Cosmologiques de Platon à Copernic.

Paris: A. Hermann, 1913-59. 10v.

Consists of the following volumes: 1. La cosmologie hellénique.--2. La cosmologie hellénique (suite) L'astronomie latine au Moyen Age.--3. L'astronomie latine au Moyen Age (suite)--4. L'astronomie latine au Moyen Age (suite) La crue de l'aristotélisme.--5. La crue de l'aristotélisme (suite)--6. Le reflux de l'aristotélisme; les condamnations de 1277.--7-9. La physique parisienne au XIV<sup>e</sup> siècle. 10. La cosmologie du XV<sup>e</sup> siècle; écoles et universités au XV<sup>e</sup> siècle. Each volume contains bibliographical footnotes.

34. Emme, Eugene M., Aeronautics and Astronautics: an American Chronology of Science and Technology in the Exploration of Space, 1915-1960. Foreword by

Hugh L. Dryden. Washington: National Aeronautics and Space Administration, 1961. 240p.

Part II, pp. 89-135, is entitled "The First Three Years of the Space Age, October 1957-December 1960." Appendix A, pp. 139-151, is a chronicle of earth satellites and space probes, 1957-1960. Includes balloon chronology, awards list, and bibliography, pp. 207-212, and a subject-name index. Items in the bibliography include books, journal articles, congressional hearings; mainly for the historian. This work followed by annual NASA chronologies, Astronautics and Aeronautics, 1961 to date (82).

35. Emme, Eugene M., "Early History of the Space Age," Aerospace Historian, v. 13 (nos. 2-3, Summer and Fall 1966), pp. 74-78, 127-132.

Lecture at University of Wisconsin on historical development, mainly on the period since 1945. Especially good in indicating the complexities of funding and decision-making for space research within the democratic process.

36. Emme, Eugene M., History of Space Flight. New York: Holt, Rinehart and Winston, 1965. 224p. (Holt Library of Science)

Pt. I, "Prehistory of the Space Age," covers the history of flight, rocket technology, and man's expanding concept of the universe while Pt. II, "Age of Space Flight," covers the history of the first seven years of the space age. Bibliography, pp. 216-221, cites references used chapter by chapter.

37. Flight, Fantasy, Faith, Fact: a Loan Exhibition  
Commemorating the Fifteenth Anniversary of Powered  
Flight, 1903-1953. Cosponsored by the Dayton  
 Chamber of Commerce and the Dayton Art Institute,  
 Dec. 17, 1953-Feb. 21, 1954. Dayton, 1953. 68p.

Catalog of an art exhibition which illustrates man's preoccupation with flying and traveling in the air for the past 5,000 years up to the 1903 flights of the Wright brothers. Records man's aspirations toward flight in allegory, myth, religion, legend, through the Renaissance, the age of science, to Kitty Hawk. Lists 361 works of art.

38. Franklin, H. Bruce, Future Perfect: American Science  
Fiction of the Nineteenth Century. New York:  
 Oxford University Press, 1966. 402p.

Presents and examines fiction and criticism. The science fiction examined includes selections from Hawthorne, Melville, Poe, and others. The criticism, by a professor of English at Stanford University, is written from the perspective that "science fiction of the past shows just how much an age determines and displays itself through what it sees as remote possibilities."

39. Fry, Bernard M., and Foster E. Mohrhart, eds.,  
A Guide to Information Sources in Space Science  
and Technology. New York, London: Interscience  
 Publishers, 1963. 579p. (Guides to Information  
 Sources in Science and Technology. Vol. 1)

Lists over 3,500 published and 400 nonpublication sources and references, most English-language publications. Arranged in alphabetical order within major and subordinate subject groups. Subjects of the 19 major groups include specialized information centers and sources, Soviet astronautics, space law, International Geophysical Year, U.S. space programs, history, missile men, and space centers. Six appendixes include a summary of satellites and planetoids, a list of U.S. missions utilizing large boosters, and a list of journals published in the space and aeronautics fields. Has detailed subject-author index.

40. Garnett, Christopher B., The Kantian Philosophy of Space. Port Washington, N.Y.: Kennikat Press, 1965. 287p.

Reprint of 1939 edition (New York: Columbia University Press). Examines Kant's views of space as developed between 1747 and 1787. Considers these views in relation to the theories of space of Newton and Leibniz and to those of S. Alexander, C. D. Broad, and A. N. Whitehead. Bibliography, pp. 265-269, lists approximately 100 references to books.

41. Gartmann, Heinz, Rings Around the World: Man's Progress from Steam Engine to Satellite.

Translated by Alan G. Readett. New York: Morrow, 1959. 366p. 1960.

Translation from the German, Sonst stünde die Welt still: das grosse Ringen um das Neue (Düsseldorf, Econ-Verlag, 1957). British edition (London: Hodder & Stoughton, 1960)

published under the title: Science as History: The Story of Man's Technological Progress from Steam Engine to Satellite. A very detailed and comprehensive history of technology which includes several chapters on space exploration and travel. The author investigates the effect of technological development on man and attempts to discover the reason for the hostility toward technology. Bibliography, pp. 337-343, lists many references to space and to technology.

42. Gaul, Albro T., The Complete Book of Space Travel.

Illustrated by Virgil Finlay, and Including an Album of Historical Space Travel Art Prepared by Sam Moskowitz. Cleveland: World, 1956. 149p.

Elementary text but includes "A Portfolio of Early Space Ships, 1638-1929," pp. 141-156. Brief "Bibliography", p. 157, includes 19 items.

43. Godwin, Felix, The Exploration of the Solar System.

New York: Plenum Press, 1960. 200p.

The author discusses the possible developments in space exploration over the next 150 years. Deals with voyages to the Moon and Mars and the establishment of planetary colonies. Brief list of references given at the end of each chapter.

44. Goodwin, Jack, et al., "Current Bibliography in the History of Technology," Technology and Culture, Spring 1964 to date. Annual.

Annual bibliography of approximately 500 current works arranged by broad subject category with author index. History of aircraft

and spacecraft technology covered in the section "Transportation." A list is included of about 200 journal titles from which entries are taken. Compiled by Jack Goodwin, the Librarian of the Smithsonian Institution, Museum of History and Technology, Professor Eugene S. Ferguson, Iowa State University, and others. A detailed cumulative subject index is in progress and planned for publication with the 1965 list in 1967. Compilations have appeared thus far in Winter 1964, pp. 138-148, for 1962; Spring 1965, pp. 346-374, for 1963; and Spring 1966, pp. 268-300, for 1964.

45. Gove, Philip B., The Imaginary Voyage in Prose

Fiction: a History of Its Criticism and a Guide for Its Study, with an Annotated Check List of 215 Imaginary Voyages from 1700 to 1800. New York: Columbia Univ. Press, 1941. 445p. (Columbia University Studies in English and Comparative Literature, 152)

Includes "Bibliography," pp. 403-420, of approximately 200 references to other works about imaginary voyages.

46. Government Data Publications, Space Systems Volume

and Directory. Washington: Government Data Publications, 1963. 351p.

A listing of U.S. space projects being planned or already in various stages of development or completion by government and/or industry. Arranged alphabetically by project under the categories: Boosters, Satellites, Space Vehicles, and Others. Technical,

political, and historical information given for each project.

47. Green, Roger L., Into Other Worlds: Space-flight in Fiction, from Lucian to Lewis. London, New York: Abelard-Schuman, 1958. 190p.

Describes journeys to the moon and other planets in the writings of authors from Lucian to C. S. Lewis. Attempts to include all stories of cosmic voyages in English at least up to the beginning of the twentieth century. "A Short Bibliography of Journeys into other Worlds Mentioned in this Book," pp. 187-190, lists approximately 65 titles.

48. Historical Abstracts, 1775-1945. V. 1, March 1955, to date. Santa Barbara, Calif.: Published by Cleo Press for American Bibliographical Center. Quarterly.

The first volume contains 3,577 abstracts from 400-500 periodicals of "articles on political, diplomatic, economic, social, cultural, scientific and technical, and intellectual history appearing in the period 1775-1945 in the periodical literature (including year books) the world over." Abstracting began with issues of periodicals appearing after June 1, 1954. Any journal added in the future will be abstracted retroactively to January 1, 1955. Five-year cumulative author and subject indexes (1955-59 and 1960-64) have been published.

49. International Aerospace Abstracts. New York:

American Institute of Aeronautics and Astronautics,

January 1961 to date. Semimonthly.

Includes 11,000 abstracts a year of published world literature in aeronautics and space science and technology. Materials abstracted include books, periodicals (including Government-sponsored journals), meeting papers and conference proceedings, and translations of journals and journal articles. Subject classification with author, subject, meeting paper, and accession number indexes. Quarterly and annual cumulative indexes are issued. International Aerospace Abstracts and Scientific and Technical Aerospace Reports (STAR) utilize identical subject categories and indexes and thus the two provide comprehensive access to the national and international unclassified report and published literature of current technical significance. Both publications list items under the subject categories "history" and "bibliography".

50. International Series of Monographs in Aeronautics

and Astronautics. Oxford, New York: Pergammon

Press, 1957 to date.

Consists of a technical series of approximately 41 volumes to date of international monographs in the following divisions: I-Solid and Structural Mechanics, II-Aerodynamics, III-Propulsion Systems Including Fuels, IV-Avionics, V-Aviation and Space Medicine, VI-Flight Testing, VII-Astronautics, VIII-Materials Science and Engineering, and IX-Symposia. Most volumes contain bibliographies.

51. IZ Istorii Aviat'sii i Kosmonavtiki [From the History of Aviation and Cosmonautics] Moscow: Akademiia Nauk SSSR, Sovetskoe Natsional'noe Ob'edinenie Istorikov Estestvoznaniia i Tekniki, 1964 to date. Irregular.

Russian journal devoted to the history of aeronautics and cosmonautics. Each issue contains several articles, some of which include brief bibliographies. Issued by the Soviet Academy of Sciences, Soviet National Society of Historians of National Science and Technology.

52. Jammer, Max, Concepts of Space: the History of Theories of Space and Physics. Cambridge, Mass.: Harvard University Press, 1954. 196p.

A survey of theories of space in physics from the concepts of space in antiquity to Judeo-Christian ideas about it, to Newton's concept, to the concept of space in modern science from the 18th century to the present time. Abundant footnote references.

53. Joffé, Mark, La Conquista delle Stelle; Astrolatria, Astrologia, Astronomia, Astrofisica. A cura di Giuseppe de Florentiis. Traduzioni di Angelo Bertolotti et al. Milano: A. Mondadori, 1958. 725p.

A comprehensive history of astrology, astronomy, astrophysics, and astronautics from earliest times to 1958. Includes profuse

quotations from all languages and periods translated into Italian. Arrangement is by country or area and includes Chinese, Indian, Pre-Columbian, Babylonian, Hebraic, Greek, Roman, Arabic, etc.

54. Jones, Bessie J., Lighthouse of the Skies: the Smithsonian Astrophysical Observatory; Background and History, 1846-1955. Washington: Smithsonian Institution, 1965. 339p. (Smithsonian Publication, 4612)

History of the SAO which includes the SAO's role in Langley's aerodynamic experiments, pp. 147-171, and Robert H. Goddard's rocket experiments, pp. 241-276. "Notes," pp. 307-334, consists of chapter bibliographies.

55. Journal of the British Interplanetary Society. London: British Interplanetary Society, 1934--July/Aug. 1961. Bimonthly.

Includes special section "Astronautical Abstracts," 1959-1961, containing 2,000 abstracts a year of world literature with subject classification and annual author and subject indexes.

56. Kaiser, Hans K., Rockets and Spaceflight. Translated by Alex Helm. New York: Pitman, 1962. 154p.

Translation (revised and brought up to date) of Zu Fremden Gestirnen; die Weltraumfahrt in Gegenwart und Zukunft, eine kurze Einführung in die Astronautik (Baden-Baden: Signal Verlag Hans Frevert, 1959). Includes bibliography,

pp. 151-152. Excellent first chapter, "Growth of an Idea," traces the history of the idea of space flight and includes throughout the text references to works of historical interest by such people as Lucian, Kepler, Wilkins, Godwin, de Bergerac, de Fontenelle, Huygens, Verne, Lasswitz, and others.

57. Koestler, Arthur, The Sleepwalkers: a History of Man's Changing Vision of the Universe. New York: Macmillan, 1959. 624p.

Essentially a historical study of Copernicus, Galileo, Kepler, and Newton by a nonhistorian. A cultural history of cosmology organized around the relationship between science and religion, the psychological process of discovery, and the workings of the creative mind. Extensive footnote references, pp. 547-610. Includes bibliography, pp. 611-613.

58. Koyré, Alexandre, From the Closed World to the Infinite Universe. Baltimore: Johns Hopkins Press, 1957. 313p.

Covers the period 1450-1700 and traces the replacement of the concept of an eighth sphere of fixed stars by that of an infinite universe and the effect of this on human thought. Extensive quotes from the works of Nicholas of Cusa, Copernicus, Giordano Bruno, Kepler, Galileo, Descartes, Newton and Leibniz. "Notes", pp. 277-304, lists footnote references by chapter.

59. Kramarov, Grigorii M., Na Zare Kosmonavtiki [Dawn of Cosmonautics] Moscow: Znanie, 1965. 94p.

A history of the Society for the Study of Interplanetary Flight, Moscow. Covers period 1924-1964. Includes information on some of the early Soviet interplanetary flight enthusiasts. Includes chronology, pp. 93-95, and a few scattered bibliographical footnotes.

60. Kurliandskaia, S. V., ed., Nashi Kosmicheskie Puti

[Our Cosmic Way] Moscow: Sovetskaia Rossiia, 1962. 306p.

Includes a compilation of statements on the conquest of space from Tass, the Soviet Academy of Sciences, Soviet scientists, foreign sources, etc., arranged in chronological order. A popular anthology.

61. Laufer, Berthold; Prehistory of Aviation. Chicago:

Field Museum of Natural History, 1928. 96p.

(Its Publication 253, Anthropological Series, v. 18, no. 1)

Discusses the mythological and legendary accounts of flight in the Orient. The author's thesis is that the ideas underlying modern aviation had their root in the Orient and were in full evidence there long before their appearance in Europe. Discusses the Chinese kite as the prototype of the airplane, and Indian, Babylonian, Persian, Greek, and Arab legends. Notes, pp. 88-93, list many background footnote references in running text. Bibliography, p. 94, lists eleven additional references.

62. Lear, John, Kepler's Dream, With the Full Text and

Notes of Somnium, sive Astronomia Lunariorum Joannes

Kepleri. Translated by Patricia Frueh Kirkwood.

Berkeley: University of California Press, 1965.

182p.

A "lunar geography" written in 1609 by Kepler, this work is the first complete English translation of the complete text to be published. Lear considers this to be a serious scientific work in which Kepler describes a theoretical voyage to the moon in scientific terms and enumerates the obstacles man would have to overcome. Includes Lear's interpretation of Kepler's manuscript, Kepler's appendix, and extensive footnotes throughout all portions of the text.

63. Lehner, Ernst, and Johanna Lehner. Lore and Lure of Outer Space. New York: Tudor, 1964. 192p.

Fairly popular history of astrology and astronomy with emphasis on pictorial representations of the universe, the milky way, the planets, constellations, comets, and asteroids. Excellent classical illustrations from all time periods and countries.

64. Leonard, Jonathan N., Flight into Space: the Facts, Fancies, and Philosophy. Rev. ed. New York: Random House, 1957. 306p. [Modern Library Paperbacks, P37]

The author, science editor of Time, states in the foreword to the revised edition (first edition published 1953) that the purpose of this work was "to give the background of space flight, its methods, obstacles, emotives, philosophy and dreams rather than describe current space hardware". Ch. 4 is entitled,

"Daedalus and Newton". Published in French,  
Ciel des Hommes [Paris: Arthaud] in 1955.

65. Ley, Willy, et al., The Complete Book of Satellites  
 and Outer Space. 2d ed. New York: Maco Magazine  
 Corp., 1957. 127p. (Maco, 70)

Includes articles by thirteen space experts  
 including "Development of the Space Ships," by  
 Willy Ley, pp. 4-15, and "History of the Rocket  
 Engine," by James H. Wyld, pp. 50-71; first  
 edition published in 1953 under the title,  
The Complete Book of Outer Space.

66. Ley, Willy, The Conquest of Space. Paintings by  
 Chesley Bonestell. New York: Viking Press,  
 1949. 160p.

An early popular account of "space travel"  
 by one of the world's early authorities.  
 Describes the geography and atmosphere of the  
 planets and their satellites. Includes 58  
 reproduced paintings of these descriptions.

67. Ley, Willy, ed., Die Möglichkeit der Weltraumfahrt:  
Allgemeinverständliche Beiträge zum  
Raumschifffahrtsproblem, von professor Hermann  
 Oberth, dr. Franz v. Hoeffft, dr.-ing. Walter  
 Hohmann, dr. Karl Debus, ingénieur Guido von  
 Pirquet und ingénieur Fr. W. Sander. Leipzig:  
 Hachmeister & Thal, 1928. 344p.

Consists of essays by each of the above contributors. "Die Verfasser," p. vii-viii, provides biographical information for each of the authors. "Literaturverzeichnis und Anmerkungen," pp. 341-344, consists of annotated references to the works of the above contributors and a few others.

68. Ley, Willy, Rockets, Missiles, and Space Travel. Rev. and enl. for the 1960's. New York: Viking Press, 1961. 528p.

One of the first major works in English on space travel. Includes extensive bibliography, pp. 513-548. Earlier versions of this bibliography appeared in all editions of this book, first published in 1944 under title Rockets: the Future of Travel Beyond the Stratosphere. Briefly annotated list of books and pamphlets arranged according to the language in which book was printed. Some British and U.S. Government publications are listed. Section entitled "Historical Works," pp. 537-540, lists 42 references to works published before 1949. Section 3, pp. 542-544, is entitled "Literary History of Imaginative Literature on Space Travel." Revised edition of 1968 published as Rockets, Missile, and Men in Space, with updated bibliography pp. 533-548.

69. Library of Congress, Science and Technology Division, Aeronautical and Space Serial Publications: a World List. Washington: The Library, 1962. 255p. (For sale by U.S. Govt. Print. Off.)

Lists 4,551 current and noncurrent titles originating in 76 countries. Arrangement is by country with a title index. Titles listed

are based primarily on the holdings of the Library of Congress although other sources have been consulted for additional titles. This list is an expansion of Checklist of Aeronautical Periodicals and Serials in the Library of Congress, prepared by Arthur G. Renstrom (Washington: 1948. 129p.). This in turn is an expansion of an even earlier list in two parts, Aeronautical Periodicals and Serials in the Library of Congress (1) United States (1936); (2) British Empire (1938).

70. Lilley, Samuel, Men, Machines and History: the Story of Tools and Machines in Relation to Social Progress. Rev. and enl. ed., 1st U.S. ed.  
New York: International Publishers, 1966. 352p.

Ch. 15, "The Conquest of Space," pp. 277-307, discusses the history of space exploration and contrasts U.S. and Soviet space policies. Original edition (London: Cobbett, 1948).

71. McGraw-Hill Basic Bibliography of Science and Technology: Recent Titles on More than 7000 Subjects, Compiled and Annotated by the Editors of the McGraw-Hill Encyclopedia of Science and Technology. New York: McGraw-Hill, 1966. 738p.

Supplements and uses the same subject headings as the McGraw-Hill Encyclopedia of Science and Technology. Includes brief annotated bibliographies on space, space biology, space flight, space navigation and guidance, space power systems, space probe, space technology, and spacecraft structure, pp. 587-589, and on astronautical engineering, astronautics, astronomical geophysics,

astronomical instruments, astronomical photography, astronomical spectroscopy, astronomy and astrophysics, pp. 50-51. References are to English language books which are recent and in print as of 1966.

72. Macvey, John W., Journey to Alpha Centauri. New York: Macmillan, 1965. 256p.

Describes the possibilities of interstellar (as distinct from interplanetary) travel and considers the physical, technical, moral, and sociological aspects. Bibliography, pp. 255-256, consists of 26 references to books and journal articles.

73. Marcus, Abraham, and Rebecca B. Marcus, Tomorrow the Moon! Planes, Missiles, Satellites, Space Travel. Englewood Cliffs, N.J.: Prentice-Hall, 1959. 150p.

Elementary approach but the first three chapters, pp. 1-17, discuss the history of man's attempts to escape gravity from earliest times to the present. "Significant Events in Man's Struggle to Escape from the Bonds of Gravity", pp. 144-146, lists eleven events.

74. May, Roger, Feux Verts pour la Lune. Paris: Bonne, 1959. 238p.

Deals with space flight to the moon, including progress made and future projections to 1972. Fairly popular treatment of the subject.

75. Monastyrev, B. A., comp., K. E. Tsiolokovskii O Mezhpplanetnykh Soobshcheniakh [K. E. Tsiolkovskii on Interplanetary Travel] Kaluga: Kaluzhskoe Knizhnoe izd-vo, 1959. 18p.

Includes quotations from Tsiolkovskii on space travel. Bibliography, p. 20, lists ten books. Includes reprints from the press, Jan. 3-6, 1959, pp. 10-16.

76. Moore, Patrick, Space Exploration. Cambridge, Eng.: Published for the National Book League at the University Press, 1958. 26p. (Reader's Guides, 3d ser.)

An annotated bibliography of approximately 150 references to fairly current works on astronomy and astronautics, mainly for the layman. "Historical and Biographical" works listed, pp. 20-22.

77. Müller, Wolfgang D., Man Among the Stars. New York: Criterion, 1957. 307p.

Translated from Du Wirst die Erde sehn als Stern, published in Germany (Stuttgart: Deutsche Verlags-Anstalt, 1955). Traces the historical development of the concept of man's exploration of space. Bibliography, pp. 303-307, lists approximately 75 references to books.

78. Munitz, Milton K., Theories of the Universe; from Babylonian Myth to Modern Science. Glencoe, Ill.: Free Press, 1957. 437p.

An anthology of writings about the origin and nature of the universe from the Babylonians to the present time. Includes excerpts from the writings of many eminent astronomers. "Selected Bibliography," pp. 430-432, lists approximately 65 English book titles.

79. Murchie, Guy, Music of the Spheres. Boston: Houghton Mifflin, 1961. 644p.

The first half of the book deals with the macrocosm. Beginning with the earth, the author then discusses the facts and fantasies of space travel. The second half of the book deals with the microcosm: the atom, and subatomic particles. In the end he deals with waves, energy, light, radiation, and finally beliefs about the nature and order of the universe. Brief bibliography given in "Acknowledgments," pp. IX-X.

80. National Academy of Sciences, Space Science Board, Bibliography on Space Sciences: United States, 1956 to date, appendix to United States Space Science Program: Report to COSPAR. Washington: National Academy of Sciences, 1956 to date. 12v. Annual.

As a part of its international responsibilities, the Board furnishes COSPAR with an annual report on the United States space science program. These reports contain bibliographies on U.S. work for that year. Bibliographies for 1956-1967 have been issued.

81. National Aeronautics and Space Administration,  
Astronautics and Aeronautics: Chronology on  
Science, Technology, and Policy. Washington:  
 NASA, 1961 to date. Annual. (Vols. for 1963 to  
 date issued as NASA SP-4004, 4005, 4006, and 4007)  
 (For sale by U.S. Govt. Print. Off.)

An annual chronology of events and statements of the space age, compiled from open public sources as ready reference for current use by space technologists, scholars, students, and writers, as well as for future analysts and historians. Supplements Aeronautics and Astronautics, 1915-1960, by Eugene M. Emme (Washington: NASA, 1961) (34). Each volume includes "Appendix A, Satellites, Space Probes, and Manned Space Flights"; and Appendix B, "Chronology of Major NASA Launchings", prepared by Frank W. Anderson, Jr., Deputy NASA Historian. 1961 and 1962 volumes have title Astronautical and Aeronautical Events and were printed by the House Committee on Science and Astronautics.

82. National Aeronautics and Space Administration,  
Bibliographies on Aerospace Science: a Continuing  
Bibliography. Springfield, Va.: Clearinghouse for  
 Federal Scientific and Technical Information (OTS),  
 January 1962-May 1964 to date. (NASA SP-7006)

A selection of annotated references to unclassified bibliographies introduced into the NASA information system January 1962-May 1964. Prepared by the Scientific and Technical Information Facility operated for the National Aeronautics and Space Administration by

Documentation Incorporated. All references are to bibliographies that have been announced either as reports in Scientific and Technical Aerospace Reports or as journal articles or books in International Aerospace Abstracts. The references are arranged in two major groups: (1) reports and (2) book and journal articles. Subject index but no author index. To be updated periodically by the publication of supplements.

83. National Aeronautics and Space Administration, Index to NASA Tech Briefs. Springfield, Va.: Clearinghouse for Federal Scientific and Technical Information (OTS), January 1965 to date. Semiannual. (NASA SP-5021)

This index has been prepared as a guide to technological innovations derived from the NASA space program. The publication is arranged in two major sections: (1) a listing of the citations and abstracts of all NASA Tech Briefs published to date and arranged by subject category; (2) three indexes: Subject Index, Originator/Tech Brief Number Index, and Tech Brief/Organator Number Index.

84. National Aeronautics and Space Administration, Space Scientists and Engineers: Selected Biographical Listing, 1957-1961. Washington: U.S. Govt. Print. Off., 1962. 332p. (NASA SP-5)

A listing by country of approximately 1,000 authors of technical papers considered for presentation at a proposed United Nations conference on the peaceful uses of space. For each scientist a brief biography and bibliography is given.

85. National Aerospace Education Council, Aerospace Bibliography. Compiled for National Aeronautics and Space Administration. 3rd ed. Washington: NASA, 1966. 71p.

An annotated, mainly nontechnical bibliography of books, periodicals, teaching aids, pamphlets, reports, films, and film strips arranged by broad subject category under type of material and with reading level indicated. Author and title indexes. Covers literature published from January 1963 through summer 1965 and is a third edition of Aeronautics and Space Bibliography which covered the period 1958 through June 1961 and was published in three parts.

86. Neimark, Paul G., ed., The Race for Space! Chicago: Camerarts Pub. Co., 1957. 66p.

Consists of 15 essays by prominent Americans on various aspects of space flight, U.S. space policy and government, and the U.S.-U.S.S.R. space competition. Includes essays by Willy Ley, James T. Farrell, Nelson Algren, and Isaac Asimov.

87. Nicolson, Marjorie H., Voyages to the Moon. New York: Macmillan, 1948. 297p.

A scholarly work dealing with fictional trips to the moon from classical time to the modern era but with special emphasis on the period before actual flight. Excellent annotated bibliography, pp. 258-288, includes primary and secondary references to works on the prehistory and history of flight.

88. Nihon Kōkū Gakkai-shi. Journal of Japan Society for Aeronautical and Space Sciences. Tokyo: The Society, 1953 to date. Monthly.

Includes 80-100 abstracts a year on aerospace engineering and aerospace technology from Western literature and papers published by NASA arranged by subject.

89. North, John D., The Measure of the Universe: A History of Modern Cosmology. Oxford: Clarendon Press, 1965. 436p.

Deals with 20th century cosmology. Pt. I is a history of the principal theories of cosmology and Pt. II is a discussion of the conceptual problems which underlie the principal theories. Includes selected bibliography, pp. 425-427.

90. Odishaw, Hugh, ed., The Challenges of Space.

Contributors: Ralph S. Cooper, and others.

Foreword by Eugene Rabinowitch. Chicago:

University of Chicago Press, 1962. 379p.

First published as a special issue of the Bulletin of the Atomic Scientists, May-June, 1961; here expanded and brought up to date. Consists of 23 articles by 25 experts on what is technically within reach in the following subject categories: Applications of Space Research, Space Research, National Space Program, International Space Co-operation, and Space Technology. A few of the essays contain very brief bibliographies.

91. Potts, Rinehart S., Library Service for the Martian Exploration Expedition. Philadelphia: Litton Industries, 1963. v.p.

Basically an annotated bibliography arranged in six subject matter categories with each preceded by narrative comments on aspects of flight: "works likely to be needed by planners, works for both planners and the expedition, abstracting journals intended for the orbital party, works which would be possessed by both the orbital and landing parties, works intended only for the landing party, and general reading for background and further reference." Compiled as part of the requirements for a course under Assoc. Prof. George S. Bonn of the Graduate School of Library Service, Rutgers the State University, New Jersey.

92. Price, Derek J. de Solla, Science Since Babylon. New Haven: Yale University Press, 1961. 149p.

Consists of five essays based on five lectures originally given at Yale University in 1959. Deals with scientific crises of the past which lead to great scientific and technological development -- from the one that made our own civilization begin to become scientific to the probable transition from the present state to a future internal economy of science. Includes scattered footnote references.

93. Ramo, Simon, ed., Peacetime Uses of Outer Space, by Lloyd V. Berkner, and others. New York: McGraw-Hill, 1961. 279p.

Consists of 12 essays by prominent authorities originally presented in a series of lectures organized by the University of California, March-June 1960. Each essay deals with one aspect of space exploration.

94. Referativnyi Zhurnal. Issledovanie Kosmicheskogo

Prostranstva [Journal of Abstracts. Investigation of Outer Space] Moscow:

Proizvodstvenno-izdatel'skii Kombinat Vsesoiuznogo Instituta Nauchnoi i Tekhnicheskoi Informatsii, 1964 to date. Monthly.

Contains about 4,800 abstracts a year from world literature. Arranged by subject with an author index. Subject categories include history, personalities, international cooperation, space research organization, and bibliography.

95. Revista de Aeronautica y Astronautica. Madrid:

Ministerio del Aire, 1932 to date. Monthly.

Section entitled "Bibliografia: Libros, Revistas" includes 300 references a year from English language and European journals.

96. Richardson, Robert S., Man and the Moon. Cleveland:

World, 1961. 171p.

Ch. 1, "Imaginary Voyages to the Moon," pp. 17-35, is a very good running text bibliography on imaginary voyages to the moon from Lucian of Samosata to Edgar Rice Burroughs and H. G. Wells. Other chapters in the volume include "The Earth-moon Journey,"

by A. C. Clarke; "Power for a Lunar Colony," by M. O'Day; "Farming on the Moon," by J. W. Sholto Douglas; and "Basic Design for Moon Building," by J. S. Rinehart.

97. Roberts, Joseph B., and Paul L. Briand, eds.,

The Sound of Wings: Readings for the Air Age.

New York: Holt, 1957. 303p.

Selections from world literature dealing with man's flight through the air from Ovid's Fall of Icarus to the present day. Shows that the history of man's efforts to fly is shown in literature -- visions, dreams, legends, poetry, and fiction. Selections are arranged chronologically and include sections on World Wars I and II and the Korean conflict. "Acknowledgments," pp. 295-297, lists approximately 35 sources.

98. Rodman, Selden, ed., The Poetry of Flight, an

Anthology. New York: Duell, Sloan, and Pearce,

1941. 190p.

An anthology mainly of world poetry, although a few prose pieces are included, and representing man's concern with flight from Ovid, Leonardo de Vinci, Shakespeare, Milton, Goethe, to Jung, Yeats, Hopkins, Saint Exupéry, and William Faulkner. "Acknowledgments," pp. vii-ix, lists approximately thirty sources from which some of the items anthologized were taken.

99. Ross, Frank X., Space Ships and Space Travel: the

Scientifically Accurate Story of Man's Attempts

and Plans to Travel into Interplanetary Space. Rev.

ed. New York: Lothrop, Lee & Shepard, 1961.  
218p.

Fairly popular historical treatment of subject. Originally appeared in 1954 (New York: Lothrop, Lee & Shepard). May refer to names of some of the early pioneers not mentioned elsewhere.

100. Ryan, Cornelius, ed., Across the Space Frontier,  
by Joseph Kaplan and others. Illustrated by  
Chesley Bonestell, Fred Freeman, and Rolf Klep.  
New York: Viking Press, 1952. 147p.

Based on Physics and Medicine of Outer Space symposium, and originally appeared as a series of articles in Collier's Magazine (1952). A space prospectus which is comprised of articles by seven space experts, including Wernher von Braun, Heinz Haber, Willy Ley, and Fred L. Whipple.

101. Rynin, Nikolai A., Mezhplanetnye Soobshcheniia  
[Interplanetary Space Travel] Leningrad:  
Kooperativnaia artel' "Pechatnia," etc., 1928-32.  
3v. (9 pts.)

This encyclopedic international compilation on interplanetary travel consists of nine parts in three volumes. The first volume covers space travel in dreams, fantasy, and in novels while v.2 covers the theory of jet propulsion and v.3 covers the life and work of K. E. Tsiolkovskii. Volume 3 also includes a bibliography, the most extensive published to that time and virtually a complete list of all articles written about rockets in any

language up to 1931, v.3, pt. 9, pp. 141-189, comprising five sections, each arranged alphabetically by author: (1), Fiction in the Russian language; (2), Fiction in foreign languages; (3), Moving pictures; (4), Scholarly articles in Russian; and (5), Scholarly articles in foreign languages. For a comprehensive review of this work, see G. V. E. Thompson's "A Famous Russian Encyclopedia of Astronautics," in Journal of the British Interplanetary Society, v.13, July 1954, pp. 192-202; Nov., pp. 301-313; and v.15, Mar.-Apr., 1956, pp. 82-91.

102. Sanger, Eugen, and Irene Sanger-Bredt, eds.,

Internationale Tagung uber Staustrahlen und

Raketen, in Freudenstadt, Stuttgart

Forschungsinstitut fur Physik der Strahlantriebe,

vom 6 -8 Februar 1955. Stuttgart: Verlag

Flugtechnik, 1956. 358p. (Its Mitteilungen, 6)

A collection of technical papers presented at one of a series of conferences on various aspects of space technology and published as the Mitteilungen of the Forschungsinstitut from 1954 to date. Some of the papers include bibliographies.

103. Scientific and Technical Aerospace Reports (STAR)

(supersedes Technical Publications Announcements).

Washington: National Aeronautics and Space

Administration, January 8, 1963, to date.

Semimonthly. (For sale by U.S. Govt. Print. Off.)

Announces, abstracts, and indexes about 20,000 reports per year issued by the National

Aeronautics and Space Administration, as well as by other government agencies, universities, industry, and research organizations both in the United States and abroad, and scientific and technical articles prepared by NASA contractor authors which appear in learned and technical journals. Separate cumulative indexes are published quarterly, semiannually, and annually.

104. Shapley, Harlow, The View from a Distant Star: Man's Future in the Universe. New York: Basic Books, 1963. 212p.

The author, retired director of the Harvard Observatory, considers mankind's place in space, time, and evolution and in relation to other life on this and other planets.

105. Sharpe, Mitchell R., comp., A Bibliography of Wernher von Braun, 1966. Huntsville, Ala.: Marshall Space Flight Center, 1966. 23p.

A cumulative bibliography of the published writings of von Braun. Revised and enlarged annually. The 1966 edition includes approximately 330 references primarily to journal articles published from 1958 to date.

106. Shternfeld, Ario A., Polet v Mirovye Prostranstvo [Flight into Space] Moscow: Gosudarstvennoe izd-vo Tekhniko-Teoreticheskoi Lit-ry, 1949. 139p.

Early Russian book by the so-called "Willy Ley of Russia" describes historical development and future possibilities of space

flight in a fairly popular manner. Published in French as Le Vol dans l'Espace Cosmique (Paris: Editeurs Francais Réunis, 1954)

107. Singh, Jagjit, Great Ideas and Theories of Modern Cosmology. New York: Dover, 1961. 276p.

Review the fundamental theories of astronomy, astrophysics, and cosmology developed in the first half of the 20th century. Covers Einstein's concepts of relativity and space-time, Milne's a priori world system, Alfven's theory of planet formation, the astrophysical theories of Jeans and Eddington, and Jordan and Dirac's cosmology, and the continuous creation theory of Hoyle.

108. Smith, Dale R., Space Travel: a Bibliography of English-language Titles. Minneapolis: The Author, 1956. 15p.

Lists approximately 100 titles of works dealing with space travel published between 1931 and 1956 which the compiler feels is a complete list of such titles in English. Includes "Chronological Title Listing," pp. 14-15.

109. Sviderskii, V. I., Filosofskoe Znachenie Prostranstvenno-Predstavelenii v Fzike [Philosophical Significance of Space-Time Concepts in Physics]. Leningrad: Leningrad State University, 1956. 307p.

History of space time concepts in physics and philosophy from earliest times to the present from the Soviet point of view. Bibliographical footnotes.

110. Sviderskii, V. I., Prostranstvo i Vremia [Space and Time]. Moscow: State Publishing House of Political Literature, 1958. 199p.

Discusses concepts of space and time which led to modern physics from ancient times to the present. Includes the dialectic materialist concept of space and the Soviet rationale for space exploration. Includes bibliographical footnotes.

111. Syracuse University, Library, Fictional Accounts of Trips to the Moon, 160-1901 (A.D.): A Commentary to Accompany a Lena R. Arents Rare Book Room Exhibit at the Syracuse University Library, November-December 1959. Syracuse, N.Y.: The University, 1959. 14p.

Lists the following eleven references with long annotations: Vera Historia, by Lucian of Samosata; Orlando Furioso, by Lodovico Ariosto; The Man on the Moone, by Bishop Francis Godwin; The Discovery of a World in the Moone, by John Wilkins; Histoire Comique des Etats et Empires de la Lune, by Savinien de Cyrano de Bergerac; The Consolidator: or, Memories of Sundry Transactions from the World in the Moon, by the author of The True-Born English Man; A Voyage to the Moon, by Joseph Atterly (pseudonym of George Tucker); The Unparalleled Adventure of One Hans Pfall, by Edgar Allen Poe; Discoveries in the Moon

Lately Made at Cape of Good Hope, by Sir John Herschel; From the Earth to the Moon, by Jules Verne; and The First Men in the Moon, by H. G. Wells.

112. Thomas, Shirley, Men of Space: Profiles of the Leaders in Space Research, Development, and Exploration. Philadelphia: Chilton Co., Book Division, 1960 to date.

Brief sketches of the leaders in space exploration and a description of the contributions of each in a series by the chairman and organizer of the Space Advisory Committee (Los Angeles). To date seven volumes have been published with the following biographies: v.1, Krafft A. Ehricke, Robert H. Goddard, Bernard A. Schriever, John P. Stapp, Konstantin E. Tsiolkovsky, James A. Van Allen, Wernher von Braun, Theordore von Kármán, John von Neumann, Charles E. Yeager.--v.2, Scott Crossfield, Thomas F. Dixon, Walter R. Dornberger, Hugh L. Dryden, W. Randolph Lovelace II, William H. Pickering, Simon Ramo, Edward Teller, Robert C. Truax, Fred L. Whipple.--v.3, James H. Doolittle, C. Stark Draper, Louis G. Dunn, Don D. Flickinger, Yuri Gagarin, Arthur Kantrowitz, William F. Raborn, Jr., Harold Ritchey, Alan B. Shepard, H. N. Toftoy.--v.4, Jack Armstrong, Robert Gilruth, Samuel Herrick, John R. Pierce, Malcolm Ross, William Shockley, Harrison Storms, Hubertus Strughold.--v.5, John H. Glenn, Jr., Albert Hibbs, Richard B. Kershner, Homer E. Newell, L. Eugene Root, Robert C. Seamans, Jr., Charles Townes, Roger Warner.--v.6, Philip H. Abelson, Melvin Calvin, Frank D. Drake, Sidney W. Fox, John C. Lilly, Orr E. Reynolds, Carl Sagan, Harold C. Urey, Stanley L. Miller, Wolf Vishniac.--v.7, Joseph V. Charyk, Robert F. Freitag, Herbert Friedman, Harry J. Goett,

Virgil I. Grissom, Andrew G. Haley, James P. Henry, Robert J. Parks, Donald L. Putt, Edward C. Welsh.

113. Thompson, Stith, Motif-Index of Folk Literature: a Classification of Narrative Elements in Folktales, Ballads, Myths, Fables, Mediaeval Romances, Exempla, Fableaux, Jest-Books, and Local Legends.  
Rev. and enl. ed. Bloomington, Ind.: Indiana University Press, 1955-58. 6 v.

Approximately 25 references listed under each of the headings "Flight" and "Flying." References are to works of folk literature in which flight or flying is mentioned.

114. Thor, Janusz, Drugi Glob Cztowieka [Second Globe of Man]. Warszawa: Wiedza Powszechna, 1963. 228p.  
(Przekroje)

Deals with space flight to the moon and lunar probes including Ranger, Mariner, Mercury, and Lunik projects. Also discusses pre-history of the moon in literature and fantasy.

115. Titova, N. M., and N. M. Killerog, comps., K Zvezdnym Miram [To the World of the Stars]. Kiev: Izd-vo Akademii Nauk UKr. SSR, 1961. 99p.

Includes a compilation of statements and greetings on the occasion of Cosmonaut Yuri Gagarin's flight on April 12, 1961. Excerpts from messages from Premier Khrushchev, The

Central Committee, the Soviet press, and foreign sources.

116. Trinklein, Frederick E., and Charles M. Huffer,  
Modern Space Science. New York: Holt, Rinehart,  
and Winston, 1961. 550p.

Contents include The composition of the universe; The Physical laws of space, and Man in space. Includes brief bibliography at the end of each unit.

117. Troebst, Cord C., Der Griff nach dem Mond; Amerika  
Russland im Kampf um den Weltraum. Berlin:  
Deutsche Buch-Gemeinschaft, 1959. 283p.

Deals with space flight to the moon. Early chapters, especially "Mond-Mythen und-Märchen", pp. 12-21, deal with the history of astronautics and interplanetary voyages.

118. U.S. Government Research and Development Reports,  
compiled by Clearinghouse for Federal Scientific  
and Technical Information, Department of Commerce,  
1946 to date. Semimonthly.

Contains about 40,000 abstracts and references a year to reports on all aspects of science and technology, including many relating to missiles and rocket technology, astronomy, and space, from Government-sponsored research made available to industry and the general public. Arranged by subject in two sections: (1) "Technical Abstract Bulletin" (TAB) announces reports released

by the Defense Documentation Center of the Department of Defense and (2) "Other Research Reports and Related Material" announces reports released by civilian agencies and also includes certain older military reports. Various indexes including subject, personal author, and corporate author. Title varies: Jan. 1946-June 1949, Bibliography of Scientific and Industrial Reports; July 1949-Sept. 1954, Bibliography of Technical Reports (varies slightly); Oct. 1954-Dec. 1954, U.S. Government Research Reports; Jan. 1965 to date, U.S. Government Research and Development Reports.

119. Valli, Federico and Antonino Foschini, comps., Il Volo in Italia; Presentimento Scienza e Pratica nel Pensiero nell' Arte, nella Letteratura e nelle Cronache dagli Antichi Tempi ai Giorni Nostri. Roma: Editoriale Aeronautica, 1939. 405p.

An anthology of Italian art and literature representing the history of man's concern with flight from earliest times to the present and reflecting the transition of flight from fiction to science.

120. Wallisfurth, Rainer M., Russlands Weg zum Mond. Düsseldorf: Econ-Verlag, 1964. 434p.

Describes the development of Russia's plans to reach the moon from the 19th century to the present. "Literaturverzeichnis," pp. 409-416, lists approximately 125 German and Russian book titles.

121. Wilks, Willard E., The New Wilderness: What We Know about Space. New York: D. McKay Co., 1963. 170p.

Primarily descriptive although ch. VII, pp. 80-99, is entitled "Why Go into Space?"; ch. VIII, pp. 100-128, "Science in Space"; and ch. IX, pp. 129-138, "The Military in Space".

122. Witkin, Richard, ed., The Challenge of the Sputniks, in the Words of President Eisenhower and others.

New York: Doubleday, 1958. 96p. (Doubleday  
Headline Publications)

Documentary summary of the first American response to the Sputniks. Contains a speech by President Eisenhower, statements released by Government officials, scientists, and other authorities on early history of a new age.

123. Young, Louise B., ed., Exploring the Universe.

New York: McGraw-Hill, 1963. 457p.

Prepared for the American Foundation for Continuing Education in its study-discussion program, the volume of readings contains selections from Galileo to the present day. Pt. 10 titled "Why Explore Space?" includes a chronology of space exploration. Suggestions for further reading are given at the end of each section.

124. Young, Pearl, [Aeronautical and Space Technology  
Bibliography] 15,000 entries (approximately).

An annotated, unpublished bibliography on cards on space, space propulsion, ionosphere, celestial mechanics, orbits, trajectories, solar energy, and space medicine. Includes meetings of the International Astronautics Congresses, the Institute of Aeronautical Sciences, and the American Rocket Society. Covers the period 1955-1960 approximately.

International in scope but lists Russian papers only if they have English translations, for the most part. Although mainly technical, this bibliography may have some value to the historian because it covers the period just prior to the publication of Scientific and Technical Aerospace Reports. Originally prepared under NASA auspices, the cards at present may be consulted in the Science and Technology Division, Library of Congress.

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125. Aéro-Club de France, Bibliothèque, Catalogue de la Bibliothèque. Aéro-Club de France, Bibliothèque.  
Paris: 1922. 63p.

Lists about 1,300 titles in the library of the Aéro-Club de France. Arranged by author, with sections for anonymous works, bibliographies, dictionaries, and periodicals. Two small supplements were issued with the same title and arrangement, the first in 1924 and the second in 1930.

126. Aero-Club von Deutschland, Bibliothek,  
Bücher-verzeichnis. Berlin; Braunbeck-Gutenberg  
a.g., 1914. 91p.

Lists 1,535 titles by broad subject category. "Geschichte der Luftfahrt," p. 7, lists fifty-eight titles. Covers from late nineteenth century to 1914 and is international in scope. This library united with other libraries in 1926 to form Zentralbibliothek der Deutschen Luftfahrt. In 1930 Moedebeck-Bibliothek was added to the corporate name. This volume bears "Kaiserlicher Aero-club" at head of title.

127. Aero-Club von Deutschland, Von Tschudi-Archiv.  
Mitteilungen des von Tschudi-Archivs beim  
Aero-Club von Deutschland, Gegründet durch  
Stiftung des Daniel Guggenheim Fund. July,  
1929-1935. Berlin: 1929-1935. Monthly

Serves as an index to current periodical literature received in the German Aero Club Library. Arranged by subject category with each issue including items under the heading "Geschichtliches".

128. Aeronautical Reader's Guide: Recent Aeronautical

Books, Government Publications, Library

Accessions in the Paul Kollsman Library.

New York: Institute of the Aeronautical Sciences,

Sept. 1940-June 1941. Quarterly.

Each issue contains a few references under the heading "History and Development".

129. Aeroplane Production Year Book and Manual. v.1-2.

London: P. Elek, 1943-45. 2v.

Serves as a historical record of British aircraft production methods and materials during World War II. Vol. I includes "Titles and Abstracts from the Scientific and Technical Press," pp. 439-516. Superseded by Aircraft Development and Production.

130. Aerospace Engineering Index. 1947-1958. New York:

Institute of the Aeronautical Sciences, 1948-1959.

12v.

Title changed from Aeronautical Engineering Index in 1958. Serves as an annual cumulation of the literature reviewed and abstracted in Aeronautical Engineering Review. Lists by subject and abstracts the important technical articles, reports, and books on the subject during the year. Subject heading "Reference Literature" lists histories and biographies.

131. Aerospace Industries Association of America, Library

Bulletin. no. 1-215; Jan. 1922-Dec. 15, 1935.

Washington: The Association, 1922-1935.

An index to approximately 20 journals arranged by subject. No indexes. Semimonthly 1922-1932; monthly 1932-1935. Each issue lists a few book titles and numbers 137-215 are accompanied by a supplement: Government Publications. Published by the Association under its earlier name: Aeronautical Chamber of Commerce of America.

132. Air University, Libraries, A Bibliography of

Periodical Literature Commemorating 50 Years of

Powered Flight, 1903-1953. Maxwell Air Force

Base, Ala.: 1954. 27p.

Comprises American and foreign periodical articles listed by author or by periodical title when the whole periodical commemorates the anniversary in a special way. In the latter case, authors and articles are listed under the periodical title.

133. An Account of Count d'Artois and his Friend's Passage

to the Moon, in a Flying Machine, Called, an Air

Balloon; Which was Constructed in France, and

from Which Place They Ascended. Giving an Account

of the Things, or Objects, They Had a View of in

the Passage; and Likewise the Circumstances of

Their Landing in that Planet, and Conversing with

the Inhabitants; - Their Language, Manners,  
Religion, etc. - With Many Other Things Very  
Entertaining, and Well Worth the Attention of  
Those Who Read it. Litchfield: Printed by  
 Collier and Copp, 1785. 32p.

The original copy was entered for  
 copyright at Hartford, Conn., July 29, 1785,  
 by Daniel Moore. Signed: Count d'Artois,  
 J. Vogrill. An account of an imaginary  
 voyage to the moon and reputed to be the  
 first book on aeronautics published in the  
 United States.

134. Armijo, Jacobo de., La Aviación en la Guerra. Madrid:  
 Ediciones Afrodiseo Aguado, 1942. 303p.

Contains "Historia de la Aviación  
 Española," pp. 38-53, which covers the  
 period 1910-1942.

135. Aslib, Aeronautical Group, Union List of Periodicals  
of Aeronautics and Allied Subjects. [Cranfield,  
 Eng.?] 1953. 14p.

A union list of approximately 550  
 periodical titles and holdings as of 1953  
 in the libraries of 17 Aslib Aeronautical  
 Group members.

136. Bacon, John M., The Dominion of the Air, the Story of  
Aerial Navigation. Philadelphia: D. McKay, 1903.  
 348p.

An American edition of a book first published in London (Cassell, 1902, 348p.) by an English author. A history of ballooning from earliest times to 1900. Emphasizes famous ascents and voyages, the scientific use of the balloon, and the use of the balloon in warfare, especially during the siege of Paris in 1870. Deals primarily with British, French, and American developments.

137. Banaszczyk, Eugeniusz, Najszybsi Ludzie Świata [The Fastest People in the World]. Wyd. 3. Warszawa: Ludowa Spółdzielnia Wydawnicza, 1966. 326p.

First edition published in 1962. A history of flight in the near-space environment and the achievements of test pilots from 1946 to date. Bibliography, pp. 296-297, lists 36 references to books.

138. Banaszczyk, Eugeniusz, Na Podbój Nieba [For the Conquest of the Sky]. Wyd. 1. Warszawa: Wydawn. Ministerstwa Obrony Narodowej, 1957. 620p.

A popular but comprehensive history of flight from fantasy, balloons, powered flight, flight in World War II, flight in the near-space environment, to space travel. About 30 additional references are listed on p. 613 and 615.

139. Beiträge zur Geschichte der Luftfahrtkarte.  
Frankfurt A.M.: Verlag des Instituts für Angewandte Geodäsie, 1959. 153p.

Cover title is Festschrift zur Internationalen Ausstellung "50 Jahre

Luftfahrt-Kartographie" München, 19-22.  
 9. 1959. This was reprinted from Nachrichten  
 aus dem Karten - und Vermessungswesen,  
 Reihe I, No. 14, 1959. Consists of two  
 contributions by Karl H. Meine: "Zur  
 Ausstellung '50 Jahre Luftfahrt - Kartographie' -  
 Gedanken über die Luftfahrtkarte in  
 Vergangenheit und Gegenwart sowie in ihren  
 Beziehungen zur Flugsicherung, Flugnavigation  
 und zum Luftverkehr," pp. 15-99, and  
 "Internationale Bibliographie des Schriftums  
 zur Luftfahrt--Kartographie," pp. 101-153,  
 which lists 843 items.

140. Bergman, Jules, Ninety Seconds to Space: The X-15

Story. Garden City, N.Y.: Hanover House, 1960.

224p.

Traces the development and construction  
 of the X-15 rocket aircraft and includes a  
 report of the altitude record flights in  
 August 1960.

141. Bihalji-Merin, Oto, Conquest of the Skies: The Story

of the Idea of Human Flight, by Peter Merin [pseud.].

London: John Lane, 1938. 312p.

A history of flight from earliest dreams,  
 myths, and legends up to 1936. Translated  
 from the German edition, Eroberung des Himmels  
 [Leipzig: Tal, 1937] by Charles Fullman.  
 First published in Yugoslavia under title:  
Juris u Vasionu [Belgrade: Nolit, 1937].  
 Second Yugoslav edition has title: Osvajanje  
Neba [Belgrade: Prosveta Izdavacko Preduzece  
 Srbije, 1949]. Published also in French  
 edition Conquête du Ciel . . . . [Paris:  
 Payot, 1938].

142. Boffito, Giuseppe, Biblioteca Aeronautica Italiana  
Illustrata. Precede uno Studio sull'Aeronautica  
nella Letteratura, nell' Arte e nel Folklore.

Firenze: Olschki, 1929. 544p.

----Primo Supplemento Decennale (1927-1936) con  
Aggiunte all' intera "Biblioteca" e Appendice  
sui Manifesti Aeronautici del Museo Caproni  
in Milano Descritti da Paolo Arrigoni.

Firenze: Olschki, 1937. 678p.

A comprehensive bibliography on the history of Italian aeronautics from early to modern works. The 1929 volume includes an introductory text on aeronautics and aviation in literature, art, and folklore. Arranged alphabetically with analytical indexes to names and subjects. Contents are given for many periodicals. The supplement gives biographical notes about many of the authors.

143. Brewer, Griffith, Fifty Years of Flying. London:

Air League of the British Empire, 1946. 170p.

Consists of the reminiscences of the author, past president of the Royal Aeronautical Society, and covers the period 1891-1941. Includes the transition from ballooning to airplanes in Britain and an account of the author's friendship with the Wright brothers.

144. Bristol Aeroplane Company, Ltd., Library, The "Bristol"

Library Catalogue. Filton, Eng.: The Company, 1947  
209p.

Lists the items held by the library as of 1946. Approximately 100 titles are listed under the heading "History". Kept up to date by annual supplements up to 1956.

145. Brockett, Paul, Bibliography of Aeronautics. Washington: Smithsonian Institution, 1910. 940p. (Smithsonian Miscellaneous Collections, v. 55. Publication 1920)

A comprehensive bibliography of nearly 13,500 references to books, pamphlets, and articles in nearly 200 periodicals on aeronautics up to July 1909. Arranged alphabetically by author or title with cross references under subjects. Designed to render available material in the aeronautical collections of the Smithsonian Institution, nucleus of which was the library of Dr. Samuel Pierpont Langley, its Secretary, from 1887 to 1906. Contains an appendix of references to important papers in the Bulletins of the Aerial Experiment Association and the Beinn Bhreagh Recorder. Continued by Bibliography of Aeronautics, published by the National Advisory Committee for Aeronautics, 1909-1932; the final section, covering 1933-1937, is soon to be published.

146. Brogden, Stanley, First to Fly, from Roger Bacon to Sir Charles Kingsford Smith; a Brief Account of Some of the Men who Pioneered Aviation. Melbourne: Whitecombe & Tombs, 1946. 169p.

Although a rather slight, popular, history of aeronautics, the book is very good for Australian aviation achievements.

147. Bujanj, Viktor, Čovjek u Prostoru; Pregled Historije Letenja, Njegova Tehničkog Razvoja i Primjene u Miru i u Ratu [Man in Space; History of Flying, Technical Development, and Peaceful Uses].  
Zagreb: Naprijed, 1960. 272p.

History of aeronautics and rocketry from earliest times to the present. Country by country arrangement. Emphasizes events in Yugoslavia.

148. Buchanan, Lamont, The Flying Years. New York: Putnam, 1953. 188p.

Pictorial history of the first 50 years of flight with brief descriptive text.

149. Bulletin Signalétique. Paris: Service de Documentation et d'Information Technique de l'Aéronautique, 1945 to date. Semimonthly.

Title changed from Bulletin Mensuel de Documentation Scientifique et Technique, June 1945; Bulletin Mensuel de Documentation, July 1949; from Bulletin Mensuel Signalétique, Jan. 1960. Contains about 9,500 primarily technical abstracts a year from world literature (including technical reports, memoranda, and papers) arranged by SDIT classification. Has section "Astronautique" and related topics.

150. Burbidge, William F., From Balloon to Bomber: A Complete History of Aviation from Earliest Times

until the Present Day ... Bognor Regis and

London: J. Crowther, 1946. 238p.

History of aviation from earliest times to the end of World War II. Emphasizes British achievements, especially those of the Royal Air Force, from 1939-1945. A Dutch translation entitled Van Luchtballon tot Bommenwerper was published in 1947 [Amsterdam: A. Blitz]

151. Bureau of Aeronautics (Navy Dept.), Significant American and International Awards in Aviation.

Rev. Washington: The Bureau, 1954. 107p.

(Aer-TD-43)

Lists alphabetically approximately 46 awards and citations and for each one gives such information as origin and purpose of the award, by whom the presentation was made, and the dates and names of recipients. Serves as a chronological pattern of aeronautical achievement. Supersedes brochure originally prepared in 1948 and revised in 1951.

152. Cahisa, Raymond, L'Aviation d'Ader et des Temps

Héroïques. Préf. de Robert Morane. Paris:

Michel, 1950. 342p.

Biography of Clément Ader and an account of the times in which he lived. Emphasizes the development of aeronautics from 1910 to 1920.

153. Caidin, Martin, Wings into Space. New York: Holt, Rinehart and Winston, 1966. 141p. (Holt Library of Science)

Discusses the history and future of winged space flight. The developments leading to winged space flight, from the early planes up to the X-15 are discussed as well as future spacecraft. Bibliography, p. 131, lists ten book references.

154. Canby, Courtlandt, A History of Flight. New York: Hawthorn Books, 1963. 113p. (The New Illustrated Library of Science and Invention, v.3)

Concise history of aeronautics, beautifully illustrated. "Chronology," pp. 113-117, covers the years from 1505 to 1961.

155. Caproni, Timina (Guasti), and Achille Bertarelli, Francesco Zambecari, Aeronauta (Bologna 1752-1812). Milano: Museo Caproni, 1931. 124p.

The life and achievements of the early Italian pioneer aeronaut, Francesco Zambecari, 1752-1812. Emphasizes the balloon ascensions of Zambecari in 1803, 1804, and 1812. "Bibliografia," pp. 55-95, lists 248 works both by Zambecari and contemporary works about him. "Note," pp. 97-114, lists additional footnote references. A beautiful book with many reproductions of Zambecari's inventions.

156. Cavallo, Tiberius, The History and Practice of Aerostation. London: Printed for the Author and Sold by C. Dilly, 1785. 326p.

History of the balloon and balloon experiments and ascensions from 1780 to 1785. Describes the first aerial voyages made in England in August 1784.

157. Chambe, René, Histoire de l'Aviation. Nouv. éd. Paris: Flammarion, 1958. 521p.

A detailed, comprehensive history of aeronautics, the first edition of which was published in 1949. The second edition gives emphasis to air power in World War II. Both editions are profusely illustrated.

158. Crossfield, Albert S., and Clay Blair, Always Another Dawn: the Story of a Rocket Test Pilot. Cleveland: World, 1960. 421p.

An account of the author's experiences as a test pilot of rocket type planes such as the X-1, X-4, X-5, and X-15. Describes the experience of flying 2,000 miles per hour.

159. Cyrus, Allan, På Lätta Vingar; från Flygplan til Helikopter. Stockholm: C. E. Fritze, 1953. 253p.

A popular history of aviation dealing with the military and peaceful uses of aircraft, with special emphasis on the role and development of the helicopter. Includes chapters dealing with the history and development of the Swedish aircraft industry,

commerical aviation, the Swedish Air Force,  
and the Royal Swedish Aero Club.

160. Darmon, J. E., Dictionnaire des Estampes & Livres  
Illustrés sur les Ballons & Machines Volantes,  
des Débuts jusques vers 1880, avec leur Prix.  
Nombreuses Illustrations; Bibliographie...

Montellier: H. Barral, 1929. 129p.

Lists alphabetically by title  
approximately 100 primarily French prints  
separately published, and prints in books,  
on balloons and flying machines from earliest  
times to 1880. Bibliography, pp. 119-129,  
lists approximately 80 illustrated book  
titles on the same subject.

161. Davy, Maurice J. B., Interpretive History of Flight:  
A Survey of the History and Development of  
Aeronautics with Particular Reference to  
Contemporary Influences and Conditions. 2d ed.

London: H.M. Stationery Off., 1948. 191p.

Covers the history of aeronautics from  
earliest times up to 1948. Pt. I, "The  
Origins", deals with flight in nature,  
mythology, and early aeronautical devices  
developed by man. Pt. II, "History", deals  
with the development of balloons, dirigibles,  
and the airplane. Pt. III, "The Modern  
Phase", includes a discussion of aircraft in  
war and the social and economic significance  
of flight. Very good for descriptions of  
apparatus used in early experiments. The  
author credits the National Aeronautical  
Collection in the Science Museum as being

his primary source. Bibliography, pp. 181-182 lists approximately 70 references to books and journals. First edition, 207p., published in 1937.

162. Dennis, Willard K., comp., An Aeronautical Reference

Library: A Selected List of Technical Books

Essential to Aeronautical Library. New York:

Special Libraries Association, 1943. 31p.

Lists approximately 800 titles selected for an aeronautical reference library with the help of 18 cooperating librarians. Section entitled, "History" lists 16 books, p. 14. Supplement issued (East St. Louis, Ill.) by W. K. Dennis, 1944, 30p.

163. Deutsche Akademie der Luftfahrtforschung, Bibliothek,

Katalog. Berlin: Deutsche Akademie der

Luftfahrtforschung, 1940. 1 v. (loose-leaf with various paging)

A catalog of the holdings of this library as of 1940 arranged by broad subject category. Most of the works were published in the 1920's and 1930's. Section entitled "Geschichte und Berichte", Pt. E, pp. 1-35, lists about 100 titles.

164. Dollfus, Charles, Les Avions. Paris: R. Delpire,

1962. 108p. (Encyclopédie Essentielle. Série Histoire, no. 14)

Pictorial history of aeronautics from earliest times to the present. The author is Conservateur Honoraire du Musée de l'Air in Paris.

165. Dollfus, Charles, Henry Beaubois, and Camille

Rougeron, L'Homme, l'Air et l'Espace; Aéronautique, Astronautique. Paris: Editions de l'Illustration, 1965. 550p.

Comprehensive and profusely illustrated history of aeronautics and astronautics from earliest times to the present. Includes "Les Origines," by Charles Dollfus, pp. 10-173; "Hostilités et Paix," by Henry Beaubois, pp. 174-325; and "L'Ere Aérospatiale," by Camille Rougeron, pp. 326-536.

166. Dollfus, Charles, and Henri Bouch, Histoire de

l'Aéronautique; Texte et Documentation. Paris: L'Illustration, 1942. 613p.

This history of aeronautics is an excellent source for pictures of all sorts pertinent to the subject. Includes "Chronologie Aéronautique," pp. 589-592, and "Les Cent Premiers Morts de l'aviation," pp. 593-594. A reprint of the 1932 edition, 573p., with the addition of ch. VI, "L'Aéronautique d'aujourd'hui (1938)," pp. 547-588.

167. Dorman, Geoffrey, Fifty Years Fly Past, from Wright

Brothers to Comet. London: Forbes Robertson, 1951. 346p.

Mainly a history of British aviation from 1900 to 1950. Contains many figures and facts of famous flights, records, races, and air shows.

168. Duhem, Jules, Histoire des Idées Aéronautiques avant Montgolfier. Paris: F. Sorlot, 1943. 458p.

Written originally as the author's doctoral thesis at the University of Paris. Covers the history of aeronautics from earliest times to approximately 1780. Scholarly, comprehensive, and includes profuse footnote references throughout the text to original sources in all languages.

169. Duhem, Jules, Musée Aéronautique avant Montgolfier, Recueil de Figures et de Documents pour servir à l'Histoire des Idées Aéronautiques avant l'Invention des Aérostats. Paris: F. Sorlot, 1944. 253p.

Consists of 164 plates covering the period from 990 to 1780 and depicting man's efforts to fly. International in scope. Each plate is an example of aeronautics in art. Includes examples of ancient Chinese, Greek, Roman, Christian art of the Middle Ages, many drawings by Leonardo de Vinci, to more practical 18th century mechanical depictions of flight. Each of the 164 plates accompanied by descriptive text. Comprehensive, scholarly, this was also issued as a thesis at the University of Paris, 1943.

170. Dumont Villares, H., Quem Deu Asas ao Homem: Alberto Santos-Dumont, sua Vida e sua Gloria. Rio de Janeiro: Ministério da Educação e Cultura, Instituto Nacional do Livro, 1957. 422p.

Biography of Alberto Santos-Dumont, 1873-1932, Brazilian air pioneer, emphasizing

his flight achievements. "Conclusão," pp. 374-412, is a year-by-year chronology of Santos-Dumont's and others' flight accomplishments from 1907-1953.

171. Escragnolle Taunay, Affonso de, Bartholomeu de

Gusmão e a sua Prioridade Aerostatica. São

Paulo: Imprensa Official do Estado, 1938.

544p. (São Paulo, Brazil (City) Museu Paulista.

Annaes, t. IX)

Biography of Bartholomeu de Lourenço Gusmão, 1685-1724, Brazilian balloon pioneer whose aerostatic inventions preceded the Montgolfiers' by 70 years. Includes texts of "Documents," pp. 465-470, and bibliographies, pp. 481-507, of works by and about Gusmão. A less complete edition (São Paulo: Escolas Profissionaes Salesianas, 293p.) was published in 1935.

172. "Fledgelings," Pioneers in Aviation. Washington:

Columbia Historical Society, 1947. 79p.

Reprinted from the Columbia Historical Society Records, 50th anniversary volume 46-47, Washington, D. C., April, 1947. Contains "Aeronautics in the District of Columbia," by N. H. Randers-Pehrson, pp. 3-25, and "Conspectus of Early Powerplane Development," by A. F. Zahm, pp. 27-79.

173. Flight, a Pictorial History of Aviation, by the

Editors of Year: the Complete Story of Man's

Conquest of the Air from his Earliest Dreams to

the Present Jet Age, Dramatically Portrayed in  
over 1,000 Pictures. Foreword by Donald W.  
 Douglas. New York: Year, 1958, 249p.

Published originally in 1953, this edition  
 has been brought up to 1958 and includes jets,  
 missiles, and space travel.

174. Flury, Arthur, Statistik der Ozeanflüge. Transocean  
Flight Attempts 1910-1940. Bern: The Author,  
 1947. 3 tables.

Consists of three tables of data concerning  
 all attempted transoceanic flights (290) in  
 the years between the two World Wars.

175. Focke-Wulf Flugzeugbau G.m.b.H., Katalog, Focke-Wulf  
Bücherei. Bremen: Focke-Wulf Flugzeugbau, [1939?].  
 194p.

A classified catalog of the holdings of  
 this primarily technical aeronautics library.  
 Consists of approximately 2,000 book and  
 journal article references, mainly from the  
 1920's and 1930's.

176. Foltmann, John, Flyvningens Eventyr. Ny revid. udg.  
 København: Danske Forlag, 1946. 215p.

Revised edition of a popular history  
 originally published in 1918. Includes  
 chapter on Danish aviation history. Swedish  
 translation with title Flykt över Jorden  
 (Stockholm: Kooperativa Förbundets Bokforlag,  
 1945) includes added chapter on Swedish  
 aviation history.

177. Forrester, Larry, Skymen, Heroes of Fifty Years of Flying. London: Collins, 1961. 256p.

Consists of biographies and personal narratives of approximately fifty brave and talented air pilots from various countries from 1903 to 1950. "Acknowledgments," p. 6, lists a few titles which the author used as background material.

178. Fraser, Chelsea C., Heroes of the Air. Revised and Enlarged by Martha Wood . . . New York: Thomas Y. Crowell, 1946. 484p.

Aviation history told in terms of spectacular flights from World War I to 1946. Describes such international feats as the first flight across the Atlantic, across America, across the Continent, the first Polar flight, etc. From 1928 to 1945, flights are discussed chronologically. Present edition is the 20th printing since 1926. Chronology, pp. 455-484, covers period 1783 to 1946.

179. Fraser, Chelsea, The Story of Aircraft. 3rd ed. New York: Thomas Y. Crowell, 1944. 592p.

The first and second editions of this work appeared in 1933 and 1939. A history of aircraft from the invention of the earliest apparatus through the aircraft of 1940.

180. Fritze, C. E., Firm, Booksellers, Stockholm, Katalog Över Flyglitteratur, 1910-1923, med anledning av Internationella Luftfartsutställningen, Göteborg, 1923. Stockholm: C. E. Fritze, 1923. 148p.

Covers primarily technical literature published from 1910-1923 in all languages. Arranged by country under broad subject category. Lists about 2,200 titles and includes the subjects of aerodynamics, airplanes, balloons and airships, military aviation, medicine, law periodicals, and annuals.

181. Gamble, William B., History of Aeronautics: A

Selected List of References to Material in the  
New York Public Library. New York: The New  
York Public Library, 1938. 325p.

A classified list of 5,574 entries to books and periodicals on the history of aeronautics in many languages, compiled by the Chief of the Science and Technology Division of the New York Public Library. Includes author and subject indexes. Most entries have very brief annotations. The first 36 entries are to bibliographies of the history of aeronautics. Reprinted from the Bulletin of the New York Public Library, January 1936-September 1937.

182. Gantz, Kenneth F., ed., Nuclear Flight: The United  
States Air Force Programs for Atomic Jets, Missiles,  
and Rockets. New York: Duell, Sloan and Pearce,  
n.d. 216p.

Consists of 20 papers written by experts on the USAF-AEC nuclear program as of 1959-1960. Pt. I: The Prospect for Nuclear-Powered Flight; Pt. II: Principles of Nuclear Propulsion; Pt. III: Status of Program; Pt. IV: The Human Element. Papers were originally published in the Air University Quarterly Review.

183. Garibbo, Luigi, Cenni Storici sull'Aeronautica fino alle Recenti Ascensioni Fatte dal sig. Green e Compagni da Londra e da Parigi. Con Appendice fino agli ultimi Voli e Tentativi per la Direzione degli Aerostati. Firenze: Tip. Birindelli, 1838. 175p.

A very early history of aeronautics which covers the years from the legend of Daedalus and Ovid's Metamorphoses to 1830. Very good for 16th and 17th century Italian activities.

184. Gibbs-Smith, Charles H., The Aeroplane: An Historical Survey of its Origins and Development. London: H.M. Stationery Off., 1960. 375p.

Detailed and comprehensive history. Especially good for "firsts" (such as first women to fly, first attempts to fly powered airplanes, etc.). Contains a "Chronology of Aviation," pp. 280-290, and "Bibliography," pp. 306-309.

185. Gibbs-Smith, Charles H., Balloons, with an Introd. and Notes. London: Ariel Press, 1956. 27p.

Consists of 12 color plates of balloon prints from the period 1783-1820 and ten accompanying pages of text.

186. Gibbs-Smith, Charles H., History of Flying. London: Batsford, 1953. 304p.

Beginning with legend and following the centuries of speculation and endeavor that

culminated in balloon flight at the end of the eighteenth century, through airplane flight at the beginning of the twentieth, the author ends his detailed chronicle at the outbreak of World War I. A postscript links aeronautics from 1914 to space flight and interplanetary flight. "Date List", pp. 287-290, is a chronology of events. Bibliography, pp. 291-294, lists mainly English and French works from earliest times to 1951. Published also in an American edition (New York: Praeger, 1954).

187. Gibbs-Smith, Charles H., The History of Flying.

Cambridge, Eng.: Published for the National Book League at the University Press, 1957. 32p.

(National Book League. Reader's Guides, ed.

Ser., 9)

This bibliography contains approximately 170 briefly annotated references to books on the history of flight arranged under subjects such as general histories, flights of fancy, lighter-than-air flying, dirigibles, heavier-than-air flying, etc. Written as a guide to the historical literature for the layman, it points out such items as the first book on flying in the English language, and the best 19th century Italian and French histories.

188. Gibbs-Smith, Charles H., The Invention of the

Aeroplane (1799-1909). London: Faber and Faber, 1966. 360p.

A chronological history which concentrates on the decade 1899-1909 which witnessed the development of the practical airplane, prefaced by a survey of its forerunners (mainly the works

of Cayley and Lilienthal), 1799 to 1899. Bibliography, pp. 353-355, lists several books important in the history of flight. Published also in an American edition (New York: Taplinger, 1966).

189. Gibbs-Smith, Charles H., Sir George Cayley's Aeronautics, 1796-1855. London: Her Majesty's Stationery Office, 1962. 269 pp.

Story of Cayley's work with account of his ideas, designs, models, and full-sized machines, including reproduction of many of his sketches. Bibliography, pp. 251-256, lists Cayley's published work (37 items) and 25 works on Cayley.

190. Gidwani, B. S., History of Aviation. Delhi: Metropolitan Book Co., 1953. 24p.

Written for students of the Indian Institute of Aeronautics and Electronics. This slight publication contains little information not included elsewhere. Its primary value to the historian is in the section entitled "Balloon Ascents in India," pp. 6-7.

191. Gilhofer, H., & Ranschburg, H., Firm, Booksellers, Aeronautik: die Sammlungen Eduard von Sigmundt... und dr. Otto Nirenstein... Interessante und Seltene Bücher über das Gesamtgebiet der Aviatik; Wertvolle Kupferstiche und Lithographien...über die Entwicklung des Flugwesens... Porträts und

Autographen von Berühmten Piloten, Erfindern und Gelehrten... Luzern: H. Gilhofer & H. Ranschburg, 1934. 54p.

Catalog of the works sold at auction June 26 and 27, 1934. Includes "Bücher", pp. 1-21, which lists 311 French, German, and English works on aeronautics published from the late 18th century to 1934.

192. Glagolev, Nikolai M., comp., K Zvezdam [Toward the Stars]. S.-Peterburg: Tipografiia T-va "Nash viek", 1912. 119p.

Worldwide history of balloons and dirigibles from 1760 to 1910.

193. Gomá Orduña, José, La Aviación Contada con Sencillez. Madrid: Escelicer, 1952. 386p.

Worldwide history of aeronautics including balloons and dirigibles from earliest times to about 1946. Emphasizes activities in Spain.

194. Gray, George W., Frontiers of Flight: The Story of NACA Research. New York: Alfred A. Knopf, 1948. 371p.

Written for the interested layman, this is still the fullest account of the various types of aeronautical research performed by the National Advisory Committee for Aeronautics during its first 40 years of existence. Appendix, pp. 360-362, lists the complete membership of the NACA and the executives at each of the three research centers as of 1948.

195. Great Britain, Air Ministry, Library, List of Additions. London: Whitehall, 1920? to date. Monthly.

A list of new books added to the library arranged by subject category and including the category "history" in each issue. No cumulative indexes.

196. Gubitz, Myron B., Rocketship X-15, a Bold New Step in Aviation. New York: J. Messner, 1960. 288p.

Traces the development of the X-15 project and chronicles a typical three-day countdown and an actual test flight of the rocket aircraft.

197. Gumuchian & Cie., Booksellers, Early Books on Aeronautics. Paris: Gumuchian, 1935. 24p.

Lists 130 primarily French titles published from the late 18th to the early 20th centuries.

198. Harper, Harry, Ace Air Reporter. London: J. Gifford, 1943. 151p.

The reminiscences of Britain's first air correspondent. Describes his meetings with such pioneers as the Wrights, Blériot, Latham, Paulhan, and Grahame-White. Emphasizes the birth of British air power and describes the world's first air meet at Rheims in 1909.

199. Harper, Harry, Lords of the Air. With 57 Illustrations. London: R.T.S. - Lutterworth Press, 1940. 216p.

Consists of the personal recollections of a well known British aviation reporter. Serves as a history of British aviation from the early days of powered flight to World War II.

200. Harper, Harry, My Fifty Years in Flying. London:

Associated Newspapers, 1956. 256p.

The reminiscences of "the world's first air reporter" from 1900-1956. Especially good for aviation developments in Britain.

201. Heinmuller, John P. V., Man's Fight to Fly: Famous World-Record Flights and a Chronology of Aviation.

Foreword by Eddie Rickenbacker. Designed and

Illustrated by Adolphe Bernasconi. Rev. ed.

New York: Aero Print Co., 1945. 370p.

Comprehensive chronology of the history of flight from Da Vinci to 1945 by the chief timer of the National Aeronautical Association and Fédération Aéronautique Internationale. Special emphasis on the great record flights of the 1920s and 30s. Includes many illustrations and reproductions of rare airmail covers and stamps. Previous edition published in 1944 (New York and London: Funk and Wagnalls).

202. Heron, S. D., History of the Aircraft Piston Engine:

A Brief Outline. Detroit: Ethyl Corporation,

c. 1961. 130p.

A distinguished aircraft engine and aircraft fuels engineer describes in what is more a series of informal notes than a

narrative history the highpoints in the development of the aircraft piston engine. Begins with the Wright Brothers engine and the Manly engine and comes up through the Wright R-3350 and the Pratt & Whitney 4360, which at 3,500 horsepower were the most powerful piston engines to go into service. Footnotes throughout and "References," pp. 123, 124.

203. Hoorebeeck, Antoine van, L'Épopée de l'Atlantique

Nord. Préf. par Maurice Bellonte. Paris:

Flammarion, 1965. 247p. (L'Aventure Vécue)

Originally published in Brussels (Éditions du Centre de Vulgarisation Aéro Astronautique, 1961). A history of the flights across the North Atlantic from 1910 through the 1930s. Includes "Liste Complète des tentatives et des Traversées de L'Océan Atlantique Nord 1910 à 1939," pp. 223-228. "Bibliographie Sommaire," pp. 243-247, lists approximately 100 French, Italian, German, and English titles.

204. Illing, Walter, Start in den Himmel. Mit 16 zum

Teil farbigen Tafeln sowie Zeichnungen von Edwin

Grune. Leipzig: E. Wunderlich, 1957. 275p.

History of aeronautics with special emphasis on various kinds of aircraft.

205. Illustrierter Beobachter, Flugzeug macht Geschichte.

München: F. Eher Nachf., 1939. 160p.

Pictorial history of German aeronautics from 1870 to 1939.

206. Imperial War Museum, A Bibliography of Aeronautics.

London: The Museum, 1961. 4lp.

Unannotated list of approximately 200 books and pamphlets, predominantly British, arranged chronologically as follows: pt. 1, 1900-1960; pt. 2, First World War era; pt. 3, Second World War and after.

207. Industry Conference on Aeronautical Library Research

Facilities, A Selected List of Published

Aeronautical Bibliographies. New York: Institute of the Aeronautical Sciences, 1946. 28p.

A list of approximately 450 bibliographies in book, pamphlet, or journal form current during the 1940s, prepared for use by participants in the Conference, New York, October 7, 1946. Arranged into such groups as indexes and abstracting services, general bibliographies by country, and subject categories. Many of the references include brief informative notes.

208. International Civil Aviation Organization, Index of

ICAO Documents. Montreal: The Organization, 1948 to date.

An index to ICAO publications, issued monthly with annual December cumulations from 1947 to date. Publications of ICAO comprise the Convention on International Civil Aviation and Annexes thereto; Proceedings of the Assembly and the Council, special records of certain sessions of commissions of the assembly, and various others.

209. International Civil Aviation Organization, Library  
Index of PICA0 Documents. Montreal: The  
 Organization, 1947. 37p.

A subject index to selected documents of  
 the Provisional International Civil Aviation  
 Organization covering the period August 15,  
 1945, to April 25, 1947.

210. Ioan, Constantin S., and Eufimie Moisei, Catapultarea  
și Parasutarea la Viteze și Înălțimi Mari  
 [Ejection Seats and Parachutes] București:  
 Editura Militară, 1961. 191p.

History of parachutes, pilot ejection  
 seats, and pressure suits. Bibliography,  
 pp. 189-190, lists 22 Russian and Romanian  
 references.

211. Johnson, Kenneth M., Aerial California: an Account  
of Early Flight in Northern & Southern California,  
1849 to World War I. Los Angeles: Dawson's Book  
 Shop, 1961. 91p.

Covers the efforts of early aviation  
 pioneers who made the later development of  
 California as a center for the aviation  
 industry possible. Includes "Chronology of  
 Flight in California," pp. 85-87.

212. Johnston, Samuel P., Horizons Unlimited: a Graphic  
History of Aviation. New York: Duell, Sloan and  
 Pearce, 1941. 354p.

A chronological history of aviation from the 18th century to 1940. Introductory chapters entitled "Ocean of Air" and "Aircraft and How they Fly" followed by two parts "Lighter than Air" and "Heavier than Air." Includes numerous illustrations.

213. Karlson, Paul, Der Mensch Fliegt, Geschichte und Technik des Fliegens. Mit einem Geleitwort von Ernst Udet. Mit 177 Zeichnungen von Gerda Becker und 40 Tafeln. Berlin: Im Deutschen Verlag, 1937. 387p.

A history of aeronautics which deals with the aviation pioneers, the theories of flight, and the history of flight technology. Translated from the German into the following four editions: (1) Portuguese, . . . A Conquista dos Ares. [Pôrto Alegre: Livraria do globo, 1940]; (2) Spanish, El Hombre Vuela. [Barcelona: Editorial Labor, 1941]; (3) Spanish, El Hombre Vuela. [México: Editorial México, 1942]; and (4) Italian, L'Uomo Vola. [Milano: U. Hoepli, 1943].

214. Kasatkin, N. N., Istoriia Aviatsii. i Eia Sovremennoe Sostoianie [History of Aeronautics and its Present Condition] Staritsa: Tipografiia I. P. Krylova, 1912. 49p.

Brief survey of world developments in civil and military aviation. Includes "Data on History of Russian Aviation," pp. 9-13.

215. Koninklijke Luchtvaart Maatschappij, N. V., Literatuur

Overzicht. Amsterdam: Documentatie Bureau,

Technisch Bedrijf K.L.M., 1935 to date. Weekly.

2,500 references per year to English-language and European literature research and development efforts in aeronautics and air transportation. Subject classification includes aerodynamics, operating costs, panel systems and instruments, navigation, industrial materials, etc. Most references include abstracts.

216. Kruse, Karl A., Über den Wolken; das grosse Buch

der Fliegerei: die Geschichte der Luftfahrt

vom Schwingenflug zur Mondrakete. München:

Sudwest-Verlag, 1962. 425p.

A comprehensive, detailed, profusely illustrated history of aeronautics and astronautics from earliest times to the present. German airplanes are given special emphasis in chapter entitled, "Die Deutschen Flugzeugwerke," pp. 245-285.

217. Kucherov, Bertha, comp., Aeronautical Sciences and

Aviation in the Soviet Union, a Bibliography.

Washington: Reference Dept., Library of

Congress, 1955. 274p.

A bibliography of 3,498 items in classified arrangement with a name index. Russian titles are given in transliteration with an English translation. Both books and periodical articles, as well as a list of pertinent journals, are included. Although

the emphasis is on recent material, many references to noncurrent materials are included because they are of historical interest. Lists 85 items with bibliographies or biobibliographies, pp. 254-260. Based mainly on holdings in the Library of Congress, the Library of the National Aeronautics and Space Administration, and the Library of the Institute of the Aeronautical Sciences.

218. La Landelle, Gabriel de, Dans les Airs; Aérostation, Aviation; Études Aérostatiques; Parachutes, Hélicoptères, Cerf-volants, Aeroplanes, Orthoptères. Paris: F. L. Vivien, 1910. 288p.

Identical, with the exception of the title page, to the first edition, published under title: Dans les Airs; Histoire Elementaire de l'Aéronautique (Paris: 1884). History of flight from earliest times to 1884. Emphasizes French balloon ascensions.

219. Lassalle, Eugène J., Les 100 [i.e. Cent] Premiers Aviateurs Brevetés au Monde et la Naissance de l'Aviation. Paris: Nauticaero, 1962. 159p.

Pt. 1, pp. 9-22, consists of an essay on the birth of aviation in France. Pt. 2, pp. 23-150, consists of one or two page biographies of the first 100 licensed air pilots in the world. A photograph of each pilot is included. Includes a very short list of publications consulted, p. 159.

220. Lauria, Arthur (bookseller), Aérostation (1595-1840). Paris: Imprimerie Coulouma, 1933. 26p. (Its Catalogue no. 32)

A book dealer's catalog of 80 annotated books, mainly French and Italian, published 1595-1840. Annotations give detailed information on the book illustrations, many of which are reproduced in the catalog.

221. Lecornu, Joseph, La Navigation Aérienne; Histoire Documentaire et Anecdote. 6th éd. Paris: Librairie Vuibert, 1913. 439p.

First edition published 1903. Gives emphasis to French achievements, although worldwide in scope and covering from earliest times to the beginning of powered flight. Especially good for French balloon ascensions and balloons used during the siege of Paris.

222. Le Grand, Georges, Les Records Mondiaux de l'Aéronautique . . . Comment Servir dans l'Aéronautique Militaire. 3rd ed. Paris: L'Aérophile, 1917. 63p.

Lists both French and world records for distance, altitude, speed, etc., for balloons, dirigibles, and powered aircraft. Also lists awards and prizes such as those given by the Aero-Club de France. Includes "Comment Servir dans l'Aéronautique Militaire. 3rd ed.," pp. 51-63.

223. Levis Mirepoix, Charles H. de, and Henry Beaubois, Le Siècle de l'Avion. Préf. de Louis Bréguet. Paris: A. Fayard, 1949. 486p. (Collection "Savoir")

History of world aviation, primarily from 1900 to 1949. Bibliography, 481-483, lists approximately 65 French book titles.

224. Levshina, Olga N., Vertolety, ikh Nastoiashchee i Budushchee [Bibliography of Helicopters - Their Present and Future] Moscow: Publichnaia Biblioteka, 1957. 14p.

Rather slight but in addition to a very brief introductory essay on the history of helicopters, includes 14 annotated references.

225. Li, Shu-t'ien, Bibliography on Airport Engineering: a Compilation of Free World Literature Numbering 2,335 Entries Classified into 26 Groups and Arranged Chronologically. New York: American Society of Civil Engineers, 1960. 170p.

Covers the period 1938-1959, one of great development in airport engineering caused by World War II and afterwards the new era of civilian jet transport. Includes book, journal, and report literature.

226. Library of Congress, Division of Aeronautics, The Aeronautical Index . . . A Subject and Author Index to Aeronautical Periodicals and Technical Reports. 1938 and 1939. New York: The Sherman Fairchild Publication Fund, Institute of the Aeronautical Sciences; 1939-1940. 2v.

Indexes periodical literature for the years 1938 and 1939 only. Does not include a list of the periodicals indexed. Contains approximately eight references to articles under "history" and extensive references under "biography". Title changed from Subject Index to Aeronautical Periodical Literature and Reports in 1939.

227. Liebmann, Louis, and Gustav Wahl, Katalog der Historischen Abteilung der Ersten Internationalen Luftschiffahrts-ausstellung, zu Frankfurt a.M., 1909. Frankfurt: Wüsten, 1912. 513p.

Issued in two parts, 1911-1912. "Bilderabteilung", pp. 1-242, consists of a catalog of 639 portraits, illustrations of balloons, and planes, in both fact and fancy. "Bucherabteilung", pp. 245-467, consists of a bibliography of 914 items worldwide in scope and including bibliographies, histories (pp. 247-266), biographies, and the subjects aeronautics, aerodynamics, and aeronautics and poetry. Covers the period from late 18th century to 1909.

228. Loening, Grover C., "Lessons from the History of Flight," in Smithsonian Institution Annual Report, 1959. Washington, 1960. p. 347-359.

The Lester D. Garder lecture, given at the Smithsonian Institution on May 18, 1959. The author, a member of the Advisory Board, National Air and Space Museum, Smithsonian Institution, notes some of what he considers to be mistakes or false starts or unrealized or unappreciated trends in aeronautics and discusses lessons which might be learned from them.

229. London, Science Museum, Science Library, List of the Works on Aeronautics in the Science Library. 2d ed., Including the Works Added to November, 1912.  
London: H. M. Stationery Office, 1913. 42p.

Lists approximately 400 English, German, French, and American titles alphabetically by author. Covers primarily the early 20th century.

230. Ludovico, Domenico, L'Aeroplano; Soluzione ed Evoluzione del Problema del Volo. "Quis, Quid, Ubi, Quibus Auxilliis, Cur, Quomodo, Quando?"  
3rd ed. Roma: Associazione Culturale Aeronautica, 1952. 327p.

First edition published in 1949 under title: L'aeroplano Cosa E. Second edition published in 1951. History of aeronautics from earliest times to 1952 in terms of the mechanical and technical problems requiring solution.

231. Lyle, Eugene P., and Charles W. Diffin, The City of Wings; a Narrative of Aviation and its Swift Development as Seen in San Diego from the Earliest Days of Flying to the Present Time.  
Illustrated by Aloys Bohnen, George E. Rhone, and Mary Belle Williams. San Diego: The City Schools of San Diego, California, 1938. 103p.

Prepared under the direction of the San Diego City Schools Curriculum Project, Works Progress Administration. Covers the building of the "Spirit of St. Louis" by Donald Hall of the Ryan Aircraft Company, the activities of Glen Curtiss, the development of passenger airlines, airplane factories, and the use of planes by the Navy and Coast Guard. "Foreword," (n.p.) lists 23 items in a San Diego aviation "firsts" chronology.

232. Macmillan, Norman, Great Flights and Air Adventures, from Balloons to Spacecraft. London: G. Bell, 1964; New York: St. Martin's Press, 1965. 236p.

A popular account of some of the less known early air adventures and present-day space flights, from a balloon flight from England to Poland in 1908, the first trans-Alpine glider flight, the first air evacuation, to the space flight of John Glenn in Friendship 7.

233. Maggs Bros., A Descriptive-Catalogue of Books and Engravings Illustrating the Evolution of the Airship and the Aeroplane. Selected from the Stock of Maggs Bros. London: Maggs Bros., 1920-23. 2v. (Its Catalogue no. 387, 435)

Vol. I, catalog no. 387, lists 1,494 references with annotations to books and engravings available from the dealer Maggs at date of issue, 1920. Includes titles dating from the earliest times to the First World War. Comprises five parts; I: "The Problem of Flight: Prior to the Invention of the Montgolfier Balloon in 1783"; II: "Balloons and Airships from 1783-1850";

III: "Evolution of Aircraft from 1851-1899";  
 IV: "Aeroplanes and Dirigibles in the  
 Twentieth Century"; V: "Portraits of Aeronauts,  
 Famous Balloon Ascents, caricatures, etc.

V. II, catalog no. 435, lists 968  
 references to books, engravings, and autographs.  
 Arrangement is on the same plan as v. I.  
 Covers works from the earliest times to 1923.  
 Both numbers are very good for references to  
 aeronautical engravings.

234. Maggs Bros., A Descriptive Catalog of Books,  
 Engravings, and Medals Illustrating the Evolution  
 of the Airship and the Aeroplane. London: Maggs  
 Bros., 1930. 184p. (Its Catalogue no. 545)

An annotated book dealer's catalog of 677  
 references to books, engravings, and medals  
 relating to aeronautics. Arranged  
 chronologically and covering the period  
 from 1493 to 1930. The engravings include  
 portraits, balloon ascents, parachute  
 descents, and caricatures.

235. Maggs Bros., The History of Flight; a Descriptive  
 Catalogue of Books, Engravings and Airmail Stamps  
 Illustrating the Evolution of the Airship and the  
 Aeroplane . . . London: Maggs Bros., Ltd., 1936.  
 232p. (Its Catalogue no. 619)

A selective, annotated book dealer's  
 catalog listing 1,684 references to books,  
 engravings, and stamps arranged in chronological  
 order. The 727 books date from 1480 to 1935.  
 References to 21 portraits and 109 engravings  
 of famous balloon ascents are arranged in

alphabetical order. References to airmail stamps and airports of the world cover 1850 to 1933. Seventy-one references to medals are also included.

236. May, Charles P., Women in Aeronautics. New York:

Nelson, 1962. 260p.

A history of the role of women in aeronautics from the first woman to ascend in a balloon in 1784 to the beginning of the space age. Discusses the achievements of women as balloonists, early pilots, in World War II, and as airline hostesses. "A Selected Bibliography," pp. 250-251, lists 20 book titles and six journal references.

237. Means, James H., James Means and the Problem of Man-Flight During the Period 1882-1920.

Washington: Smithsonian Institution, 1964.

143p. (Smithsonian Publication, 4526)

A biography of James Means and an account of the Aeronautical Annual which he edited from 1895 to 1897. Bibliography, p. 137, lists 20 references.

238. Melion, Zbigniew, Jak Człowiek Zdobył Przestworza

[How Man Conquers Outer Space] Warszaw: Iskry,

1954. 163p.

Popular history of aeronautics in Poland from earliest times to 1954. Describes the emergence of practical flight from fantasy to fact, the pioneers who made history, as well as aeronautics in World Wars I and II, and jet flight.

239. Meyer, Günter, Luftfahrt; wie der Mensch das  
Luftreich eroberte. Leipzig: Urania-Verlag,  
1959. 280p.

History of aeronautics from earliest times to the present. "Zeittafel", pp. 279-280, is a brief chronology covering the period from 1782-1957. List of sources, pp. 277-278, cites 17 German references.

240. Millbank, Jeremiah, The First Century of Flight in  
America. Princeton: Princeton University Press,  
1943. 248p.

Historical survey of flight from 1783-1895. Includes illustrations of pioneer aeronauts and a chronology. Bibliography, pp. 210-218, contains 45 primary works covering the period 1670-1910 and 28 secondary sources.

241. Mormino, Giuseppe, Storia dell'Aeronautica, dai  
miti Antichissimi ai Nostri Giorni. 2 ed.,  
Rinnovata e aumentata. Milan: A. Corticelli,  
1940. 417p.

History of aeronautics from earliest times to 1940. Includes discussion of military aeronautics in Italy prior to World War II and during the Spanish Civil War. Bibliography, pp. 5-7, lists approximately 30 books, primarily in Italian. First edition published in 1939.

242. Napoleão, Aluizio, Santos-Dumont and the Conquest of the Air. Tr. by Luiz Victor le Cocq d'Oliveira. Rio de Janeiro: National Print. Off., 1945. 2v. (Ministry of State for Foreign Affairs of Brazil. Division of Intellectual Co-operation. Brazilian Studies Collection, 1)

Vol. 1 deals with the achievements of Alberto Santos-Dumont (1873-1932), Brazilian pioneer in aeronautics. Vol. 2 contains "Documents and Testimony on the Aeronautical Works of Santos-Dumont" from English, Italian, and Portuguese sources. Tries to prove the claim of the Aero Club of Brazil that priority in the invention of the heavier-than-air flying machine goes to Santos-Dumont rather than to the Wright Brothers. Translated from the Portuguese Santos-Dumont e a Conquista do Air. (Rio de Janeiro: Imprensa Nacional, 1941. 270p.) The second Portuguese edition (São Paulo: Companhia Editora Nacional, 339p.) was published in 1957. The first edition was also published in Spanish translation, Santos-Dumont y la Conquista del Aire, translated by Alarcón Fernández (Rio de Janeiro: Imprensa Nacional, 1942-43, 2v.).

243. National Advisory Committee for Aeronautics, Bibliography of Aeronautics, 1909-1932.

Washington: NACA, 1921-1936. 14v. (For sale by U.S. Govt. Print. Off.)

A continuation, on the same plan, of Bibliography of Aeronautics by Paul Brockett. Covers the following periods: v. 1, 1909-16; v. 2, 1917-19; v. 3, 1920-21; v. 4-14, annual

volumes, 1922-32. Volumes 1933-37 are soon to be published.

244. National Air and Space Museum, The National Aeronautical Collections, 10th Edition, Edited by Paul E. Garber. Washington: Smithsonian Institution, 1965. (Its Publication, 4255)

A description of the objects in the air and space collections which cover the period from the fantasy of flight, ballooning, aviation pioneers, World War I and II, jets, to very early space flight efforts. "Foreword," pp. 1-9, is a history of the Museum itself. "References," p. 151, lists about ten items. Previous editions go back to the 1920s.

245. Nayler, Joseph L., and Ernest Ower, Aviation: Its Technical Development. London: P. Owen and Philadelphia: Dufour, 1965. 290p.

History of aeronautics and astronautics from 1900 to date in terms of its scientific and technical progress. Covers fighters, racers, bombers, jets, piston engines, sea planes, guided missiles, rockets, satellites, and space travel. Includes "Appendix: Pioneer Flights and Noteworthy Events," pp. 276-280.

246. Oomen, Peter, "History and Development of Aeronautical Telecommunications", ICAO Bulletin, v. 21 (No. 3, 1966), pp. 6-18; v. 21 (No. 4, 1966), pp. 7-18.

The author, Technical Officer, Communications Section, ICAO, examines the history of

aeronautical telecommunications from developments in technical systems, international legislation and regulations, and the relationships between the aeronautical and other international regulations. Bibliographical footnote references throughout the text.

247. Pacific Aerospace Library Checklist of Periodical

Titles. Los Angeles: Pacific Aerospace Library of the American Institute of Aeronautics and Astronautics, 1941 to date. Semiweekly.

Contains 12,000 references a year from 300 world journals, papers, reports, translations, books, and microcards with subject arrangement. Pacific Aerospace Library Uniterm Index to Periodicals serves as an index to the checklist.

248. Palmer, Henry R., This Was Air Travel. Seattle:

Superior Pub. Co., 1960. 190p.

Popular pictorial history of balloons, dirigibles, and early airplanes up to World War II. Excellent early photographs of flight. Emphasizes development of commercial aviation.

249. Paris, Centre de Documentation Aéronautique

Internationale, Catalogue Général. Angers:

Editions de l'Ouest, 1944. 284p.

V. I is entitled "Catalogue Alphabetique des Livres-Brochures-Periodiques et Bulletins" and lists about 4,000 books on aeronautics published in the late 19th and early 20th centuries. V. II is entitled "Catalogue

Systematique des Livres et Brochures" and is a classified list of the same 4,000 volumes. Section entitled, "Histoire," pp. 233-249, lists approximately 500 titles.

250. Pearson, Firm, Booksellers, Aeronautica; or, The History of Aviation and Aerostation, Told in Contemporary Autograph Letters, Books, Broadsides, Drawings, Engravings, Manuscripts, Newspapers, Paintings, Posters, Press Notices, etc., Dating from the year 1557 to 1880. London: J. Pearson & Co. [19--]. 17p.

A running text bibliography by a book dealer on the history of flight. Most of the items cited (approximately 100 books) are in the Pearson Collection.

251. Piccard, Auguste, Between Earth and Sky. Translated from the French by Claude Apcher. With a pref. by Jean Lugeon. London: Falcon Press, 1950. 157p.

Deals with balloon ascensions, interplanetary voyages, and stratospheric meteorology by the leading contemporary ballooning history-maker. Translated from the French Entre Terre et Ciel (Lausanne: Editions d'Ouchy, 1946); Dutch translation with title Tussen Aarde en Hemel (Antwerp: Orion Boekhandel, 1946).

252. Polkehn, Klaus, Kontinente aus der Vogelschau; das Flugzeug entdeckt die Erde. Leipzig: F. A. Brockhaus, 1962. 336p.

Deals with the application of aeronautics to discovering and exploring otherwise-difficult-to-reach places such as the North and South Poles, the Alps, and some areas of Africa. Bibliography, pp. 328-329, lists approximately 56 book and journal titles, mostly in German.

253. Pritchard, John, Sir George Cayley, the Inventor of the Aeroplane. 1st American ed. New York: Horizon, 1962. 277p.

A biography of the man who in 1809 wrote a treatise "On Aerial Navigation" which contains nearly all the basic principles required for airplane design. "Appendixes," pp. 219-264, contain the text of four treatises by Cayley on mechanical flight. "References," pp. 265-269, lists 115 footnote references. British edition published in 1961 (London: M. Parrish, 277p.).

254. Randers-Pehrson, Nils H., and Arthur G. Renstrom, comps., Aeronautic Americana: a Bibliography of Books and Pamphlets on Aeronautics Published in America before 1900. New York: Sherman Fairchild Publication Fund, Institute of the Aeronautical Sciences, 1943. 40p.

An annotated list of references to American aeronautical titles published prior

to the year 1900, beginning with the first, An Account of Count D'Artois and his Friend's Passage to the Moon (Lichfield: Collier, 1785). The list includes only separately published books and pamphlets. One hundred twenty technical books, fiction, juveniles, and books translated from other languages are listed in chronological order. Library locations are given for each title. The list is based primarily on the extensive holdings of the Library of Congress, supplemented by titles from the Institute of Aeronautical Sciences and by scarce and rare titles from other research libraries. Appendix I includes bills and reports of Congress and 17 aeronautical publications from Latin America are listed in Appendix II.

255. Rappaport, C. E., Aerostation (1670-1890) Livres et Gravures. Rome: C. E. Rappaport, 1912. 40p.  
(Catalogue 22)

A list of 145 books on aeronautics, primarily French and Italian covering the period from late 18th century to 1912.

256. Recent Aeronautical Literature: a Selective Subject Index. 1943-46. Wichita, Kans.: Beech Aircraft Corporation, 1944-47. 4v. annual (1944: semiannual)

Cumulated annually from monthly issues. Title changed from Recent Periodical Articles (Parks Air College Library) in May 1945. A selective subject index to approximately 68 aeronautics journals. Several references appear in each volume under the headings "history" and "biography". Also "history" is used as a subdivision under many headings.

257. Referativnyi Zhurnal: Vozdushnyi Transport [Journal of Abstracts. Air Transport]. Moscow: Proizvodstvenno-izdatel'skii Kombinat Vsesoiuznogo Instituta Nauchnoi i Tekicheskoi Informatsii, 1962 to date. Monthly.

Contains 3,600 primarily technical abstracts per year from world literature on aeronautics. Annual author and subject indexes. Tables of contents also in English.

258. Renstrom, Arthur G., comp., Aeronautics in Alaska: A List of References. Washington: Library of Congress, 1944. 39p.

Covers the literature on flying in Alaska from 1913 to 1944. Lists 469 book and journal article references chronologically under broad subject categories. Section entitled "History," pp. 3-8, lists 74 references.

259. Ristow, Walter W., Aviation Cartography: a Historico-Bibliographic Study of Aeronautical Charts. 2nd ed., rev. and enl. Washington: Library of Congress, 1960. 245p.

First edition published in 1956 (Washington: 114p.) with 474 references. Present edition lists 784 references and covers the period 1888 to 1959. Shows the growth and development of aeronautical charts as reflected in the literature. Historical summary of aviation cartography, pp. 1-53.

260. Rocamora, Manuel, Historia de la Navegación Aérea en Barcelona, Sequida del Catálogo de la Sección Española de la Colección del 'Auto, desde los Precursores hasta 1914. Barcelona: J. Porter, 1948. 191p.

Pp. 9-91 are a history of flight in Barcelona from 1784-1914. "Catalogo," pp. 97-180, consists of a catalog of 588 Spanish books on flight published 1600-1914. Includes many illustrations.

261. Rosenthal, Ludwig, Luftschiffahrt. Aeronautics. L'Áéronautique. 1503-1913. München: L. Rosenthal's Antiquariat, 1914. 95p. (Its Katalog 152)

This dealer's catalog lists 1,147 historical aeronautical works, mostly German, French, and English, covering the period 1503-1913. Also lists approximately 80 pictures, portraits, autographs, and medals. In each case, information is provided as to whether the particular item is also listed in the bibliographies of Brockett, Tissandier, and Liebmann-Wahl.

262. Royal Aeronautical Society, Publications, Together with a Classified List of Articles from the Journal of the Society, Corrected to June 1936. London: The Society, 1936. 19p.

The "Classified List of Articles from the Journal" lists articles under "History," p. 16, which cover the period from 1919-1936. Earlier editions of this work appeared in 1929 and 1931.

263. Royal Aeronautical Society, Library, A List of the Books, Periodicals, and Pamphlets in the Library of the Royal Aeronautical Society. London: The Society, 1941. 276p.

Pt. I is a listing of books by author, Pt. II is a classified listing of pamphlets, and Pt. III is a classified listing of periodical articles and pamphlets. Historical section comprises a representative collection of English and foreign books -- many of great variety -- dealing with aeronautical ideas and endeavors from the 17th to the 19th century. In addition to books, other historical material in the library includes early aeronautical patents, the extensive collection of news cutting and illustrations formed by Major B. Baden-Powell, and a collection of prints in 12 volumes gathered by Dr. F. J. Poynton, the letter books of Lawrence Hargrave, as well as lantern slides and old photographs. An earlier list, Catalogue of the Books, Periodicals, etc. . . . , was published in 1927.

264. Rynin, Nikolai A., Noviëishie Uspiekhi Vozdukhoplavaniia  
[The Latest Achievements in Aeronautics].  
S. Peterburg: Izdanie Sobraniia Inzhenerov Putei  
Soobshcheniia, 1910. 136p.

Detailed description of aeronautics in Russia during the first decade of the 20th century.

265. St. Louis Public Library, Library School,  
Aeronautics: a List of Books and Articles,

Compiled by Students of the St. Louis Library

School. St. Louis: The Library, 1928. 26p.

Approximately 700 briefly annotated book and journal article titles on various aspects of aviation arranged by subject. "History and Development", pp.4-12, lists about 270 titles. "Landmarks in the History of Aviation", pp. 18-21, lists about 100 titles. Reprinted from the Monthly Bulletin of the St. Louis Public Library, n.s. v.26 (June 1928), pp. 155-178.

266. Science Museum, Aeronautics, Heavier-than-Aircraft:

a Brief Outline of the History and Development of Mechanical Flight with Reference to the National Aeronautical Collection, by M. J. B. Davy.

London: H.M. Stationery Off., 1949. 2v.

Vol. I: Historical Survey; Vol. II: Catalogue of Exhibits with Descriptive Notes. Bibliography, Vol. I, pp. 70-71, lists approximately 50 British book titles. First edition published 1929-1934 under title: Handbook of the Collections Illustrating Aeronautics (London: H.M. Stationery Off., 3v.) Vol. I: Heavier-than-Aircraft; a Brief Outline of the History and Development of Mechanical Flight with Reference to the National Aeronautical Collection, and a Catalogue of the Exhibits, Compiled by M. J. B. Davy, 1929; Vol. II: Lighter-than-Aircraft; a Brief Outline of the History and Development of the Balloon and the Airship with Reference to the National Aeronautical Collection, and a Catalogue of the Exhibits, by M. J. B. Davy assisted by G. Tilghman Richards, 1930. Bibliographical references: Vol. I, pp. 111-112; Vol. II, pp. 108-109; Vol. III, pp. 100-101. Revised edition published in 1935-1936.

267. Saladin, Raymond, Les Temps Héroïques de l'Aviation; Souvenirs. Paris: Éditions Arcadiennes, 1949.  
209p.

Essentially a history of French aeronautics from 1900 through World War I told in terms of the men who made the events. Includes many photographs.

268. Scamehorn, Howard L., Balloons to Jets: A Century of Aeronautics in Illinois, 1855-1955. Chicago: H. Regnery Co., 1957. 271p. (Illinois State Historical Society. Occasional Publications, no. 52)

History of flight in Illinois from the balloon to the dirigible to the airplane. Includes the development of amateur, commercial, military, and civil aeronautics and includes a chapter on the role of the state and Federal government in regulating aeronautics from 1926-1955, pp. 233-254.

269. Schlaifer, Robert, Development of Aircraft Engines; Heron, S. D., Development of Aviation Fuels. Boston: Graduate School of Business Administration, Harvard University, 1950.

Two studies, in one volume, of relations between government and business. Schlaifer gives history in some detail of sample episodes to throw light on policy, motives, reasons for success or failure in aircraft engine development and problems of industry-government relations. Heron traces improvement

of fuels and knowledge of their use and parts played by government and industry. Some sources are cited in footnotes.

270. Seattle, Public Library, List of Books on Aeronautics

in the Seattle Public Library. Seattle: Public

Library, Technology Division, 1931. 60p.

Lists 3,000 volumes by subject with an author index. Section "History", pp. 25-29, lists approximately 70 book titles.

271. Service de Documentation et d'Information Technique

de l'Aéronautique, Etudes et Travaux du Service

de Documentation et d'Information Technique de

l'Aéronautique. Paris: Service de Documentation

et d'Information Technique de l'Aéronautique,

1958. 270p.

A bibliography in French of the technical aeronautical publications available from the Service de Documentation et d'Information Technique de l'Aéronautique covering the period 1945 to 1958. Arrangement is by type of publication and includes translations, patents, many items which have appeared in the Bulletin Mensuel Signalétique as well as the publications of S.D.I.T. itself. Most of the S.D.I.T. publications are also abstracted.

272. Society of British Aircraft Constructors, Ltd.,

International Index to Aeronautical Technical

Reports. London: Pitman, 1933-1939. 7v.

Contains references to English language and foreign aeronautical technical reports and journal articles published during the year. Arranged by broad subject category and includes a list of the publications to which references are made. The 1933 volume was published by the Royal Aeronautical Society.

273. Society of British Aerospace Constructors, Ltd.,

Press Summary; Abstracts of Aviation Items in the World's Journals. London: the Society, 1939 to date. Weekly.

Includes brief abstracts of aeronautics and astronautics items from mainly British newspapers and a few journals.

274. Spain, Ministerio del Aire, Biblioteca, Catálogo General de la Biblioteca Central del Ministerio del Aire, Redactado por Luis de la Cuadra y Escrivá de Romani. Madrid: Imp. Góngora, s.l, 1941. 371p.

Lists approximately 1,700 titles, mainly Spanish, arranged by broad subject category. Includes "Arte Militar," pp. 53-102; "Aeronautica Militar", pp. 103-122; "Aeronautica", pp. 187-319; and "Historia", pp. 314-355.

275. Steenderen, C. van, Mijlpalen. Amsterdam: Hollandsche Uitgevershuis, 1947. 244p.

A history of airplanes told in terms of approximately 130 planes, from the machines

of Clément Ader and Otto Lilienthal to those of World War I. Arranged chronologically by plane with each plane accompanied by an engineering drawing as well as a photograph.

276. Stewart, Oliver, comp., Of Flight and Flyers: an Aerospace Anthology. London: Newnes, 1964. 192p.

A history of aeronautics which consists of contemporary comments and descriptions of great moments in flight. Covers the period from the Montgolfier balloon to 1964 space flight achievements. Emphasizes British aviation history.

277. Stillwell, Wendell H., X-15 Research Results with a Selected Bibliography. Washington: National Aeronautics and Space Administration; 1965. 128p. (NASA SP-60) (For sale by U.S. Govt. Print. Off.)

Semitechnical summary of the X-15 program, directed toward achievements in scientific research rather than the better publicized and spectacular milestones of flight in the nearspace environment. Includes index and bibliography, pp. 103-116.

278. Straub, Agnes, Firm, Booksellers, Luftschiffahrt, Aeronautics. Berlin: Antiquariat A. Straub, 1925. (Katalog, nr. 18)

Lists 1,200 18th and 19th century titles, primarily German. "Geschichte der Luftschiffahrt," pp. 12-18, cites 216 items.

279. Strehl, Rolf, Der Himmel Hat Keine Grenzen; das Grosse Abenteuer der Luftfahrt. Düsseldorf: Econ-Verlag, 1962. 479. (Das Moderne Sachbuch, Bd. 4)

Fairly comprehensive history of aeronautics from earliest times to 1962. Worldwide in scope.

280. Supf, Peter, Die Eroberung des Luftreichs. Stuttgart: Konradin-Verlag, 1953. 288p.

Popular history of aeronautics from earliest times to 1953. Emphasizes German achievements.

281. Tangye, Nigel, Britain in the Air. With 8 Plates in Colour and 25 Illustrations in Black and White. London: W. Collins, 1944. 47p.  
(Half-title: Britain in Pictures)

Brief, popular history of aeronautics in the British Isles with numerous color reproductions of early flight watercolors and World War II scenes. "Short Bibliography," p. 6, lists seven British book titles.

282. Taylor, John W. R., A Picture History of Flight. 3rd ed., rev. London: E. Hulton, 1959. 192p.  
(Hulton's Picture Histories)

First published 1955, second revised edition 1958. First and second editions also published in the United States (New York:

Pitman, 1956 and 1958). A pictorial history of flight containing 652 illustrations and covering the period from 1903 to 1945.

283. Tilgenkamp, Erich, Schweizer Luftfahrt, von dr.

Erich Tilgenkamp, unter mitarbeit zahlreicher fachleute und pioniere, insbesondere der herren dr. J. Buser, dr. W. Dollfus, ing.A. Haefeli, R. Moser und hptm. E. Wyss, sowie Eidgenössisches Departement des Innern, Eidgenössisches Luftamt, Generaldirektion der Post-, Telegraphen-und Telephonverwaltung [etc.] . . . Herausgegeben vom Aero-Club der Schweiz. Zurich: Aero-Verlag, 1941/42-1943. 3v.

Comprehensive history of flight in Switzerland from earliest times to 1940. Contains many pictures. Includes "Schrifttum und Quellenverzeichnis", Vol. 1, pp. 371-381; Vol. 3, pp. 441-453, lists 1923 references most of which are in German.

284. Tissandier, Gaston, Bibliographie Aéronautique:

Catalogue de Livres d'Histoire, de Science, de Voyages et de Fantaisie, Traitant de la Navigation Aérienne ou des Aérostats. Paris: H. Launette et cie, 1887. 62p.

A selective list in French of 800 references to books and pamphlets arranged by broad subject category, all the publications except

those listed in the foreign works section are French. Includes history, almanacs, dramas, poetry, tales, and music.

285. Toland, John, Ships in the Sky: the Story of the Great Dirigibles. New York: Holt, 1957. 352p.

A history of the gas-borne airships which competed with the airplane for supremacy in the sky for the first thirty years of the 20th century. Published also in England (London: F. Muller, 1957. 260p.).

286. Tregaskis, Richard W., X-15 Diary: the Story of America's First Space Ship. New York: Dutton, 1961. 317p.

Presented in the form of a journal, February 26, 1959, to August 15, 1960, which chronicles the development of the X-15 rocket aircraft. Includes some rocket and missile history and references to X-15 experimentation prior to 1959.

287. U.S. Air Force, USAF Historical Division, A Chronology of American Aviation Events: Historical Data 1903-1953. Prepared in Cooperation with the Office of Information Services, OSAF. Washington: U.S. Air Force, 1955. 114p. (Air Force Pamphlet, no. 210-1-1)

Serves as a record of U.S. air progress in both military and civilian aeronautics. Part one is a chronology by day and part two by year.

288. U.S. Air Force Academy, Library, Current Literature of the Air. Denver: The Academy, 1957. 5p.  
(Its Special Bibliography Series, no. 4)

A brief annotated bibliography of 22 American books on aeronautics and space exploration published in the 1950s.

289. U.S. Army Air Forces, Matériel Command, Desk Catalog of German and Japanese Air-Technical Documents. Wright Field, Ohio: U.S. Army Air Forces, 1947-48. 6v. in 7.

The Air Documents Division, Intelligence Department, Air Matériel Command, in close cooperation with the Bureau of Aeronautics, U.S. Navy, processed some 600,000 air technical documents which had been collected by intelligence teams of the Army, Navy, and Air Force in Germany and Japan. Approximately 55,000 of these documents are here listed with annotations in a "Desk Catalog" which includes subject, author or code, and model indexes. V.3-6 prepared by the Air Documents Division. Many of these have been transferred to the Smithsonian's National Air and Space Museum.

290. Vannucci, A. G., and J. C. Dunne, comps., Index to AGARD Publications, 1952-1963. Paris: North Atlantic Treaty Organization, Advisory Group for Aeronautical Research and Development, 1963. 312p.

A complete list of AGARD publications. Cites 2,161 references, most of which are annotated. Includes author and subject

indexes. Many appear to contain historical material. Supersedes Index to AGARD Publications, 1952-1962 (Paris: 1962).

291. Veigelin, Konstantin E., Azbuka Vozdukhoplavaniia

[ABC of Aeronautics]. Izd. 2. S.-Peterburg:

Tipografiia P.P. Soikina, 1912. 166p.

History of the balloon, dirigible, and monoplane. Worldwide in scope. Earlier edition published under the title Zavoevanie Vozdushnogo okeana: Istoriia i Sovremennoe Sostoianie Vozdukhoplavaniia [Conquering the air; History of Aeronautics].

292. Veigelin, Konstantin E., Zanimatel'naia Aviat͡siia

[Entertaining Aviation]. Leningrad:

Kooperativnoe Izd-vo "Vremia", 1929. 229p.

Reviews the development of aviation, mainly in the Soviet Union up to the time of the practical airplane. Discusses basic problems and what has been done to solve them.

293. Virginskii, Viktor S., Rozhdenie Vozdukhoplavaniia

[Birth of Aeronautics]. Moscow: Redaktsiia

Tekniko-teoreticheskoi Literatury, 1938. 116p.

History of aeronautics in Russia from earliest times to the end of the 18th century. Primarily a history of ballooning. Includes "First Aeronautic Experiments in Russia," pp. 85-90.

294. Vladimirov, L., Sovremennoe Vozdukhoplavanie i Ego Istoriia [Contemporary Aeronautics and Its History].  
Kiev: Sklad Izdatel'stva v Knizhnom Magazine L.  
Idzikovskago, 1909. 179p.

History of aeronautics from the time of Galileo to the time of the Graf Zeppelin.  
Worldwide in scope.

295. Vozdukhoplavanie i Letanie; Russkie Letuny  
[Aeronautics and Flying; Russian Aeronauts].  
S.-Peterburg: Tipografiia A. S. Suvorina, 1911.  
36p. (Otechestvennaia Biblioteka, no. 7.)

Brief survey of Russian aeronautics from approximately 1730 to 1910. Deals with balloons, dirigibles, and the work of early pioneers.

296. Whitehouse, Arthur G. J., The Early Birds; the Wonders and Heroics of the First Decades of Flight.  
Garden City, N. Y.: Doubleday, 1965. 288p.

Fairly popular history of primarily British and American aeronautics. Emphasizes the period 1900-1920.

297. Wiener Flugtechnischer Verein, Bibliothek, Bücherei des Wiener Flugtechnischen Vereines, Abschluss am 15. März 1905. Wien: Verlag des Vereines, 1905. 35p.

A list of approximately 1,000 books and journals in this aeronautics association library as of 1905. Most of the titles cited are late 19th century works in German, French, and English. "Geschichte der Luftschiffart," p. 11, lists 13 titles. Previous edition entitled Bücher und Zeitschriften-Verzeichnis des Wiener Flugtechnischen Verein bis 31 December 1898 [Wien: 1899] lists approximately 100 titles.

298. Wissman, Gerhard, Geschichte der Luftfahrt von IKarus bis zur Gegenwart, eine Darstellung der Entwicklung des Fluggedankens und der Luftfahrttechnik. Berlin: Verlag Technik, 1960. 442p.

A history of flight from earliest times to 1947. Includes "Chronologie der Geschichte der Luftfahrt," pp. 405-414; and "Literaturverzeichnis," pp. 415-430, which lists approximately 375 book titles.

299. Works Projects Administration, Bibliography of Aeronautics. Pt. 1-50. New York: 1936-40.

Published under the sponsorship of the N.Y. City Dept. of Docks with the cooperation of the Institute of Aeronautical Sciences. Prepared by workers under the supervision of the U.S. Works Progress Administration and the Federal Works Agency, Work Projects Administration for the City of New York. Series of fifty aeronautical bibliographies compiled from the Index of Aeronautics of the Institute of the Aeronautical Sciences. Each bibliography is a list of books, pamphlets, and periodical articles arranged chronologically

under broad subject categories with author index. A supplementary volume to each part was issued 1940-1941.

Contents: (1) Air transportation; (2) Meteorology; (3) Insurance; (4) Dynamics of the airplane; (5) Seaplanes; (6) Flying boats; (7) Amphibians; (8) Autogiros; (9) Helicopters; (10) Cyclogiros, Gyroplanes; (11) Medicine; (12) Landing gears; (13) Refueling in flight; (14) Tailless airplanes; (15) Airplane catapults; (16) Airplane carriers; (17) Diesel aircraft engines; (18) Laws and regulations; (19) Control surfaces; (20) Slots and flaps; (21) Blind flight, Automatic pilot, Ice formation; (22) Radio; (23) Airships; (24) Air mail; (25) Air navigation; (26) Flight instruments; (27) Aircraft propellers; (28) Fuels; (29) Lubricants; (30) Aerial photography; (31) Metal construction of aircraft; (32-33) Engines, 2v.; (34) Engines--by manufacturer; (35) Engine parts and accessories; (36) Engine instruments; (37) Airports; (38) Skin friction and boundary flow; (39) Stress analysis; (40) Helium; (41) Comfort in aircraft; (42) Plastic materials; (43) Metals and light alloys; (44) Airways; (45) Wind tunnels and laboratories; (46) Gliding and soaring; (47) Women in aeronautics; (48) Parachutes; (49) Rocket propulsion; (50) Stratospheric flight.

300. Wouwermans, Armand, Contribution à la Bibliographie de la Locomotion Aérienne. Anvers: 1894. 43p.

List of approximately 600 references to books, pamphlets, and periodical articles arranged by country under author. Presented at the Congres de la Science de l'Atmosphere, Antwerp, August 16-19, 1894, and reprinted from its Compte Rendu.

301. Wright, Wilbur, Papers of Wilbur and Orville Wright, Including the Chanute-Wright Letters and Other Papers of Octave Chanute. Marvin W. McFarland, editor. New York: McGraw-Hill, 1953. 1,278p. in 2v.

Includes annotated bibliography, compiled by Arthur G. Renstrom, pp. 1,221-1,243, which lists published writings of the Wrights, patents in their names, court records and general references to books and journal articles about the Wrights and their wind tunnel, airplane motor, and propeller systems. Bibliography revised, enlarged, and brought up to date by Wilbur and Orville Wright: A Bibliography Commemorating the Hundredth Anniversary of the Birth of Wilbur Wright, April 16, 1867, compiled by Arthur G. Renstrom (Washington: Library of Congress, 1968).

302. Young, Pearl I., Octave Chanute, 1832-1910, the Contributions of an American Civil Engineer to the Improvement of Railroads, Railroad Bridges, Timber Preservation, and Aeronautics; A Bibliography. San Francisco: Edward L. Sterne, 1963. 28p.

Lists chronologically approximately 285 items in the following categories: Writings and Printed Speeches, Notebooks and Diaries Related to Chanute, and Writings (1832-1962) about Chanute. Many of the items cited deal with pioneer aeronautics.

303. Zentralluftfahrtbücherei, Berlin, Katalog der  
Zentralluftfahrtbücherei, hrsg. vom  
 Reichsluftfahrtministerium. Leipzig: O. Leiner,  
 1940. 404p.

A catalog in German of the holdings of the library arranged by the following subjects and including reference works and journals: general aeronautical works, balloons, planes, military planes, rockets, air law, novels, and journal titles. Author and subject indexes are included. The library was created in 1933, when it absorbed Zentralbucherei der deutschen Luftfahrt (Moedebeckbibliothek) which produced the following catalogs:  
Bücherverzeichnis der Zentralbücherei der deutschen Luftfahrt bei der WGL  
 [Wissenschaftliche Gesellschaft für Luftfahrt, e.v.] Nach dem Stande vom Mai 1928 (Berlin: Druck von R. Rohde g.m.b.h., 1928, 335p.)  
 and Bücherverzeichnis der Zentralbücherei der deutschen Luftfahrt (Moedebeck-Bibliothek)  
1. Nachtrag. Nach dem Stande vom 16. Juni 1930  
 (Berlin: 1930, 175p.)

304. Zhabrov, Alekseĭ A., Annotirovannyĭ Ukazatel'  
Literatury na Russkom Ĭazyke po Aviatsii i  
Vozdukhoplavaniiu za 50 let, 1881-1931: Teoriia,  
Tekhnika, Stroitel' stvo, Ekonomika, Statistika,  
Istoriia, Mirnoe Primenenie [Annotated Index of  
 Literature in the Russian Language on Aviation  
 and Aeronautics for 50 years from 1881 to 1931:  
 Theory, Technology, Construction, Economics,

Statistics, History, Peaceful Uses]. Moskva: ONTI, NKTP SSSR, Gosudarstvennoe Aviat'sionnoe i Avtotraktornoe Izdatel'stvo, 1933. 312p.

Section entitled "History," pp. 251-257, lists Russian monographs and periodical articles and some translations into the Russian language from other languages on the history of aeronautics from 1881 to 1931.

305. Zimmer, Egon M., Die Strasse der Piloten; die Abenteuerliche Geschichte der Luftfahrt von C. C. Bergius [pseud.] Gutersloh: S. Mohn, 1959. 575p.

Fairly popular history of aeronautics from earliest times to the present, emphasizing German developments. Bibliography, pp. 571-575, lists approximately 200 primarily German book titles.

Rocketry

306. AIAA Journal (formed by merger of ARS Journal and Journal of the Aerospace Sciences). New York: American Institute of Aeronautics and Astronautics, 1963 to date. Monthly.
- January-December 1963 issues contains section "Technical Literature Digest" (published in Journal of the American Rocket Society, September 1951-53; in Jet Propulsion, January 1954-May 1959; in ARS Journal, June 1959-December 1962) listing pertinent books, periodical articles, symposium papers, and technical reports, arranged under broad subject categories.
307. Baumgarten-Crusius, Artur, Die Rakete als Weltfriedenstaube. Leipzig: Verband der Raketen-Forscher und-Förderer, 1931. 174p.
- A somewhat far-seeing book published in 1931 on the peaceful and destructive uses of rockets.
308. Benton, Mildred C., Use of High Altitude Rockets for Scientific Research: An Annotated Bibliography. Washington: U.S. Naval Research Laboratory, 1959. 123p. (U.S. Naval Research Laboratory. Bibliography, No. 16)
- Chronological list of periodical articles, technical reports, and papers published 1946 through June 1959. Arrangement is alphabetical within years with an author and subject index.

309. Bergaust, Erik, Reaching for the Stars. Introd.

by Frederick C. Durant, III. Garden City, N.Y.:

Doubleday, 1960. 407p.

Both an authorized biography of Wernher Von Braun based on personal acquaintance and a history of postwar United States rocket and missile development.

310. Bergaust, Erik, and Seabrook Hull, Rocket to the Moon.

Introd. by Wernher von Braun. Princeton, N.J.:

Van Nostrand, 1958. 270p.

Largely popular description of what it would take to get to the moon and the advantages and applications of this effort. Critical of U.S. work in this area in contrast to Russian achievements.

311. Berkner, Lloyd V., ed., Manual on Rockets and Satellites.

Associate Editors: Gilman Reid, John Hanessian,

Jr., Leonard Cormier. London, New York: Pergamon

Press, 1958. 508p. (Annals of the International

Geophysical Year, v.6)

Covers the International Geophysical Year, 1957/58, rocket and satellite programs by country. Includes bibliographies and "References," pp. 500-503, which lists approximately 100 journal article citations.

312. Białoborski, Eustachy, Raketen, Satelliten, Raumschiffe.

Mit einem Beitrag von Diedrich Wattenberg:

Künstliche Satelliten der Erde. Leipzig:

Urania-Verlag, 1958. 381p.

Includes brief bibliography, pp. 380-383, which lists eight book and three journal references. Pt. 1, pp. 15-194, includes history of space flight and rocketry in fiction as well as fact.

313. Blagonravov, Anatolii A., et al, eds., Soviet Rocketry:

Some Contributions to Its History. Jerusalem:

Israel Program for Scientific Translations, 1966.

204p. (NASA Technical Translation TT F-343 and

also TT 66-51023) (For sale by Clearinghouse for

Federal Scientific and Technical Information,

Springfield, Va.)

Translation of Iz Istorii Raketnoi Tekhniki (Moscow: Izdatel'stvo "Nauka," Akademiiā Nauk SSSR, Institut Istorii Estestvoznaniia i Tekhniki, 1964). Consists of ten essays on various aspects of the history of Russian rocket technology. "Bibliography of the Printed and Manuscript Works of K. E. Tsiolkovskii on Rocketry and Space Flight," pp. 193-202, lists 143 references. Some of the essays include footnote references.

314. Booser, Ronald J., "Selected Bibliography and Glossary of Missile and Rocket Literature," Special Libraries, v.53 (April 1962), pp. 201-206.

Lists 77 books, indexes, periodicals, and special sources useful to a library.

315. Bowman, Norman J., The Handbook of Rockets and

Guided Missiles. 2d ed. Whiting, Ind.:

Perastadion Press, 1963. 1,008p.

Includes "Bibliography," pp. 668-716, of 2,476 references, mainly to British and American aeronautics and astronautics journals. Journal references give date of issue but not page. First edition published in 1957 and includes bibliography, pp. 228-251.

316. Brügel, Werner, ed., Männer der Rakete, in

Selbstdarstellungen von Hanns-Wolf v.

Dickhuth-Harrach, Robert Esnault-Pelterie, et al.

Leipzig: Hachmeister & Thal, 1933. 144p.

Consists of contributions by W. Brügel, Hanns-Wolf von Dickhuth-Harrach, Robert Esnault-Pelterie, R. H. Goddard, Franz von Hoefft, Hermann Oberth, Guido von Pirquet, N. A. Rynin, Friedrich Schmiedl, Johannes Winkler, K. E. Tsiolkovsky, Willy Ley, and C. P. Mason. Also includes biographical sketch of each author. Bibliography, pp. 142-143, consists of approximately 35 items by these authors.

317. Burgess, Eric, Long-range Ballistic Missiles. London:

Chapman & Hall, 1961. 255p.

Includes bibliography, p. 249, and chapters on the following subjects: Ballistic missile program, Ballistic missile arsenal, Trajectories, Vehicles, Reentry bodies, Missile support, Defense, and "Ploughshares."

318. Burgess, Eric, Rocket Propulsion with Introduction to the Idea of Interplanetary Travel. 2d ed., rev. London: Chapman & Hall, 1954. 235p.

Primarily a popular explanation of the principles and possibilities of rocket propulsion but Appendix D: "Brief History of the Rocket Movement in Great Britain," pp. 225-228, is very good.

319. Burgess, Eric, Satellites and Space Flight. London: Chapman & Hall, 1957. 159p.

Somewhat popular and now somewhat outdated treatment of how developments in military rocketry made Earth satellites possible. Each chapter ends with a brief bibliography.

320. Caidin, Martin, Countdown for Tomorrow: the Inside Story of Earth Satellites, Rockets and Missiles and the Race between American and Soviet Science. New York: Dutton, 1958. 288p.

Although written as popular description for the layman, this work does contain material on U.S. and USSR space programs as of 1958, German backgrounds, Project Vanguard, and the situation in Washington prior to the founding of NASA.

321. Caidin, Martin, Rockets and Missiles, Past and Future; with illus. by Fred L. Wolff and Wally Littman. New York: McBride, 1954. 208p.

Popular history of rocketry and guided missiles. Covers developments in Germany,

Japan, Russia, Britain, and America. Revision and expansion of Jets, Rockets, and Guided Missiles, by David C. Cooke and Martin Caidin (1951).

322. Caidin, Martin, War for the Moon. Paintings by Fred

L. Wolff. Drawings by Fred L. Wolff and Bert

Tanner. New York: Dutton, 1959. 258p.

Highly popular description of American and Soviet lunar probes.

323. California Institute of Technology, Jet Propulsion

Laboratory, Publications of the Jet Propulsion

Laboratory, January 1938 through June 1960.

Pasadena: Jet Propulsion Laboratory, 1961.

336p. (Its Bibliography, No. 39-1)

Annual supplements bring list up to date. Lists "Open Literature Surveys," "Literature Searches," and other pertinent space publications issued by JPL.

324. Carter, Leonard J., ed., Realities of Space Travel:

Selected Papers of the British Interplanetary

Society. New York: McGraw-Hill, 1957. 431p.

Comprises 24 articles by different authors. Many have brief bibliographies. Article twenty-three, "European Rocketry after World War I," is by Walter R. Dornberger.

325. Cleator, Philip E., Rockets Through Space: The

Dawn of Interplanetary Travel. New York: Simon

and Schuster, 1936. 227p.

Early chapters are historical and 24 early works on rockets are cited, pp. 211-212. Although now out of date, this work is important historically because it is the first work on the subject published in English.

326. Cleaver, Arthur V., "Rocket Propulsion and Its Implications to Human Society," Royal United Service Institution Journal, v.100 (August 1955), pp. 368-383.

Includes references, p. 379, and a discussion of the physical and psychological effects of rocket propulsion and the fact that rocket propulsion has implications far beyond supersonic aircraft and guided missiles.

327. Codr, Milan, Cesta ke Hvězdám [The Way to the Stars]. Praha: Naše Vojsko, 1962. 387p.

Although mainly a popular explanation of the technical aspects of space flight and rocketry, the first chapter contains historical information. Includes a brief bibliography, pp. 367-369.

328. Collected Rocket Abstracts. v.1-v.2, 1948/50-52.

Chicago: Chicago Rocket Society. Annual.

Abstracted from The Journal of Space Flight and Rocket Newsletter. Author and subject indexes cover technical data pertinent to space flight and of interest to scientists and amateurs. Vol. 1 has 474 abstracts, vol. 2 has 490 abstracts.

329. Corliss, William R., Space Probes and Planetary Exploration. Princeton, N.J.: Van Nostrand, 1965. 542p.

Written under the sponsorship of the National Aeronautics and Space Administration. Mainly technical except for the first four chapters: Interplanetary scientific objectives; History of interplanetary inquiry and exploration; The status of interplanetary exploration; Integrating the spacecraft, earthbased facilities, and instrumentation. Bibliography, pp. 508-513, is related to these four chapters.

330. Department of the Army, Missiles and Ventures into Space: 1960-1961. Washington: The Department, 1961. 81p. (Its Pamphlet, no. 70-5-9)

This bibliographic survey of approximately 650 references covers the period July 1960 to April 1961 and is intended to reflect the progress in missile science, rocket technology, and space exploration during that time span.

331. Department of the Army, Missiles and Ventures into Space: Progress Report, 1961-1962. Washington: The Department, 1962. 110p. (Dept. of the Army Pamphlet, 70-5-10)

A bibliography covering the period April 1961 to March 1962 and including approximately 700 titles of books, articles, and studies, partly abstracted and annotated. References to "Bibliographies" are listed on p. 85.

332. Department of the Army, Missiles, Rockets and

Satellites. Washington: The Department, 1958.

5v. (Dept. of the Army Pamphlet, 70-5-1 to 70-5-5).

A bibliographic survey listing 1,500 annotated references to books, and periodical articles and covering the period 1957 through March 1958. Contents comprise: Vol. 1. U.S.S.R. - Vol. 2. United States. - Vol. 3. Great Britain, France and Other Free Countries. - Vol. 4. Technology: Means and Methods. - Vol. 5. Earth Satellites and Space Exploration. References to "Background and Historical Aspects" included, pp. 41-42 of Vol. 4. References to "Historic Aspects", p. 9 of Vol. 5.

333. Department of the Army, Missiles, Rockets, and

Space in War and Peace. Washington: The Department,

1959. 94p. (Dept. of the Army Pamphlet, 70-5-6)

Continues and has similar arrangement to Dept. of the Army Pamphlet 70-5. A partially annotated list of 1,300 books and periodical articles published 1957-1959. References to "Historical Aspects" and "Bibliographies" are listed, pp. 81-84.

334. Department of the Army, Missiles, Rockets, and Space

Vehicles, 1959-1960. Washington: The Department,

1961. 81p. (Dept. of the Army Pamphlet, 70-5-7)

An annotated bibliographic survey listing references to books, journal and report literature published July 1959-June 1960. Continues and has similar arrangement to Dept. of the Army Pamphlet 70-5-6.

335. Ekonomov, Lev A., Poveliteli Ognennykh Strel  
 [Leaders of the Fiery Arrows]. Moscow: Molodaia  
 Gvardiia, 1964. 318p.

History of Russian rocketry and  
 astronautics from earliest times to the  
 present in terms of the men of the past  
 who made the space accomplishments of  
 today possible.

336. Emme, Eugene M., ed., The History of Rocket Technology:  
Essays on Research, Development, and Utility.  
 Detroit: Wayne State University Press, 1964. 320p.

Thirteen essays by G. Edward Pendray,  
 Walter R. Dornberger, Frank J. Malina, R. Cargill  
 Hall, Wernher von Braun, John P. Hagen, Robert  
 L. Perry, Wyndham D. Miles, Kenneth S.  
 Kleinknecht, William M. Bland, Robert D. Roach,  
 Wilfrid J. Mayo-Wells, and G. A. Tokaty, some  
 of which contain short bibliographies, comprise  
 the volume. Ten of these were previously  
 published in Technology and Culture, IV, Fall,  
 1963, pp. 377-528. "Bibliographical Note,"  
 pp. 285-308, by Arthur G. Renstrom, Science and  
 Technology Division, Library of Congress, lists  
 approximately 250 of the principal general  
 published sources relating to rocket technology,  
 space flight, and related technologies arranged  
 by broad subject category such as "History and  
 Chronology" and "Abstracting and Indexing Services."

337. Epstein, Beryl (Williams), and Samuel Epstein, The  
Rocket Pioneers on the Road to Space. Introd. by  
 Wernher von Braun. New York: Messner, 1958. 241p.

Popular history of modern rocketry beginning  
 with its fictional description by such writers

as Jules Verne. Describes the work done by Congreve, Tsiolkovskii, Goddard, Oberth, and that done by the American Rocket Society and by the Germans during World War II. Bibliography, p. 232, lists nine works in English on rockets. Previous printing appeared in 1955.

338. Esnault-Pelterie, Robert, L'Astronautique. Paris: Lahure, 1930. 248p.

A history-making work by a pioneer in space travel, considered to be the French classic work on astronautics. Includes "Historique," pp. 9-28.

339. Farnsworth, Robert L., Rockets: New Trail to Empire, Reviews and Bibliography. Glen Ellyn, Ill.: The Author, 1945. 31p.

Bibliography, pp. 22-29, lists 30 books, journal articles dealing with rockets, and articles in Astronautics, 1930-1940.

340. Fiock, Ernest F., and Carl Halpern, Bibliography of Books and Published Reports on Gas Turbines, Jet Propulsion and Rocket Power Plants. Washington: National Bureau of Standards, 1951. 64p. (National Bureau of Standards. Circular 509) (For sale by U.S. Govt. Print. Off.)

Includes "Rockets," pp. 43-51, and "Guided Missiles," pp. 44-45. References are arranged chronologically and cover period 1950-1953. A

supplement (Washington, 1954. 110p.) covers the period January 1950 through December 1953. Originally issued as National Bureau of Standards Circular 48 (Washington, 1949. 49p.)

341. Gartmann, Heinz, ed., Raumfahrtforschung von Heinz v. Diringshofen [et al]. Munchen: R. Oldenbourg, 1952. 199p.

Includes "Die Geschichte des Raumfahrtgedankens" by Willy Ley, pp. 9-26, which has a bibliography of seven books on p. 26. Also includes "Bibliographie der Raumfahrt", pp. 193-195, which lists 75 references chronologically year by year from 1919-1952.

342. Gantz, Kenneth F., ed., The United States Air Force Report on the Ballistic Missile: Its Technology, Logistics and Strategy. Garden City, N.Y.: Doubleday, 1958. 338p.

A compilation of 15 papers on the development of ballistic missiles and the simultaneous attempt to plan for their deployment, logistics, crew training, etc. Appendixes include three notes on technical aspects of the missiles and their targeting and deployment. No bibliography. Papers were originally published in the Air University Quarterly Review.

343. Gartmann, Heinz, The Men Behind the Space Rockets.  
Translated from the German by Eustace Wareing

and Michael Glenny. New York: D. McKay, 1956.

185p.

Biographical sketches of some of the pioneer workers, including Ganswindt, Tsiolkovskii, Goddard, Valier, Sänger, and von Braun, with rockets and rocket theory. Gives historical background for the progress of today. Translation of Traumer, Forscher, Konstrukteure [Dusseldorf: Econ-Verlag, 1955, 334p.] . The German edition includes a brief bibliography of about 25 book titles, p. 334.

344. Gatland, Kenneth W., and Anthony M. Kunesch, Space Travel. Drawings by J. W. Wood and R. A. Smith. London: Wingate, 1953. 205p.

Traces the development of rocketry from 1232 A.D. in China to 1952; and shows how the development of guided missiles, supersonic aircraft, nuclear physics, and military rocketry have contributed to the progress of space exploration. Bibliography, pp. 197-199, lists 18 references. Also published in New York [Philosophical Library] the same year.

345. Glasstone, Samuel, Sourcebook on the Space Sciences; written under the sponsorship of the National Aeronautics and Space Administration. Princeton, N.J.: Van Nostrand, 1965. 937p.

Ch. 1 includes "Historical Background of Space Exploration," pp. 9-40. Scattered bibliographical references throughout the text and in footnotes.

346. Hardt, Karl H., Geheimnisse um Raketen; ein

Bericht, der Legenden zerstört. Neuenhagen b.

Berlin: Verlag Sport und Technik, 1962. 164p.

History of rocketry and aeronautics from the time of Tsiolkovskii and Oberth to 1960. Good for German developments before and during World War II and U. S. and Soviet postwar developments.

347. Harper, Harry, Dawn of the Space Age. London:

S. Low, Marston, 1946. 142p.

Fairly popular history of man's progress toward interplanetary flight through the development of rockets.

348. Harzer, Philippe, Bébé Lune et Vrais Satellites,

Notre Avenir? Paris: Editions Fleuve Noir,

1957. 254p.

Reviews advances made in rocket research, artificial satellites, and space flight from the 1920's to 1957. Includes historical review of the work done by Oberth, von Braun, Engel, Nebel, Helmut von Zborowski, Eugene Sanger, Irene Bredt, and then goes on to discuss the Soviet and American space programs.

349. Hausenstein, Albert, "Zur Entwicklungsgeschichte

der Rakete," Zeitschrift für das gesamte Schiess- und Sprengstoffwesen, v.34 (May-December 1939),

pp. 135-139, 170-174, 206-210, 237-242, 286-288,

306-308, 331-333; v.35 (January-February 1940),

pp. 8-9, 32-34.

Includes numerous references throughout the text.

350. Hendrickson, Walter B., Handbook for Space Travelers.

Illustrated by Jack Russell. Indianapolis:

Bobbs-Merrill, 1959. 256p.

Very elementary but Pt. II, pp. 59-126, "History of Rockets," and Pt. III:15, pp. 127-129, "Rocket Bases of the Past," contain historical information.

351. Hoffmann, Horst, ed., Der Mensch im All; eine Reportage

Über den Bemannten Raumflug. Aus Dokumenten und

Materialien zusammenge-stellt. Die Übersetzung

von Dokumenten und Materialien Besorgte Wilfried

Braumann. Berlin: Verlag Kultur und Fortschritt,

1961. 132p.

A history of Russian rocketry and astronautics primarily from such sources as Pravda and Izvestia for mid-twentieth century, and other sources for earlier developments. Includes "Kleine Chronik der Sowjetischen Raketentechnik und Astronautik," pp. 130-133, which covers the period from 1680 to 1961.

352. Hunter, Maxwell W., Thrust into Space. Coordinating

Editor: James V. Bernardo. New York: Holt,

Rinehart and Winston, 1966. 224p. (Holt Library

of Science)

A discussion of propulsion as the key to space exploration. Bibliography, p. 215, lists seventeen book references.

353. Huzel, Dieter K., Peenemunde to Canaveral. With an Introd. by Wernher von Braun. Englewood Cliffs, N.J.: Prentice-Hall, 1962. 247p.

Appendices include: (1) "Rocketry in Germany; Historical Note," pp. 232-234; (2) "German Rockets of the 'A' Series," pp. 235-238; and (3) "Test Facilities of Peenemunde (P-1--P-12)" pp. 239-241.

354. International Symposium on Space Technology and Science, Tokyo. Proceedings. Tokyo, Rutland, Vt.: Printed and distributed by Japan Publications Trading Co. 1st - 1959 to date. Annual.

Sponsored by the Japanese Rocket Society. Vols. for 1959-61 issued under earlier names of the symposium: 1959, Symposium (International) on Rockets and Astronautics. - 1960-61, International Symposium on Rockets and Astronautics. Imprint also varies: 1959-61, Tokyo, Yokendo. Although primarily technical, the proceedings include some papers of interest to the historian.

355. Irving, David, The Mare's Nest. London: William Kimber, 1964. 320p.

Covers British intelligence activities during World War II in attempting to discover the nature and capabilities of German V-2 rockets and the countermeasures subsequently taken.

356. The Journal of Space Flight and Rocket Newsletter.

Chicago, Chicago Rocket Society, v.1-8, June  
1949-Dec. 1956. Monthly.

Each issue includes section entitled  
"Rocket Abstracts" which lists a total of about  
3,000 abstracts throughout the eight volumes.

357. Kaznevskii, Viktor P., Razvedchiki Mezplanetnogo  
Prostranstva [Scouts of Interplanetary Space].

Moscow: Idatel'stvo DOSAAF, 1957. 103p.

Somewhat popular explanation of the  
principles of rocketry but pp. 8-11  
discuss the history of rocketry from  
earliest times to 1937. Bibliography,  
p. 102, lists 15 Russian publications.

358. Klee, Ernst, and Otto Merk, The Birth of the Missile:  
The Secrets of Peenemünde. Trans. by T. Schoeters.

New York: Dutton, 1965. 126p.

This book reproduces pictures, documents,  
and data from the Peenemünde archives and  
includes an introduction by Wernher von Braun  
on this particular period in the development  
of rocketry. Original German edition has  
title: Damals in Peenemünde; An der  
Geburtsstatte der Weltraumfahrt. (Oldenburg:  
G. Stalling, 1963).

359. Kolodnyi, Lev. E., Zemnaia Trassa Rakety [Rockets'  
Earth Orbit]. Moscow: Izdatel'stvo Politicheskoi  
Literatury, 1965. 94p.

Somewhat popular history of rocketry in the

Soviet Union. Includes some bibliographical footnotes.

360. Kosmodem'ianskii, Arkadii A., K. E. Tsiolkovskii.

Moscow: Voennoe Izdatel'stvo, 1960. 186p.

A biography of Konstantin E. Tsiolkovskii, 1857-1935, and a review of his achievements in light of the developments during the post-Sputnik era since 1957.

361. Kosmodem'ianskii, Arkadii, A., Konstantin

Tsiolkovsky: His Life and Work. [Translated from the Russian by X. Danko]. Moscow: Foreign Languages Publishing House, 1956. 101p.

Translation of Znamenitiy deiatel'nauki, K. E. Tsiolkovskii (Moscow: Voennoe Izdatel'stvo, 1954). This biography includes a chapter entitled, "History of the Rocket in Russia," pp. 49-56, and a description of the work of such pioneers as Alexander Zasyadko, Konstantin Konstantinov, Nikolai Kibalchich, Ivan Meschersky, and M. Tikhonravov. Also published in French under title: Constantin Tsiolkovski, sa Vie et son Oeuvre, translated by V. Joukov (Moscou: Editions en Langues Etrangères, 1957).

362. Lang, Daniel, From Hiroshima to the Moon: Chronicles of Life in the Atomic Age. New York: Simon and Schuster, 1959. 496p.

Essays written over the past 15 years, substantial portions of which were previously

published in the New Yorker, "Early tales of the Atomic Age" (1948), and "The Man in the Thick Lead Suit" (1954). "Excursions of the Rocket," pp. 145-193, and "Visions of Space," pp. 429-487, deal with the swift history of the space age and the effect on our lives of the development of rockets and missiles.

363. Lasser, David, The Conquest of Space . . . with an Introduction by Dr. H. H. Sheldon. New York: Penguin Press, 1931. 271p.

Written by the president of the American Interplanetary Society and said to be the first work in the United States (1931) that attempted to correlate the experimental evidence in favor of space flight. Describes the work of European investigators of the period.

364. Lehman, Milton, This High Man: The Life of Robert H. Goddard. New York: Farrar, Straus, 1963. 430p.

Excellent bibliography in this authorized biography of Goddard, pp. 410-417.

365. Lent, Constantin P., Rocket Research: History and Handbook. New [2d] ed. New York: Pen-Ink Pub. Co., 1945. 135p.

First edition issued July 11, 1944. Includes "Definition and General History of the Rocket," pp. 1-26, "Early Research," pp. 27-32, and "Resume of Early Experiments of the American Rocket Society," pp. 33-40. Also includes over 100 diagrams of early (1920s and 30s) rocket designs.

366. Lent, Constantin P., Rocketry: Jets and Rockets; the Science of the Reaction Motor and Its Practical Application for Aircraft and Space Travel.  
New York: Pen-Ink Pub. Co., 1947. 254p.

Ch. I: "The Science of Rocketry," pp. 25-48, covers the history of rocketry while ch. VIII, pp. 165-202, discusses the military use of rockets. Includes "List of Rocket and Jet Patents and Rocket Societies," pp. 241-250. Also includes many engineering drawings of rockets. Some of the same material included in the author's Rockets, Jets, and the Atom (New York: Pen-Ink Pub. Co., 1953), especially the material in the first chapter "Rocket History," 16pp.

367. Radulov, Radul, Samoletut i Raketata [Airplanes and Rockets]. Sofia: D'rzhavno Voenno Izdatel'stvo pri MNO, 1957. 223p.

Deals with the development of airplanes and rockets. Popular treatment of the subject from earliest times to 1957. Good for Bulgarian and Russian developments.

368. Rakiety i Pociski Kierowane [Rockets and Ballistic Missiles]. Warszawa: Wydawn. Ministerstwa Obrony Narodowej, 1960. Vol.II.

First chapter contains historical information and many historical references throughout the text. Brief bibliography, p. 166. At head of title page: W. Dichter, R. Odolinski, . . ."

369. Referativnyi Zhurnal. Aviatsionnye i Raketnye

Dvigateli [Journal of Abstracts. Aircraft and Rocket Engines]. Moscow: Proizvodstvenno-izdatel'skii Kombinat Vsesoiuznogo Instituta Nauchnoi i Tekhnicheskoi Informatsii, 1963 to date. Monthly.

Contains about 2,400 technical abstracts annually from world literature arranged by subject.

370. Referativnyi Zhurnal. Raketostroenie [Abstract

Journal; Rocket Construction]. Moscow: Proizvodstvenno-izdatel'skii Kombinat Vsesoiuznogo Instituta Nauchnoi i Tekhnicheskoi Informatsii, 1962 to date. Monthly.

Contains about 2,400 abstracts a year from world literature. Arranged by subject. From 1962 to 1963 published semimonthly under the title: Referativnyi Zhurnal: Raketnaia Tekhnika i Apparaty Kosmicheskogo Poleta.

371. Levishina, O. N., Dostizheniia Reaktivnoi Tekhniki

[Achievement of Rocket Engineering; Review of Recommended Literature]. Moscow: Publichnaia Biblioteka, 1956. 27p.

A brief annotated bibliography of about 20 recommended Soviet publications on rocketry.

372. Ley, Willy, Missiles, Moonprobes, and Megaparsecs.

New York: New American Library, 1964. 189p.

Essentially a history of rocketry from earliest times through the development of liquid fuels.

373. Leyson, Burr W., Man, Rockets, and Space. New York:

Dutton, 1954. 188p.

Describes the development of rocketry and presents the problems which must be solved before space flight will succeed. "The Rocket and How it Works," pp. 31-65, discusses the historical development.

374. Liapunov, Boris, Rakety i Mezplanetyne Polety

[Rockets and Space Flight]. Moscow: Voennoe

Izd-vo Ministerstva Oborony SSSR, 1962. 121p.

Somewhat popular scientific description of space flight. The first chapter includes history of the development of the idea for interplanetary travel. Bibliography, pp. 121-122, lists 31 Russian references. Chronology, pp. 119-120, covers 1957-1961.

375. Library of Congress, Aerospace Technology Division,

Communist Chinese Rocket Propulsion Technology;

Compilation of Abstracts. Washington: The Library,

1966. 25p. (Its ATD Report 66-89)

Consists of 31 abstracts arranged alphabetically by author and based on Chinese communist open sources published between 1960-66. Deals primarily with solid and liquid rocket propulsion.

376. Library of Congress, Science and Technology

Division, United States IGY Bibliography,  
1953-1960: An Annotated Bibliography of United  
States Contributions to the IGY and IGC (1957-  
1959). Compiled by Frank M. Marson and Janet  
 R. Turner. Washington: National Academy of  
 Sciences-National Research Council, 1963. 391p.  
 (National Research Council. Publication 1087;  
 World Data Center A. IGY General Report No. 18)

Section "Rockets and Satellites," pp.  
 297-354, lists 509 references, arranged  
 alphabetically by author. Pertinent materials  
 also listed under other disciplines. The  
 purpose of this bibliography of 2,853 abstracts  
 is to document United States participation  
 in the International Geophysical Year.

377. Logan, Jeffrey, ed., The Complete Book of Outer

Space. New York: Gnome Press, 1953. 144p.

Consists of 19 articles by experts on  
 various aspects of space travel. Includes  
 "History of the Rocket Engine," pp. 50-144,  
 by James H. Wyld.

378. McGovern, James, Crossbow and Overcast. New York:

W. Morrow, 1964. 279p.

Covers Allied intelligence efforts to  
 discover the capabilities of the V weapons  
 and the means by which the Americans rounded

up the leading German rocket scientists, plus documentation and materiel at the close of hostilities in the spring of 1945. Bibliographical references included in "Notes and Sources," pp. 259-272.

379. McIntyne, A., Summary of AFCRL Rocket and Satellite Experiments (1946-1966). Hanscom Field, Bedford, Mass.: Air Force Cambridge Research Laboratories, 1966. 57p. (AFCRL-66-868, Special Reports, no. 54)

A chronological listing of all rocket-borne and satellite-borne scientific experiments conducted by Air Force Cambridge Research Laboratory since the beginning of its rocket program in 1946.

380. Mallan, Lloyd, Men, Rockets, and Space Rats. Foreword by T. S. Power. 2d rev. ed. New York: Messner, 1961. 368p.

A history of the astronautics research done largely at Muroc Air Force Base, White Sands Proving Ground, and the School of Aviation Medicine.

381. Maxwell, W. R., "Some Aspects of the Origins and Early Development of Astronautics," British Interplanetary Society Journal, v.18. (September/December 1962), pp. 415-425.

Includes "References (27)," p. 425, to some of the basic works of such pioneers as Oberth, Goddard, and Esnault-Pelterie.

382. May, Roger, 40.000 [i.e. Quarante Mille] Kilometres a l'heure. Illustré de 16 pages hors-texte.  
Paris: Flammarion, 1958. 268p. (Collection "L'Aventure Vécue")

Popular history and description of the use of rocket engines in both aeronautics and astronautics.

383. Mielke, Heinz, Kunstliche Satelliten, Raumraketen.  
Berlin: Verlag des Ministeriums fur Nationale Verteidigung, 1960. 418p.

Although a fairly popular treatment of the subject, this work contains many references to the historical development of rockets. Bibliography, pp. 407-488, lists 30 references.

384. Mielke, Heinz, Der Weg ins All: Tatsachen und Probleme des Weltraumfluges. Berlin: Die Buchgemeinde Vorwort, 1957. 281p.

Includes bibliography, pp. 231-232. Historical treatment of the subject includes Daedalus, Plutarch, Kepler, Cyrano de Bergerac, Jules Verne, Copernicus, and Newton.

385. Moscow, Publichnaia Biblioteka, Pervaia Kosmicheskaia Raketa i Perspektivy Razvitiia Astronavtiki  
[First Space Rocket and Prospects for the Development of Astronautics]. Moscow: Publichnaia

Biblioteka, 1959. (News of Science and Technology, vol.19) 21p.

Lists approximately 100 annotated Russian titles on the development of rocketry and astronautics.

386. National Aeronautics and Space Administration,  
High Energy Propellants, A Continuing Bibliography.  
Springfield, Va.: Clearinghouse for Federal  
Scientific and Technical Information (OTS),  
January 1962 to date. (NASA SP-7002)

A selection of annotated references to unclassified reports and journal articles introduced into the NASA information system during the period April 1964-December 1965. Prepared by the Scientific and Technical Information Facility operated for the National Aeronautics and Space Administration by Documentation, Inc. Arranged in two sections: (1) report references and (2) book and journal article references. All references are to items which have been announced in Scientific and Technical Aerospace Reports (STAR), International Aerospace Abstracts, or the NASA continuing bibliography, Aerospace Medicine and Biology. Primary emphasis is given to references concerned with research and development studies on solid, liquid, and hybrid propellants and oxidizers, and related topics. Subject and personal author indexes included. To be updated periodically by the publication of supplements.

387. National Aeronautics and Space Administration, Space the New Frontier. Washington: NASA, 1963.

72p. (For sale by U.S. Govt. Print. Off.)

Primarily descriptive but ch. II, "The History of Space Flight," pp. 10-13, contains a brief historical review of rocketry and space exploration.

388. Newell, Homer E., Express to the Stars: Rockets in Action. Illustrated by Gustav Schrotter. Foreword by Lyndon B. Johnson. New York: McGraw-Hill, 1961. 324p.

A review of the American space effort and all phases of rocketry including historical development by the man who is now NASA Associate Administrator.

389. Northwestern University, Evanston, Ill., Technological Institute, Library, Selected Bibliography on Rockets and Jet Propulsion Compiled November 1945. Evanston: The University, 1945. 25p.

"History," p. 3, lists ten references on the history of rocketry.

390. Oberth, Hermann, Man into Space: New Projects for Rocket and Space Travel. Translated by G. P. H. De Freville. New York: Harper, 1957. 232p.

The prominent author, associated with von Braun first at Peenemunde on Nazi V-2 rockets and briefly with von Braun in Alabama, describes man's impending new freedom when he can escape from earth and voyage into

space. Originally published in Germany [Düsseldorf: Econ-Verlag] in 1954 under the title, Menschen im Weltraum; Neue Projekte für Raketen-und Raumfahrt.

391. Oberth, Hermann, Wege zur Raumschiffahrt. München und Berlin: R. Oldenbourg, 1929. 431p.

Primarily technical but considered to be the classic volume, which together with the works of Goddard, Tsiolkovskii, and Esnault-Pelterie, was largely responsible for the modern interest in rocketry and astronautics. First edition published as Die Rakete zu den Planetenräumen [München: Oldenbourg] in 1923. Russian translation from third German edition published in 1948 (Moscow: Oborongiz) as Puti Osushchestvleniia Kosmicheskikh Poletov.

392. Parkinson, Russell J., Doctor Langley's Paradox: Two Letters Suggesting the Development of Rockets. Washington: Smithsonian Institution, 1960. 4p.  
(Smithsonian Miscellaneous Collections, v.140, no. 3, and Smithsonian Institution Publication 4424)

Consists of two previously unpublished letters written in 1902 by Samuel Pierpont Langley, then Secretary of the Smithsonian Institution, which anticipate the development of the modern rocket. Includes three footnote references.

393. Parry, Albert, Russia's Rockets and Missiles. Garden City, N.Y.: Doubleday, 1960. 382p.

"Bibliographical Note," pp. 357-369, lists Russian language sources available in English published for the most part during the 1950's.

394. Pascaru, Ion, Sagetile de Foc, Ieri si Azi

[Arrows of Fire, Yesterday and Today].

București: Editura Militară, 1962. 235p.

History of rocketry from earliest times to the present, pp. 153-234. Worldwide in scope. Bibliography, pp. 235-236, lists 15 Russian and Romanian titles.

395. Pellandini, Jean, Les Fusées. Paris: Presses

Universitaires de France, 1958. 127p.

(Que Sais-je?" Le Point des Connaissances

Actuelles, no. 765)

Includes bibliography of fourteen references. Ch. 1, "Historique des Fusées," pp. 9-23, lists many historical references in the text. Although the book is a popularization of the technical aspects of rockets, the approach of the author to the material is historical.

396. Pendray, George E., The Coming Age of Rocket Power.

Rev. and enl. ed. New York: Harper, 1947. 255p.

Describes what rockets have done in the past and the promise they hold for the future. Written by one of the founders of the American Rocket Society and builder of experimental rockets. Originally published in 1945.

397. Progress in Astronautics and Aeronautics, edited

by Martin Summerfield. New York: Academic

Press, 1960-to date. 19v.

Consists of a series of state-of-the-art volumes sponsored by the American Institute of Aeronautics and Astronautics. Thus far the following 19 have been published: v.1. Martin Summerfield, ed., Solid Propellant Rocket Research. 1960.-v.2. Loren E. Bollinger, Martin Goldsmith, and Alexis W. Lemmon, Jr., eds., Liquid Rockets and Propellants. 1960.-v.3. Nathan W. Snyder, ed., Energy Conversion for Space Power. 1961.-v.4. Nathan W. Snyder, ed., Space Power Systems. 1961.-v.5. David B. Langmuir, Ernst Stuhlinger, and J. M. Sellen, Jr., eds., Electrostatic Propulsion. 1961.-v.6. S. S. Penner, and F. A. Williams, eds., Detonation and Two-Phase Flow. 1962.-v.7. Frederick R. Riddell, ed., Hypersonic Flow Research. 1962.-v.8. Robert E. Roberson and James S. Farrior, eds., Guidance and Control. 1962.-v.9. Ernst Stuhlinger, ed., Electric Propulsion Development. 1963.-v.10. Clifford I. Cummings and Harold R. Lawrence, eds., Technology of Lunar Exploration. 1963.-v.11. Morris A. Zipkin and Russell N. Edwards, eds., Power Systems for Space Flight, 1963.-v.12. Kurt E. Shuler and John B. Fenn, eds., Ionization in High-Temperature Gases. 1963.-v.13. Robert C. Langford and Charles J. Mundo, eds., Guidance and Control - II. 1964.-v.14. Victor G. Szebehely, ed., Celestial Mechanics and Astrodynamics, 1964.-v.15. Hans G. Wolfhard, Irvin Glassman, and Leon Green, Jr., eds., Heterogeneous Combustion. 1964.-v.16. George C. Szego and J. Edward Taylor, eds., Space Power Systems Engineering. 1966.-v.17. Raynor L. Duncombe and Victor G. Szebehely, eds., Methods in Astrodynamics and Celestial Mechanics. 1966.-v.18. Gerhard B. Heller, ed., Thermophysics and Temperature Control of Spacecraft and Entry Vehicles. 1966.-v.19. Richard B. Marsten, ed., Communication Satellite Systems Technology. 1966. Most volumes include bibliographies. Other volumes are planned.

398. Rosen, Milton W., The Viking Rocket Story. London and New York: Faber and Faber, 1956. 248p.

An account of the development of the important Viking rocket by the Naval Research Laboratory, told by one of the principals. Describes technological innovations in Viking, such as being the first large rocket whose structure was all of aluminum and which employed a gimbaled rocket motor. No bibliography.

399. Rougeron, Camille, Jean Bodet, et al., Fusées et Astronautique. Paris: Larousse, 1964. 415p.

A popular description of technical aspects of astronautics but includes "La Fusée: Declin et Renaissance" by Camille Rougeron, pp. 7-23, which is historical, and "Satellites Scientifiques," "Satellites de Télécommunications," "Fusées et Satellites Météorologiques," and "Satellites Militaire," pp. 245-313, all of which deal with the applications of space exploration. Also includes "Tableau Général des Lancements de Satellites et de Sondes Spatiales," pp. 379-399, which covers the period from October 1957 through November 1964.

400. Scherschevsky, Alexander O., Die Rakete für Fahrt und Flug; eine allgemeinverständliche Einführung in das Raketen-problem. Berlin-Charlottenburg: Volckmann, 1929. 134p.

An important book in the history of rocketry by a Russian living in Germany. Bibliography, pp. 130-134, lists 78 references to books and journals. The third chapter, "Kurze geschichtliche Entwicklung," covers historical development in both fact and fiction.

401. Simon, Leslie E., German Research in World War II, an Analysis of the Conduct of Research. New York: Wiley, 1947. 218p.

Explores the relationship between scientific research and the German war effort and in particular investigates such topics as to what extent German research was especially organized for war work, by what methods Germany bridged the gap between research and practical application, and how basic research, technical research, engineering design, development and production were defined. Index lists references to rockets, V-2s, Peenemünde, von Braun, Nordhausen, and Dornberger.

402. Sokol'skii, Viktor N., Russian Solid Fuel Rockets, edited by S. G. Kozlov. Jerusalem: Israel Program for Scientific Translations, 1967. 236p. (NASA Technical Translation TTF-415 and also TT66-51152) (For sale by Clearinghouse for Federal Scientific and Technical Information, Springfield, Va.)

Translation of Rakety na Tverdom Toplivo v Rossii (Moscow: Izdatel'stvo Akademiia Nauk SSR, Institut Istorii Estestvoznaniia i Tekhniki, 1963). Well documented historical study covering the use of pyrotechnic rockets in Russia before the 19th century, the use of military rockets, and the 20th century use of solid propellant rockets. Bibliography, pp. 224-229, lists approximately 130 references to Russian sources from late 18th century to the present time.

403. Space Research. Amsterdam: North-Holland; New York: Interscience Publishers, 1st-1960 to date. Annual.

Published as the Proceedings of the International Space Science Symposium. These symposia are sponsored by the Committee on Space Research. The papers are primarily technical and deal with scientific investigations carried out with the use of rockets or rocket propelled vehicles. Many papers contain brief bibliographies.

404. Stemmer, Josef, Die Entwicklung des Raketenantriebes in allgemein-verständlicher Darstellung. Zürich: E. A. Hofmann, 1944-45. 3v. (Hofmann-Bibliothek, Nr. 106-108)

Consists of Bd. 1. Raketenfahrt, Raketenflug.- Bd. 2. Die Raketenwaffen des zweiten Weltkrieges.-Bd. 3. Raketenflugprojekte. Covers the development of rocket technology, rocketry during World War II, and rocket programs in France, Russia, America, Germany, Italy, England, Hungary, Sweden, and Switzerland. Includes "Literaturverzeichnis," v.3, pp. 211-216. Lists some of the basic works published during the 1920s and 1930s in rocketry.

405. Stemmer, Josef, Raketenantriebe, ihre Entwicklung, Anwendung und Zukunft; eine Einführung in des Wesen des Raketenantriebes sowie Raketen- und Weltraumfluges. Zürich: Schweizer Druck- und Verlagshaus, 1952. 523p. (SDV Fachbücher)

Includes "Chronologischer Bericht (300 B.C.-September 1951)," pp. 14-52, and "Literaturverzeichnis," pp. 515-523, which lists mainly technical references to books and journal articles on rockets and space travel. References are to German and English publications.

406. Subotowicz, Mieczyslaw, Astronautyka [Astronautics].

Warszawa: Panstwowe Wydawn. Naukowe, 1960.

586p.

Ch. XIII, "Historic Outline of Rocket Problems," pp. 528-571, has many references to historical works throughout the text. Especially good for Polish rocketry activities in the past. Includes bibliography, pp. 573-578.

407. Sunderman, James F., "A Missile and Space Bibliography,"

Air Force and Space Digest, v.45 (April 1962),

pp. 175-183.

Approximately 200 books are listed alphabetically by author under the following categories: rockets and missiles; astronautics; space flight; the men; earth satellites; human factors; and research and reference. An expanded version of lists originally appearing in this journal April 1958, pp. 168-174, and June 1960, pp. 169-181.

408. Tsander, Fridrikh A., Problems of Flight by Jet

Propulsion. Interplanetary Flights. Collection of Articles. 2d ed., Enl., L. K. Korneev, ed.

Translated from Russian [by IPST staff]. Jerusalem:

Israel Program for Scientific Translations,  
1964. 390p. (NASA Technical Translation  
TT F-147) (Available as OTS report 63-11195  
from Clearinghouse for Scientific and Technical  
Literature, Springfield, Va.)

Translation of Tsander's [1887-1833]  
Problema Poleta pri Pomoshchi Reaktivnykh  
Apparatov. Mezhplanetyne Polety (Moscow:  
Oborongiz, 1961). Comprises Tsander's  
main papers on various problems of long-  
distance rocket flight and, in addition,  
this revised edition includes one biographical  
and seven scientific papers published for  
the first time. First edition of this  
collection of papers, edited by M. K.  
Tikhohravov, was published in Moscow by  
Oborongiz in 1947.

409. Tsiolkovskii, Konstantin E., Reaktivnye Letatel'nye  
Apparaty [Rocket Engines] Moscow: Nauka, 1964.  
473p.

A description of Tsiolkovskii's work  
in terms of the heritage it has provided  
for the history of space exploration.  
Includes—"Annotated Bibliography of Manuscripts  
and Published Works of Tsiolkovskii," pp. 458-474.

410. Von Braun, Wernher, and Frederick I. Ordway III,  
History of Rocketry and Space Travel. Introd. by  
Frederick C. Durant III. New York: Crowell,  
1967. 244p.

Includes an excellent bibliography,  
pp. 223-236, of approximately 400 (mainly  
book) titles on the history of astronomy,

of man's ideas of the universe around him, surveys of fictional literature on space, a selection of novels dealing with lunar and planetary travel from antiquity to the end of the 19th century, as well as references to historical Chinese, Arab, Indian, and European rocketry developments through the 19th century. Lists works on the pioneers of space travel, on the use of rocketry in World War II, and many works on postwar (1946-66) rocketry, astronautics, and manned space flight.

411. Voprosy Raketnoi Tekhniki [Problems of Rocket Technology]. Moscow: Izdatel'stvo Inostrannoi Literatury, 1951 to date. Monthly.

Completely devoted to translations and surveys of foreign periodical literature. Includes section "Novosti Reaktivnoi Tekhniki" containing 300 abstracts a year from European and American literature.

412. Walters, Helen B., Hermann Oberth: Father of Space Travel. New York: Macmillan Company, 1962. 169p.

Includes bibliography, pp. 161-164, of English language books and articles on space travel, mainly for the layman. Several references are to German rocket scientists coming to the U.S. to work after World War II.

413. Wemmerlov, Albert, Raketer och Rymdfärder. Stockholm: Natur och Kultur, 1953. 116p.

A popular account of space flight with extensive reference to the historical developments in this field. Bibliography, p. 119, lists eight references.

414. Winter, Frank H., "Landmarks on the Road to Space Travel: A Brief History of Rocketry in Denmark in the 19th Century," Militaert Tidsskrift, v.94 (February 1965), pp. 56-66.

Traces the military developments of rockets, especially by Andreas Schumacher, Andreas Meyer, and others. Sixty-eight footnote references, mainly to Danish sources, are given, pp. 64-66. A shortened version with no bibliography appears as "Danish Rocketry in the 19th Century: A Case Study in Challenge and Response" in Aerospace Historian, v.xiii (no. 2 Summer 1966), pp. 81-84.

415. Zarankiewicz, Kazimierz, Astronautyka Popularna [Popular Astronautics]. Warszawa: Panstwowe Wydawn. Naukowe, 1959. 315p. (Biblioteka Problemow)

Although mainly a description of the subject, this work contains some historical information, especially about Polish activities in the field of rocketry. Brief bibliography, pp. 307-309, cites a few Polish references.

### Aerospace Vehicles

416. Akademiia Nauk SSSR, Astronomicheskii Sovet,  
Iskusstvennye Sputniki Zemli [Artificial  
 Earth Satellites]. Moscow: Akademiia Nauk  
 SSSR, 1963. 37p.

Discusses both Soviet and American artificial earth satellites launched between 4 October 1957 and 4 October 1962. Bibliography, p. 36. lists 27 Soviet references.

417. Akademiia Nauk SSSR, Sovetskii Chelovek v Kosmose  
 [Soviet Man in Cosmos]. Moscow: Akademiia  
 Nauk SSSR and Vystavka Dostizhenii Narodnogo  
 Khoziaistva SSSR, 1961. 11p.

Brief description of Soviet man-in-space program.

418. Aleksandrov, S. G., and R. E. Federov, Sovetski  
Sputniki i Kosmicheskie Korabli [Soviet  
 Satellites and Cosmic Ships]. 2d. ed. Moscow:  
 Izd-vo, Akademii Nauk SSSR, 1961. 439p.

First edition published [Moscow: 1959] under the title, Sovetskie Sputniki i Kosmicheskaiia Raketa. This first edition published in English translation [Liaison Office, Technical Information Center, MCLTD, Wright-Patterson Air Force Base, Ohio, 1960] as Soviet Satellites and Cosmic Rocket. Deals with the Russian space program and includes such topics as rockets, artificial

satellites, lunar probes, and the Vostok projects. Bibliography, pp. 427-435, lists approximately 150 references.

419. Allward, Maurice F., and John W. Taylor, ABC Satellites and Space Travel. London: I. Allan [distributed by Sportshelf, New Rochelle, N.Y.] 1961. 64p.

Although rather slight, this work contains many references to historical developments in space exploration.

420. Artificial Earth Satellites. Translated from Russian. New York: Plenum Press, 1960-1964. 12v. irregular.

A translation of Iskussvennye Sputniki Zemli, a serial publication of the Soviet Academy of Sciences. Each issue contains several technical articles beginning with data obtained from the first and second Soviet satellites during the International Geophysical Year. Most articles contain brief bibliographies.

421. Astronautics Information Abstracts - Reports and Open Literature. Pasadena, Calif.: Jet Propulsion Laboratory, California Institute of Technology, 1959-August 1963. Monthly.

Contained about 1,200 abstracts a year of selective technical reports and journal literature citations dealing with space

flight and applicable data and techniques. Alphabetical subject arrangement with monthly author, subject, and source indexes cumulated to date of publication, annual cumulated indexes. The volume for 1959 is a cumulation of all abstracts previously published by the Jet Propulsion Laboratory. Absorbed Astronautics Information Open Literature Survey in July 1962; previous title varies slightly.

422. Benton, Mildred, "Artificial Satellites - a Bibliography of Recent Literature," Jet Propulsion, v.28 (May-June 1958), pp. 301-302, 352-361; 399-401, 418-432.

An annotated bibliography of about 340 references arranged alphabetically by author. Pt. 1 is for the year 1956 and Pt. 2 covers the period 1957-58. Includes many references to Vanguard, Sputnik, and Explorer. For the period covered it is a continuation of "A History of the Artificial Satellite" by Alan R. Krull, published in Jet Propulsion, May 1956, pp. 369-383.

423. Bergaust, Erik, and William Beller, Satellite!  
Foreword by Hermann Oberth. Garden City, N.Y.:  
Hanover House, 1956. 240p.

Although mainly popular description for the layman, this book does contain description of the U.S. artificial satellite program before NASA. Includes

information on Project Vanguard and U.S. participation in the International Geophysical Year, 1957-58. Bibliography, pp. 272-278, lists approximately 100 references, mainly periodical.

424. Borisenko, Ivan G., Pervye Rekordy v Kosmose

[First Records in Space]. Moscow:

Mashinostroenie, 1965. 120p.

Describes the development of Soviet rockets and satellites leading up to the flight of Cosmonaut Yuri Gagarin in 1961.

425. Boruń, Krzysztof, Księżyc Zdobyty: o Rakietach

Księżycowych i Sztucznych Planetach [The Conquered Moon; Moon Rockets and Artificial Planets]. Warszawa: Wiedza Powszechna,

1959. 107p.

Some historical information although mainly description. First chapter entitled "From Fantasy to Science." Includes bibliography, p. 110, which lists references to (1) Press and Bulletins, and (2) Monographs.

426. Caidin, Martin, Rendezvous in Space; the Story

of Projects Mercury, Gemini, Dyna-Soar, and

Apollo. Drawings by Fred L. Wolff. New York:

Dutton, 1962. 320p.

A fairly popular historical description of the development of projects Mercury, Gemini, Dyna-Soar, and Apollo.

427. Congress, House, Committee on Science and  
Astronautics, Missile Development and Space  
Sciences. Hearings [Feb.2-Mar.12,1959].  
Washington: U.S. Govt. Print. Off., 1959.  
492p. (86th Cong., 1st Sess.)

Consists of statements by 36 top officials  
from NASA and the three armed services made  
at hearings held to present to the Committee  
and the public the current state of  
astronautics.

428. Congress, Joint Committee on Atomic Energy,  
Outer Space Propulsion by Nuclear Energy.  
Hearings, Jan.22-Feb.6, 1958. Washington:  
U.S. Govt. Print. Off., 1958. 232p.  
(85th Cong., 2d Sess.)

Consists of testimony from 19 expert  
witnesses from government agencies and  
laboratories including Atomic Energy  
Commission, Department of Defense, National  
Advisory Committee for Aeronautics; from  
private industry such as North American  
Aviation Co., and from private individuals  
such as Dr. I. Fred Singer of the University  
of Maryland. All stressed the importance  
of the long-range advantages of nuclear  
propulsion systems. Includes "Bibliography,"  
pp. 227-230, of 58 books written, 1950-58,  
and 25 journal article references.

429. Congress, Senate, Committee on Aeronautical and  
Space Sciences, Orbital Flight of John H.

Glenn, Jr. Hearing before the Committee.

Testimony of Astronauts and NASA Officials

before the Committee held on February 28, 1962.

Washington: U.S. Govt. Print. Off., 1962.

126p. (87th Cong., 2d. Sess. Senate Document  
no. 79)

Consists of basic statistics and a  
chronology of Col. Glenn's flight, February 20,  
1962, as well as a transcript of his press  
conference at Cape Canaveral February 24,  
and his message to Congress, February 26.  
Includes summary of Project Mercury, pp. 107-120.

430. Congress, Senate, Special Committee on Space and  
Astronautics. Compilation of Materials on  
Space and Astronautics. no. 1-2; Mar. 27-Apr. 14,  
1958. Washington: U. S. Govt. Print. Off., 1958  
2v. (85th Cong., 2d Sess.)

Part I includes a summary of the Senate  
Preparedness Investigating Subcommittee's  
1957-58 inquiry into the missile and  
satellite programs, an introduction to  
outer space by the President's Science  
Advisory Committee, and other reports.  
Part II includes "Bills and Resolutions  
on Outer Space," pp. 308-354; "Selected  
References: Committee Hearings and Reports,"  
pp. 355-356; and "Chronology on Space and  
Astronautics, 1948-1958," pp. 357-370.

431. Corliss, William R. Scientific Satellites.

Washington: NASA, 1967. 822p. (NASA

SP-133) (For sale by U.S. Govt. Print. Off.)

This comprehensive book on scientific satellites is divided into three parts: Pt. I, Present Status and History; Pt. II, Missions and Spacecraft; and Pt. III, Scientific Instruments. Bibliography, pp. 661-698, contains approximately 950 book and journal article references. Appendix, pp. 699-797, is a series of illustrated descriptions of all unclassified scientific satellites and their payloads to date, with further references on pp. 797 and 798. Good index.

432. Current Contents of Space, Electronic, and Physical Sciences. Philadelphia: Institute for Scientific Information, January 1961 to date. Weekly.

Reproduces tables of contents of about 100 world journals, approximately ten of which are aerospace related. Alphabetical journal and author indexes.

433. "Dix ans dans L'Espace" sous la Direction de Albert Ducrocq. Sciences and Avenir, Numero Special, Octobre 1967. 102p. (Hors-Série)

Consists of ten articles on various aspects of the first decade of the space age by different leaders in the Cosmos-Club de France.

434. Ehricke, Krafft A., Space Flight. Princeton, N.J.: Van Nostrand, 1960-1962. 3v. (Principles of

Guided Missile Design)

Contents: v.1. Environment and Celestial Mechanics.-v.2. Dynamics.-v.3. Space Operations. Essentially a textbook but the first chapter of v.1 presents the historical background of missiles and spacecraft very well and contains a bibliography, pp. 71-75, of 82 historical references. All other chapters also contain bibliographies of primarily technical references.

435. Ertel, Ivan D., and Mary Louise Morse, The Apollo Spacecraft: A Chronology, v.1, Through November 7, 1962. Houston: Manned Spacecraft Center, Comment Draft, 1968, to be published as NASA SP-4009 in 1969. 386p.

Chronological listing of major events in the early development of the Apollo spacecraft and the mission to land man on the moon. Events from the earliest concepts through the selection of the lunar orbit rendezvous mode and the lunar excursion module contractor are given briefly, accompanied by source documentation throughout and illustrations. Appendixes give committee members, contractors, organization charts, funding charts, flight and launch vehicle data, and an index.

436. Faget, Maxime A., Manned Space Flight. Coordinating Editor: James V. Bernardo. New York: Holt, Rinehart and Winston, 1966. 176p. (Holt Library of Science)

Discusses some of the technical problems facing the builders of manned spacecraft, and explains the various facets of science which came into play in the engineering solutions of these problems. Bibliography, p. 170, lists eight books.

437. France, Ambassade, U. S. Service de Presse et d'Information, France, Air, and Space. New York: The Abassade, 1963. 56p.

Covers current industry and government air and space activities, policy, and research in France and also the role of France in international cooperation in these fields.

438. Gatland, Kenneth, W., ed., Project Satellite.

Illustrated with Photos and Drawings by John W. Wood. London: Wingate, 1958. 169p.

Essentially a history of the artificial satellite. Contains information on German, Soviet, British, and American satellite developments. Comprises four essays by Wernher von Braun, Kenneth W. Gatland, Harry E. Ross, and A. V. Cleaver.

439. Gatland, Kenneth W., Spacecraft and Boosters: the First Comprehensive Analysis of More than Seventy U.S. and Soviet Space Launchings, 1961.

London: Iliffe Books; Los Angeles: Aero Publishers, 1964. 296p.

Describes in chronological order the various space launchings of 1961. Includes

satellites, space probes, and test vehicles and includes failures as well as successes. Information for each one includes launch time, height, weight, lift-off thrust, object, project management, program results, and payload description.

440. Gatland, Kenneth W., Spacecraft and Boosters 2: the First Comprehensive Analysis of More than One Hundred U.S. and Soviet Space Launchings, 1962. London: Iliffe Books; Los Angeles: Aero Publishers, 1965. 302p.

Describes in chronological order both the successful and unsuccessful space launchings of 1962. The first section deals with spacecraft and the second with launch vehicles--should be read in conjunction with the first volume [London: Iliffe Books; Los Angeles: Aero Publishers, 1964] because many of the boosters described in it were still being used in 1962.

441. Green, Constance McL., and Milton Lomask, A History of Project Vanguard. Washington: NASA, Comment Draft, 1968, to be published in 1969.

History of the earliest U.S. program to launch a man-made satellite into space, from the post World War II background through the campaign for Government support, the International Geophysical Year, the Army's launch of Explorer I, and the successful launches of Vanguard I in 1958 and Vanguard II and III in 1959. Includes a summary of the scientific harvest and "final accounting." Appendixes provide launch tables. Bibliographic references are made in footnotes to the text.

442. Grimwood, James M., Project Mercury, a Chronology.

Washington: NASA, 1963. 238p. (NASA SP-4001)

A listing of major events in the first U.S. manned space flight program, from preliminary discussions of Earth satellite flight in May 1963. Includes index, illustrations, and bibliographical footnotes throughout the text.

443. Grimwood, James M., and Barton C. Hacker, with

Peter Vorzimmer, Project Gemini--Technology

and Operations: A Chronology. Houston: Manned

Spacecraft Center, Comment Draft, 1968, to be

published as NASA SP-4002 in 1969. 437p.

A listing of major events in the engineering and technological development of the second U.S. manned space flight program, with numerous diagrams and photographs. Begins with 1961 efforts to improve Mercury spacecraft and goes through 10 manned flights in 1965 and 1966 to program end in 1967, with source citations following each item. Appendixes include flight summary tables, program objectives, vehicle history tables, lists of Government agencies and contractors in the program, and an index.

444. Hansen, Leo, Rumfart og Raket-teknik. København:

H. Hirschsprung, 1958. 144p.

Discusses space flight and rocketry. "Raketvabnets Historie," pp. 72-75, is historical. In addition, "Astronautik," pp. 87-92, is also historical. "Litteraturfortegnelse," p. 143, lists about twelve references.

445. Holmes, David C., What's Going on in Space? A

Chronicle of Man's Exploration into Space

Beyond this Earth. New York: Funk & Wagnalls,  
1958. 256p.

Review of space progress by a U.S. Navy commander. Discusses satellite projects and activities of the International Geophysical Year. Considered to be the first American book on artificial satellites.

446. Holmes, Jay, America on the Moon: the Enterprise

of the Sixties. Pref. by E. C. Welsh. Philadelphia:  
Lippincott, 1962. 272p.

A description of the American space program including a description of its first few years and a description of the various projects, especially the one to land a man on the moon. Explores the interrelationships between government and science and the competition between the U.S. and the Soviet Union.

447. IGY World Data Center A: Rockets and Satellites,

Catalogue of Data Received by WDC-A During the

Period 1 July 1957-31 December 1961. Submitted  
to the Committee on Space Research (COSPAR) of  
the International Council of Scientific Unions.  
Washington: 1962. 88p.

Consists mainly of a bibliography of  
approximately 1,400 reports and reprints

on artificial satellites and astronautics  
in meteorology arranged by author and subject.

448. International Astronautical Congress, Proceedings.

1950 to date. Annual.

Collection of primarily technical papers in Russian, German, Italian, French, and English presented at annual congress on various aspects of space technology. Early volumes issued by the Congress under an earlier name: International Congress on Astronautics. Volume for 1952 has title Vorträge; for 1953, A Complete Collection of All Lectures; for 1954, Bericht. Some volumes have also a distinctive title: 1951, The Artificial Satellite. - 1952, Probleme aus der Astronautischen Grundlagenforschung. - 1953, Space-flight Problems. - 1963, The Space Environment. - 1965, Lunar International Laboratory Symposium, First, Proceedings. Some papers contain bibliographies.

449. Kaplan, Samuil A., Novye Dannye o Kosmicheskom

Prostranstve [New Data on Outer Space]. Kiev:

Obshchestvo po Rasprostraneniui Politicheskikh

i Nauchnykh Znaniy Ukrainskoi SSR, 1960. 37p.

(Seria 5, No. 16)

Discusses Soviet results obtained from  
the International Geophysical Year, 1957/58.

450. Koelle, Heinz H., ed., Handbook of Astronautical

Engineering. New York: McGraw-Hill, 1961.

### Various paging.

Includes some information on the history and future trends of astronautics as well as some information on the military, social, and economic impact of space flight. Most chapters contain a brief list of references.

451. Koelle, Heinz H., and H. J. Kaeppler,

### Literaturverzeichnis der Astronautik.

### Literature-Index of Astronautics. Tittmoning/

Oberbayern: W. Puster, 1954. 100p.

A selective bibliography of approximately 2,000 books and periodical articles published 1914-1953, arranged in accordance with a three-place decimal system developed by Dr. Eugen Sänger. Has an author index. Designed for the scientist or engineer who wishes to acquire a general view and outline of the present state of research and development of aeronautics, astronautics, and related topics. Includes such subject areas as history of aeronautics, astronautics, nautical history, pioneers of astronautics, and history of technology.

452. Krull, Alan R., "A History of the Artificial

Satellite," Jet Propulsion, v.26 (May 1956),

pp. 369-383.

A chronological (1879-1955) bibliography of approximately 350 annotated references to the significant published literature of artificial, manned or unmanned, satellites of the earth.

453. Liapunov, Boris V., Station Outside the Earth.

Wright-Patterson Air Force Base, Ohio:

Foreign Technology Division, U.S. Air Force,

1966. 161p. (Its Translation FTD-MT-64-531)

Translation of Stantsiia vne Zemli  
(Moscow: Voennoe Izdatel'stvo, 1963).  
"Recommended Literature," pp. 158-160,  
lists about 30 references to Russian  
books on space stations published 1960-1963.

454. Library of Congress, Science and Technology Division,

Space Science and Technology Books, 1957-1961:

a Bibliography with Contents Noted. Washington:

The Library, 1963. 133p. (For sale by U.S.

Govt. Print. Off.)

A list of approximately 400 publications  
arranged chronologically and by country  
within each of the given years. Includes  
subject and author indexes. References cover  
such allied areas as space law and international  
cooperation in space exploration; reports and  
committee prints of the U.S. Congress; and  
works dealing with commercial applications  
of space vehicles such as communication  
satellites.

455. Manned Spacecraft Center, Gemini Midprogram Conference,

Including Experiment Results. Washington: NASA,

1966. 443p. (NASA SP-121) (For sale at U.S.

Govt. Print. Off.)

Series of papers summarizing the Gemini  
manned space flight program through the first

seven missions. The papers are roughly in two groups: one group describes the spacecraft and launch vehicle, operations, and results; the other group reports on the results from experiments performed on the flights.

456. Manned Spacecraft Center, Gemini Summary Conference.

Washington: NASA, 1967. 345p. (NASA SP-138)

(For sale at U.S. Govt. Print. Off.)

Series of papers presented at the conference held at Manned Spacecraft Center, Houston, Texas, February 1 and 2, 1967, summarizing the highlights of the entire Gemini program and reviewing in more detail the flight results of the last five missions. The papers are divided in five groups: the first describes rendezvous, docking, and tethered vehicle operations involving the spacecraft and a target vehicle; the second describes extravehicular activity; the third deals with operational support of missions; the fourth summarizes experiments; and the fifth compares flight and simulation experience and relates Gemini results to Apollo.

457. Massachusetts Institute of Technology, Lincoln

Laboratory, Lexington. Collection of Soviet

Papers on Earth Satellites. Cambridge, Mass.:

The Institute, 1958. 182p.

Consists of translations of 11 technical Soviet papers on artificial satellites presented by the U.S.S.R. delegation to the October 1957 International Geophysical Year meeting in Washington, D.C. Most articles contain brief bibliographies.

458. National Aeronautics and Space Administration,

History: a Literature Search. Washington:

NASA, 1966. 137p. (Its Literature Search  
No. 2578)

Unpublished NASA literature search.

A list of 436 references to unclassified books, reports, journal articles on the subject of history introduced into the NASA information system during the period 1962 to June 6, 1966. Citations arranged by accession number. All citations have been announced either in Scientific and Technical Aerospace Reports or in International Aerospace Abstracts.

459. National Aeronautics and Space Administration,

Ranger VII: a Special Report, August 5, 1964.

Washington: NASA and Jet Propulsion Laboratory,  
Pasadena, Calif., 1964. 35p. (For sale by  
U.S. Govt. Print. Off.)

Includes "This Historic Extension of Man's Knowledge," pp. 3-4, and "Flight Chronology," pp. 8-9.

460. Ordway, Frederick I., Annotated Bibliography of

Space Science and Technology, with an

Astronomical Supplement. A History of

Astronautical Book Literature--1931 through

1961. 3d ed. Washington: Arfor Publications,

1962. 77p.

First published in 1955 and again in 1958 under title Specialized Books on Space Flight and Related Disciplines. A list of 352 English-language astronautical and 151 astronomical books arranged chronologically with author and title indexes. Includes multi-language proceedings of international astronautical conferences and significant translations from French, German, and Russian.

461. Ordway, Frederick I., and Ronald C. Wakeford,

International Missile and Spacecraft Guide.

New York: McGraw-Hill, 1960. 1v. (various pagings)

Comprehensive worldwide survey of modern military and research missiles. Arranged geographically and for each missile gives background description and technical specifications. Includes "Chronology of Missile Progress," and "Organization of Missile Activities," pp. 3-51, and "Bibliography," at end of Pt. II (6 pp.) which lists approximately 180 book and journal titles.

462. Pacific Aerospace Library Uniterm Index to Periodicals.

Los Angeles: Pacific Aerospace Library, 1955

to date.

Accessions list weekly, posting list triweekly, quarterly cumulations, annual volume. Cites 12,000 references a year from 300 world journals with author and Uniterm subject index. Arrangement is by accession number. Serves as an index to Pacific Aerospace Library Checklist of Periodical Titles.

463. Petrov, Viktor P., Iskusstvennyi Sputnik Zemli  
[Artificial Earth Satellite]. Moscow: Voen.  
Izdatel'stvo, 1958. 305p. (Nauchno-  
populiarnaiâ Biblioteka)

Deals with the various developments which lead to earth satellites. Fairly popular treatment of the subject. Bibliography, pp. 301-303, consists of 73 references.

464. Pfaffe, Herbert, and Peter Stache, Typenbuch der Raumflugkörper, 1957-1964. 2. erweiterte Ausg.  
Berlin: Deutscher Militärverlag, 1964. 295p.

Discusses Soviet and American satellite launches between 1957 and 1964. Brief bibliography, p. 295, lists 25 references.

465. RAND Corporation, An Annotated Bibliography of RAND Space Flight Publications. Santa Monica, Calif.:  
RAND Corp., 1958. 53p. (Its Report RM2113-1;  
and Report AD-21608)

A list of approximately 200 reports issued from 1948 to 1959 and covering various aspects of space flight. Revised 1959.

466. Reboux, Michel, Sputnik: Exploration de L'Infini.  
Paris: Chronique de France, Diffu-Livre, 1957.  
223p.

Describes the development and early achievements of the first Sputnik. The

author sees Soviet and American space efforts as a reflection of the national goals and character of each country.

467. Rousseau, Pierre, Les Satellites Artificiels.

Paris: Hachette, 1957. 192p.

Contains many references to historical developments within the field of artificial satellites.

468. The Russian Literature of Satellites. New York:

International Physical Index, 1958. 2v.

A series of Soviet papers presented at the conference on earth satellites held in Washington, D.C., October 2-5, 1957, and which are a translation of vol.63, no. 1, 1957, of Uspekhi Fizicheskikh Nauk and which treat the most important problems of launching, guiding, and deriving data from artificial satellites. Most papers contain brief bibliographies. These same papers were also published under the title Symposium of Soviet Research on Artificial Earth Satellites and Related Subjects (New York: U.S. Joint Publications, Research Service, 1958. Report no. 187. Project NR-1377). Several of these papers were originally published in translation in Collection of Soviet Papers on Earth Satellites (Cambridge, Massachusetts Institute of Technology, Lincoln Laboratory, 1958).

469. Sokoll, Alfred H., Bibliographie zur Aero- und

Astronautik; deutschsprachiges Schrifttum,

1945-1960. München: Alkos-Verlag, 1962. 206p.

Lists approximately 1,550 German books, reports, and journal articles published

during the period 1945-1960. Arranged chronologically by year with an index by author.

470. Sokoll, Alfred H., Literatur zur Aero- und Astronautik: ein Bibliographischer Wegweiser.

München: Alkos-Verlag, 1961. 89p.

A guide to the literature of aeronautics and astronautics listing pertinent materials by country under the following categories: bibliographies; documentation services; reference works; news services; bulletins, notes, papers, and reports; and periodicals. Includes author, title, and subject index.

471. Sosnitskiĭ, Georgii G., and Galina M. Aleksandrova, Rozvidnyky Vsesvitu [Explorers of the Universe].

Kiev: Derzhavna Respublikans'-ka Biblioteka

URSР Imeni KPRS, 1958. 68p.

An annotated bibliography of books and articles, published 1956-1958, dealing with Russian development of artificial satellites, general rocket technology, and the problems of space flight.

472. Soviet Moon Rockets: a Report on the Flight and Scientific Results of the Second and Third Space Rockets. Pref. by A. Nesmeyanov.

Appendix: Some Problems of the Future Exploration of the Moon with Rockets, by G. V. Petrovich.

Rev. ed. London: Soviet Booklets, 1960.

66p. (Soviet Booklet, No. 62)

Covers Soviet artificial satellite and lunar probe launching during 1957, 1958, and 1959 and includes the first automatic interplanetary station which took the first photographs of the hidden side of the moon.

473. Soviet Writings on Earth Satellites and Space Travel.

New York: Citadel Press, 1958. 253p.

In two parts: Pt. I, "From Earth Satellites to Interplanetary Travel," by Ari Sternfeld; Pt. II, "The Sputniks," is comprised of essays by various Soviet authors. Pt. I published in Italian translation as "Basi Dell' Astronautica," pp. 3-74, in L'URSS e lo Spazio; Scritta e Documenti Ufficiali Sovietici (Milano: Lerici, 1960).

474. Stine, George H., Earth Satellites and the Race

for Space Superiority. New York: Ace Books,

1957. 191p.

Although primarily popular description, this work contains a description of early U.S. space projects, especially project Vanguard, before the creation of NASA.

475. Sullivan, Walter, Assault on the Unknown. New York:

McGraw-Hill, 1961. 460p.

History of the planning, exploration, successes, and failures of the International

Geophysical Year, 1957/58, one of the greatest international scientific programs, written by the chief science writer of the New York Times. Covers Soviet and American IGY space programs. "Notes," pp. 419-441, lists footnote references chapter by chapter.

476. Swenson, Loyd S., James M. Grimwood, and Charles

C. Alexander, This New Ocean: a History of Project Mercury. Washington: NASA, 1966.

681p. (The NASA Historical Series. NASA SP-4201) (For sale by U.S. Govt. Print. Off.)

Describes the historical development of America's first achievements in manned space flight. Includes "Note on Sources and Selected Bibliography," pp. 605-630, which lists 137 Project Mercury working papers, 13 bibliographical aids, 25 official reports and documents, and references to 372 books and journal articles; and 13 unpublished works, as well as 15 post-flight reports. Also extensive "Footnotes," pp. 515-604.

477. Tsiolkovskii, Konstantin E., Collected Works.

Washington: National Aeronautics and Space Administration, 1965. 2v. (NASA Technical Translation TT F-236 and TT F-237) (For sale by Clearinghouse for Federal Scientific and Technical Information, Springfield, Va.)

Translation of Tsiolkovskii's Sobranie Sochinenii (Moscow: Izdatel'stvo Akademii

Nauk SSSR, 1951-1954), based on materials in the Tsiolkovskii archives in the U.S.S.R. Academy of Sciences. V.I. is entitled "Papers on Aerodynamic Theory, Flight of Birds and Insects, and Wind Tunnel Tests, 1890-1902."; v.II, "Reactive Flying Machines." Three additional volumes are planned: v.III, "Inventions and Miscellaneous Works"; v.IV, "Problems of Natural Science"; and v.V, "Autobiography, Correspondence, Bibliography". In addition, a special volume containing Tsiolkovskii's popular writings and science fiction will be published separately. V.I, pp. 363-365, has a bibliography of 15 references, "Works of K. E. Tsiolkovskii on Problems of the Resistance of Air Published Before the Appearance of This Volume" and v.II, pp. 593-614, has a bibliography of 79 references, "Printed Works and Manuscripts on Reactive Flying Machines and Interplanetary Travel." Both bibliographies are compiled by B. N. Vorob'yev, secretary of the Commission for the Publication of the Works of Tsiolkovskii.

478. U.S. Air Force Academy, Library, Astronautics.

Rev. ed. [Colorado Springs, Colo.]: The Academy, September, 1966. 46p. (Its Special Bibliography Series, no. 34)

A selective list of approximately 528 books from the holdings of the Air Force Academy Library. Includes "Historical, Introductory, Selected Popular Works," pp. 1-2; "Chronologies," p. 4; and "Astronautics in Countries other than the United States," pp. 14-15. Earlier editions published in 1958, 1959, and 1961.

479. Von Braun, Wernher, The Mars Project. Urbana:

University of Illinois Press, 1953. 91p.

Technical analysis of the feasibility of interplanetary trips to Mars. Based on Das Marsprojekt: Studie einer Interplanetischen Expedition (Frankfurt am Main: Umschau, 1952).

480. Weitzel, Ronald, The Origins of ATS: the Advanced

Syncom. Greenbelt, Maryland: Goddard Space

Flight Center, Comment Draft, 1968. 95p.

(NASA HHN-83)

Historical narrative that traces the roots of NASA's Advanced Technology Satellite (ATS) from the Syncom communications satellite through the Advanced Syncom--a concept that never was fully developed--and through the changing role of NASA in communications satellite research after the Communications Satellite Corporation was established. Bibliography.

481. Wilson, John Tuzo, I.G.Y.: The Year of the New Moons.

New York: Knopf, 1961. 350p.

A history of the International Geophysical Year, 1957/58, and the accomplishments of the 67 participating nations by the president of the International Union of Geodesy and Geophysics which conceived and planned the I.G.Y. "References for Further Reading," pp. 347-350, lists approximately 50 titles in English.

482. Zentralblatt der Aero- und Astronautik (ZAA).  
(Abteilung 1, Deutsch-sprachiges Schriftum).

Munich: Alkos-Verlag, 1961 to date. Quarterly.

Cites about 1,000 references and  
abstracts a year relating to aerospace  
technology and bioastronautics from  
German books and over 700 German journals.

Other: Electronics, Guidance, Materials, Tracking,  
Geodesy, Particles and Fields

483. Benecke, Theodor, and A. W. Quick., History of German Guided Missiles Development (First Guided Missiles Seminar, Munich, Germany, April 1956). Brunswick, Germany: E. Appelhans and Co., 1957. 420p.

(Advisory Group for Aeronautical Research and Development. AGARDograph, No. 20)

Comprises 26 technical papers, some with short lists of references, which describe all aspects of German work done prior to 1945 by participants.

484. Congress, House, Committee on Science and Astronautics, Discussion of U.S. Satellite Tracking System.

Hearings . . . February 15, 1961 (open and executive sessions). Washington: U.S. Govt.

Print. Off., 1961. 43p. (87th Cong. 1st Sess.)

Largely the testimony of Hugh L. Dryden, NASA Deputy Administrator, and Lt. Gen. Donald N. Yates, Deputy Director, Defense Research and Engineering, Office of the Secretary of Defense.

485. Congress, House, Committee on Science and Astronautics, Equatorial Launch Sites--Mobile Sea Launch

Capability. Hearings . . . May 15 and 16, 1961.  
 Washington: U.S. Govt. Print. Off., 1961. 69p.  
 (87th Cong. 1st. Sess.)

Includes statements of top NASA, Dept. of  
 Defense, Air Force, and Bureau of Yards and  
 Docks officials.

486. Corliss, William R., The Evolution of the Manned  
 Space Flight Network Through Gemini. Greenbelt,  
 Maryland: Goddard Space Flight Center, Comment  
 Draft, 1968. 124p.

The second in a series of preliminary  
 historical essays on the evolution of NASA's  
 tracking and data acquisition networks. This  
 essay describes developments from Peenemünde  
 through the Gemini program, emphasizing NASA  
 programs but including the NASA-Department of  
 Defense interface. Sources are cited in  
 footnotes, with additional references on  
 pp. 110-111.

487. Department of the Army, Army Library, Guided Missiles.  
 Washington: Army Library, 1956. 91p. (Its  
 Special Bibliography, No. 4)

A comprehensive list of over 800 titles  
 of books, periodical articles, and studies,  
 with abstracts and annotations. Emphasis on  
 work published from 1950 through March 1956.  
 Includes section entitled "History," pp. 1-5,  
 which lists about 30 references.

488. Department of the Army, Army Library, Guided Missiles, Rockets and Artificial Satellites, Including Project Vanguard: a Selected List of Titles.

Washington: Army Library, 1957. 153p. (Its Special Bibliography, No. 11)

A partially annotated list of about 1,000 pertinent books, documents, periodical articles, and motion pictures. Continues Special Bibliography No. 4 with the same title and on the same plan, but includes material on additional aspects of the subject, and covers material published April 1956 through January 1957.

489. Engineer School [U.S. Army] Library, Guided Missiles and Rockets, a Bibliography, 1946-1956. Fort

Belvoir, Va.: Engineer School, 1956. 50p.

English-language periodical articles are cited.

490. Filipowsky, Richard F., and Louise C. Bickford, Space Communications: Theory and Applications, a Bibliography. Washington: National Aeronautics and Space Administration, 1965. 4 v. (NASA. SP-7022)

An extensive collection of annotated references to reports, journal articles, and books published during the period 1958-1963. The subjects of each volume are as follows: v. 1, Modulation and Channels; v. 2, Coding

and Detection Theory; v. 3A, Information Processing; v. 3B, Advanced Techniques; v. 4A, Communications Satellites; v. 4C, Deep Space Applications; v. 4D, Manned Space Flight Applications.

491. Filipowsky, Richard F., and Eugene I. Muehldorf,  
Space Communication Techniques. Englewood Cliffs,  
 N.J.: Prentice-Hall, 1965. 333p. (Prentice-  
 Hall International Series in Space Technology)

Pts. I and II deal with a review of electronic equipments and components for space communications systems. Pt. III comprises a bibliography, pp. 191-300, of unclassified publications organized the same way as are the individual subjects discussed in Parts I and II. Appendix, pp. 303-305, deals with Telstar and includes a brief bibliography, p. 307.

492. Hymoff, Edward, Guidance and Control of Spacecraft.  
 Coordinating Editor: James V. Bernardo. New  
 York: Holt, Rinehart and Winston, 1966. 176p.  
 (Holt Library of Science)

Discusses the development of means for man to go from one place to another and reach his goal: from guidance used by primitive man to inertial guidance systems, ballistics trajectories, satellites, Mercury, Gemini, and Apollo projects, and manned orbiting laboratories. Bibliography, p. 62, lists ten books.

493. Jaffe, Leonard, Communications in Space. Coordinating

Editor: James V. Bernardo. New York: Holt,  
Rinehart and Winston, 1966. 176p. (Holt Library  
of Science)

Describes various types and developments  
of communications satellite systems and the  
various possibilities for their uses in the  
future. Bibliography, pp. 169-172, is a  
list of footnote references arranged by  
chapter.

494. Kiebert, M. V., "Bibliography of Telemetry," IRE

Transactions on Telemetry and Remote Control,

v. TRC-4 (no. 1, June 1958), pp. 10-19.

Consists of a technical bibliography of  
approximately 550 periodical articles on the  
subject from about 1945 to 1958.

495. Library of Congress, Legislative Reference Service,

Guided Missiles in Foreign Countries, Prepared for

the Committee on Armed Forces, United States

Senate, by Eilene Galloway. Washington: The

Library, 1957. 73p. (For sale by U.S. Govt. Print.

Off.)

Includes bibliography, pp. 58-62, listing  
selected references on guided missiles in  
Australia, Canada, France, Great Britain,  
Italy, Sweden, Switzerland, and U.S.S.R. and  
satellite countries; preceded by general  
section.

496. National Aeronautics and Space Administration,  
Communications Satellites; a Continuing  
Bibliography. Springfield, Va.: Clearinghouse  
for Federal Scientific and Technical Information  
(OTS), January 1962/April 1964 to date.  
(NASA SP-7004)

A selection of annotated references to unclassified reports and journal articles introduced into the NASA information system during the period January 1962-April 1964. Prepared by the Scientific and Technical Information Facility operated for the National Aeronautics and Space Administration by Documentation Incorporated. All references included have been announced in either Scientific and Technical Aerospace Reports (STAR) or its predecessor, Technical Publication Announcements, International Aerospace Abstracts. The entries are arranged in two major groups: (1) report references, and (2) books and journal article references. Primary emphasis is given to the transmission of information by communication satellite and includes such topics as television broadcasting, telemetry, multi-station systems, and the history and operation of Advent, Courier, Echo, Telstar, etc. Many entries on the use of satellites for meteorological studies are also included. Subject and personal author indexes. To be updated periodically by supplements.

497. National Aeronautics and Space Administration, Lasers  
and Masers: a Continuing Bibliography. Springfield,  
Va.: Clearinghouse for Federal Scientific and

Technical Information (OTS), June 1965 to date.

(NASA SP-7009)

Bibliography of annotated references to the characteristics and applications of lasers and masers that were introduced into the NASA information system between January 1962 and February 1965.

498. National Aeronautics and Space Administration,

Significant Achievements in Satellite Geodesy,

1958-1964. Washington: NASA, 1966. 174p.

(NASA SP-94) (For sale by U.S. Govt. Print. Off.)

One of a series of ten volumes which summarize the progress and describe achievements during the period 1958 through 1964 in the following areas: Astronomy (560), Space Bioscience (623), Communications and Navigation (499), Satellite Geodesy (499), Ionospheres and Radio Physics (660), Meteorology (647), Particles and Fields (661), Planetary Atmospheres (558), Planetology (559), and Solar Physics (662). Brief bibliography given at the end of each chapter.

499. National Aeronautics and Space Administration,

Significant Achievements in Space Communications

and Navigation, 1958-1964. Washington: NASA,

1966. 68p. (NASA SP-93) (For sale by U.S. Govt.

Print. Off.)

One of a series of ten volumes which summarize the progress and describe achievements during the period 1958 through 1964 in the following areas: Astronomy, Bioscience,

Communications and Navigation, Geodesy, Ionospheres and Radio Physics, Meteorology, Particles and Fields, Planetary Atmospheres, Planetology, and Solar Physics. Bibliography, pp. 57-68, lists 135 references to significant books, journal articles, and technical reports.

500. Naugle, John E., Unmanned Space Flight. Coordinating Editor: James V. Bernardo. New York: Holt, Rinehart and Winston, 1966. 175p. (Holt Library of Science)

Discusses exploration of space when man remains on earth and sends his instruments into space and thereby explores the sun, interplanetary space, the moon, planets, and earth. Bibliography, pp. 169-170, lists 20 books and journal articles.

501. Park, Robert A., and Thomas Magness, Interplanetary Navigation. New York: Holt, Rinehart and Winston, 1966. 128p. (Holt Library of Science)

Discusses the principles and methods for journeys to other planets. Bibliography, p. 124.

502. Rogers, Preston C., comp., Space Rendezvous Rescue and Recovery; an Abstract Compilation, a Report Bibliography. Alexandria, Va.: Defense Documentation Center, 1963. 108p. (Its report AD 410 085)

Citations are included for reports processed by the Defense Documentation Center, 1953-1963, and covering such subjects as astronaut training, communications, computers, docking, instrumentation, life support systems, recovery, reentry, rescue, sensors, etc. Approximately 650 annotated references are included.

503. Thomas, Shirley, Satellite Tracking Facilities. New York: Holt, Rinehart and Winston, 1966. 159p.  
(Holt Library of Science)

Discusses the system of tracking and receiving ground stations which record what the spacecraft has to say through its telemetering channels. Footnotes, pp. 148-149, list 27 references to books and journal articles and "Related Reading," p. 153, lists 18 additional book titles.

504. U.S. Air Force, Air Materiel Command, Bibliography of German Guided Missiles. Dayton, Ohio: U.S. Air Force, 1946. 145p. (Its Bibliography, No. 2)

Lists German World War II documents available on microfilm at the Air Documents Division, Air Materiel Command (now at Federal Clearinghouse for Scientific and Technical Information, Springfield, Va.) Arrangement is by 11 broad subject categories.

## THE RISE OF SPACE SCIENCE

Aerodynamics

505. Aero-Club der Schweiz, Bibliothek, Bibliothek-  
Katalog des Schweizer. Aero-Club. Catalogue de  
la Bibliothèque de l'Aéro-Club Suisse. Bern:  
 Aero-Club der Schweiz, 1915. 76p.

An author list of 1,227 books, pamphlets, and periodical titles which represents the holdings as of 1915 of the library which was founded in 1904. Title page, table of contents, and captions are in German and French. A short supplement with the same title and same arrangement was issued in 1921, containing material added to the library, 1915-1920.

506. Aviatsiia i Vozdukhoplavanie, Katalog Knig,  
Aeronauticus. Moscow: Mezhdunarodnaia Kniga,  
 1938. 20p.

A bibliography which lists approximately 320 Soviet books on aeronautics published mostly in the 1930s. Subjects covered include general and theoretical problems of aeronautics, gliders, and flights into the stratosphere.

507. Federal Aviation Administration, Systems Research  
 and Development Service, Consolidated Abstracts of  
Technical Reports, 1957-1962. Washington: The  
 Administration, 1963. 148p.

Contains approximately 125 abstracts of technical aeronautics reports done by various contractors under U.S. government contract.

508. Hodgson, John E., The History of Aeronautics in Great Britain, from the Earliest Times to the Latter Half of the Nineteenth Century. London: Humphrey Milford; Oxford University Press, 1924. 436p.

Excellent for aeronautical history in Great Britain. Covers the endeavors of foreign aeronautics in Britain as well and includes 150 handsome illustrations. Appendixes include chronology, p. 373. Includes "List of Papers in the Aeronautical Society's Reports, 1866-1893," "Selected and Annotated Bibliography," pp. 387-415; and "Note on the Cuthbert Aeronautical Collection," pp. 416-418. The bibliography is rich in historical aeronautical references.

509. Index Aeronauticus: Journal of Aeronautical and Astronautical Abstracts. London: Technical Information and Library Services, Ministry of Aviation, 1945 to date. Monthly.

Contains about 3,500 abstracts a year from world literature, including articles in scientific and technical journals, patents, published papers, and reports, arranged by Universal Decimal Classification with monthly and annual author indexes.

510. Journal of the Royal Aeronautical Society. London:  
Royal Aeronautical Society, 1897 to date. Monthly.

Includes section "The Library" containing 250 abstracts a year from world literature, including books, pamphlets, and technical reports, relating to rocket technology with annual author and subject index. Title changed from The Aeronautical Journal in January 1923; absorbed Institution of Aeronautical Engineers Journal in October 1927.

511. National Advisory Committee for Aeronautics,  
Index of NACA Technical Publications. 1915/1947-  
1957/58. Washington: The Committee, 1947-1959.  
9 vols.

An index to NACA research reports covering the period 1915-1958, the first volume covering the period 1915/1947 (superseded by volume 1915/1949). Volume for 1957/58 issued by the National Aeronautics and Space Administration and thereafter superseded by the National Aeronautics and Space Administration's Index of NASA Technical Publications 1959-1961. Arrangement is chronological under subject category and includes an author index except for the volume covering 1915/1949 which has a separately published author index.

512. North Atlantic Treaty Organization, Advisory Group  
for Aeronautical Research and Development,  
Bibliography. I, 1960 to date. New York:  
Pergamon Press, 1960 to date.

A primarily technical series of annotated bibliographies on various aspects of aerodynamics and aeronautics. Includes Bibliography I-Magneto-Fluid-Dynamics, II-VTOL-STOL, III-Crack Initiation, IV-Structural Stability. Some numbers issued in revised editions and some published in Paris.

513. Strizhevskii, Semen IĀ. Nikolai Zhukovsky, Founder of Aeronautics. [Translated from the Russian by Y. Sdobnikov. Edited by H. Perham] Moscow: Foreign Languages Publishing House, 1957. 92p.  
(Men of Russian Science)

Translation of N. E. Zhukovskii-Osnovopolozhnik Aviat͡sionnoi Nauki (Moscow: Voennoe izdatel'stvo, 1954). Includes information on Zhukovskii's research on lift, airfoils, aircrews, rotors, and gas dynamics and his contribution to Soviet aviation engineering.

514. Von Kármán, Theodore, Aerodynamics: Selected Topics in the Light of Their Historical Development. Ithaca, N. Y.: Cornell University Press, 1954.  
203p.

In a series of lectures the author examines the main principles and underlying theories of aerodynamics and the historical development of aerodynamical thinking from 1903-1953. Includes theory of lift, drag, and skin friction; stability and aeroelasticity; supersonic aerodynamics; and space rockets. Each section contains a brief bibliography.

515. Von Kármán, Theodore, with Lee Edson, Wind and Beyond:

Theodore von Kármán, Pioneer in Aviation and

Pathfinder in Space. Boston: Little Brown, 1967.

376p.

Autobiography of von Kármán, pioneer aerodynamicist. Bibliography, pp. 355-361, consists of a list of five books and approximately 200 scientific papers by von Kármán.

516. Works Projects Administration, Bibliography of

Vibration and Flutter of Aircraft Wings and

Control Surfaces. Compiled with the Cooperation

of Dr. Alexander Klemin. Prepared by Workers under

the Supervision of the U.S. Works Progress

Administration. New York: [Institute of Aero-

nautical Sciences] 1937. 337p.

Covers not only books on flutter and vibration with particular reference to aircraft structure but also deals with the general instrumentation of vibration research. Covers European and American book and journal literature from the 1920s to mid-1930s and includes a list of the 250 journals indexed.

517. World Conference on World Peace Through the Rule of

Law, Athens, June 28-July 6, 1963, [Papers

Presented]. St. Paul, Minn.: West Pub. Co.,

1964. 874p.

Includes "Creating Law for Outer Space and Space Communications," pp. 471-577, which consists of 16 papers presented by authorities from various countries. Includes a few footnote references.

518. Zahm, Albert F., and Cecil A. Ross, comps.,

Bibliography on Skin Friction and Boundary Flow.

Washington: The Library of Congress, 1932. 46p.

Lists alphabetically by author approximately 500 technical papers published internationally from late 19th century to 1933. Earlier edition (1930) had title, Tentative Bibliography.

Astronomy

519. Abetti, Giorgio, History of Astronomy. Translated by Betty Burr Abetti. New York: H. C. Schuman, 1952. 338p. (Life of Science Library, no. 24)

Comprehensive history of astronomy from earliest times from the Italian point of view. Treatment includes discussion of astronomers, observatories, and astronomical instruments. Translated from the Italian Storia dell'Astronomia [Firenze: Vallecchi, 1949].

520. Advances in Astronomy and Astrophysics. New York: Academy Press, v. 1, 1962 to date. Annual.

As of 1967 the five volumes thus far issued each contain five or six technical papers by authorities in the field. Bibliographies usually included.

521. Annual Review of Astronomy and Astrophysics. Palo Alto, Calif.: Annual Reviews, v. 1, 1963 to date. Annual.

Each volume consists of approximately 15 technical contributions by leading authorities in the field. Very good as a record of new developments in various aspects of astrophysics and astronomy. Usually each contribution contains a bibliography.

522. Astronomische Gesellschaft, Bibliothek, Catalog der Bibliothek der Astronomischen Gesellschaft. Hrsg. von . . . Dr. C. Bruhns. Leipzig:

W. Engelmann, 1880. 75p. (Drittes Supplementheft zur Vierteljahrsschrift der Astronomischen Gesellschaft, Jahrgang xiv)

Catalog lists approximately 1,000 items from world literature, published mainly in the 19th century.

523. Baev, Konstantin L., ed., Astronomiia [Astronomy].

Moscow: Gospolitizdat, 1941. 127p.

A bibliography of astronomy from earliest times to the present and worldwide in scope. Each title cited has an extensive annotation. Approximately 200 works cited.

524. Bahn, Catherine I., "350 Years of Lunar Mapping,"

Geography and Maps Division Bulletin (Special

Libraries Association). v. 52 (June 1963),

pp. 3-10.

Describes the history of lunar mapping from the publication of Galileo's Sidereus Nuncius in 1610 to the present. Bibliography, pp. 7-10, lists approximately 45 references to books and journal articles on lunar mapping.

525. Berry, Arthur, A Short History of Astronomy, from Earliest Times Through the Nineteenth Century.

New York: Dover, 1961. 440p.

Originally published in London by John Murray in 1898 and now considered a standard

work on the subject. The final section records the shift of interest from the solar system to interstellar space: Herschel's great catalogs, the discovery of double stars, instrumental advances, Bessel's tables, the discovery of Neptune, tidal theory, the discovery of asteroids, spectrum analysis, stellar photometry, theories on the development of the solar system, and the birth of the moon. Bibliography, pp. 411-416, lists references by chapter in running text.

526. Brinton, Henry, Measuring the Universe. New York: Roy Publishers, 1962. 100p.

A history of the tools man had devised for measuring the universe. Includes discussion of the moon's orbit, satellite orbits, Kepler's law, weighing the planets, stellar distance measurement, the age of the universe, and radio astronomy. A "Select Book List" by Norman Stone, p. 98, lists 13 British titles.

527. Carmody, Francis J., Arabic Astronomical and Astrological Sciences in Latin Translation; A Critical Bibliography. Berkeley, Calif.: Univ. of California Press, 1956. 193p.

Lists the works of over 40 Arabic astronomers chronologically. Includes brief description of each work and lists of editions and manuscripts. Covers period 800-1300 approximately.

528. Cole, Dandridge M., and Donald W. Cox, Islands in Space; the Challenge of the Planetoids, with Foreword by Willy Ley. Philadelphia: Chilton Books, 1964. 276p.

Describes the 50,000 minor planets known as planetoids. Ch. 2 deals with the history of the discovery of planetoids. Impressive bibliography,, pp. 251-261, compiled by Rosa Bernstein, consists of approximately 400 references to journal articles and parts of books in all languages.

529. Collard, Auguste, L'Astronomie et les Astronomes. Bruxelles: Van Oest, 1921. 119p. (Répertoires des Ouvrages à Consulter)

A classed catalog listing about 700 references, with author index, and including works published from 1880 to 1920 to supplement Houzeau and Lancaster.

530. Davidson, Martin, The Stars and the Mind: a Study of the Impact of Astronomical Development on Human Thought. London: Watts, 1947. 210p.

History of astronomy and also astrology showing how the astral fatalism of astrology gave way to the concept of a mechanical universe and natural order which in the 20th century, because of the impact of atomic physics, has given way to the view of a non-mechanical, infinite universe. The influence of astronomy on Christianity is also discussed.

531. Doig, Peter, A Concise History of Astronomy. With a

Foreword by Sir Harold Spencer Jones. London:

Chapman & Hall, 1950. 320p.

A history of astronomy from the oldest astronomy to the present time. Bibliography, pp. 310-311, lists approximately 40 English language titles. Brief chapter bibliographies also included.

532. Dreyer, John L. E., A History of Astronomy from Thales

to Kepler. Rev. with a Foreword by W. H. Stahl.

2d ed. New York: Dover, 1953. 438p.

Originally published under title History of the Planetary Systems from Thales to Kepler (Cambridge University Press, 1906). Includes literature references in text and a "Supplementary Bibliography," pp. 425-430.

533. Edinburgh, Royal Observatory, Crawford Library,

Catalogue. Edinburgh: Her Majesty's Government,

1890. 497p.

Represents the approximately 5,000 books, pamphlets, and manuscripts collected from 1872 to 1888 and presented to the Edinburgh Royal Observatory by the Earl of Crawford. The nucleus of this collection was formed by the library of Charles Babbage. Subject coverage includes astronomy, especially material on comets. Arrangement is by author and subject.

534. Florence, Università, Osservatorio Astrofisico di Arcetri, Biblioteca, Catalogo della Biblioteca dell'Osservatorio Astronomico di Arcetri, per cura di V. Messeri, Assistente. Appendice. Firenze: Tipografia Galletti e Cocci, 1909. 203p. (Pubblicazioni del R. Istituto di Studi Superiori Pratici e di Perfezionamento in Firenze, Sezione di Scienze Fisiche e Naturali (R. Osservatorio di Arcetri) Fasc. n<sup>o</sup>. 27)

A listing of 44,158 items acquired by the library 1775-1909 and arranged by broad subject categories such as periodicals, annals of observatories, catalogs of stars, astronomy, mathematics, meteorology, geography, etc. Lists many works about Galileo.

535. Geological Survey, Military Geology Branch, Bibliography of the Moon. Washington: Intelligence and Mapping Division, Office of the Chief of Engineers, Department of the Army, 1960. 170p.

Consists of a list of approximately 2,550 references to books, journal articles, and reports on the moon, arranged alphabetically by author. Covers from the late 19th century to 1959.

536. Houzeau, Jean C., and Albert Lancaster, Bibliographie Générale de l'Astronomie, ou Catalogue Méthodique des Ouvrages, des Memoires et des Observations

Astronomiques Publiés depuis l'Origine de

l'Imprimerie jusqu'en 1880. Bruzelles: Havermans,

1882; Hayez, 1887-89. 2v. in 3.

V. I (published 1887-89) is a classed bibliography of manuscripts and separately published works, with no author index; v. II is a classed index to material in periodicals and society publications with author index. V. I alone lists a total of 15,775 references, some of which are annotated.

537. Hoyle, Fred, Astronomy: A History of Man's Investigation of the Universe. New York: Doubleday, 1962. 320p.

An account from earliest astronomical discoveries up to the latest modern developments. "Acknowledgements," pp. 315-320, cites 305 items, including a few manuscripts, and books, but mostly photographs referred to in the text.

538. Jakubíček, Milan, comp., Vesmír na Dosah Ruky [Space is Within Reach], Brunn: Universita Knihovna, 1959. 44p.

An annotated list of 91 references to Czechoslovakian publications and a few Russian ones on astronomy and outer space.

539. Jastrow, Robert, Red Giants and White Dwarfs: The Evolution of Stars, Planets and Life. New York: Harper and Row, 1967. 176p.

Story of the development of the stars and planets as a part of the history of man's evolution, beginning before the formation of the solar system and relating separate scientific fields of physics, astronomy, earth science, and biology. Written for the layman. Includes numerous illustrations and an index.

540. Jobes, Gertrude, and James Jobes, Outer Space: Myths,

Name Meanings, Calendars from the Emergence of

History to the Present Day. New York: Scarecrow Press, 1964. 479p.

Deals with the myths, folklore, name origins, and astrological backgrounds of various astronomical bodies including stars, constellations, the solar system, galaxies, meteors, and comets. Covers all time periods and areas of the earth. Bibliography, pp. 411-417, lists approximately 200 books and articles.

541. Kaula, William M., Celestial Geodesy. Washington:

National Aeronautics and Space Administration,  
1962. 120p. [NASA Technical Note, D-1155]

Describes the geodetic use of rockets. Bibliography, pp. 103-120, lists 280 mainly technical references to the geodetic use of rockets, satellites, and the moon.

542. King, Henry C., Background of Astronomy. London:

Watts, 1957. 254p.

A history of astronomy from its beginnings in the Near East to its position at the close of the 16th century in Western Europe at the time of the discovery of the telescope. Brief bibliography, pp. 241-246, lists approximately 130 references to books on the history of: astronomy, time-keeping, chemistry, geography, archaeology, mathematics, medicine, religion and mythology, and science and its philosophy.

543. Kolchyns'kyĭ, Illiâ Hryhoriiovych, ed., Astronomiâ na Ukraini, 1918-1962 [Ukrainian Astronomy, 1918-1962]. Kiev: Akademiâ Nauk URSR, Biblioteka, 1965. 160p.

A list of 2,827 references to Ukrainian publications arranged by broad subject category.

544. Korzeniewska Iwona, Bibliografia prac Astronomów Polskich za lata 1923-1963 [Bibliography of the Works of Polish Astronomers, 1923-1963]. Warszawa: Polskie Tow. Astronomiczne, 1964. 221p.

Completed on the 40th anniversary of the founding of the Polish Astronomical Society. Although primarily technical in scope, nos. 24, 75, 175, 178, and 185, etc., are histories and reports of activities at the Observatories of Warsaw, Lwow, and Wilma, while no. 24 deals with Copernicus and modern astronomy. Subject index lists items on history under "Histortia Stronomii." Includes 2,025 items.

545. Lavrova, N. B., Bibliografiâ Astronomicheskikh Bibliografii. Bibliographie de Bibliographies Astronomiques. Moscow: Astronomicheskii Sovet Akademii Nauk SSSR i Nauchnaia Biblioteka Moskovskogo Gosudarstvennogo Universiteta, 1962. 109p.

In Russian, but table of contents and preface also in French. Lists 247 bibliographies with annotations published 1760-1960. Pt. I includes bibliographies international in scope, catalogs of astronomy libraries, and bibliographies of Russian literature, while Pt. II includes special subject bibliographies such as in celestial mechanics, astrophysics, and the solar system. An earlier version by N. B. Lavrova appeared as "Sketches on the History of Astronomical Bibliography" in Istoriko - Astronomicheskie Issledovaniâ, fasc. 5, 1959, pp. 83-196.

546. Ley, Willy, Watchers of the Skies: an Informal History of Astronomy from Babylon to the Space Age. New York: Viking, 1966. 529p.

This work relates contemporary space exploration to the history of astronomy showing that space exploration will extend the frontiers of astronomy. Leading up to this was first the Copernican revolution, then the revolution between 1920-1930 when it was realized by Harlow Shapley and R. J. Trumpler that the solar system was not the center of the Milky Way. Bibliography, pp. 518-520, lists books with brief annotations.

547. Levitt, Israel M., A Space Traveler's Guide to Mars.

New York: Holt, 1956. 175p.

Although mainly description of Mars, this book does contain some information on the history of man's exploration of Mars, especially on the exhaustive telescopic survey done by Percival Lowell. Ch. 3, "The Moons of Mars," discusses the history of this discovery. Includes bibliography, pp. 167-168.

548. Library of Congress, Aerospace Information Division,  
Future Lunar Missions: Review of Soviet and  
Soviet-Bloc Literature. Washington: The Library,  
1964. 249p. (Its Report P-64-1)

A compilation of Soviet statements on manned lunar flight with bio-bibliographic information provided. The purpose of the compilation is to establish the possible patterns of thought of Soviet scientists and authoritative news commentators. Covers 1961-1963 period.

549. Library of Congress, Aerospace Technology Division,

Lunar Dimensions; Annotated Bibliography.

Washington: The Library, 1965. 22p. (Its  
ATD Report B-65-60)

An annotated bibliography of 44 references to Soviet-bloc open source literature which reflect Soviet development from about 1963 to 1965 in investigating lunar revolution, rotation, libration, and mapping techniques. Earlier versions appeared as AID report B-63-100 and AIR-u-64-54.

550. Lune-An 1. Adaptation Française et Notes de Pierre de Latil. Traduction de Paul Kolodkine. Paris: Gedalge, 1959. 189p. (Collection Grand Pavois, 3)

Translation of Polet na Lunu (Moscow: Trudrezervizdat, 1955, 182p.). Consists of 25 articles by different Soviet authors on a projected interplanetary flight to the moon.

551. Mikhailov, Aleksandr A., ed., Astronomiia v SSSR za Sorok Let [Astronomy in the Soviet Union for Forty Years]. Moskva: Gos. Izdatel'stvo Fiziko-matematicheskoi Lit-ry, 1960. 728p.

Series of articles dealing with the history of astronomy in the Soviet Union for 40 years from 1917-1957. Bibliography, pp. 371-700, is a comprehensive list of Soviet publications, 1917-1957, compiled by N. B. Lavrova.

552. Moon Explorations; Special Bibliography/Index  
Announced in U.S. Government Research Reports.  
Washington: Technical Information Service, 1963.  
252p.

Includes an annotated list of 215 reports on moon explorations and lunar probes covering the period from June 1956 through October 1962.

553. Moore, Patrick, Astronomy. London: Oldbourne,  
1961. 253p.

Popular, pictorial history of astronomy from 2000 B.C. to 1961. Final chapters deal with direct space exploration by such means as radio astronomy, rockets, earth satellites, and space probes. Brief chronology, "Landmarks in the Story of Astronomy," pp. 244-45, covers the period from 2000 B.C. to 1961.

554. National Academy of Sciences, National Research  
Council, Space Science Board, Science in Space.  
Washington: The Academy, 1960. 9 v.

Also available in another ed. (New York: McGraw-Hill, 1961. 439p.) This report was prepared to review those areas of endeavor which appear to be major in the national space effort. Ch. 1, "Dimensions and Problems" summarizes the current status of the national program and outlines areas of international cooperation. The eight succeeding chapters include: The Nature of Gravitation; Earth; Moon; Planets; Sun; etc. Each chapter has a brief bibliography.

555. National Aeronautics and Space Administration,  
Lunar Surface Studies; a Continuing Bibliography.  
Springfield, Va.: Clearinghouse for Federal  
Scientific and Technical Information (OTS),  
January 1962-March 1964 to date. (NASA SP-7003)

A selection of annotated references to  
unclassified reports and journal articles

introduced into the NASA information system during the period January 1962-March 1964. Arranged in two sections: (1) report references and (2) book and journal article references. All references are to items which have already appeared in either Scientific and Technical Aerospace Reports or in International Aerospace Abstracts. To be updated periodically by the publication of supplements.

556. National Aeronautics and Space Administration,  
Planetary Atmospheres; a Continuing Bibliography.  
 Springfield, Va.: Clearinghouse for Federal  
 Scientific and Technical Information (OTS),  
 July 1965 to date. (NASA SP-7017).

Selection of annotated references to unclassified reports and journal articles announced in Technical Publications Announcements (TPA, Vol. 2), Scientific and Technical Aerospace Reports (STAR), and International Aerospace Abstracts (IAA). The majority of the references pertain to studies, measurements, and discussions concerning the atmospheres of Mars, Venus, and Jupiter, but a limited number of references to the atmospheres of Mercury and Saturn are also included. Subject and author indexes.

557. National Aeronautics and Space Administration,  
Scientific Findings from Explorer VI. Washington:  
 NASA, 1965. 381p. (NASA SP-54) (For sale by  
 U.S. Govt. Print. Off.)

Consists of 33 scientific papers prepared on the basis of data acquired from Explorer VI, launched August 7, 1959, the first artificial satellite to return useful data. Covers astronomy and celestial mechanics, ionospheric physics, and energetic particles in magnetic fields. Many of the papers contain brief bibliographies.

558. National Aeronautics and Space Administration,

Significant Achievements in Planetary Atmospheres,

1958-1964. Washington: NASA, 1966. 59p.

(NASA SP-98) (For sale by U.S. Govt. Print. Off.)

One of a series of ten volumes which summarize the progress and describe achievements during the period 1958 through 1964 in the following areas: Astronomy, Bioscience, Communications and Navigation, Geodesy, Ionospheres and Radio Physics, Meteorology, Particles and Fields, Planetary Atmospheres, Planetology, and Solar Physics. Bibliography, pp. 51-59, lists 126 references to significant books, journal articles, and technical reports.

559. National Aeronautics and Space Administration,

Significant Achievements in Planetology, 1958-1964.

Washington: NASA, 1966. 71p. (NASA SP-99)

(For sale by U.S. Govt. Print. Off.)

One of a series of ten volumes which summarize the progress and describe achievements during the period 1958 through 1964 in the following areas: Astronomy, Space Bioscience, Communications and Navigation, Satellite Geodesy, Ionospheres and Radio Physics, Meteorology, Particles and Fields, Planetary Atmospheres,

Planetology, and Solar Physics. Bibliography, pp. 61-71, lists 117 references to books, journal articles, and technical reports.

560. National Aeronautics and Space Administration,

Significant Achievements in Space Astronomy:

1958-1964. Washington: NASA, 1966. 73p.

(NASA SP-91) (For sale by U.S. Govt. Print. Off.)

One of a series of ten volumes which summarize the progress and describe achievements during the period 1958 through 1964 in the following areas: Astronomy, Space Bioscience, Communications and Navigation, Satellite Geodesy, Ionospheres and Radio Physics, Meteorology, Particles and Fields, Planetary Atmospheres, Planetology, and Solar Physics. Bibliography, pp. 69-73, lists 67 references to books, journal articles, and technical reports.

561. National Aeronautics and Space Administration,

Significant Achievements in Space Science, 1965.

Washington: NASA, 1967. 218p. (NASA SP-136)

(For sale by U.S. Govt. Print. Off.)

This volume describes the significant scientific progress in 1965 in the following areas: Astronomy, Ionospheres and Radio Physics, Particles and Fields, Planetary Atmospheres, Planetology, and Solar Physics. Each one of these six subject areas has a separate paper devoted to it and each one has a separate, brief bibliography. A companion volume (NASA SP-137) summarizes the progress in space applications in 1965 in the following areas: Communications, Geodesy, and Meteorology.

562. National Aeronautics and Space Administration,  
Significant Achievements in Space Science, 1966.

Washington: NASA, 1967. 419p. (NASA SP-155)

(For sale by U.S. Govt. Print. Off.)

This volume describes the significant scientific progress in 1966 in the following areas: Space Astronomy, Space Bioscience, Ionospheres and Radio Physics, Particles and Fields, Planetary Atmospheres, Planetology, and Solar Physics. Each one of these seven subject areas has a separate paper devoted to it and each one has a brief bibliography. A companion volume (NASA SP-156) summarizes the progress in space applications in 1966 in the following areas: Applications Technology Satellites, Communications Satellites, Satellite Geodesy, Meteorological Program, and Navigation and Traffic Control Satellite Program.

563. Newell, Homer E., et al., Astronomy in Space.

Washington: National Aeronautics and Space  
 Administration, 1967. 67p. (NASA SP-127)

(For sale by U.S. Govt. Print. Off.)

Comprises four papers which explore present and prospective results of placing astronomical instruments above the Earth's atmosphere: "Space Astronomy Program of the National Aeronautics and Space Administration," by Homer E. Newell, p. 1; "Solar Astronomy," by Henry J. Smith, p. 9; "Stellar and Galactic Astronomy," by Nancy G. Roman, p. 27; and "Expanding Vistas in Astronomy," by George E. Mueller, p. 49. Section entitled "The Past and Current Contributions of the Space Program to Astronomy," pp. 3-6 includes historical information.

564. Pannekoek, Antonie, A History of Astronomy. New York: Interscience, 1961. 521p.

Survey of the history of astronomy from Babylonian and Assyrian astrology to the present, told in terms of man's concept of his world. "References," pp. 502-506, lists 214 footnote references. Published in London by Allen and Unwin in 1961 from the original Dutch De Groei van ons Wereldbeeld (Amsterdam: Wereld-Bibliotheek, 1951).

565. Petrtýl, Miroslav, comp., Astronomie; Vyběrový Seznam Populárně Vedecké Literatury [Astronomy: Selected List of Popular Scientific Literature]. Praha: Městská lidová knihovna, 1955. 13p.

A short, annotated list of Czechoslovakian publications published mostly 1950-1955.

566. Pulkovo, Glavnaia Astronomicheskaiia Observatoriia, Librorum in Bibliotheca Speculae Pulcovensis Anno 1858 Exeunte Contentorum Catalogus Systematicus. Edendum Curavit et Praefatus est Otto Struve . . . Petropoli: Typis Academiae Imperialis Scientiarum Petropolitanae; 1860-80. 2v.

A catalog of the holdings of the library of the central observatory at Pulkovo, U.S.S.R., as of 1860. Lists approximately 15,000 works of world literature from earliest times. Historical works listed pp. 121-124 and pp. 499-511. V. 2 has title: Librorum in

Bibliotheca Speculae Pulcovensis Contentorum  
Catalogus Systematicus. Pars 2. ab Eduardo  
Lindemanno Elaborata. Edendum Curaviet et  
Praefatus Est Otto Struve . . .

567. Reichel, Max, Die fortlaufenden astronomischen  
Veröffentlichungen in ihrer geschichtlichen  
Entwicklung. Mit einer Gesamt-bibliographie.  
 Köln: Greven Verlag, 1957. 124p. (Arbeiten  
 aus dem Bibliothekar-Lehrinstitut des Landes  
 Nordrhein-Westfalen, Heft 12)

Bibliography, pp. 41-124, lists 1,250  
 items from earliest times to the present  
 from world literature including books,  
 journals, publications of observatories,  
 comprehensive catalogs of libraries,  
 year-books, and indexes.

568. Reichen, Charles A., A History of Astronomy. New  
 York: Hawthorne Books, 1963. 105p.  
 (New Illustrated Library of Science and  
 Invention, v. 5)

A concise, beautifully illustrated  
 history of astronomy from earliest times to  
 the advent of radio and space astronomy.  
 Chronology, pp. 106-110, covers the period  
 10,000 B.C. to 1961.

569. Rousseau, Pierre, Man's Conquest of the Stars. Trans-  
 lated from the French by Michael Bullock. New  
 York: Norton, 1961. 355p.

Survey of astronomy and its place in civilization from the sun worship of the ancient Egyptians, to Galileo, Newton, and the discovery of the telescope and introduction of photometry. Covers the rise in importance of American astronomy at the end of the 19th century. English translation originally published in London by Jarrolds in 1959. Translation of A la Conquête des Étoilles.

570. Royal Astronomical Society, Library, Grove-Hills

Library. Catalogue. London: The Society,  
1924. 48p.

A bibliography representing the collection of over 500 volumes printed before 1800, made by Col. Edmond Herbert Grove-Hills and bequeathed by him to the Royal Astronomical Society. Contains a large number of rare books on astronomy including incunabula. Arranged by author.

571. Schwartz, George, and Philip W. Bishop, eds.,

Moments of Discovery. Foreword by Linus Pauling.

New York: Basic Books, 1958. 2v.

Consists of two volumes entitled:  
(1) The Origins of Science and (2) The Development of Modern Science. Comprises a collection of writings by approximately 80 scientists on episodes of scientific discovery or achievement from the ancient Greeks to atomic scientists. "The Scientific Revolution," v.1, pt. v, pp. 213-320, includes texts by Copernicus, Brahe, Galileo, Kepler, Newton, Halley, and Laplace.

572. Seydl, Otto, ed., Knihovna astronoma Antonína Strnada, reditele Prazské hvezdárny (1746-1799) Podle rukopisu knihovny královské kanonie Premonstrátu na Strahove v Praze a jiných pramenu [Library of the Astronomer Anthony Strnad, Director of the Astronomical Observatory in Prague (1746-1799) According to the Manuscripts in the Library of the Monastery of the Premonstratensians at Strahov, and other Sources]. Praha: Tiskárna "Prometheus," 1939. 77p. (Publikace Prazské hvezdárny, c. 13)

Lists 940 16th, 17th, and 18th century works and treatises chiefly in the fields of astronomy, meteorology, mathematics, and philosophy. Works by Anthony Strnad are listed, pp. 72-76. Summaries in German and English.

573. Stern, Philip D., Our Space Environment. Coordinating Editor: James V. Bernardo. New York: Rinehart and Winston, 1966. 160p. (Holt Library of Science)

Discusses astronomy from ancient Greece to the present time to show how man's knowledge of the space environment required thousands of years to accumulate and how man had first to understand his home in the cosmos before he could try to understand other worlds. Bibliography, pp. 154-155, lists eight annotated book references.

574. Struve, Otto, and Velta Zeberg, Astronomy of the 20th Century. New York: Macmillan, 1962. 544p.

"Bibliography," pp. 529-531, lists 40 book titles and about ten journal titles used in the preparation of this book written by the director of the National Radio Astronomy Observatory at Green Bank, West Virginia (Struve), and a member of the Observatory's scientific staff (Zeberg). "Notes," pp. 502-514, list footnote references by chapter.

575. Thiel, Rudolf, And There Was Light: the Discovery of the Universe, Translated by Richard and Clara Winston. New York: Knopf, 1949. 415p.

History of astronomy and the development of man's interest in the stars from the days of Babylon to the present. Translated from the German Und es wird Licht; Roman der Weltallforschung [Hamburg: Rowohlt, 1956.] Emphasizes the history of man's concepts of the solar system.

576. Vaucouleurs, Gérard H. de, Discovery of the Universe: an Outline of the History of Astronomy from the Origins to 1956. New York: Macmillan, 1957. 328p.

History of astronomy, covering the Middle Ages, Copernican revolution, and emphasizing the flowering of classical astronomy in 17th and 18th century France in the work of La Caille, Lalande, Cassini, Lagrange, and Laplace. The final chapter covers the development of astrophysics. Bibliography, pp. 309-313, lists approximately 45 book

titles in English. Translation of  
L'Esprit de l'Homme à la Conquête de  
l'Univers. (Paris: Editions Spes, 1951).  
 Also published in London by Faber in 1957.

577. Voice of America (Radio program), Space Science  
Series. Washington: Voice of America, 1962.  
 20v. (Its Forum Lectures)

A series of 20 lectures by prominent  
 authorities in the space sciences originally  
 broadcast by Voice of America. Includes  
 such topics as astronomy, meteorology, and  
 the life sciences.

578. Forontsov-Vel'iâminov, Boris A., Ocherki Istorii  
Astronomii v Rossii [Outline History of Astronomy  
 in Russia]. Moscow: Gos. Izdatel'stvo Tekhniko-  
 teoreticheskoi Lit-ry, 1956. 371p.

A history of astronomy in Russia up to  
 the time of the 1917 revolution. Includes  
 bibliography of Russian publications,  
 pp. 355-362.

579. West, Clarence J., and Callie Hull, comps. List of  
Manuscript Bibliographies in Astronomy, Mathematics  
and Physics. Washington, D.C.: National Research  
 Council, Research Information Service, 1923. 14p.  
 (Reprint and Circular Series of the National  
 Research Council. no. 41).

A list of approximately 100 unpublished bibliographies known to the Research Information Service and compiled in the hope that the information contained therein could be more effectively utilized. Arranged by subject.

580. Woolf, Harry, The Transits of Venus; a Study of Eighteenth-Century Science. Princeton, N.J.:

Princeton University Press, 1959. 258p.

Deals with the 18th century attempt to determine the dimensions of the solar system from the transit observations of 1761 and 1769. Includes bibliography, pp. 215-251.

581. Zinner, Ernst, Astronomie; Geschichte ihrer Probleme.

Freiburg: K. Alber, 1951. 403p. (Orbis

Academicus. Problemgeschichten der Wissenschaft in Dokumenten und Darstellungen, Bd. II/1)

A history from the point of view of theories about the planets, sun, and stars from classical times to the present. "Bibliographie," pp. 389-395, lists approximately 175 titles, including both primary and secondary sources.

582. Zinner, Ernst, Geschichte und Bibliographie der

astronomischen Literatur in Deutschland zur Zeit

der Renaissance. Leipzig: Hierseemann, 1941. 452p.

Lists 5,236 astronomy books published in Germany between 1448 and 1630, pp. 93-410. In addition includes corrections and additions to the German works listed in Houzeau and Lancaster and a running commentary on the history of astronomy.

Life Sciences

583. "Abstracts of Current Literature," prepared by  
Science and Technology Division, Library of  
Congress, Aerospace Medicine, v. 29 (November  
1958) to date.

About 1,000 informative abstracts a year are included from world-wide report, periodical, and monographic literature in the field of bioastronautics and related fields. Arrangement is by 11 broad subject categories with cumulated subject and author indexes in each December issue of the journal. These abstracts are a selection from those appearing in Aerospace Medicine and Biology since January 1964.

584. Air Force Missile Development Center, Holloman Air  
Force Base, N. Mex., History of Research in Space  
Biology and Biodynamics at the Air Force Missile  
Development Center, Holloman Air Force Base, New  
Mexico, 1946-1958. Holloman Air Force Base, N. Mex.:  
The Center, 1958. 114p.

Numerous bibliographical references included in notes at end of each chapter. Some of the chapters appeared as separately published monographs with the following titles: (1) Major Achievements in Space Biology at the Air Force Missile Development Center, 1953-1957 (issued March 1958); (2) History of Research in Subgravity and Zero-G at the Air Force Missile Development Center, 1948-1958 (issued in May 1958); (3) Major Achievements

in Biodynamics: Escape Physiology at the Air Force Missile Development Center, 1953-1958 (issued June 1958).

585. Armed Forces--NRC Committee on Bio-Astronautics,

Human Acceleration Studies for the Armed Forces--

NRC Committee on Bio-Astronautics, by James D.

Hardy and Richard J. Crosby. Washington: National

Academy of Sciences--National Research Council,

1961. 71p. (Its Publication 913)

Includes "A Proposed Physiological Acceleration Terminology with an Historical Review," by C. C. Clark, pp. 7-65, lists approximately 300 flight acceleration landmarks chronologically from 1500 to 1961. In almost every instance, a documentary reference is also given. Bibliography, pp. 54-65, lists these and references to flight acceleration.

586. Armed Services Technical Information Agency,

Bio-Astronautics: an ASTIA Report Bibliography.

Arlington, Va.: The Agency, 1959. 164p. (Its

Report AD-211 775; PB Report 151 853)

A selected list of references to reports originating primarily from Government-sponsored research programs relating to the biological problems of space flight. Entries are for period 1952 to 1958 and are grouped under ASTIA subject categories. A Supplement issued in 1960, 49p., Its Report AD-233 000, PB Report 161 653, lists 248 references and brings the subject matter up to date through 1959.

587. Armstrong, Harry G., Principles and Practice of Aviation Medicine. Baltimore, Md.: Williams and Wilkins, 1939. 496p.

Written by the Surgeon General, U.S. Air Force, this book was one of the earliest on this subject published in America. Second edition published in 1943 and third edition in 1952. First chapters in all editions are historical and most chapters list references at the end.

588. Ashe, William F., et al., Historical Survey of Inhabitable Artificial Atmospheres. Columbus: Ohio State University Research Foundation, 1959. 154p. (Wright Air Development Center Technical Report, WADC 58-154; PB Report 151 277; report AD-155 901)

Abstracts of approximately 450 articles and reports disclosed in survey of world literature covering the period 1918-1959 on production and control of artificial atmospheres for living organisms.

589. Banghart, Frank W., and Evan G. Pattishall, Human Factors at Extreme Altitudes: Synopsis and Bibliography. Charlottesville, Va.: Division of Educational Research, University of Virginia, 1960. 111p. (U.S. Air Force. Air Research and Development Command. Contract AF 18(600)-1792)

Includes the following topics: Space 1956-1959; Space Medicine 1956-1959; Ecology 1956-1959; Behavior and Performance 1956-1959; Acceleration and Deceleration; Weightlessness 1956-1959; Radiation 1956-1959; Instrumentation, Monitoring, and Communication; Selection and Training.

590. Bauer, Louis H., Aviation Medicine. Baltimore:

Williams and Wilkins, 1926. 241p.

An important book on the history of the subject. Considered a classic in the field. Bibliography, pp. 179-201, lists approximately 484 references, mainly to journal articles. Some chapter endings list a few additional footnote references.

591. Beischer, Dietrich E., and Alfred R. Fregly, Animals

and Man in Space: a Chronology and Annotated

Bibliography Through the Year 1960. Pensacola,

Fla.: U.S. Naval School of Aviation Medicine,

1962. 97p. (Its Monograph No. 5; ONR Report

No. ACR-64; AD Report 272 581)

Lists pertinent bibliographies, monographs, technical publications, and periodical articles relating to biological experiments conducted during balloon and rocket flights and includes detailed tabulations of such flights.

592. Campbell, Paul A., Earthman, Spaceman, Universal Man.

New York: Pageant, 1965. 229p.

A historical study of man's quest for the stars and drive to conquer the universe. The author, who served as Director of Research at the Air Force School of Aviation Medicine, traces the upward progress of each facet of man's learning which has led him to space. Includes a list of 81 footnote references, pp. 206-213.

593. Carpenter, M. Scott, "Inner Space and Outer Space--  
Common Technical Challenges," Astronautics and  
Aeronautics, v. 4. (December 1966), pp. 68-70.

Includes examples which bear out the author's point that one of the effects of manned space exploration has been to make man conscious of how the simple activities he takes for granted become major challenges in space.

594. Clark, Carl C., et al., "Chronological Bibliography  
on the Biological Effects of Impact," in Symposium  
on Impact Acceleration Stress, Brooks Air Force  
Base, 1961, Proceedings. Washington: National  
Academy of Sciences--National Research Council,  
1962. 504p. (Its Publication, 977)

The symposium was held under the auspices of the Man in Space Committee of the Space Science Board, National Academy of Sciences, and includes approximately 80 references from 1876 to 1961 mainly to journal articles.

595. Congress, House, Committee on Science and Astronautics,  
Life Sciences and Space. Report Pursuant to H.  
Res. 133. Washington: U.S. Govt. Print. Off.,  
1960. 21p. (86th Cong, 2d Sess. House Report,  
no. 2227)

Based on hearings held June 15 and 16,  
1960, to determine the present state of and  
future needs of space biology and bioastro-  
nautics research in relation to the space  
program.

596. Congress, House, Committee on Science and Astronautics,  
Space Medicine Research. Hearings before the  
Special Investigating Subcommittee . . . June 15  
and 16, 1960. Washington: U.S. Govt. Print. Off.,  
1960. 70p. (86th Cong., 2d Sess.)

Includes scattered bibliographical  
references throughout the text, which is  
testimony on the state of the art and where  
in the armed services future research should  
be done.

597. Congress, Senate, Committee on Aeronautical and Space  
Sciences, Space Research in the Life Sciences:  
an Inventory of Related Programs, Resources, and  
Facilities; Report. Washington: U.S. Govt.  
Print. Off., 1960. 269p.

Includes brief bibliographies, pp. 237-238, and p. 269, at end of appendixes; "From Aviation Medicine to Space Medicine," by Hubertus Strughold; and "Exobiology-Experimental Approaches to Life Beyond Earth," by Joshua Lederberg.

598. Department of Commerce, Office of Technical Services,

Bio-Astronautics; a Selective Bibliography.

Washington: The Office of Technical Services,

1961. 12p.

This bibliography lists reports and translations placed in the Federal Clearinghouse for Scientific and Technical Information, Springfield, Va.: (OTS) between January 1959 and April 1961 on the human aspects of space flight. A separate section lists bibliographies, dictionaries, and surveys in the field.

599. Fogel, Lawrence J., Biotechnology; Concepts and

Applications. Englewood Cliffs, N.J.: Prentice-

Hall, 1963. 826p.

A bibliography accompanies each chapter. Section F, "An Overview of Biotechnology," pp. 793-796, lists 48 references.

600. Gantz, Kenneth F., ed., Man in Space: the United

States Air Force Program for Developing the

Spacecraft Crew. With a preface by Gen. Thomas D.

White. New York: Duell, Sloan and Pearce,

1959. 303p.

Reviews U.S. Air Force investigations into manned space flight. Consists of 18 papers by different life sciences experts written originally for publication in the Air University Quarterly Review. "Reference Notes," pp. 259-265, consists of chapter footnote references. "A Reading List of Books on Astronautics," compiled by Raymond Estep, pp. 279-285, lists approximately 75 annotated book references.

601. Gauer, Otto H., and George D. Zuidema, eds.,

Gravitational Stress in Aerospace Medicine.

Sponsored by the Aerospace Medical Laboratory,  
Wright-Patterson Air Force Base, Ohio. Boston:  
Little, Brown, 1961. 278p.

V. 1 in a series on aviation medicine and space biology from the Guggenheim Center for Aviation Health and Safety at the Harvard School of Public Health. Primarily technical but ch. 2, "Historical Aspects of Gravitational Stress," pp. 7-9, by Otto H. Gauer, is an historical account from 1794 to 1961. "References," p. 9, lists ten book titles in German and English.

602. German Aviation Medicine, World War II. Prepared

under the auspices of the Surgeon General, U.S. Air Force, by the USAF School of Aviation Medicine. Washington: Dept. of the Air Force, 1950. 2 v. (For sale by U.S. Govt. Print. Off.)

Comprises 14 chapters by German aero-medical experts on the state of the art in Germany at the end of the war. A rich source

of German reference on the subject; each chapter contains a brief bibliography and ch. 1 by Hubertus Strughold is on the history of aviation medicine in Germany.

603. Haber, Heinz, Man in Space. Illustrated by Jerry Milord. Indianapolis: Bobbs-Merrill, 1953. 291p.

Discusses the human aspects of space flight in terms of biology and medicine. Presents the development of ways of dealing with weightlessness, stress, oxygen supply, solar radiation, cosmic rays, and meteoroids as of 1953. Brief bibliography, pp. 7-8, lists about ten references on space medicine.

604. Hendrickson, Ruth M., Bibliography on Space Medicine. Los Alamos, N. Mex.: Los Alamos Scientific Laboratory, 1958. 47p. (Atomic Energy Commission. Report AECU-3914)

Covers period 1940-1957. Lists approximately 300 book and journal article references arranged by author under 13 subject categories.

605. Henry, James P. Biomedical Aspects of Space Flight. New York: Holt, Rinehart and Winston, 1966. 184p.

A Holt Library of Science Series account of the evolutionary buildup preceding each new step in controlling the environment for space travel. Discusses ascent through the air, escape from the earth's gravity, weightlessness, self-sustaining space vehicles, radiation, man-machine combination, and selection and training of the astronaut. Includes references, pp. 179-180, and an index.

606. Hoff, Ebbe C., and John F. Fulton, A Bibliography of Aviation Medicine. Prepared for the Committee on Aviation Medicine, Division of Medical Science, National Research Council, Acting for the Committee on Medical Research, Office of Scientific Research and Development, Washington, D.C. Springfield, Ill., Baltimore, Md.: C. C. Thomas, 1942. 237p. (Yale University. School of Medicine. Yale Medical Library. Historical Library. Publication no. 5) Supplement by Phebe M. Hoff, Ebbe C. Hoff, and John F. Fulton. Washington: Committee on Aviation Medicine, Division of Medical Sciences, National Research Council, Acting for the Committee on Medical Research, Office of Scientific Research and Development, 1944. 109p. (Yale University. School of Medicine. Yale Medical Library. Historical Library. Publication no. 9)

A comprehensive bibliography of 6,029 references to world literature from the earliest times to 1942. Covers related topics in the biological, physical, and chemical sciences. Includes references to histories and bibliographies of the subject. Arrangement is by broad subject category with author and subject indexes. The supplement is on the same plan and lists 2,336 entries covering the period 1942-1944.

607. Huang, Su-Shu, "Some Astronomical Aspects of Life in the Universe," in Smithsonian Institution Annual Report, 1961. Washington: 1962. pp. 239-249.

Reprinted from Sky and Telescope, v. 21, June 1961. Discusses the ways in which space exploration may answer the question of life elsewhere in the solar system and an understanding of the origin and nature of all living beings.

608. Interagency Life Sciences Supporting Space Research and Technology Exchange [ILSE]; NASA and DOD Research Work-Units in Life Sciences. Bethesda, Md.: Documentation Incorporated, 1966. 776p.

Revised and enlarged version of the 1965 edition. A directory of current research projects supported by NASA and the Department of Defense in the life sciences arranged by subject. Includes a list of projects for bibliographies and literature surveys, pp. 715-719.

609. Jacobius, Arnold J., "Bibliographic Control of Aviation and Space Medical Literature," Aerospace Medicine, v. 30 (July 1959), pp. 512-516.

A guide for the researcher in this field listing 69 pertinent references and sources in section entitled "Published Bibliographies of Aerospace Medicine and Related Fields," pp. 513-516.

610. Jacobius, Arnold J., "Bioastronautics Information Services and Publications in the United States," Aerospace Medicine, v. 34, (April 1963), pp. 344-348.

Pt. II, entitled "Bibliographic Services in the United States Pertinent to the Space Life Sciences," lists 18 services published on a continuing basis with pertinent bibliographical data and a detailed annotation for each.

611. Jeans, Sir James H., "Is the [i.e. there] Life on the Other Worlds?" in Smithsonian Institution Annual Report, 1942. Washington, 1943. pp. 145-150.

Lecture November 20, 1941. Reprinted from the Proceedings of the Royal Institution of Great Britain, 1941. Although brief and written too long ago to contain current theories on the question, this article does contain a concise review of the history of views held as to whether there is life on other planets.

612. Lansberg, Martin P., A Primer of Space Medicine.

Foreword by Wernher von Braun. Translated from the Dutch by M. E. Hollander. Amsterdam, New York: (Elsevier Monographs, Medicine Section).

Translation of the author's thesis, Problemen der Ruimtevaartgeneeskunde (Utrecht: 1958). Ch. 1, "The Birth and Growth of Space Medicine from Aviation Medicine," pp. 3-16, is an historical account of the subject. "References," pp. 151-160, lists 210 books and journal articles mainly English language.

613. Library of Congress, Aerospace Information Division,  
Principles of Life Support in Space; Based on  
Soviet Open Literature Published in Connection  
with the Vostok-3 and Vostok-4 Launchings.  
Washington: The Library, 1962. 27p. (Its  
AID Report, 62-194)

This report is based on more than 200 Soviet sources written by various Soviet specialists. Much emphasis is on the Soviet study of weightlessness. Includes a bibliography, pp. 23-27, of 70 Russian articles, most of which appeared in 1962.

614. Library of Congress, Aerospace Information Division,  
Soviet Bioastronautics and Biotechnology Facilities,  
Programs, Personalities; Summary of Data. Washing-  
ton: The Library, 1963. 49p. (Its AID Report,  
P-63-95)

Describes the scope of Soviet bioastro-  
nautics activities as revealed by Soviet  
open literature. Includes "List of References,"  
pp. 36-49, which cites 211 sources, mainly  
journal articles.

615. Library of Congress, Aerospace Technology Division,  
Soviet Bioastronautics and Biotechnology, 1964;  
Compilation of Abstracts. Washington: The Library,  
1965. 115p. (Its ATD Report, P-65-4)

This report comprises abstracts of all significant Soviet bioastronautics open literature published in the U.S.S.R. in 1964 and available at the Aerospace Technology Division of the Library of Congress.

616. Library of Congress, Aerospace Technology Division,

Soviet Bioastronautics and Manned Spaceflight;  
Programs, Organization, and Personalities.

Washington: The Library, 1965. 118p. (Its  
ATD Report, P-65-14)

A survey of Soviet literature on bioastronautics with running text annotations. The period from the 1950s to 1965 is covered. Bibliography, pp. 76-118, lists 769 references to Soviet literature.

617. Library of Congress, Aerospace Technology Division.

Soviet Biotechnology and Bioastronautics, June  
1965-December 1965; Compilation of Abstracts.

Washington: The Library, 1966. 163p. (Its  
ATD Report, 66-75)

Lists 93 Soviet-satellite countries-Western annotated references which reflect Soviet research in the fields of bioastronautics, space biology, and space-oriented biotechnology, published during 1965.

618. Link, Mae M., Space Medicine in Project Mercury.

Washington: National Aeronautics and Space Administration, 1965. 198p. (NASA SP-4003) (For sale by U.S. Govt. Print. Off.)

This volume examines the historical development of NASA's fund of space-medicine information and experience. It also shows how NASA was able to draw upon the space-medicine resources of the Air Force, the Navy, other Government agencies, industry, and academic and private research institutions to develop life-support systems for the Mercury program. Includes index and bibliographical references, pp. 180-181.

619. Lomonaco, Tomaso, et al., Medicina Aeronautica ed Elementi di Medicina Spaziale. Roma: "Regionale" Editrice, 1959. 586p.

Ch. 1, "Storia," pp. 7-42, is essentially a history of Italian aeronautical medicine; it includes a bibliography, pp. 543-544.

620. Machell, Reginald M., ed., Summary of Gemini Extravehicular Activity. Washington: NASA, 1967. 330p. NASA SP-149. (For sale at U.S. Govt. Print. Off.)

Series of papers on extravehicular activities in the Gemini manned space flights. One or more papers consider the extravehicular activities flight by flight, the various subsystems directly involved, the operational aspects, the simulation and training aspects, and the medical aspects. "References," p. 12-1.

621. National Aeronautics and Space Administration, Aerospace Medicine and Biology; a Continuing Bibliography. Springfield, Va.: Clearinghouse

for Federal Scientific and Technical Information

(OTS), January/March, 1964 to date. Quarterly.

(NASA SP-7011)

A selection of annotated references to unclassified reports and journal articles introduced into the NASA information system during the quarterly periods covered. All references included have been compiled by the joint efforts of the American Institute of Aeronautics and Astronautics, NASA, and the Aerospace Medicine and Biology Bibliography Project of the Library of Congress. Material previously announced in separate journals is now combined in a single bibliography which will be updated periodically by supplements. Primary emphasis given to biological, physiological, psychological, and environmental effects to which man is subjected during and following simulated or actual flight in the earth's atmosphere or in interplanetary space. Related topics such as life-support systems, pharmacology, sanitary problems, personnel factors, etc., are included. Subject, personal author, and corporate source indexes. Aerospace Medicine and Biology is a continuation of the Aviation Medicine Bibliography initiated in 1954 by the Library of Congress. Ten volumes of this annotated bibliography: v. 1 and 2 entitled Aviation Medicine and Biology; an Annotated Bibliography, and v. 4-10 entitled Aerospace Medicine and Biology; an Annotated Bibliography, were published 1956-1966 (covering the period 1952-1961). Subsequent volumes covering the years 1962 and 1963 are in preparation. A cumulative index to v. 1-10, covering the 1952-1961 literature, was published in 1966. A Cumulative Index to the 1964 Issues of a Continuing Bibliography on Aerospace Medicine and Biology supersedes all the 1964 separate issue indexes.

622. National Aeronautics and Space Administration,  
Extraterrestrial Life; a Bibliography. Washington:  
 NASA, 1964. 2 pts. (NASA SP-7015) (For sale by  
 U.S. Govt. Print. Off.)

Pt. 1: Domestic and foreign report literature; a selected listing of annotated references to unclassified scientific and technical reports published between 1900-1964; pt. 2: Published literature; a selected of annotated references to journal articles and books published between 1900-1964.

Both parts include such subjects as extraterrestrial life, exobiology, the origin of life on earth, the suitability of other planets for the development of indigenous life, and the terrestrial contamination of spacecraft. Both parts are arranged in reverse chronological order and are followed by personal author and subject indexes. Prepared by the Scientific and Technical Information Facility for the National Aeronautics and Space Administration by Documentation Incorporated.

623. National Aeronautics and Space Administration,  
Significant Achievements in Space Bioscience,  
1958-1964. Washington: NASA, 1966. 128p.  
 (NASA SP-92) (For sale by U.S. Govt. Print. Off.)

One of a series of ten volumes which summarize the progress and describe achievements during the period 1958 through 1964 in the following areas: Astronomy, Bioscience, Communications and Navigation, Geodesy, Ionospheres and Radio Physics, Meteorology, Particles and Fields, Planetary Atmospheres,

Planetology, and Solar Physics. Bibliography, pp. 119-128, lists 202 references to significant books, journal articles, and technical reports.

624. Potocko, Richard J., Bibliography Related to Human Factors System Program, July 1962-February 1964.

Washington: National Aeronautics and Space Administration, 1964. 237p. (NASA SP-7014)

A list of references with abstracts arranged in 21 subject categories, covering books, reports, and journal articles in biotechnology and human research. All citations previously appeared in Scientific and Technical Aerospace Reports or International Aerospace Abstracts, July 1962-February 1964.

625. Roos, Charles, comp., Bibliography of Space Medicine.

Washington: National Library of Medicine, Reference Division, 1958. 49p. (U.S. Public Health Service, Publication, no. 617. Bibliography Series, no. 21)

Consists of 381 annotated references compiled by the Head, Document Section, National Library of Medicine, arranged by subject category and covering the period from the 1930s to 1958. References selected from the National Library of Medicine and aviation, aviation medicine, and astronautical publications. Supplement, 1958, continues and brings the number of references cited up to 431.

626. Ruff, Siegfried, and Hubertus Strughold, Compendium of Aviation Medicine. Washington: [National Research Council]. 1942. 130p.

Translation of the authors' Grundriss der Luftfahrtmedizin (Leipzig: Johann Ambrosius Barth, 1939). A pioneering work in the field. Bibliography, pp. 127-129, lists approximately 70 references, mainly to German journal articles on the effects of altitude. First chapter covers historical development of the subject.

627. Sagan, Carl, "The Quest for Life Beyond the Earth," in Smithsonian Institution Annual Report, 1964. Washington: 1965. pp. 297-306. (Its Publication, 4613)

Reprinted from Harvard Alumni Bulletin, April 4, 1964. Reviews recent ideas on the origin of life and extraterrestrial life and suggests that before the decade is out voyages of discovery will be made to Mars by the U.S. and U.S.S.R. Instruments will search for the presence of life on Mars and radio back the news to Earth.

628. Schmidt, Ingeborg, Bibliographie der Luftfahrtmedizin; eine Zusammenstellung von Arbeiten über Luftfahrtmedizin und Grenzgebiete bis ende 1936. Berlin: J. Springer, 1938. 136p.

A worldwide bibliography of approximately 3,000 items classified by subject. Contains both book and journal article references on medical aspects of aeronautics. "Verschiedenes...", pp. 2-6, contains some historical references.

629. School of Aerospace Medicine, Epitome of Space Medicine: Research Reports and Articles from Scientific Journals. Randolph AFB, Tex.: USAF School of Aviation Medicine, 1957. 1 v. (Various pagings)

Consists of a collection of 40 of the outstanding reports and articles on space medicine published from 1949 to 1957. Includes the historical "From Aviation to Space Medicine" by Hubertus Strughold as ch. 21. This paper was reprinted from Journal of Aviation Medicine, v. 23, August 1952. Contains a bibliography of 25 books and journal articles.

630. Sergeyev, Aleksandr A., Essays on the History of Aviation Medicine. Washington: National Aeronautics and Space Administration, 1965. 413p. (NASA Technical Translation TT F-176)  
(For sale by Clearinghouse for Federal Scientific and Technical Information (OTS), Springfield, Va.)

Translation of Sergeev's Ocherki po Istorii Aviatsionnoi Meditsiny (Moscow: USSR Academy of Sciences Publishing House, 1962) which consists of nine essays on the history of Soviet aviation medicine and an excellent final chapter entitled, "Bibliography of Works in Russian on Aviation Medicine up to 1950," pp. 254-398, listing approximately 1,730 references to books and journal articles.

631. Shneour, Elie A., and Eric A. Ottesen, compilers,

Extraterrestrial Life: an Anthology and Bibliography.

Washington: National Academy of Sciences and

National Research Council, 1966. 478 p.

(National Research Council Publication 1296A)

Supplementary to Biology and the Exploration of Mars; Report of a Study held under the Auspices of the Space Science Board, National Academy of Sciences, National Research Council, edited by C. S. Pittendrigh, (Washington, 1966). Prepared under the guidance of the Study Group on Biology and and the Exploration of Mars of the Space Science Board as a means of providing access to the literature on life beyond the Earth. Includes 34 papers by international experts reprinted from various journals and published between 1945 and 1965; and a bibliography containing over 2,000 selected references to world literature from the 18th century through 1965.

632. Slager, Ursula T., Space Medicine. Englewood Cliffs,

N.J.: Prentice-Hall, 1962. 388p. (Prentice-

Hall Space Technology Series)

Primarily a textbook but "The Concept of Space Medicine," pp. 13-17, is a historical account of the subject. "Bibliography," pp. 17-18, lists 27 book and journal article references.

633. Stearns, Peggy E., and Catherine F. Kaspanek, comps.,

Catalog of Scientific Publications, 1942-1963.

Pensacola, Fla.: U.S. Naval Aviation Medical

Center, 1963. 157p.

List of published works based on studies done by the U.S. Naval School of Aviation Medicine. Although primarily technical works are listed, the "Topographical Index," p. 147, cites approximately 30 references under "History and General Aspects of Aviation Medicine."

634. Sullivan, Walter, We Are Not Alone: The Search for Intelligent Life on Other Worlds. New York:

McGraw-Hill, 1964. 325p.

The science editor of the New York Times reviews past and present astronomy, research, and thinking about the origin of life and the universe, and current beliefs about extraterrestrial life. Includes "References," pp. 292-310, which lists chapter bibliographies.

635. Syme, Anthony, The Astronauts. London, Melbourne:

Horwitz, 1965. 130p.

History of the accomplishments of the following astronauts and cosmonauts: Yuri Gagarin, Alan Shepard, Virgil Grissom, Gherman Titov, John Glenn, Scott Carpenter, Andrian Nikolayev, Pavel Popovich, Walter Schirra, Gordon Cooper, Valery Bykovsky, Valentina Tereshkova, Vladimir Komarov, Konstantin Feoktistov, Boris Yegorov, Alexei Leonov, Pavel Belyayev, John Young, Edward White, James McDivitt, Gordon Cooper, and Charles Conrad.

636. Thomas, Jean L., comp., A Bibliography of Reports

Issued by the Behavioral Sciences Laboratory:

Engineering Psychology, Training Psychology,

Environmental Stress, Simulation Techniques, and Physical Anthropology, 1946-1962. Wright-Patterson Air Force Base, Ohio: 6570th Aerospace Medical Research Laboratories, Behavioral Sciences Laboratory, 1963. 109p. (Available from Clearinghouse for Federal Scientific and Technical Information (OTS), Springfield, Va.)

Lists 907 reports including some on aviation medicine, space medicine, and weightlessness.

637. White, Clayton S., and Otis O. Benson, eds., Physics and Medicine of the Upper Atmosphere; A Study of the Aeropause. The Proceedings of a Symposium on the Physics and Medicine of the Upper Atmosphere Held at San Antonio, Texas, November 6, 7, 8, 9, 1951, Sponsored by the Air University School of Aviation Medicine, Randolph Field, Texas. Arranged by the Lovelace Foundation for Medical Education and Research, Albuquerque, New Mexico. Albuquerque: University of New Mexico Press, 1952. 611p.

Essays by 42 of the leading experts in the field. Covering all phases of the subject in an attempt to present what is known in such a way that future research may be based on it. Each essay includes a very brief bibliography.

638. Young, Richard S., Extraterrestrial Biology.

Coordinating Editor: James V. Bernardo. New York:

Holt, Rinehart and Winston, 1966. 119p. (Holt

Library of Science)

Deals with the question of how study of the extraterrestrial environment can contribute to understanding of life and its processes. Bibliography, pp. 113-114, lists nine annotated references to books on the possibilities of life on other planets.

Meteorology

639. Ashby, John H., A Preliminary History of the Evolution of the Tiros Weather Satellite Program.

Comment ed. Greenbelt, Md.: Goddard Space Flight Center, 1964. 102p. (HHN-45)

Traces the development of the first meteorological satellite, Tiros, from an experimental R&D satellite to an operational system supporting worldwide weather analyses. Includes chronology, pp. 79-90. Bibliography, pp. 95-102, lists approximately 100 references. Footnote references scattered throughout the text.

640. Congress, House, Committee on Science and Astronautics, Space and the Weather. Report of the Committee.

Washington: U.S. Govt. Print. Off., 1962. 21p.  
(87th Cong., 2d Sess. House Report no. 2561)

Deals with astronautics in meteorology, especially the Tiros weather satellite program. Based on subcommittee hearings held during August and September 1962 to assess the progress of weather satellites and their implications.

641. International Meteorological Satellite Workshop,

Washington, D. C. 1961. Proceedings. Washington: U.S. Govt. Print. Off., 1962. 226p.

Sponsored by the National Aeronautics and Space Administration and U.S. Weather Bureau. Consists of 31 somewhat technical papers on

astronautics in meteorology, especially on NASA meteorological satellite programs. A few papers have brief bibliographies.

642. Kiss, Elemer, "Annotated Bibliography on Rocket Meteorology," Meteorological and Geoastrophysical Abstracts, v. 11 (September 1960), pp. 1480-1535.

A bibliography of approximately 280 annotated references to books and journal articles, worldwide in scope, on the use of rockets in the upper atmosphere, and published between 1950-1960. Items are arranged chronologically and alphabetically by author within each year. A subject outline provides a guide to the subject matter. A geographic outline provides a guide to the locations of areas where observations and measurements were conducted.

643. Kiss, Elemer, Bibliography on Meteorological Satellites, 1952-1962. Washington: Weather Bureau, 1963.

380p. (For sale by U.S. Govt. Print. Off.)

Approximately 988 annotated references to books, technical reports, conference papers, and journal articles for the period 1952-1962, international in scope, are arranged alphabetically by author within each year. Subject outline, geographical outline, author index, and serial index are included. About 800 of these references were listed in the following four compilations in Meteorological and Geoastrophysical Abstracts: October 1960, pp. 1480-1535; March 1963, pp. 870-936, for the period 1961-1962; February 1964, pp. 405-447, for the period 1959-1962. March 1964, pp. 634-663, is a further compilation which covers the period 1963.

644. Library of Congress, Legislative Reference Service,  
Meteorological Satellites. Staff Report Prepared  
for the Use of the Committee on Aeronautical and  
Space Sciences, United States Senate. Washington:  
U.S. Govt. Print. Off., 1962. 201p. (87th  
Cong., 2d Sess.)

A Committee Print which describes the use of satellites for a worldwide weather prediction system. Contains much background historical information. Includes "Some Significant Events in the Development of the Meteorological Satellite System; A Chronology," pp. 134-143.

645. Meteorological and Geoastrophysical Abstracts,  
Boston, Mass.: American Meteorological Society,  
1950 to date. Monthly.

Lists 11,000 abstracts a year from world literature on the subjects of meteorology, oceanography, hydrology, geophysics, and astrophysics. Abstracts on satellites listed under section "Instrument Carriers." Subject classification with annual author, subject, geographical, and journal indexes. Also each issue usually contains cumulative, annotated bibliographies on subjects of special interest, as well as a title and keyword permuted index entitled, Meteorological and Geoastrophysical Titles. This latter has many entries under the keywords "history" and "historic."

646. National Aeronautics and Space Administration, Final Report on the Tiros I Meteorological Satellite

System. Staffs of Goddard Space Flight Center and U.S. Weather Bureau. Washington: NASA, 1962. 258p. (NASA Technical Report R-131) (For sale by U.S. Govt. Print. Off.)

This report is divided into two parts: Pt. I includes the design, development, operation, and engineering evaluation of Tiros I; Pt. II is concerned with the meteorological uses of the television data obtained from Tiros I. Bibliography, pp. 109-112, lists 86 references to books, journal articles, and reports.

647. National Aeronautics and Space Administration, Significant Achievements in Satellite Meteorology, 1958-1964. Washington: NASA, 1966. 141p. (NASA SP-96) (For sale by U.S. Govt. Print. Off.)

One of a series of ten volumes which summarize the progress and describe achievements during the period 1958 through 1964 in the following areas: Astronomy, Bioscience, Communications and Navigation, Geodesy, Ionospheres and Radio Physics, Meteorology, Particles and Fields, Planetary Atmospheres, Planetology, and Solar Physics. Bibliography, pp. 137-141, lists 97 references to significant books, journal articles, and technical reports.

648. National Aeronautics and Space Administration, Significant Achievements in Space Applications, 1965. Washington: NASA, 1966. 85p. (NASA SP-137) (For sale by U.S. Govt. Print. Off.)

This volume summarizes the progress in space applications in 1965 in the following areas: Communications, Geodesy, and Meteorology. "References," pp. 83-85, lists 45 technical reports and journal articles. A companion volume (NASA SP-136) describes the significant scientific progress in 1965 in the following areas: Astronomy, Ionospheres and Radio Physics, Particles and Fields, Planetary Atmospheres, Planetology, and Solar Physics.

649. National Aeronautics and Space Administration,

Significant Achievements in Space Applications, 1966.

Washington: NASA, 1967. 91p. (NASA SP-156)

(For sale by U.S. Govt. Print. Off.)

This volume summarizes the progress in space applications in 1966 in the following areas: Applications Technology Satellites, Communications Satellites, Satellite Geodesy, Meteorological Program, and Navigation and Traffic Control Satellite Program. The last three papers have references. A companion volume (NASA SP-155) describes the significant scientific progress in 1966 in the following areas: Space Astronomy, Space Bioscience, Ionospheres and Radio Physics, Particles and Fields, Planetary Atmospheres, Planetology, and Solar Physics.

650. U. S. Treaties, etc., Meteorological Satellite System.

Washington: U.S. Govt. Print. Off., 1963. 5p.

Text of agreement regarding Canadian participation in an operational meteorological satellite system established by the United States and designed to provide for continuous meteorological observation on a global basis.

651. Vaeth, Joseph G., Weather Eyes in the Sky: America's Meteorological Satellites. New York: Ronald Press, 1965. 124p.  
History of the U.S. meteorological satellite program, including projects Vanguard, Tiros, and Nimbus, by the manager of the Tiros Operational Satellite System Engineering Division, National Weather Satellite Center, U.S. Weather Bureau. Bibliography, p. 119, lists six references.
652. Vercelli, Francesco, L'Aria nelle Natura e nella Vita. 2. ed. Torino: Unione Tipografico-Editrice Torinese, 1952. 718p.  
Handsomely illustrated text on meteorology, encyclopedic in scope. Includes information on V-2 rocket flights in New Mexico, aviation meteorology, planetary atmospheres, and jet propulsion. In particular chs. 18-21, pp. 601-707, deal with (18) aerodynamics and utilization of air and wind, (19) applications to lighter than air, (20) heavier-than-air-flight, and (21) modern aviation.
653. Wexler, Harry, and J. E. Caskey, Jr., eds., International Symposium on Rocket and Satellite Meteorology, 1st, Washington, D. C., April 23-25, 1962, Proceedings. Sponsored by Committee on Space Research (COSPAR), World Meteorological Organization (WMO), and International Union of Geodesy and Geophysics (IUGG). New York: Interscience, Amsterdam: North Holland, 1963. 441p.

Consists of 39 papers by experts from all countries arranged as follows: Pt. I, "Meteorological Rockets," Pt. II, "Meteorological Satellites-Radiation Studies;" Pt. III, "Meteorological Satellites-Cloud Studies;" Pt. IV, "Meteorological Satellites-Special Studies." Most of the articles contain brief bibliographies.

654. Widger, William K., Meteorological Satellites.

New York: Holt, Rinehart and Winston, 1966.

280p. (Holt Library of Science)

Deals with the development of meteorological satellites, especially with the weather satellite Tiros I, which has changed the whole course of meteorology. Ch. 4 is entitled "The History and Background the Led to Tiros." Bibliography, pp. 255-276, lists references by chapter.

Physics

655. Ahrendt, Myrl H., The Mathematics of Space Exploration.

Coordinating Editor: James V. Bernardo. New

York: Holt, Rinehart and Winston, 1966. 160p.

(Holt Library of Science)

Presents in simple form enough of the applications of mathematics in the space age to enable the lay person or the student who has a reasonable knowledge of mathematics to form an appreciation and understanding of the role of mathematics in the exploration of space. Bibliography, p. 157, lists 13 references to books.

656. Goddard Space Flight Center, Publications.

Washington: GSFC, 1963 (2 v.) to date.

Annual. (For sale by U.S. Govt. Print. Off.)

A collection in two annual volumes of the articles, papers, talks, and reports generated by the scientific and engineering staff of Goddard Space Flight Center for the year. V. 1 is entitled "Space Sciences" and v. 2 is entitled "Space Technology." Each volume includes author index. Many of these articles were originally published in the journal literature or as official NASA publications.

657. Jastrow, Robert, and A. G. Cameron, "Space: Highlights

of Recent Research," Science, v. 145, no. 3637

(September 11, 1964), pp. 1,129-1,139.

The authors deal with the recent research highlights in the particular collection of scientific problems to which space vehicles can make some specific contributions not achievable by ground-based experiments. Discusses geodesy, meteorology, upper atmosphere, magnetosphere, magnetopause, the atmosphere of Venus, solar physics, x-rays, and gamma rays. Bibliography, p. 1,139, lists approximately 50 references.

658. Library of Congress, Aerospace Information Division,

Future Trends in Soviet Science and Technology:

Review of Soviet and Soviet-Bloc Literature.

Washington: The Library, 1963. 279p. (Its

AID Report, P-63-2)

A compilation of informed Soviet statements on the future considered indicative of Soviet long-range planning. Sources examined available at Aerospace Information Division during the period September 15 through November 15, 1962. The "quotation-in-depth" method is used with occasional bibliographic references in the text. "Astrophysics and Space Sciences," pp. 32-84.

659. Ludwig, George H., The NASA Program for Particles and

Fields Research in Space. Washington: National

Aeronautics and Space Administration, 1962. 26p.

(NASA Technical Note D-1173)

A review of the NASA program for investigating the upper atmosphere by means of earth satellites and deep space probes. Bibliography, pp. 24-26, lists 32 primarily American journal references.

## 660. National Aeronautics and Space Administration,

Significant Achievements in Ionospheres and RadioPhysics, 1958-1964. Washington: NASA, 1966.

60p. (NASA SP-95) (For sale by U.S. Govt.

Print. Off.)

One of a series of ten volumes which summarize the progress and describe achievements during the period 1958 through 1964 in the following areas: Astronomy, Bioscience, Communications and Navigation, Geodesy, Ionospheres and Radio Physics, Meteorology, Particles and Fields, Planetary Atmospheres, Planetology, and Solar Physics. Bibliography, pp. 51-60, lists 126 references to significant books, journal articles, and technical reports.

## 661. National Aeronautics and Space Administration,

Significant Achievements in Particles and Fields,1958-1964. Washington: NASA, 1966. 94p.

(NASA SP-97) (For sale by U.S. Govt. Print. Off.)

One of a series of ten volumes which summarize the progress and describe achievements during the period 1958 through 1964 in the following areas: Astronomy, Bioscience, Communications and Navigation, Geodesy, Ionospheres and Radio Physics, Meteorology, Particles and Fields, Planetary Atmospheres, Planetology, and Solar Physics. Bibliography, pp. 83-94, lists 152 references to significant books, journal articles, and technical reports.

662. National Aeronautics and Space Administration,  
Significant Achievements in Solar Physics, 1958-1964.

Washington: NASA, 1966. 95p. (NASA SP-100)

(For sale by U.S. Govt. Print. Off.)

One of a series of ten volumes which summarize the progress and describe achievements during the period 1958 through 1964 in the following areas: Astronomy, Bioscience, Communications and Navigation, Geodesy, Ionospheres and Radio Physics, Meteorology, Particles and Fields, Planetary Atmospheres, Planetology, and Solar Physics. Bibliography, pp. 91-95, lists 95 references to significant books, journal articles, and technical reports.

663. Seifert, Howard S., and Mary H. Seifert, Orbital

Space Flight. New York: Holt, Rinehart and

Winston, 1964. 138p. (Holt Library of Science)

Deals with the physics of satellite motion including laws of motion, forms of energy, satellites, launch and reentry. Bibliography, p. 129, lists 20 references to books.

664. Sutton, Richard M., The Physics of Space. Coordinating

Editor: James V. Bernardo. New York: Holt,

Rinehart and Winston, 1966. 176p. (Holt Library of Science)

Discusses the many ways physics is important to our understanding of space. This book is a do-it-yourself astronomy book to help the reader become better acquainted with outer

space and the applications of the laws of physics. Bibliography, pp. 171-172, lists 12 references to books.

665. Symposium on Space Physics, Washington, D. C., 1959,

The Exploration of Space. Edited by Robert

Jastrow. New York: Macmillan, 1960. 160p.

The National Academy of Science had previously published these papers in the Journal of Geophysical Research, August and November, 1959. Includes 15 scientific papers from the first symposium on space physics held under the auspices of the National Academy of Sciences, National Aeronautics and Space Administration, and the American Physical Society, April 29-30, 1959. The papers cover the need for scientific space research, existing instrumentation in space physics, what new apparatus might make possible, and the need for planetary and lunar exploration. Some papers include brief bibliographies.

## IMPACT AND APPLICATIONS OF SPACE EXPLORATION

Military

666. Air University, Research and Special Studies Progress Report. Maxwell Air Force Base, Ala. July 1, 1956, to date. Semiannual.

Annotated bibliography of the research and special study projects of the staffs and faculties at the Air University and the various components of it, including the USAF Historical Division. Issued annually to provide some indication of the state of progress of research in process.

667. Air University, Studies and Histories Prepared by the USAF Historical Division, Research Studies Institute, Air University, as of 1 September 1959. Maxwell Air Force Base, Ala.: The University, 1959. 13p.

Lists 138 historical studies issued from 1943-1958 and covering among other military aeronautics topics World War II and the Korean conflict. In addition lists a number of policy studies and published histories.

668. Air University, Libraries, Air University Abstracts of Student Research Reports. Maxwell Air Force Base, Ala.: 1957 to date. Annual.

Title, 1957-1964: Air University Annotated List of Student Research Reports. Brings together and arranges accordingly in one annual annotated list student research reports and theses from the several schools of Air University: Air Command and Staff College, Air Force Institute of Technology, Air War College, and Squadron Officer School. Includes many entries under "Space" in the subject index.

669. Air University Periodical Index to Military

Periodicals, Maxwell Air Force Base, Ala.:

Air University Library, 1949 to date. Quarterly.

Lists 18,000 largely nontechnical references a year to significant articles, news items, and editorials from 68 English-language military and aeronautical periodicals generally not indexed elsewhere. Arrangement is alphabetical by subject with annual and triennial cumulative volumes. Published 1949-1962 as Air University Periodical Index.

670. Anzalone, Alfred, Space Technology: a Partial Search

of the Literature Concerning the Applications of

Orbital Space Satellites to Advanced Weapons

Systems. Dover, N.J.: Feltman Research and

Engineering Laboratories, Picatinny Arsenal, 1959.

109p.

A list of annotated references to unclassified literature with a uniterm index.

671. Baxter, James P., Scientists Against Time. Boston:  
Little, Brown, 1946. 473p. (An Atlantic Monthly  
Press Book)

Official history of the U.S. Office  
of Scientific Research and Development,  
1940-45, in which the author describes  
the scientists, money, and organization  
which produced new weapons of war. Ch. XIII,  
"Rockets," pp. 201-211, describes the  
development and use of rockets in World  
War II.

672. Bulow, Hilmer, freiherr von, Geschichte der Luftwaffe,  
eine kurz Darstellung der Entwicklung des Dritten  
Wehrmachtteils, mit einem Geleitwort des  
Reichsluftfahrtministers Generaloberst Göring.  
2. aufl. Frankfurt am Main: Diesterweg, 1937.  
189p.

History of the German air force from 1909  
to 1937. Covers European aerial operations  
in World War I. Contains the following  
three sections: "Entstehung und Gestaltung  
der Luftwaffe bis zum Weltkriege," "Die  
Luftwaffe im Weltkriege," and "Die Luftwaffe  
nach dem Weltkriege," First edition  
published in 1934.

673. Congress, House, Committee on Government Operations,  
Organization and Management of Missile Programs.  
Hearings before a Subcommittee of the Committee.  
Washington: U.S. Govt. Print. Off., 1960. 228p.  
(86th Cong., 2d Sess.)

Consists of testimony given by top officials of the Department of Defense and Air Force at hearings, May 3, 4, 6, 1960.

674. Congress, House, Committee on Science and Astronautics, Basic Scientific and Astronautic Research in the Department of Defense. A Report of the Committee and Subcommittees Nos. 1, 2, 3, and 4. Washington: U.S. Govt. Print. Off., 1959. 33p. (86th Cong., 1st Sess. House Report, no. 1182)

Covers military astronautics research in the Department of Defense, the three armed services, and the Advanced Research Projects Agency.

675. Congress, House, Committee on Science and Astronautics, Defense Space Interests. [Hearings Mar. 17-23, 1961]. Washington: U.S. Govt. Print. Off., 1961. 220p.

Consists of testimony given by top officials in the three armed services on space organization in the Department of Defense and its implications for the national space program, NASA, and the Space Council. Includes several appendixes on Dept. of Defense and NASA agreements and directives.

676. Congress, House, Committee on Science and Astronautics, Military Astronautics (Preliminary Report). Washington: U.S. Govt. Print. Off., 1961. 37p. (87th Cong., 1st Sess. House Report, no. 360)

Based on hearings held March 17-23, 1961, to determine the proper organization to support astronautics research and development and explore NASA-Dept. of Defense relations.

677. Congress, House, Committee on Science and Astronautics,  
The Practical Values of Space Exploration. Re-  
port . . . Pursuant to H. Res. 133. Washington:  
 U.S. Govt. Print. Off., 1960. 54p. (86th Cong.,  
 2d Sess. House Report, no. 2091)

This report was undertaken to explain to the American taxpayer why so many of his dollars are going into the American effort to explore space and the various benefits--economic, national security, educational, etc.--that he is likely to derive from the effort. Text includes many bibliographical footnote references. Revised edition issued in 1961 (87th Cong., 1st Sess. House Report, no. 1276, 74p)

678. Congress, House, Committee on Science and Astronautics,  
Science, Astronautics, and Defense: the 1961  
Review of Scientific and Astronautic Research and  
Development in the Department of Defense. Staff  
 Report. Washington: U.S. Govt. Print. Off.,  
 1961. 68p. (87th Cong., 1st Sess.)

A Committee print which covers military astronautics research in the Department of Defense and the three armed services.

679. Cuneo, John R., Winged Mars. Harrisburg, Pa.:

Military Service Publ. Co., 1942-47. 2 v.

Comprehensive history of the development of aircraft as a military weapon. Includes v.1, "The German Air Weapon, 1870-1914" and v.2, "The Air Weapon, 1914-1916." V. 1 contains "Bibliography I," pp. 283-306, which lists approximately 500 footnote references, and "Bibliography II," pp. 307-309, which lists approximately 50 additional references. V. 2 contains "Notes," pp. 379-456, which lists chapter footnotes and "References," pp. 459-472, which lists 292 additional items.

680. Department of the Army, Army Library, Military Aspects of Space Exploration; a Selected List of Titles.

Washington: Army Library, 1958. 55p. (Its Special Bibliography no. 16)

An annotated bibliography of 300 unclassified titles on the military implications of space arranged by broad subject category. Covers both Soviet and American aspects. Items included published primarily in the 1950s.

681. Estep, Raymond, An Aerospace Bibliography. Maxwell

Air Force Base, Ala.: Documentary Research

Division, Aerospace Studies Institute, Air

University, 1962. 158p. (Air University Docu-

mentary Research Study, AU-290-61-RSI)

A bibliography of 3,100 briefly annotated references to books and articles in nearly one hundred periodicals. Arranged alphabetically under 48 broad subject categories with subject and author indexes. Combines in one volume the coverage formerly furnished in an Air Power Bibliography (Maxwell Air Force Base, 1956 and 1959) and later in A Space Bibliography (Maxwell Air Force Base, 1959). Covers air power references from 1957 to January 1962 and space references from 1959 to January 1962. All references are to material in the Air University Library at Maxwell Air Force Base, Ala. Supplement, An Aerospace Bibliography (Maxwell Air Force Base, Ala., 1965), covers book and periodical literature for the years 1962-1964.

682. Glines, Carroll V., The Compact History of the United States Air Force. New York: Hawthorn Books, 1963. 339p.

History of military aeronautics in the United States including the U.S. Air Force and the U.S. Army Air Forces. Covers development in World Wars I and II and the Korean War. Bibliography, pp. 327-28, lists 31 book titles.

683. Golovine, Michael N., Conflict in Space: a Pattern of War in a New Dimension. New York: St. Martin's Press, 1962. 146p.

Surveys the evolution of warfare strategy from bomber to missile forces and the consequent development of both offensive and defensive aerospace weapons and the aerospace industries. The author's thesis is that only the moving of conflict into space can

avoid total annihilation and that Europe should press forward in space research and change the character of NATO. Bibliography, p. 143, lists nine titles.

684. Hauschild, Reinhard, and Hellmut H. Führung,  
Raketen; die erregende Geschichte einer Erfindung.  
 Einführung von Pascual Jordan. Bonn: Athenaüm--  
 Verlag, 1958. 135p.

History of the military use of rocket weapons during the past 1,000 years. Bibliography, p. 133, lists 18 German book titles.

685. Hébrard, Jean A. L., L'Aviation des Origines à nos Jours. Paris: R. Laffont, 1954. 375p.

History of aviation from earliest times to 1954 with special emphasis on military aviation in World Wars I and II. Bibliography, pp. 358-360, lists approximately 75 references to French books.

686. Hebrard, Jean A. L., Vingt-cinq Années d'Aviation Militaire (1920-1945). Pref. de Henri Bouché.

Paris: A. Michel, 1946-47. 2 v.

Comprehensive two-volume history of air warfare primarily in Europe. Includes v. 1, "La Genese du Drame Aérien de 1940," and v. 2, "La Guerre Aérienne, 1939-1945." Bibliography, pp. 473-475, lists approximately 50 French book and journal article references.

687. Hennessy, Juliette A., The United States Army Air Arm, April 1861 to April 1917. Montgomery, Ala.: USAF Historical Division, Research Studies Institute, Air University, 1958. 260p. (USAF Historical Studies, no. 98)

Recounts the development of aviation in the United States Army from the first use of balloons in 1861 to 1917 when the U.S. entered World War I. Includes "Bibliographical Note," p. 256.

688. Higham, Robin D., An Introduction to Maritime, Naval, and Aeronautical History. Chapel Hill: University of North Carolina Press, 1960. 48p. (Library Study Outlines, v. 1, no. 3)

A reading guide prepared by the Naval and Air Historian, Department of History, University of North Carolina. "Aeronautical Literature," pp. 36-47, lists approximately 100 annotated works on the history of aviation from World War I to 1960. Includes references on the Royal Air Force, the Luftwaffe, Japanese air services, and aviation and airships.

689. Holley, Irving B., Buying Aircraft: Materiel Procurement for the Army Air Forces. Washington: Department of the Army, 1964. 643p. (United States Army in World War II Series) (For sale by U.S. Govt. Print. Off.)

A thorough study of aircraft procurement during World War II, with copious footnoting and a Bibliographical Note, pp. 583-587. Appendixes list Membership in the Aeronautical Chamber of Commerce, 1938; Wartime Producers of Aircraft; and Major Producers of Aircraft Engines: July 1940-August 1945.

690. Holley, Irving B., Ideas and Weapons: Exploration of the Aerial Weapon by the United States During WWI; a Study in the Relationship of Technological Advance, Military Doctrine, and the Development of Weapons. New Haven, Conn.: Yale University Press, 1953. 222p. (Yale Historical Publications)

"Bibliographical Note," pp. 178-209, discusses the primary sources available in the United States for this study. Discusses manuscript materials, national archives, official records of the period, Air Force files, as well as published material such as that of the War Department, Congress, foreign official publications, and periodical literature.

691. Manchester, Eng., Public Libraries, Books for Cadets in the A.T.C. Manchester, Eng.: Manchester Public Libraries, 1941. 31p.

Although compiled for Air Training Cadets, this short bibliography lists a number of works which deal with military aeronautics in World War II and especially with England's first year in the war.

692. Medaris, John B., and Arthur Gordon, Countdown for Decision. New York: Putnam, 1960. 303p.

An analysis of the administrative aspects of the U.S. missile program, 1955-1960, by the head of the Army Ballistic Missile Agency and Army Ordnance Missile Command. Critical of U.S. space and missile program and claims that bureaucratic snarls prevented the U.S. from launching the first artificial satellite 13 months before the Soviet Union launched the first Sputnik.

693. Moore, Samuel T., U.S. Airpower; Story of American Fighting Planes and Missiles from Hydrogen Bags to Hydrogen War-Heads. New York: Greenberg, 1958. 196p.

Traces the growth and development of American military air power from the use of balloons in the Civil War to the present development of missiles.

694. Postan, M. M., et al., Design and Development of Weapons: Studies in Government and Industrial Organization. London: H.M. Stationery Office and Longmans, Green, 1964. 579p. (History of The Second World War; United Kingdom Civil Series)

Includes material on aircraft, gas turbines, jet propulsion, and rockets. Based largely on British official documents.

695. Skinner, Richard M., and William Leavitt, eds.,  
Speaking of Space: the Best from Space Digest.  
 Boston: Little, Brown, 1962. 278p.

Consists of approximately 30 essays by prominent authorities in widely differing specialties on various aspects of space exploration, including man's place in the universe, and the social, political, and military impact of space exploration.

696. Slukhai, Ivan A., Russian Rocketry: A Historical Survey, edited by P. August. Translated by E. Vilim. Jerusalem: Israel Program for Scientific Translations, 1968. 149p. (NASA Technical Translation TTF-426 and also TT-67-51363)  
 (For sale by Clearinghouse for Federal Scientific and Technical Information, Springfield, Va.)

Translation of Rakety i Traditsii (Moscow: Voennoe Izdatel'stvo Ministerstva Oborony SSSR, 1965). History of the military use of rockets in Russia from 1800 to date. Bibliography, p. 149, lists 14 Soviet publications.

697. Squier, George O., The Present Status of Military Aeronautics. [New York: American Society of Mechanical Engineers, 1908]. 1571-1641p.

Reprinted from Journal of the American Society of Mechanical Engineers, v. 30 (December 1908); published also in the

Society's Transactions, v. 30, 1908, pp. 639-721. Includes discussion of the military dirigible in several countries, the various types of airplanes, and the influence of aeronautics on warfare. Bibliography, pp. 1624-1640, lists 320 French, German, and English language titles from late 18th to early 20th centuries. Written by a major in the Signal Corps, U.S. Army.

698. Straubel, James H., et al., eds., Space Weapons: a Handbook of Military Astronautics. New York: Praeger, 1959. 245p.

Deals with military astronautics, ballistic missiles and space weapons and their relationship to American national security and civilization in general. Annotated bibliography, pp. 227-239, emphasizes rockets.

699. Thayer, Frederick C., Air Transport Policy and National Security. Chapel Hill: University of North Carolina Press, 1965. 352p.

This work, which started out as a dissertation for the University of Denver's Graduate School of International Studies, explores the interrelationships of the political, military, and economic aspects of both military airlift policy and commercial air transport policy. Bibliography, pp. 319-338, lists books, government publications, journal titles, and unpublished materials.

700. Weatherill, Francis W., Air Training: a Booklist  
for the Air Training Corps and for School Libraries.

London: The Library Association, School

Libraries Section, 1942. 15p.

"Stories of Flying in the War, 1914-18,"  
pp. 11-12, lists 24 books. "The R.A.F.  
Today," pp. 12-13, lists 23 books and  
"Famous Flights, etc.," pp. 13-14, lists 22  
titles. "Historical" section, pp. 14-15,  
lists seven book titles.

Political and Legal

701. Abt, Clark C., The Problems and Possibilities of Space Arms Control. Bedford, Mass.: Raytheon Co., 1961. 52p.

A detailed analysis of political, military, and scientific problems of the world of 1971 without space arms control and the possibilities for space arms control in each of these areas.

702. Air Force Academy Assembly, 6th, U.S. Air Force Academy, 1964, Outer Space: Final Report. Colorado Springs, Colo.: The Academy, 1964. 94p.

Cosponsored by the American Assembly, Columbia University, New York, and the United States Air Force Academy, Colorado. Consists of papers from five sessions of a congress on astronautics held at the Air Force Academy. Includes "Politics and Outer Space: A Perspective," by Lincoln P. Bloomfield; "The New Age of Discovery," by James E. Webb; and "The Prospects of Outer Space," by Richard C. Bowman and John J. Phillips.

703. Adademiia Nauk SSSR, Komissiiia po Pravovym Voprosam Mezhplanetnogo Prostranstva, Kosmos i Mezhdunarodnoe Pravo [Outer Space and International Law]. Moscow: Izdatel'stvo Instituta Mezhdunarodnykh Otnoshenii, 1962. 181p.

A discussion, from the Russian point of view, of space law. Bibliography, pp. 245-255, lists Soviet publications on the subject.

704. Arroyo Madrigal Rodolfo, La Actividad del Hombre en el Espacio, Como Fuente de un Nuevo Régimen Jurídico. México: Universidad Nacional Autónoma de México, 1961. 164p.

A thesis. Includes bibliography, pp. 161-164.

705. Bauzá Araújo, Alvaro, Derecho Astronáutico. 2.ed. ampliada y actualizada de "Hacia un Derecho Astronáutico," 1957. Montevideo: Librería A. M. Fernandez, 1961. 295p.

Comprehensive treatise on space law. Includes "Bibliografía," pp. 289-290, lists approximately 35 Spanish titles, and "Esquema en inglés del capítulo viii", pp. 283-288.

706. Caidin, Martin, Overture to Space. New York: Duell, Sloan and Pearce, 1963. 300p.

The author's thesis is that the U.S. had fallen hopelessly behind the Russians in space exploration and he examines all the events leading up to the launching of Sputnik I and how it was possible for the American public to react the way it did to Sputnik I. Written in a breezy, journalistic style with an "Appendix," pp. 273-290, which lists and describes all U.S. space launchings.

707. Christol, Carl Q., International Law of Outer Space.

Newport, R.I.: Naval War College, 1966. 513p.

(Naval War College, Newport, International Law Studies: 1962, v.55; NAVPERS 15031) (For sale by U.S. Govt. Print. Off.)

The author, who occupied the chair of International Law at the Naval War College during 1962-63, examines the legal principles and rules influencing and governing the uses of outer space and their interrelated political characteristics. "List of Annexes" pp. 439-488, includes texts of all official documents relating to legal use of outer space. "Bibliography of Bibliographies Relating to the International Law of Outer Space," pp. 489-490, lists 18 references which cover material published through 1963. "Index of Cases," p. 491, lists 31 mentioned in the text.

708. Cohen, Maxwell, ed., Law and Politics in Space,

Proceedings, McGill Conference on the Law of Outer Space, 1st., Montreal, 1963. Montreal: McGill University Press, 1964. 221p.

In addition to the proceedings contributed by the conferees, this volume contains a bibliography, pp. 191-211, which emphasizes communications, pollution and contamination, arms control, and observations (the topics dealt with at the conference). The first part of the bibliography is entitled, "General Bibliographies on Space Law," and lists ten items.

709. Congress, House, Committee on Government Operations,  
 Military Operations Subcommittee, Missile and  
 Space Ground Support Operations. Hearings. . . .  
 January 25, 26, and 27, 1966. Washington: U.S.  
 Govt. Print. Off., 1966. 164p. (89th Cong., 2d  
 Sess.)

Includes testimony given by eight top officials in the National Aeronautics and Space Administration and the Department of Defense on the relationships between national security and rocket technology in these two agencies.

710. Congress, House, Committee on Government Operations,  
Missile and Space Ground Support Operations;  
 Twenty-Third Report by the Committee on Government  
 Operations. Washington: U.S. Govt. Print. Off.,  
 1966. 106p. (89th Cong., 2d Sess. House Report,  
 no. 1340)

A report on the relationships between the U.S. space program and the U.S. defense program and, in particular, rocket and missile technology programs within the Defense Department and the National Aeronautics and Space Administration.

711. Congress, House, Committee on Science and Astronautics,  
Outer Space -- the Road to Peace: Observations on  
 Scientific Meetings and International Cooperation. A

Compilation of Data for the Committee. Washington:

U.S. Govt. Print. Off., 1960. 53p. (86th Cong.,

2d Sess.)

A Committee Print which consists of observations of the congressional committee members attending the 10th annual Congress of the International Astronautical Federation in London. Emphasizes the importance of greater international cooperation in the peaceful uses of outer space.

712. Congress, House, Committee on Science and Astronautics,

Report on the Activities of the Committee on Science

and Astronautics. Washington: U.S. Govt. Print.

Off., 1959 to date. Annual.

Report for 1959 issued as Committee print no. 32. Report for 1960 issued as House Report, no. 2215 of the 86th Cong., 2d Sess. This annual record of the activities of the Committee covers such things as NASA budget appropriations and other legislation, investigations and hearings held, and publications issued.

713. Congress, House, Committee on Science and Astronautics,

Space, Missiles, and the Nation. Report. . .

Pursuant to H. Res. 133. Washington: U.S. Govt.

Print. Off., 1960. 61p. (86th Cong., 2d Sess.

House Report, no. 2092)

Based on testimony of 88 witnesses, mainly from NASA, Dept. of Defense, and State Dept., before the committee. Explores the extent to

which the U.S. space program, like defense, foreign relations, etc., is an element in U.S. world leadership.

714. Congress, House, Select Committee on Astronautics and Space Exploration, International Cooperation in the Exploration of Space Report. Washington: U.S. Govt. Print. Off., 1959. 16p. (85th Cong., 2d Sess. House Report, no. 2709)

Report to Congress which puts forth reasons why the U.S. should seek channels for peaceful cooperation in space exploration. Discusses the Amsterdam Conference, the Soviet attitude, and recommendations for an international body.

715. Congress, House, Select Committee on Astronautics and Space Exploration, Survey of Space Law; Staff Report. Washington: U.S. Govt. Print. Off., 1959. 60p. (86th Cong., 1st Sess. House. Doc., No. 89)

Includes "Bibliography of Space Law," prepared in the Office of the Judge Advocate General of the Air Force, pp. 38-60. One of the most comprehensive bibliographies to date.

716. Congress, Senate, Committee on Aeronautical and Space Sciences, Staff Report, Space Treaty Proposals by the United States and the USSR. Washington: U.S. Govt. Print. Off., 1966. 52p. (89th Cong., 2d. Sess.)

Compares U.S. and Soviet proposals for an outer space treaty on the moon and other celestial bodies made during the summer of 1966 to the U.N. Committee on the Peaceful Uses of Outer Space with the purpose of preparing a final draft treaty for presentation to the U.N. General Assembly Fall 1966. Includes texts of several background documents pp. 27-45, along with a list of previous publications on international space activities by the Committee on Aeronautical and Space Sciences, p. 52.

717. Congress, Senate, Committee on Aeronautical and Space Sciences, United States International Space Programs, Texts of Executive Agreements, Memoranda of Understanding, and Other International Arrangements, 1959-1965. Washington: U.S. Govt. Print. Off., 1965. 575p. (89th Cong., 1st Sess. Senate Doc., No. 44)

Texts cover period from 1959 to 1965 and reflect the various kinds of agreements which govern the international scope of the space efforts of the U.S. and the methods by which cooperation is implemented. Includes NASA, Communications Satellite System (COMSAT), and Smithsonian Astrophysical Observatory agreements.

718. Department of State, Historical Office, Documents on International Aspects of the Exploration and Use of Outer Space, 1954-1962. Staff Report Prepared for the Committee on Aeronautical and Space Sciences, U.S. Senate. Washington: U.S. Govt.

Print. Off., 1963. 407p. (88th Cong., 1st Sess.

Senate Doc., no. 18)

Consists of the texts of approximately 180 official documents pertaining to the international aspects of space exploration, including Presidential statements and letters, congressional acts, treaties; United Nations resolutions, Soviet messages and statements. An earlier version, entitled "International Negotiations Regarding the Use of Outer Space 1957-60" appeared as Pt. III of Legal Problems of Space Exploration; a Symposium by the Library of Congress Legislative Reference Service [Washington: U.S. Govt. Print. Off., 1961. 1392p. (87th Cong., 1st Sess. Senate Doc., No. 20)].

719. Dupree, A. Hunter, Science in the Federal Government:

a History of Policies and Activities to 1940.

Cambridge, Mass.: Harvard University Press, 1957.

460p.

A well documented work on the history of U.S. Government science policy and the relationship between that policy and society. While Government science policy in space is not discussed here, the book does put the relationship between research technology and Government policy into historical perspective. "Chronology," pp. 383-386, lists Government activities in science. Bibliography, pp. 387-441, lists footnote references by chapter.

720. Emme, Eugene M., Impact of Air Power: National

Security and World Politics. New York: Van

Nostrand, 1959. 914p.

A comprehensive, annotated volume of 118 authoritative readings with introductory essays

from a wide range of informed American, English, and other sources on the problems created by the use of air power as an instrument of national policy and by its influence on national security. Each chapter has a list of selected references.

721. Emme, Eugene M., National Air Power and International Politics: a Select Bibliography. Maxwell Air Force Base, Ala.: Studies and Research Branch, Historical Division, Dept. of the Air Force Library, 1950. 191p. (Air University Documentary Research Study)

A list of 1,484 annotated book and periodical article references designed as a key to the significant interrelationships existing between institutions of a national character and the field of international relations with some references dealing with the role of air power in history. The majority of the references appeared during the 1940s. Of special interest is section on "Scientific Research and Development," pp. 97-108.

722. Estradé Rodoreda, S., El Derecho ante la Conquista del Espacio. Prólogo del Prof. Dr. Aldo Armando Cocca. Barcelona: Ediciones Ariel, 1964. 171p.

A comprehensive treatise on space law originally done as the author's thesis at the University of Barcelona. "Bibliografía," pp. 167-171, lists approximately 125 books, official documents, and journal articles, primarily in Spanish and English.

723. Evans, F., and Helen D. Howard, Outlook on Space.

London: G. Allen & Unwin, 1965. 179p.

Examines the growing relationship between international organizations and outer space exploration showing the historical development both of space exploration (from astronomy and science) and internationalism (from activities of the national state). "Bibliography," p. 175, lists 23 English and American book titles.

724. Fataliev, Khalil' M., Dialekticheskii Materializm i

Voprosy Estestvoznaniia [Dialectical Materialism and Problems in Nature Study]. Moscow: Sovetskaia Nauka, 1958. 133p.

Traces the development of the relationships between dialectical materialism and concepts of space and time and the Soviet rationale for space travel. Includes bibliographical footnotes.

725. Frutkin, Arnold W., International Cooperation in

Space. Englewood Cliffs, N.J.: Prentice-Hall, 1965. 186p.

Deals with the history and present status of cooperation between the United States and the Soviet Union in space exploration. The author discusses the relationship between cooperation and the existing political framework. Each section includes copious footnote references.

726. Frye, Alton, Space Arms Control: Trends, Concepts,

Prospects. Santa Monica, Calif.: Rand Corp., 1964. 22p. (Its Paper P-2873)

Considers the national security aspects of the national space effort and emphasizes disarmament and international cooperation in space exploration. Draws extensively on lectures delivered at the University of Minnesota, the University of Southern California, and the Rand Corporation in November 1963.

727. Gál, Gyula, Világűrjog. Budapest: Közgazdasági és Jogi Könyvkiadó, 1964. 365p.

Deals with space law. Summaries in English and Russian. Includes bibliography of space law references, pp. 313-325.

728. Galloway, Eilene, International Cooperation for Outer Space. Washington: U.S. Govt. Print. Off., 1965. 580p. (89th Cong., 1st Sess. Senate Doc., No. 56)

Prepared by the author, specialist, Legislative Reference Service, Library of Congress, for the Senate Committee on Aeronautical and Space sciences. A survey of organizations with space and space-related programs and their interrelationships. Covers U.S. policy and program and the programs reported by 39 other countries. Summarizes Western European, U. N., and U. N. specialized agencies' space efforts. Includes international scientific unions with space activities.

729. Goldsen, Joseph M., Outer Space and the International Scene. Santa Monica, Calif.: Rand Corp., 1959. 14p. (Its Paper P-1688)

Slightly edited version of a talk delivered before the First World Congress of Flight, sponsored by the Air Force Association and the aero-space industry in Las Vegas, Nevada, on April 17, 1959. Considers the political, military, economic, legal, and scientific aspects of international cooperation in outer space.

730. Goldsen, Joseph M., ed., Outer Space in World Politics.

New York: Praeger, 1963. 180p.

Consists of a series of lectures given at a conference sponsored by the Rand Corporation in October 1959. Consists of the following papers: "Outer space in world politics," by J. M. Goldsen; "Outer Space and World Peace," by P. Kecskemeti; "The Soviet Union and the Political Uses of Outer Space," by A. L. Horelick; "Public Opinion and the Development of Space Technology: 1957-1960," by G. A. Almond; "The Military Use of Outer Space: Bombardment Satellites," by T. C. Schelling; "The International Implications of Outer-Space Activities," by K. Knorr; "Outer Space and International Politics: a Look to 1988," by K. W. Deutsch. Bibliography, pp. 175-178, lists approximately 28 references.

731. Goodall, Marcus C., Science and the Politician.

Cambridge, Mass.: Schenkman Pub. Co., 1965. 83p.

Deals with cultural lag, in a somewhat polemical way, between science and state and also with what the author feels is man's failure to evaluate the true place of science in our everyday living. Bibliography, pp. 77-83, consists of fifty annotated references to books.

732. Haley, Andrew G., Space Law and Government.

New York: Appleton-Century-Crofts, 1963. 584p.

Each chapter accompanied by numerous footnotes and references. Appendix V is a bibliography, pp. 528-539. Section V-A, p. 528, is entitled "Bibliographies of Space Literature," and V-b, pp. 529-539, "Selected and Partial Bibliography of the Works of the Author."

733. Hogan, John C., "A Guide to the Study of Space Law,

Including a Selective Bibliography on the Legal

and Political Aspects of Space," St. Louis

University Law Journal, v. 5 (Spring 1958),

pp. 79-107.

Issued also as Rand Corporation Paper P-1290 (Santa Monica, 1958) and reprinted in Space Law: a Symposium, committee print of the Senate Special Committee on Space and Astronautics (Washington, 1959), pp. 291-345. An extensive selected bibliography listing 256 titles from books, law reviews, political journals, scientific and technical journals, both American and foreign.

734. International Commission for Air Navigation, Index

Bibliographique, Bibliographical Index. Paris:

The Commission, 1938. 69p.

An index to the publications and official documents of the Commission published during the period 1922-1938. The commission was superseded by the International Civil Aviation Organization.

735. Jenks, Clarence W., Space Law. New York: Praeger, 1965. 476p.

An expert in international law describes the attempts of scientific bodies to deal with the military, political, and scientific uses of space. Discusses the work done in this area by the United Nations and regional and bilateral arrangements. Pt. II, "The Legal Literature," pp. 93-179, is an excellent review of the literature of space law. "Selected Bibliography," pp. 463-469, lists approximately 140 references primarily in English. Also includes many footnote references throughout the text.

736. Jessup, Philip C., and Howard J. Taubenfeld, Controls for Outer Space and the Antarctic Analogy.

New York: Columbia University Press, 1959. 379p.

Pt. III, pp. 191-282, is entitled "International Control for Outer Space." Includes bibliography in the form of bibliographical "Notes," pp. 285-354.

737. Kehrberger, J. Peter, Legal and Political Implications of Space Research. Space Law and Its Background:

Political, Military, Economical Aspects and

Techno-scientific Problems of Astronautics; a

Selective Bibliography of Eastern and Western

Sources. Hamburg: Verlag Weltarchiv, 1965. 365p.

Covers literature from 55 nations under the headings legal problems; background and global implications (political and military aspects of space exploration, international

cooperation, national space programs and projects, impact on economy and industry, space communications, space and meteorology, perspectives and prospects, scientific and technological background, life sciences, and space research); activities of nongovernmental institutions; documents and activities of states and international organizations. There is a comprehensive index to abbreviations, transliterations, periodicals, honorary collections, geography, subjects, and authors.

738. Kemp, John M., Evolution Toward a Space Treaty: An Historical Analysis. Washington: National Aeronautics and Space Administration, 1966. 221p. (HHN-64)

Analyzes events leading up to space treaty drafted by U.S. and Soviet negotiators in August 1966 for possible submission to U.N. General Assembly in 1966 or 1967. "Selected Bibliography," pp. 218-221, lists forty books and articles.

739. Ley, Willy, ed., Harnessing Space. Edited and with an Introduction and Commentary. New York: Macmillan, 1963. 314p.

Compiled to point out that space research has other than military applications; the author discusses navigational, meteorological, and communication satellites. Includes bibliography, pp. 304-306, and very brief bibliographies at the end of some of the sections. Historical background of astronautics given in the "Introduction," pp. 15-23, "Chronology of Meteorological-Satellite Events," pp. 234-254, and "Chronology of Communication-Satellite Events," pp. 255-274.

740. Library of Congress, Legislative Reference Service,  
Legal Problems of Space Exploration; a Symposium.  
Washington: U.S. Govt. Print. Off., 1961. 1392p.  
(87th Cong., 1st Sess. Senate Doc., No. 20)

Include numerous bibliographical references and an extensive bibliography entitled "Selected References on the Legal Problems of Space Exploration," compiled by Kenneth Anderson Finch, pp. 1329-1392. "Bibliographies on Space Law" are listed on pp. 1334 to 1336 and include 43 references to bibliographies.

741. Library of Congress, Legislative Reference Service,  
Radio Frequency Control in Space Telecommunications.  
Prepared for the Committee on Aeronautical and  
Space Sciences, U.S. Senate, by Edward Wenk,  
Senior Specialist in Science and Technology.  
Washington: U.S. Govt. Print. Off., 1960. 235p.  
(86th Cong., 2d Sess.)

Explains the critical role played by radio communications in the exploration of outer space for tracking, telemetering, and remote guidance, and the importance of international administrative control. Discussed from the point of view of public policy rather than radio technology.

742. Lipson, Leon, and Nicholas deB. Katzenbach, Report to  
the National Aeronautics and Space Administration  
on the Law of Outer Space. Chicago: American Bar  
Foundation, 1961. 179p.

Includes bibliography of approximately 280 references, pp. 155-179, which covers material from earliest times to November 1958.

743. Mezerik, Avrahm G., ed., Outer Space, UN-US-USSR.

New York: International Review Service, 1960.

52p. (International Review Service, v.6, no. 56)

Reviews the activities of the United Nations, the Soviet Union, and the United States in efforts toward peaceful uses of and disarmament in outer space from 1957 through 1960. "Appendixes," pp. 39-45, include texts of various U.N. resolutions on the peaceful uses of outer space. "References," pp. 23-24, lists 27 other pertinent U.N. documents.

744. Murray, Bruce C., and Merton E. Davies, A Comparison of U. S. and Soviet Efforts to Explore Mars.

Santa Monica, Calif.: Rand Corp. 1966. 41p.

(Its Paper P-3285)

Compares the scientific objectives, technological achievements, and future programs of both countries to explore Mars. Emphasizes the accomplishments of the U.S. Mariner and the U.S.S.R. Zond and Venik spacecraft. "References and Notes," pp. 39-41, lists 48 Soviet and American newspaper and periodical articles.

745. National Aeronautics and Space Administration,

Conference on the Law of Space and of Satellite Communications, Chicago, 1963. Proceedings.

Washington: NASA, 1964. 205p. (NASA SP-44)

(For sale by U.S. Govt. Print. Off.)

Proceedings of a conference organized by Northwestern University School of Law, Evanston, Ill., May 1-2, 1963, as part of the Third National Conference on the Peaceful Uses of Space. The formal papers and comments in the first part of the volume represent an attempt to provide a broad perspective of the legal problems that have arisen and will emerge in the space age and to indicate to what degree informal legal thought has reached a consensus or formulated tentative conclusions as to their resolution. The second part of the volume is concerned with monopoly and antitrust aspects, administrative aspects, and international aspects of communications satellite operations. Has bibliographical footnotes.

746. National Archives, Preliminary Inventory of the Records of the House of Representatives Select Committee of Inquiry into Operations of the United States Air Services, 1924-25. (Record group 233)

Compiled by George P. Perros. Washington: The Archives, 1958. 10p. (Its Publication, no. 59-6. Preliminary Inventories, no. 108)

The records described in this inventory represent approximately 24 cubic feet and include the Committee's hearings and other records generated by the Committee's investigation of government air services.

747. National Archives, Preliminary Inventory of the Records of the Joint Congressional Aviation Policy Board, 1947-48. (Record groups 128) Compiled by Watson G. Caudill and George P. Perros. Washington: The Archives, 1954. 26p. (Its Publication, no. 55-5. Preliminary Inventories, no. 74)

Represents the records generated by the Committee during its investigation of and recommendations for post-war national aviation policy: The records listed here represent approximately 20 cubic feet.

748. Ossenbeck, Frederick J., and Patricia C. Kroeck, eds., Open Space and Peace: a Symposium on Effects of Observation. Stanford, Calif.: Hoover Institution, Stanford University, 1964. 227p.

Symposium sponsored by Sylvania Electric Products and the Hoover Institution on War, Revolution, and Peace, held September 4-6, 1963. Consists of the following 19 papers: "Reconnaissance in Time Perspective, by Stefan T. Possony; "Peaceful Uses of Photo-Reconnaissance Satellites," by Robert N. Colwell; "Satellite Orbits," by James Q. Denton; "Vehicles and Sensors," by John M. Harding; "The Requirements for Information and Systems," by Duncan E. MacDonald; "Utilization of Satellite Observation Systems," by Jerry E. Pournelle; "The Evolution of Space Science," by George P. Miller; "The Implications of Satellite Observation for United States Policy," by Carl H. Amme, Jr.; "The Problem of Opening the Soviet System," by William R. Kintner; "Information on Communist China's Capability and Intentions, and Its Verification,"

by Yuan-Li Wu; "Open Space and the Neutral Nations," by Albert R. Hibbs; "Neutrals -- Their Part in an Open Space System," by Russel Rhyne; "Unilateral Space Observation and the Atlantic Alliance," by Leon Sloss; "Unilateral Space Observation by the U.S.S.R.," by Edward E. Smith; "Multilateral, U.N., or Bilateral Implementation," by John Morse, Jr.; "Space Problems for Lawyers," by Allan N. Littman and James F. Kirkham, "Freedom of Space," by Edward Teller; "The Age of Instant Communications," by Charles L. Goudl; and "The Practicality of United Nations Surveillance," by Martin H. Waldman.

749. Pépin, Eugène, "Bibliographie des Travaux Publiés sur les Problèmes Juridiques de l'Espace et Questions Connexes (1910-15 September 1959," Revue Francaise de Droit Aérien, v. 13 (October/December 1959), pp. 325-352.

References (1,909) arranged chronologically under 12 broad subject categories. Reprinted in the author's Les Problèmes Juridiques de l'Espace (Paris: Sirey, 1959), pp. 20-46.

750. Pépin, Eugène, Géographie de la Circulation Aérienne. Pref. by Edward Warner. Paris: Gallimard, 1956. 341p. (Geographie Humaine, 26)

History of flight from the point of view of its effect on geographical, political, and judicial boundaries. Broadly considers the effect of flight on human relations. Extensive footnotes, pp. 319-326, arranged by chapter.

751. Quadri, Rolando, "Droit international cosmique,"  
in Hague, Academy of International Law, Recueil  
des cours, 1959, III, v. 98 (1960) pp. 505-597.

Includes bibliographical footnote references  
and the following contents: Considerations on  
the doctrine of international space law; Nature  
of the rules of international space law;  
Particular problems.

752. Renstrom, Arthur G., comp., Aeropolitics; a Selective  
Bibliography on the Influence of Aviation on  
Society. Washington: Library of Congress,  
Division of Aeronautics, 1948. 31p.

A list of approximately 450 mainly  
American monographs and journal articles  
published from 1910-1948 and arranged by  
subject category. Deals with air power as  
an instrument of national policy and covers  
the early history of aviation, the rise of  
air power, its military use in World War II,  
and its prospects for the future.

753. Renstrom, Arthur G., comp., Principal U.S. Investigations  
in Aeronautics, 1918-37. New York, N.Y., 1938. 8p.

Reprinted from Air Law Review, official  
journal of the American Academy of Air Law and  
the American section of the International  
Committee on Radio, v. IX, January 1938. Lists  
approximately 70 congressional investigations  
held during this period and covering such  
subjects as production, war expenditures,  
dirigible disasters, air mail, patents, and  
safety.

754. Renstrom, Arthur G., comp., United States Aviation

Policy; a Selective Bibliography. Washington:

Library of Congress, 1947. 58p.

Lists 400 references to books, Government documents, and journal articles published for the most part during the 1940s on the subject of formulating a national air policy. Arranged according to the following subject categories: I. General Materials Pertaining to Aviation Policy; II. Aircraft Industry; III. Air Transportation; IV. Military and Naval Aviation; and V. Government Organization. Bibliography originally prepared for the Congressional Aviation Policy Board.

755. Rettig, Richard A., Bibliography on Science and World

Affairs. Prepared for the Foreign Service

Institute, U.S. Dept. of State. Washington: Dept.

of State, 1964. 179p. (For sale by U.S. Govt.

Print. Off.)

Ch. seven, "Outer Space," pp. 106-120, lists approximately 130 references to books and articles on such aspects of space as legal problems, U.S. and U.S.S.R. programs and policies, and U.S.--Soviet relations.

756. Sanger, Eugen, Raumfahrt--Technische berwindung

des Krieges. Aktuelle Aspekte der berschall-

Luftfahrt und Raumfahrt. Hamburg: Rowohlt, 1958.

142p. (Rowohlts deutsche Enzyklopadie, 59)

Includes bibliography, pp. 137-138, and such topics as military, world political, and cultural aspects of space flight.

757. Schwartz, Leonard E., International Organizations and Space Cooperation. Durham, N.C.: World Rule of Law Center, Duke University, 1962. 108p.

Primarily a directory of public and private organizations engaged in cooperative space activity. Data about the structure, aims, and history is given for each one. Included are Committee on Space Research (COSPAR), International Astronautical Federation, United Nations Committee on Space Research, International Civil Aviation Organization (ICAO), European Space Research Organization, and others.

758. "Selective Bibliography of Space Law," New York Law Forum, v. 4 (July 1958), pp. 372-374.

Lists 77 references to books, law reviews, periodical and newspaper articles, and published speeches and reports.

759. Smirnoff, Michel, "Bibliographie du Droit Astronautique," Revue Générale de l'Air, v. 21 (No. 4, 1958), pp. 392-398.

Lists alphabetically by author 161 books and periodical articles published 1943-1958.

760. Smirnoff, Michel, Svetska Bibliografija Astronautičkog Prava--World Bibliography of Space Law. Belgrad: Institut za Međunarodnu Politiku i Privredu, 1962. 160p.

In English and Serbian. Covers the period 1910 through 1959 and includes 948 references. Arranged chronologically with alphabetical author and subject index.

761. Teclaff, Ludwik A., "Review of Space Law Literature and Activities," Law Library Journal, v. 54 (August 1961), pp. 208-217.

The bibliography comprises: (1) an annotated list of 91 books and articles arranged alphabetically by author; (2) a classified index.

762. Union List of Air Law Literature in Libraries in Oxford, Cambridge, and London. London: London University, Institute of Advanced Legal Studies, 1956. 54p. (Institute of Advanced Legal Studies Publication, No. 4)

Lists 450 references on air law held by these libraries. Includes books and pamphlets, international conferences and treaties, international organizations, laws and regulations, and periodicals and reports.

763. U.S. Air Force, Judge Advocate General, Space Law Bibliography. Washington: Dept. of the Air Force, 1961. 79p. (Air Force Pamphlet AFPl10-1-4)

Lists alphabetically by author: books, periodical and newspaper articles, official speeches, reports, diplomatic documents readily available in libraries in the Washington area. Includes "Bibliographies on Space Law," pp. 6-9.

764. U.S. Treaties, etc., Outer Space Cooperation: Space Science Research Program. Washington: U.S. Govt. Print. Off., 1962. 8p.

Text of an agreement regarding cooperation in a scientific experiment which proposes the placement in orbit around the earth of an Italian satellite from an Italian launching facility by means of a rocket provided by the National Aeronautics and Space Administration. Text in Italian and English.

765. U.S. Treaties, etc., Space Research Program. Washington: U.S. Govt. Print. Off., 1961. 5p.

Text of agreement which represents a joint effort of United States and Great Britain to cooperate in space research through the use of satellites. Allows for a joint program to study extraterrestrial conditions.

766. Van Dyke, Vernon, Pride and Power: the Rationale of the Space Program. Urbana: University of Illinois Press, 1964. 285p.

Deals with the extent to which the space program is motivated by a desire to enhance American prestige in the world -- the powerful motive of political competition rather than the motive of scientific or technological or economic progress. The author pursues the kinds of questions that Congress and the voters have been asked to consider in relation to the space program. "Historical Development of the Space Program," pp. 9-29. Includes bibliographical footnotes.

767. Zadorozhnyi, Georgii P., Atom, Kosmos, Mirovaia

Politika [Atom, Cosmos, and World Politics].

Moscow: Isdatel'stvo Instituta Mezhdunarodnykh  
Otnoshenii, 1958. 79p.

Deals with the political implications of space exploration. Discusses the desire of the Soviet Union to use the cosmos for peace and its fear that the United States military bases in other countries may use missiles and atomic weapons for destructive purposes in space.

768. Wilson, J. Tuzo, I.G.Y.: The Year of the New Moons.

New York: Alfred A. Knopf, 1961. 358p.

An account, by a participating geophysicist, of the international scientific programs conducted during the International Geophysical Year, some of the journeys to remote corners of the world, and the impressive harvest of scientific knowledge gained through these international efforts. Appendixes include 19 tables listing such information as countries participating in the IGY, subjects for investigation together with the international scientific organizations participating, lists of satellites launched during the IGY and their characteristics. A bibliography, "References for Further Reading," pp. 347-350.

Social and Economic

769. American Management Association, The Challenge

of Space Technology. New York: The Association,

1960. 35p. (AMA Management Bulletin, no. 7)

Consists of six articles by prominent experts on the economic aspects of space exploration in the U.S. and U.S.S.R. Based on a seminar on "Finding a Place in Your Company in Space-Age Technology," held by the American Management Association in New York City, October 5-7, 1960.

770. Anderson, Frank W., Jr., ed., Great Flying Stories.

Introd. by Andrew F. Gordon. New York: Dell

Pub. Co., 1958. 256p. (Laurel Edition, LB116)

An anthology of 20 short pieces including excerpts from longer works and short stories dealing with man's conquest of the air. Some of the authors included are Charles A. Lindbergh, James Thurber, Antoine de Saint Exupéry, and William Faulkner. Covers approximately the period from World War I to 1958.

771. Arons, Arnold B., and Alfred M. Bork, eds., Science &

Ideas; Selected Readings. Englewood Cliffs, N.J.:

Prentice-Hall, 1964. 278p.

An anthology of essays selected to provide some knowledge of the history, nature, and limitations of scientific

thought; to provide the student with some understanding of how science has lessened man's insecurity before nature and how this changed his attitude toward himself, other men, and the physical universe. Includes bibliographical footnotes.

772. Bauer, Raymond, ed., Social Indicators. Cambridge, Mass.: M.I.T. Press, 1966. 357p. (Technology, Space, and Society Series, prepared by the American Academy of Arts and Sciences)

The second volume in a series prepared for the National Aeronautics and Space Administration (first volume is The Railroad and the Space Program: an Exploration in Historical Analogy, edited by Bruce Mazlish. MIT Press, 1965) on the impact of the space program on American society. Deals specifically with the problems and difficulties of anticipating the secondary effects of the space program and the problem of establishing social indicators. Includes numerous footnotes.

773. Bergaust, Erik, Rocket City, U.S.A.: from Huntsville, Alabama to the Moon. New York: Macmillan, 1963. 216p.

A description of Huntsville, Alabama, the city in Alabama's cotton belt which is the center of both the U.S. military and civilian rocket and missile programs. Traces the growth of the Army's rocket program after World War II at the U.S. Redstone Arsenal, Huntsville, and the establishment of NASA's George C. Marshall Space Flight Center, Huntsville.

774. Bernal, John D., Social Function of Science. New York: Macmillan, 1939. 482p.

Comprehensive survey of the place science holds in human life. Covers the history, development, and contemporary status of science and the future possibilities which might result from the reorganization of science teaching and research in universities, industry, and government. Published also in British edition (London: Routledge, 1939). Includes extensive footnote references at the end of each chapter.

775. Bernardo, James V., Aviation in the Modern World: the Dramatic Impact upon our Lives of Aircraft, Missiles, and Space Vehicles. New York: Dutton, 1960. 352p.

Includes such chapter headings as: Man's quest for better transportation, The Influence of aviation upon concepts of the world, and Men and flight: a historical survey. Includes bibliography, pp. 330-338.

776. Black, Archibald, The Story of Flying. Rev. ed. New York, London: McGraw-Hill, 1943. 272p.

Revised edition of a history of aviation which first appeared in 1940. A good account of the development of commercial flight in the U.S.

777. Bloomfield, Lincoln P., ed., Outer Space: Prospects for Man & Society. Englewood Cliffs, N.J.:

Prentice-Hall, 1962. 203p. (A Spectrum Book, S-AA-5)

Consists of eight essays by prominent authorities on the political, social, and economic impact of space exploration on American life. Originally prepared to provide background for the 1961 Twentieth American Assembly at Arden House, Harriman Campus of Columbia University.

778. Born, Max, "Blessings and Evils of Space Travel,"

Bulletin of the Atomic Scientists, v.22

(October 1966), pp. 12-14.

Examines advantages and disadvantages of the huge investment in space travel from the point of view of mankind in general and also the specialist, sees no real gain for mankind as long as space exploration is used as a tool for national power. Originally published in Neue Deutsche Hefte, v.106, 1965, p. 113.

779. Brookings Institution, Proposed Studies on the

Implications of Peaceful Space Activities for

Human Affairs. Prepared for the National

Aeronautics and Space Administration. Report

of the Committee on Science and Astronautics.

Washington: U.S. Govt. Print. Off., 1961.

272p. (87th Cong., 1st Sess. House Report, no. 242)

This report recommends for the consideration of NASA a wide range of studies regarding

the social, economic, political, legal, and international implications of the use of space for peaceful and scientific purposes.

780. Bureau of Air Commerce, Aeronautics Reference

Library, Index to the Most Important Articles, not Previously Indexed, Appearing in Magazines, Bulletins and Reports Received in the Library.

Washington: June 1929-July 1934. Monthly (irregular).

Comprises a subject index to journal articles arranged by subject. Each issue contains about 75 references mainly to American commercial aviation articles. Although the subject heading "history" is not included, the index contains references to articles with historical material.

781. Caidin, Martin, Why Space? And How it Serves You

in Your Daily Life. Foreword by Homer E. Newell.

New York: J. Messner, 1965. 208p.

Justifies the space program in terms of its impact, applications, and benefits to industry, medicine, communication, defense, and meteorology today and tomorrow.

782. Campbell, Henry C., "Some Implications for Libraries

of Communication Satellites," Unesco Bulletin

for Libraries, v.21 (May/June 1966), pp. 129-133, 139.

Paper prepared by the librarian of the Toronto Public Libraries for discussion at

the Meeting of Experts on the Use of Space Communication by the Mass Media, held at Unesco House, Paris, 6-10 December 1965. It deals with the effect of communication satellites in both developed and newly developed countries. Includes eight footnote references.

783. Castex, Louis J. M. N., L'Age de l'Air: 25 Ans d'Aviation Commerciale dans le Monde, 1920-1945.  
Préf. de Henri Farman. Paris: É. Chiron, 1945.  
155p.

Deals with the development of worldwide commercial aviation.

784. Castillon de Saint-Victor, Alexis, Le Transport Aérien: de la Machine Volante au Cargo Aérien, de l'Aviation Politique à l'Aviation Économique.  
Paris: Dunod, 1947. 235p.

Treatise on the development of commercial aviation from 1918 to 1947. Ch. II, pp. 19-79, includes "Tres Brev Histoire des Riseaux des Grandes Compagnies Aériennes du Monde."

785. Champion, Harold, Famous Air Routes of the World.  
Maps by Rosalind Bicknell. London: Muller,  
[distributed by Sportshelf, New Rochelle, N.Y.]  
1958. 143p. (Globe Books)

A fairly popular history of commercial aviation primarily in Great Britain and the United States from approximately 1920 to 1958.

786. Civil Aeronautics Administration, Press Digest.

Washington: The Administration, 1938-1942.

Daily.

Consists of brief abstracts of aeronautics items from the daily American (primarily Washington, D.C.) press.

787. Civil Aeronautics Administration, A Selected and Annotated Bibliography on the Social, Political and Economic Aspects of Aviation. Rev. ed.

Washington: U.S. Govt. Print. Off., 1950.

54p.

Lists 234 items of interest to high school and adult reading levels alphabetically by author. Subject index includes the category "history" which lists 44 works. Previous edition published in 1946.

788. Clerc, Georges, L'Aéropostale. Présentée par

Madame Mermoz. Paris: Editions de Minuit,

1954. 191p. (Les Grandes Réussites Françaises, 3)

A history of air mail in France in the 1920s and 1930s. Discusses the development of the Compagnie Générale Aéropostale and the achievements of such pioneers as Jean Mermoz, Guillaumet, and Saint Exupéry. Bibliography, p. 192, lists 16 French book titles.

789. Cole, Dandridge M., Beyond Tomorrow: the Next 50 Years in Space, with Space Art Originated by Roy G. Scarfo. Amherst, Wis.: Amherst Press, 1965. 168p.

The author describes what he thinks the next fifty years will be. Most of the developments he sees as a result of the space program which will include colonies on other planets. A broad view of the impact of astronautics on civilization. Bibliography, p. 168, lists 11 references.

790. Congress, Senate, Committee on Aeronautical and Space Sciences, Educational Programs of NASA. Hearings . . . on Facilities, Training, and Research Grants Programs of the National Aeronautics and Space Administration, November 21 and 22, 1963. Washington: U.S. Govt. Print. Off., 1964. 152p. (88th Cong., 1st Sess.)

Consists of testimony given by seven witnesses on the NASA-initiated grant programs to universities to strengthen the entire American education system.

791. Cook, Hartley K., The Birth of Flight: an Anthology. London: G. Allen & Unwin, 1941. 204p.

Somewhat "off-beat" anthology of anecdotes on the history of flight from earliest times to approximately 1910.

792. De Leeuw, Hendrik, Conquest of the Air: the

History and Future of Aviation. New York:

Vantage Press, 1960. 300p.

History of flight from earliest times to the space age. Part four, "International Airlines," pp. 149-224, discusses the development of the great commercial airlines. Bibliography, pp. 295-296, lists approximately 40 references to books and journals.

793. Diamond, Edwin, The Rise and Fall of the Space Age.

Garden City, N.Y.: Doubleday, 1964. 158p.

An editor of Newsweek magazine puts forth a trenchant thesis that space exploration quickly became a cold war operation and the moon an adjunct of East-West competition, an antidote to economic stagnation, and a new form of political pork barrel.

794. Etzioni, Amitai, The Moon-doggle: Domestic and

International Implications of the Space Race.

Garden City, N.Y.: Doubleday, 1964. 198p.

A professor of sociology at Columbia University contends that the so-called "space race" threatens the vitality of American science, undermines our security, and hinders the development of our economy, mainly because of a lack of long-range perspectives.

795. Federal Aviation Administration, Library Services

Division, Aircraft Noise and Its Problems; Selected

References. Washington, The Administration,  
1962. 20p. (Its Bibliographic List, no. 6)

A bibliography on one of the social problems created by aeronautics. Lists approximately 120 American and British journal article references on various aspects of the problem, including community problems, and the legal aspects. Published by the division under its earlier name: Library Branch.

796. Federal Aviation Administration, Library Services  
Division, Economic Aspects of the Supersonic  
Transport; Selected References. Washington,  
The Administration, 1962. 7p. (Its Bibliographic  
List, no. 5)

Consists of approximately 100 American and British journal article references to both private and public views on the subject. Published by the division under its earlier name: Library Branch.

797. Feur, Lewis S., The Scientific Intellectual: the  
Psychological & Sociological Origins of Modern  
Science. New York: Basic Books, 1963. 441p.

Traces the evolution of the scientific intellectual as a human type and the conditions which have made for rationality in men. Includes "The Ethic of the Copernican Revolution," pp. 116-144, and "The Scientific Intellectual in the United States," pp. 319-392. Has chapter bibliographies.

798. Flying Tales from "Blackwood." With a Foreword  
by Sir Dermot A. Boyle. Edinburgh: W. Blackwood,  
1957. 268p.

A collection of 17 short stories dealing with man's conquest of the air, each one originally published in Blackwood's Magazine. Covers approximately the period 1907 to 1957.

799. Fortune, The Space Industry: America's Newest Giant. By the Editors of Fortune. Englewood Cliffs, N.J.: Prentice-Hall, 1962. 193p.

Consists of 11 essays by different writers on various aspects of the interrelationships between business and space exploration. Deals especially with the development of the aerospace industries.

800. Gartmann, Heinz, Flügel unseres Jahrhunderts: das Abenteuer der Luftfahrt. München: P. Müller, 1955. 240p. (Die Welt von Heute, 6.Bd.)

History of aviation in the 20th century, with special emphasis on the development of commercial air transport.

801. Goldsmith, Maurice, and Alan MacKay, eds., Society and Science. New York: Simon and Schuster, 1965. 236p.

A collection of 15 essays published in honor of the twenty-fifth anniversary of and to show the influence of J. D. Bernal's

work, The Social Function of Science. Includes essays by such scientists as C. P. Snow, P. M. S. Blackett, and Bernal. Many essays include bibliographical footnote references.

802. Goodwin, Harold L., The Images of Space. Coordinating Editor: James V. Bernardo. New York: Holt, Rinehart and Winston, 1965. 189p. (Holt Library of Science)

Deals with the values, objectives, and methods of the space program. The author, who was with NASA, discusses such subjects as the relationship between public opinion and the national space program, the reaction of the American public to Russian achievements in space, and the reaction of Europeans, as reflected in the European press, to American achievements. Bibliographical references included in "Notes and Comments," pp. 179-184.

803. Goodwin, Harold L., Space: Frontier Unlimited. Princeton, N.J.: Van Nostrand, 1962. 144p. (Van Nostrand Searchlight Books, 8)

The author, Director of Office of Program Development, NASA, examines such topics as the practical applications of space exploration, political, and military effects, and the impact on society. Bibliography, pp. 140-141, lists 12 references.

804. Great Britain, Ministry of Transport and Civil Aviation, Library, Civil Aviation Technical Press Summary. London: The Ministry, 1948 to

date. Semimonthly.

Title changed from MCA Library Introduces, Dec. 22, 1949; from Technical Press Summary, Oct. 15, 1953. An annotated index to journal articles in the field of civil aviation. Some issues contain entries under the heading "history." Some issues also contain Recent Additions on Civil Aviation which also lists items under "history."

805. Herzberg, Max J., Merrill P. Paine, and Austin M.

Works, eds., Happy Landings. Boston, New York:

Houghton-Mifflin, 1943. 398p.

Includes 25 prose selections from 20th century literature on the experience of flying. Some authors included are W. H. Auden, Saint Exupéry, Anne Morrow Lindbergh, and Igor Sikorsky. Bibliography, pp. 390-397, lists approximately 80 references to flight in literature. Less complete edition (321p.) published in 1942.

806. Holton, Gerald, Science and Culture: a Study of

Cohesive and Disjunctive Forces. Cambridge,

Mass.: Houghton Mifflin, 1965. 348p. (The

Daedalus Library, v.4)

Comprises 16 articles with brief bibliographies by various specialists. Most were previously published in the Winter 1965 issue of Daedalus and all explore the role of science in the contemporary world. The Integrity of Science, a report by the American Association for the Advancement of Science

Committee on Science in the Promotion of Human Welfare, pp. 291-332, raises questions about the space program and how it is affected by political and social situations.

807. Hunsaker, Jerome C., Aeronautics at the Mid-Century. New Haven: Yale University Press, 1952. 116p. (The Terry Lectures)

After discussing the technical innovation of flight, an aeronautical engineer indicates the increasing use and effect of aviation in trade, travel, culture, and politics. Includes many footnotes throughout the text.

808. Impact of Science on Society, v.1, Apr./June 1950 to date. Paris: United Nations Educational, Scientific and Cultural Organization. Quarterly.

Editions in Arabic, English, and French. Each issue contains a few articles by different experts on various aspects of science and its impact on society. Covers such topics as computers, space, science policy, automation, etc. Indexed in Chemical Abstracts and Public Affairs Information Service.

809. International Congress, "The Man and Technology in the Nuclear and Space Age," Milan, 1962. Rendiconti del Congresso internazionale "L'uomo e la tecnica nell'era nucleare e spaziale,

Milano, 18-21 aprile 1962. Proceedings of  
the International Congress "The Man and  
Technology in the Nuclear and Space Age,"

Rome: 1963. 807p.

Organized on the occasion of the 2d International Exhibit of Space Exploration and of the 40th Milan Samples Fair by the Associazione internazionale uomo nello spazio, in collaboration with Associazione Scienze Astronautiche and others. Articles and summaries in German, English, French, Italian, or Spanish. Many articles include bibliographies. Although most of the papers are technical, some, such as the following, might be of interest to the historian: "Space Exploration in Japan, 1960-62," by H. Itokawa; "Possibilities for Life in the Universe," by J. Kleczek; "'European I' Space Sounding Vehicle," by G. A. Partel; and "Civil Applications of Space Flight in Europe," by G. K. C. Pardoe.

810. Josephson, Matthew, Empire of the Air: Juan Trippe  
and the Struggle for World Airways. New York:  
Harcourt, Brace, 1944. 236p.

Somewhat popular account of the development of Pan American Airways and the story of its founder, Juan Terry Trippe. Good for an appraisal of post World War II aviation, the question of freedom of the skies, air power politics, and the case history of Juan Trippe. A portion of the material appeared as a series of five articles in the Saturday Evening Post, August 14 to September 21, 1943.

811. Kelly, Charles J., The Sky's the Limit, the History of the Airlines. New York: Coward-McCann, 1963. 317p.

History of the large commercial airlines in the United States. Includes jet transport. Emphasizes the political and economic aspect of the subject. "Bibliography," pp. 305-308, lists brief chapter bibliographies.

812. Levy, Lillian, ed., Space, Its Impact on Man and Society. New York: Norton, 1965. 228p.

Contains the following 22 contributions on the social impact of space exploration: "The Politics of the Space Age," by Lyndon B. Johnson; "Education for Space," by James E. Webb; "Labor in the Age of Space," by Joseph A. Beirne; "Space- the Government and the Economy," by Stanley H. Ruttenberg; "The Aerospace Industry: Response and Responsibility to Our National Goals," by Martin Goland; "Space and Disarmament," by William C. Foster; "Does the Military Have a Role in Space?", by General Bernard A. Schriever; "The Law in Outer Space," by Nicholas deB. Katzenbach; "Atomic Power: The Key to Supremacy in Space," by Glenn T. Seaborg; "Career Opportunities in the Space Age," by R. W. Retterer; "Choosing Careers for the Space Age," by John H. Glenn, Jr.; "The Domestic Side of Space: A Challenge to Women," by Lillian Levy; "From Outer Space--Advances for Medicine on Earth," by Hubertus Strughold; "A Look at the Weather from Outer Space," by S. Fred Singer; "International Satellite Communications," by Thompson H. Mitchell; "Space Age Communications: A Better View to Understanding," by James C. Hagerty; "Space and Language," by Richard B. France;

"The Moral Dilemma of the Space Age," by Abraham J. Heschel; "The Higher Promise of Space Exploration," by Francis J. Heyden; "Religious Responsibility in the Space Age," by James A. Pike; "Conflict in the Race for Space," by Lillian Levy; and "The Unlimited Future," by John Paul Stapp.

813. McCurdy, Howard, List of Doctoral Theses Since 1961 on the Management of Aerospace Activities.

Washington: National Aeronautics and Space Administration, [1967], 6p. (HHN-67)

Lists 40 relevant American theses abstracted in Dissertation Abstracts from January 1961 to August 1966. This list supplements NASA Headquarters Historical Note 61 (HHN-61), List of Academic Theses Since 1961 Related to the History of Aeronautics and Astronautics, by Charles M. Atkins.

814. Mallan, Lloyd, Secrets of Space Flight. Greenwich, Conn.: Fawcett Publications, 1956. 144p.

Consists of several articles on various aspects of space flight written in a slick, popular manner but "Development of the Space Suit," pp. 40-55, does contain some historical information.

815. Mansfield, Harold, Vision, the Story of Boeing: a Saga of the Sky and the New Horizons of Space.

New York: Duell, Sloan and Pearce, 1966. 383p.

Popular, general history of the Boeing Airplane Company, Seattle, from 1916-1966,

by the firm's director of advertising and public relations. Earlier printing appeared in 1956 (389p.) with title: Vision: a Saga of the Sky.

816. Mazlish, Bruce, ed., The Railroad and the Space Program; an Exploration in Historical Analogy.  
Cambridge, Mass.; London: M.I.T. Press, 1965.  
223p. (Technology, Space and Society; Series Prepared by the American Academy of Arts and Sciences)

An attempt to anticipate, by historical analogy, the possible long-range consequences of the space program for American society. A series of eight essays by academic historians in which the political, economic, social, technological, and imaginative effects of the space effort are anticipated or compared with the American experience with railroads in the nineteenth century. Profuse footnote references.

817. National Aeronautics and Space Administration, Conference on Space, Science, and Urban Life, Oakland, Calif., 1963. Proceedings. Washington: NASA, 1964. 254p. (NASA SP-37) (For sale by U.S. Govt. Print. Off.)

Proceedings of a conference held at Oakland, Calif., in March 1963, on the applicability of the national space program, and the knowledge resulting from aerospace research, to the problems of urban growth.

818. National Aeronautics and Space Administration,  
Conference on Space-Age Planning, Chicago,  
1963. Proceedings. Washington: NASA, 1963.  
301p. (NASA SP-40) (For sale by U.S. Govt.  
Print. Off.)

Proceedings of the general sessions of the Third National Conference on the Peaceful Uses of Space, held in Chicago, May 1963. Participants included representatives of NASA, industry, and universities. Twenty-nine papers are presented under these broad headings: National Space Program, University-Industry Partnership in Space Projects, How Space Activities Are Changing the Economy, Consumer Goods Opportunities From Space Research, Placement and Management of Research and Development Projects, and Opportunities and Challenges in Space Procurement. Published August 1963.

819. National Aeronautics and Space Administration,  
Transforming and Using Space--Research Knowledge,  
Ten Diversified Views. Washington: NASA, 1964.  
110p. (NASA SP-5018) (For sale by U.S. Govt.  
Print. Off.)

Ten papers selected from a symposium and workshop sponsored by NASA and the University of California, Los Angeles, June 2, 1964, to acquaint engineers, executives, and marketers in nonaerospace industries with new approaches, knowledge, and technology generated by Government-sponsored aerospace research.

820. Moore, Byron, The First Five Million Miles.

New York: Harper, 1955. 276p.

The author's experience during 30 years (1925-1955) as a pilot. Virtually a history of the beginning and development of commercial aviation in the United States. Covers airlines, pilots, safety, weather, communications, hostesses, ticketing and finance.

821. Mumford, Lewis, The Transformation of Man. New

York: Harper, 1956.

Pp. 174-176 include some critical comments on the significance of the space age in the total span of man's history by a noted authority.

822. The Mystery of Other Worlds Revealed. Greenwich,

Conn.: Fawcett Publications, 1952. 144p.

Comprises several articles on rockets and space flight. Includes "Space Travel in History, Fiction, and Film," pp. 94-107, by Lloyd Mallan.

823. NASA-Industry Program Plans Conference, Washington,

D.C., Proceedings. 1st and 2nd, 1960-1963.

Washington: National Aeronautics and Space

Administration, 1960-1963. 2v. (For sale by

U.S. Govt. Print. Off.)

Consists of the papers presented at two conferences held to provide industrial

management with an overall picture of the NASA space program. The 1960 conference consists of 22 papers while the 1963 conference consists of 34 papers on the scientific and technical contents of various phases of the NASA program. Issues for 1963 published as NASA SP-29.

824. National Aeronautics and Space Administration,  
Conference on New Technology, Lewis Research  
Center, 1964. Proceedings. Washington: NASA,  
 1964. 156p. (NASA SP-5015) (For sale by U.S.  
 Govt. Print. Off.)

Proceedings of a conference on technology utilization held at Lewis Research Center, June 4-5, 1964, to discuss ways of transferring applicable space-research knowledge to the industrial community.

825. National Conference on the Peaceful Uses of Space,  
Proceedings. 1st, 1961. Washington: U.S.  
 Govt. Print. Off., 1961 to date. (NASA SPs)

Proceedings of the first conference held at Tulsa, May 26-27, 1961, and published July 1961, describe the NASA program and its potential applications. Proceedings of the second conference, (NASA SP-8) held May 1962 were published December 1962. Proceedings of the third conference (NASA SP-40) Conference on Space Age Planning (which see), held in May 1963, were published August 1963. Proceedings of the fourth (NASA SP-51) conference held in Boston, April 29-May 1, 1964, were published in

October 1964 and include papers on such topics as "Space and The Nation," "Congress and Science," "Living in Space," and "Working in Space."

826. Ogburn, William F., The Social Effects of Aviation.

Boston: Houghton Mifflin, 1946. 755p.

This work is an attempt to anticipate the future social effects of transportation invention. It discusses the effort of aviation on such topics as the family, cities, religion, government, and international relations. Bibliography, pp. 725-737, lists books, pamphlets, and journal articles.

827. Pardoe, Geoffrey K., The Challenge of Space. London:

Chatto & Windus, 1964. 145p.

Primarily descriptive but section entitled, "The Justification of Space Flight," pp. 8-18, examines such topics as the uses of space, political implications of space flight, the influence of space flight on technology, etc. Section entitled "Space Project Organisations," pp. 108-131, discusses the organization for space research in the U.S., U.S.S.R., Europe, and other countries.

828. RAND Corporation, Astronautics and its Applications.

Santa Monica, Calif.: RAND, 1958. 442p.

(Its Report RM2289)

Prepared at the request of the Select Committee on Astronautics and Space Exploration, House of Representatives, Eighty-fifth Congress. Contents include such topics as: Space

environment, Cost factors and ground facilities, Current programs, Astronautics in the U.S.S.R., and Astronautics in other countries. Includes bibliography, pp. 405-442, which lists references according to chapter arrangement.

829. Renstrom, Arthur G., Comp., Air Cargo, [New York: Institute of the Aeronautical Sciences] 1943.

6p.

Reprinted from Aeronautical Engineering Review, v.2 (October, 1943). Covers the period 1940-1943 and covers American journal article references to the use of planes for cargo transport. Includes approximately 540 references.

830. Renstrom, Arthur G., Postwar Aviation . . . A Selective Bibliography on Peacetime Plans and Problems. New York: Institute of the Aeronautical Sciences, 1944. 19p.

Approximately 1,700 references to journal and newspaper articles, reports, conferences, and congressional hearings on worldwide aviation, mainly covering the period 1940-1944 and arranged by broad subject category. Reprinted from Aeronautical Engineering Review, December 1943, pp. 47-65, 191, and January 1944, pp. 21-41.

831. Ruzic, Neil P., The Case for Going to the Moon.

Foreword by Arthur C. Clarke. New York:

Putnam, 1965. 240p.

Deals with the economic feasibility of going to the moon and the practical value that mining, manufacturing, etc., would have for humans. Originally appeared as a series of monthly installments in Industrial Research.

832. Sharp, C. Martin, D. H.: an Outline of de Havilland History. London: Faber and Faber, 1960. 419p.

A history of the De Havilland Aircraft Company, Ltd., of Great Britain from approximately 1908 to 1958.

833. Smith, Stephen H., Rocket Mail Catalogue and Historical Survey of First Experiments in Rocketry. 2d. Rev. ed. Corrections and Additions by Max Kronstein and J. Dellenbag. Jamaica, N.Y.: F. Billig, 1955. 68p. (Billig's Specialized Catalogues, v.8)

In effect a history of efforts to carry mail by rocket. Country by country listing of postage stamps and covers issued with a descriptive note for each. Covers primarily the period of the 1930s. In some instances contemporary newspaper sources are quoted. First edition published (Allahabad: Imperial Stamp Co.) in 1943.

834. Still, Henry, Will the Human Race Survive? New York: Hawthorn Books, 1966. 272p.

Pt. III: "Space," pp. 171-251, examines the possibilities of space travel as solutions

to such problems as overcrowding and overpopulation on earth. Bibliography, p. 260, lists 13 book titles in English.

835. "Symposium on Space; Has Man's Conquest of Space Increased or Diminished His Stature?" in Great Ideas Today, 1963. Chicago: Encyclopedia Britannica, 1963. pp. 1-82.

A scientist and four nonscientists--Herbert J. Muller (historian), Aldous Huxley (novelist), Hannah Arendt (political philosopher), Paul Tillich (theologian), and Harrison Brown (physical scientist)--express their views concerning the efforts of space exploration on the stature of man.

836. Taubenfield, Howard J., Space and Society: Studies for the Seminar on Problems of Outer Space, Sponsored by the Carnegie Endowment for International Peace. Dobbs Ferry, N.Y.: Oceana Publications, 1964. 172p.

Contents include "Values and Goals of Space Exploration," by Leonard Silk, and "The Status of Competing Claims to Use Outer Space: an American Point of View," by Howard J. Taubenfeld. Includes bibliographical footnotes.

837. U.S. Air Force Academy, Library, Outer Space. [Colorado Springs, Colo.]: The Academy, 1963.

- 18p. (Its Special Bibliography Series,  
no. 28)

Prepared by members of the library staff in conjunction with the Department of Political Science for use by participants at the Sixth Air Force Academy Assembly held April 1-4, 1964. Lists approximately 130 titles from the Academy library on the economic, social, and military implications of space exploration.

838. Walton, Clarence C., ed., The Business of Space:  
a Symposium Conducted at the Graduate School  
of Business, Columbia University. Participants:  
Robert Jastrow, C. M. Blair, and Robert L. Barre.  
Introd. by William E. Petersen. New York:  
Columbia Graduate School of Business, 1963.  
30p. (Columbia Business School Series, no. 3)

Comprises three lectures, "NASA and the American Future," pp. 3-10, by Robert Jastrow; "Space Communications and the Contribution of Telstar," pp. 11-18, by C. M. Blair; and "Social and Economic Implications of the Space Program," pp. 19-30, by Robert L. Barre.

839. Ward, John W., "The Meaning of Lindbergh's Flight,"  
in Studies in American Culture; Dominant Ideas  
and Images, edited by Joseph J. Kwiat and Mary C.

Turpie. Minneapolis: University of Minnesota Press, 1960. pp. 27-40.

Discusses the symbolic and cultural significance of Lindbergh's flight. With ample quotations from contemporary newspaper accounts, the author puts forth the idea that in Lindbergh's flight, America celebrated both the sufficiency of the individual and the machine (which increasingly enforces collectivized behavior). The author raises the question of whether it is possible to have both the freedom of the individual and the power of an organized society.

840. Wells, Helen T., comp., The Publications of Dr.

Hugh L. Dryden. Rev. ed. Washington: NASA, 1966. 16p. (HHN-59)

A chronological list of 200 publications of the first NASA Deputy Administrator from his Johns Hopkins Ph.D. thesis in 1919 to a paper published in November 1965, from basic contributions to physics to the social implications of science, engineering, and public policy. Especially includes public addresses during the NASA time period, 1958-1965. A comment edition was published in March 1966.

841. Weston, John F., Defense-Space Market Research.

Cambridge, Mass.: M.I.T. Press, 1964. 186p.

A survey of the defense-space industry and the environment in which it operates by 17 experienced contributors. "Selected References," pp. 176-183, lists approximately 80 references to titles published in the U.S.

842. "Wings and Rockets, a Report on Aerospace,"

New York Times, Nov. 20, 1966, section 12,

pp. 1A-20A.

Published to coincide with the meeting the following week in Boston of the American Institute of Aeronautics and Astronautics. This special report contains information on the aerospace industries and various aspects of the economic impact of space exploration. Also included is an article on Robert H. Goddard entitled, "The Father of Modern Rocketry," p. 6A, by Milton Lehman.

843. Woolf, Harry, ed., Science as a Cultural Force.

Baltimore: Johns Hopkins Press, 1964. 110p.

Contents include the following five essays on various aspects of science and civilization: "Science in Society," by Harry Woolf; "Toward a Research-Reliant Society: Some Observations on Government and Science," by James R. Killian, Jr.; "Technology and Society," by Jerome B. Wiesner; "Science and Man's Place in the Universe," by Michael Polanyi; and "Presupposition in the Construction of Theories," by Gerald Holton. Includes bibliographical footnotes.

## HISTORY OF RELATED INSTITUTIONS

United States

844. Akens, David S., Historical Origins of the  
George C. Marshall Space Flight Center.

Huntsville, Ala.: George C. Marshall Space  
Flight Center, 1960. lv. (various paging)  
(MSFC Historical Monograph, no. 1)

Deals with the history of the Center  
and the various antecedents of the Center  
from 1930 to 1960. Includes bibliographical  
footnote references.

845. Ambrose, Mary Stone, "The National Space Program,  
Phase I: Passage of the 'National Aeronautics  
and Space Act of 1958.'" Washington: The  
American University, unpublished Master's Thesis,  
1960. 176p.

Background and legislative history of  
the Space Act, with information on Dr.  
Robert H. Goddard, German and U.S. space  
societies, the International Geophysical  
Year, and Sputnik. A copy of the Act  
appears as Appendix I. Selected  
bibliography, pp. 164-171.

846. Ambrose, Mary Stone, The National Space Program,  
Phase II: Implementation of the National  
Aeronautics and Space Act of 1958. Washington:

NASA, 1961. 303p.

A study of NASA's first two years of operations with emphasis on the programming and budgeting aspects. Selected bibliography, pp. 293-300.

847. Briddon, Arnold E., and Ellmore A. Champie, Federal Aviation Agency Historical Fact Book: A Chronology, 1926-1963. Washington: The Agency, 1966. 130p. (For sale by U.S. Govt. Print. Off.)

A chronology of outstanding aeronautical events from 1926-1963, with emphasis on FAA. Appendixes include organizational, budget, and Federal aid information for the Agency and its predecessors. Indexed. Bibliography of U.S. Government and other publications, pp. 107-109.

848. Burkhardt, Robert, The Federal Aviation Administration. New York: Frederick A. Praeger, 1967. 249p.

Part of a series published by Praeger on U.S. Government departments. Surveys the history of the FAA and its predecessors, including the development of aeronautics and its administration from the Federal level, problems, and current programs. Short bibliography, pp. 245-246.

849. Cochrane, Rexmond C., Measures for Progress: A History of the National Bureau of Standards. Washington: Department of Commerce, 1966. 703p.

A history of the first 50 years of the National Bureau of Standards, bringing the

story up to 1951. Treats in chronological fashion the prehistory, the founding, the early years, and the gradual development of NBS. The 14 appendixes summarize such subjects as legislation, appropriations, personnel, publications, land purchases, and buildings. There is a Bibliographic Note, pp. 673-681.

850. Congress, House, Committee on Foreign Affairs,  
Relative to the Establishment of Plans for the  
Peaceful Exploration of Outer Space. Hearing  
 before the Subcommittee on National Security  
 and Scientific Developments Affecting Foreign  
 Policy . . . on H. Con. Res. 326 . . . May 20,  
 1958. Washington: U.S. Govt. Print. Off.,  
 1958. 34p. (85th Cong., 2d Sess.)

Consists largely of testimony given by Loftus Becker, Dept. of State; Robert Dechert, DOD; Kenneth Keating, Senator in Congress; and John McCormack, Representative in Congress, on events leading up to the preparation of a bill for a national space program.

851. Congress, House, Committee on Science and Astronautics,  
Future National Space Objectives; Staff Study  
for the Committee on NASA Oversight. Washington:  
 U.S. Govt. Print. Off., 1966. 439p. (89th  
 Cong., 2d Sess.)

Committee print. A study of the information derived from responses to the question, "Where

should our National space program be going in the 1970's?" The Subcommittee on NASA Oversight queried NASA management, NASA Center Directors, aerospace industrial management, and the Department of Defense. "A Selected Bibliography of Future Space Program Planning," pp. 435-439, lists thirty-three references.

852. Congress, House, Committee on Science and Astronautics,  
The NASA-DOD Relationship; Report of the Subcommittee  
 on NASA Oversight of the Committee on Science and  
 Astronautics. Washington: U.S. Govt. Print.  
 Off., 1964. 97p. (88th Cong., 2d Sess.)

A Committee print which explores the various aspects of organizing and managing a national space program, including the need for clear-cut national objectives and the interrelationships between NASA and DOD.

854. Congress, House, Committee on Science and Astronautics,  
Posture of the National Space Program; Report.  
 Washington: U.S. Govt. Print. Off., 1963.  
 68p. (87th Cong., 1st Sess.)

A Committee print based on Committee hearings, February and March 1963. A review of the progress of the national space program in achieving its objectives over the previous year.

855. Congress, House, Committee on Science and Astronautics,  
Review of the Space Program, Hearings [Jan. 20-  
 Mar. 7, 1960]. Washington: U.S. Govt. Print.

Off., 1960. 3pts. (964p.) (86th Cong.,  
2d Sess.)

Pt. I includes the testimony of 20  
U.S. space experts, Pt. II, 22, and  
Pt. III, six. Discussion centers around  
the adequacy of the U.S. space program  
and includes testimony from some of the  
major contractors in industry.

856. Congress, House, Committee on Science and Astronautics,  
Space Posture, Hearings [Feb. 25-Mar. 1, 1963].

Washington: U.S. Govt. Print. Off., 1963.

238p. (88th Cong., 1st Sess.)

Includes testimony of ten top U.S.  
space experts in review of the status  
of NASA's space effort in anticipation  
of consideration by Congress of NASA's  
budget request for fiscal year 1964.

857. Congress, House, Committee on Science and Astronautics,  
Status of Missile and Space Programs; Report.

Washington: U.S. Govt. Print. Off., 1959.

10p. (86th Cong., 1st Sess.)

A Committee print which includes testimony  
from NASA, Army, Navy, and Air Force witnesses  
on the status of the U.S. program.

858. Congress, House, Committee on Science and Astronautics,  
To Amend the National Aeronautics and Space Acts

of 1958. Hearings [Mar. 8-Apr. 4, 1960] . . .

on H. R. 9675 . . .

Washington: U.S. Govt. Print. Off., 1960.

579p. (86th Cong., 2d Sess.)

Includes testimony of 24 top U.S. military and civilian space experts pertinent to the first major reviews of the Space Act of 1958. Much of it deals with astronautics patents.

859. Congress, House, Committee on Science and Astronautics,

Ways and Means of Effecting Economies in the

National Space Program. Hearings [July 24-Aug. 16,

1962] . . . . Washington: U.S. Govt. Print.

Off., 1962. 193p.

Includes testimony from 12 experts in the space field--both contractors and NASA representatives. Deals with appropriations and expenditures and public contracts.

860. Congress, House, Committee on Science and Astronautics,

Ways and Means of Effecting Economies in the

National Space Program; Report. Washington:

U.S. Govt. Print. Off., 1963. 19p. (87th

Cong., 2d Sess.)

A Committee print which considers cost-savings possibilities in the national space program and the enormous implications the budgets for space projects will have for the national economy.

861. Congress, House, Select Committee on Astronautics

and Space Exploration, The Next Ten Years in

Space, 1959-1969; Staff Report. Washington:

U.S. Govt. Print. Off., 1959. 22lp.

Consists of testimony given to Congress  
by 55 leading European and American  
authorities on space.

862. Congress, House, Select Committee on Astronautics  
and Space Exploration, The United States and  
Outer Space; Report. Washington: U.S. Govt.  
Print. Off., 1959. 4lp. (85th Cong., 2d Sess.  
House Report, no. 2710)

Summarizes the accomplishments of the  
Committee and makes recommendations with  
respect to the national space program.  
"Chronology," pp. 17-41, lists major  
events of the year related to outer space.

863. Congress, Senate, Committee on Aeronautical and  
Space Sciences, Investigation of Governmental  
Organization for Space Activities. Hearings  
[March 24-May 7, 1959] before the Subcommittee  
on Governmental Organization for Space Activities  
of the Committee on Aeronautical and Space  
Sciences. Washington: U.S. Govt. Print. Off.,  
1959. 762p. (86th Cong., 1st Sess.)

Includes testimony of 13 U.S. space  
experts on the organization, responsibilities,

activities of Government agencies involved in space with a view to eliminating possible waste.

864. Congress, Senate, Committee on Aeronautical and Space Sciences, NASA Authorization for Fiscal Year 1962. Hearings . . . on H.R. 6874, an Act to Authorize Appropriations to the National Aeronautics and Space Administration for Salaries and Expenses, Research and Development, Construction of Facilities, and for other Purposes, June 7, 8, and 12, 1961. Washington: U.S. Govt. Print. Off., 1961. 282p. (87th Cong., 1st Sess.)

Includes testimony of 12 witnesses, mainly from NASA, as well as 53 charts, pp. 34-121, of NASA programs and projects.

865. Congress, Senate, Committee on Aeronautical and Space Sciences, NASA Scientific and Technical Programs. Hearings . . . on the Scientific and Technical Programs of the National Aeronautics and Space Administration, February 28 and March 1, 1961. Washington: U.S. Govt. Print. Off., 1961. 521p. (87th Cong., 1st Sess.)

Consists of testimony of 29 expert witnesses from NASA on the various programs

currently being conducted by NASA. Serves as briefings and reviews for the Senate Committee prior to the Committee's examination of NASA's budget request.

866. Congress, Senate, Committee on Aeronautical and Space Sciences, Scientists' Testimony on Space Goals. Hearings on Testimony of Scientists on Goals of the Nation's Space Program. June 10 and 11, 1963. Washington: U.S. Govt. Print. Off., 1963. 260p. (88th Cong., 1st Sess.)

Consists of statements made by the following scientists: Dr. Philip Abelson, Dr. Lloyd V. Berkner, Dr. Lee A. DuBridge, Dr. H. H. Hess, Dr. Polykarp Kusch, Dr. Joshua Lederberg, Dr. Colin Pittendrigh, Dr. Simon Ramo, Dr. Martin Schwarzschild, Dr. Frederick Seitz, Dr. Harold Urey, and Dr. Warren Weaver.

867. Cox, Donald W., The Space Race: from Sputnik to Apollo, and Beyond. Foreword by the Hon. J. W. Fulbright, Chairman of the U.S. Senate Committee on Foreign Relations. Philadelphia: Chilton Books, 1962. 393p.

A political history of the first five years of the space age, 1957-1961, and an examination of the activities in the White House, The Pentagon, and NASA, which made it possible for the U.S.S.R. to lead in the space race.

868. Crum, William L., Lunar Lunacy and Other Commentaries.

Philadelphia: Dorrance, 1965. 284p.

A discussion of the U.S. space program in terms of its cost and impact on the national economy. It is the author's view that the benefits from space exploration do not equal the cost and that the need for restricting space exploration should be appraised.

869. Denis, Richards, and Hilary St. George Saunders,

Royal Air Force, 1939-1945. London: H.M.

Stationery Office, 1953-1954. 3v.

A history of the Royal Air Force operations and the policy governing them, which was "officially commissioned, and is based throughout on official documents, to which full access was given by the Air Ministry." Contains numerous diagrams, maps, and plates and 13 tabular appendices.

870. Griffith, Alison, The National Aeronautics and Space

Act: A Study of the Development of Public Policy.

Introduction by Vice President Lyndon B.

Johnson. Washington: Public Affairs Press, 1962.

119p.

Principal chapters are entitled "The Inquiry," "Work of the Staff," "Problems and Issues," "The House Bill," "The Senate Bill," and "The Conference [Bill]". Includes chronology, pp. 8-16, and references and bibliography, pp. 103-115.

871. Hartman, Edwin P., Adventures in Research: A History of the Ames Research Center of the National Aeronautics and Space Administration, 1940-1965. Moffett Field, California: Ames Research Center, Comment Draft, 1968, to be published as NASA SP-4302 in 1969. 775p.

A three-part, 25-year history of the Center, plus an account of background events from the formation of the National Aeronautical Advisory Committee in 1915 and the founding of its Ames Aeronautical Laboratory in 1940. List of references, 728-747.

872. Hirsch, Lester M., ed., Man and Space. New York: Pitman, 1966. 202p.

An anthology comprised of approximately 30 essays, mainly by space exploration leaders on how they themselves feel about what is right and what is wrong with the current American space program. Each section includes a list of themes and research topics. Bibliography, pp. 200-202, lists about 75 books.

873. Keller, David M., A History of the NACA Langley Laboratory, 1917-1947. Washington: NASA, Comment Draft, 1968. 348p.

A 30-year history of the forerunner of the Langley Research Laboratory, as a case study of government sponsorship of scientific research. Focuses on the story of the men who conducted the bulk of the fundamental aerodynamic research in the United States for more than two decades; also

describes research activities. List of references, pp. 323-348, cites bibliographical guides, NACA documents and technical reports and other government documents, memoirs, secondary sources, periodicals, and interviews.

874. Keller, David M., Fifty Years of Flight Research. A Chronology of the Langley Research Center, 1917-1966.

Comment Edition. Washington: National

Aeronautics and Space Administration, 1966.

112p. (HHN-65)

Consists of five very well documented chapters covering events prior to the establishment of Langley (1901-1916), to the early years, and to Langley as a NASA research center. Appendices pp. 95-100, include the text of the law establishing Langley and lists of chairmen and members of NACA. "List of References," pp. 101-103, lists 27 references to books, dissertations, and NASA Historical Office archival material.

875. Kennedy, John F., Space Center, Library, A Selective Bibliography, 1949-1965. Cape Kennedy, Fla.: The Center, 1966. 24p.

This chronological bibliography of approximately 100 annotated references to journal and newspaper articles shows the development of the Kennedy Center and the Air Force Missile Test Center.

876. Library of Congress, Legislative Reference, Science Policy Research Division, The Office of Science and

Technology, Report prepared for the Military Operations Subcommittee of the Committee on Government Operations, United States House of Representatives. Washington: U.S. Govt. Print. Off., 1967. 326p. (90th Cong., 1st Sess.)

A Committee print, Chapter III of which includes a section entitled "National Aeronautics and Space Council", pp. 58-59, which discusses the relationships between the Council and the Office of Science and Technology. Further discussion included in Chapter V, "Example 16. Space", pp. 129-134. Has profuse footnote references.

877. Library of Congress, Science and Technology Division,

List of Selected References on NASA Programs.

Prepared for the National Aeronautics and Space Administration. Washington: NASA, 1962. 236p.  
(NASA SP-3)

Contains a list of selected publications, speeches, and releases of NASA and congressional documents relating to NASA activities from October 1958 through 1961.

878. National Aeronautics and Space Administration,

Historical Sketch of NASA. Washington: NASA, 1965.

56p. (NASA EP-29) (For sale by U.S. Govt. Print. Off.)

879. National Aeronautics and Space Administration, Major Activities in the Programs of the National Aeronautics and Space Administration, October 1, 1958--[to date]. Washington: U.S. Govt. Print. Off., 1960. 180p. Official NASA semi-annual report to the Congress.

Comprises a summary of current NASA programs; a detailed discussion of progress in NASA projects; and appendixes which include memberships of congressional and NASA committees, lists of research grants and contracts, and the NASA financial statement for the period.

880. National Aeronautics and Space Administration, NASA-University Conference on the Science and Technology of Space Exploration, Chicago, 1962. Proceedings. Washington: NASA, 1962. 2v.  
(NASA SP-11) (For sale by U.S. Govt. Print. Off.)

State-of-the-art papers on NASA programs presented to the scientific and technical community at a conference held in Chicago, November 1-3, 1962. Some papers include bibliographies. In addition NASA has published under separate cover 16 subject groups of these conference papers (NASA SP-13 - NASA SP-28) as follows: SP-13, Geophysics and Astronomy in Space Exploration; SP-14, Lunar and Planetary Sciences in Space Exploration; SP-15, Celestial Mechanics and Space Flight Analysis; SP-16, Data Acquisition from Spacecraft; SP-17, Control, Guidance, and Navigation of Spacecraft; SP-18, Bioastronautics; SP-19, Chemical Rocket Propulsion; SP-20, Nuclear

Rocket Propulsion; SP-21, Power for Spacecraft; SP-22, Electric Propulsion for Spacecraft; SP-23, Aerodynamics of Space Vehicles; SP-24, Gas Dynamics in Space Exploration; SP-25, Plasma Physics and Magnetohydrodynamics in Space Exploration; SP-26, Laboratory Techniques in Space Environment Research; SP-27, Materials for Space Operations; SP-28, Structures for Space Operations. An abridged edition of the proceedings was also published (NASA EP-5, 1963, 91p.) with the title NASA and the Universities, Principal Addresses at the General Sessions.

881. National Aeronautics and Space Administration, Report to the Space Science Board on Space Science and Applications Programs. Washington: NASA, 1966. 215p.

Presents past accomplishments for the period 1958-1966 and planned flights and investigations of the NASA program. Includes major satellite and space probe launchings as well as future programs in physics, astronomy, biological satellites, manned space science, and the university program. Also includes information on costs.

882. Nieburg, H. L., "The JPL Story," Bulletin of the Atomic Scientists, V.22, (October 1966), pp. 35-38.

Discusses recent history of the Jet Propulsion Laboratory at the California Institute of Technology and its relationship with NASA.

883. Popkin, Roy, The Environmental Science Services Administration, Including: The Coast and Geodetic Survey, The Weather Bureau, The Institute for Telecommunications Sciences and Aeronomy, and Other Related Services.

One of a series of Praeger Library books on U. S. Government departments and agencies, written to give the general reader an understanding of the development, scope, and operation of the executive branch of the U. S. Government. Provides a history of each of the agencies named; a description of their reorganization under ESSA; and discussion of their roles in serving aviation, participating in the nation's war efforts, warning against environmental hazards, and cooperating with other nations and international agencies in the study of the physical environment.

884. Rosenthal, Alfred, Venture Into Space: The Early Years of Goddard Space Flight Center. Washington: NASA, 1968. 273p. (NASA SP-4301) (For sale by U. S. Govt. Print. Off.)

Deals with the Center from its earliest beginnings to 1964. Part I is entitled "Historical Origins of the Goddard Space Flight Center," Part II, "Goddard Space Flight Center Goes to Work." Several Appendices on the Center's historical documents, a chronology, pp. 203-254, and bibliography of publications by and about the Center, pp. 333-339. The bibliography includes selected NASA releases, speeches, technical reports, translations, and congressional documents.

885. Rosholt, Robert L., An Administrative History of NASA, 1958-1963. Washington: NASA, 1966.  
381p. (NASA SP-4101) (For sale by U. S. Govt. Print. Off.)

The first of a series of NASA histories sponsored by the NASA Historical Staff. Includes "Classified Bibliography of Sources Cited in this Study," pp. 355-370. Sources cited include, in addition to books, journal and newspaper articles, public laws, congressional documents and publications (including those of the House Committee on Science and Astronautics and the Senate Committee on Aeronautical and Space Sciences), NASA publications and news releases, internal NASA documents and speeches.

886. Smull, Thomas L., The Nature and Scope of the NASA University Program. Washington: NASA, 1965. 39p. (NASA SP-73) (For sale by U. S. Govt. Print. Off.)

Description and discussion of university research and training programs sponsored by NASA. Background and philosophy are given. Includes bibliography, p. 39.

887. Space Science Summer Study, University of Iowa, 1962, A Review of Space Research; the Report of the Summer Study Conducted under the Auspices of the Space Science Board of the National Academy of Sciences. Washington: National Academy of

Sciences-National Research Council, 1962. Various  
 paging. (National Research Council. Publication  
 1079)

Examines the current national program of  
 basic research in space and its future  
 objectives. Mainly concerned with NASA's  
 scientific effort including that conducted  
 through public and private laboratories as  
 authorized by Congress. Includes such  
 chapter headings as The scientific role of  
 man in space exploration, NASA/university  
 relationships, International cooperation  
 programs, and Some social implications of the  
 space program. Includes bibliographical  
 footnote references.

888. Turnbull, Archibald D., and Clifford L. Lord, History  
of United States Naval Aviation. New Haven:  
 Yale University Press, 1949. 345p.

Covers naval aviation from the first  
 tentative interest in aircraft prior to  
 World War I through the carrier battles of  
 World War II. "Sources" are found on pp.  
 324-331.

889. U. S. Air Force, USAF Historical Division, The  
Army Air Forces in World War II. Prepared under  
 the editorship of Frank Craven and James L. Cate.  
 Chicago: University of Chicago Press, 1948-1958. 7v.

Official, comprehensive, thoroughly  
 documented history of the Army Air Forces  
 prepared under the direction of two civilian

historians. Each volume is accompanied by numerous illustrations, charts, maps and an extensive index. Extensive chapter notes also are given.

Foreign Space Programs

890. Akademiia Nauk SSSR., Issledovaniia Kosmosa Sovetskimi Uchenymi [Study of the Cosmos by Soviet Scientists]. Moscow: Akademiia Nauk SSSR and Vystavka Dostizhenii Narodnogo Khoziaistva SSSR, 1961. 13p.

Describes Soviet space exploration, 1957-1961.

891. Burchett, Wilfred G., and Anthony Purdy, Cosmonaut Yuri Gagarin, First Man in Space. London: A. Gibbs & Phillips, 1961. 187p.

Includes, in addition to material on Gagarin's life and historic flight, an evaluation of the Soviet space program, its history and problems. Also includes an interview by the authors with Yevgeny Fedorov, Secretary of the U.S.S.R. Academy of Sciences, and one of the leaders of the Soviet space program.

892. Burchett, Wilfred G., and Anthony Purdy, Gherman Titov's Flight into Space. London: Hamilton, 1962. 156p. (A Pantheon Book)

Essentially a biography of Cosmonaut Titov. Also includes an interview with Vasillii Parin, head of the Soviet Union's space medical team.

893. Caidin, Martin, Red Star in Space. New York:

Crowell-Collier, 1963. 280p.

Compares Soviet and American space programs, contends that the Soviet Union has a long-range plan for manned lunar landings more far-seeing than the U.S. program.

894. Commonwealth Spaceflight Symposium, 1st, London,

1959, Spaceflight Technology; Proceedings.

Edited by Kenneth W. Gatland. London, New

York: Academic Press, 1960. 365p.

Contents include: "Britain's Place in Interplanetary Exploration," by J. E. Allen; "The Economics of Spaceflight," by D. W. Morley; "Commonwealth University Participation," by T. R. F. Nonweiler; "Canadian Facilities," by P. A. Lapp and A. E. Maine; and "General Review of a British Spaceflight Programme Based on Blue Streak," by G. K. C. Pardoe. Includes bibliographies at the end of each article.

895. Congress, House, Committee on Science and

Astronautics. Discussion of Soviet Man-in-Space

Shot. Hearing before the Committee on Science

and Astronautics, April 13, 1961. Washington:

U. S. Govt. Print. Off., 1961. 33p. (87th

Cong., 1st Sess.)

Includes statements and discussion by Hugh L. Dryden, Deputy Administrator, NASA; and James E. Webb, Administrator, NASA.

896. Congress, House, Committee on Science and Astronautics,

Review of the Soviet Space Program. Report

Prepared by Library of Congress, Science Policy

Research Division [Dr. Charles S. Sheldon II].

Washington: U. S. Govt. Print. Off., 1967.

138p. (90th Cong., 1st Sess.)

Contains a section on Basic space flight statistics, which in 18 tables enumerate by category Soviet and U. S. space flights during the ten years of the space age; a section on Soviet space program development, describing the classes of Soviet space vehicles, their objectives, and accomplishments; a section on Soviet policy and plans. Also contains drawings of Soviet spacecraft and boosters.

897. Congress, House, Committee on Science and Astronautics,

Soviet Space Technology. Hearings [May 11-29,

1959] before the Committee on Science and

Astronautics and Special Subcommittee on Lunik

Probe. Washington: U. S. Govt. Print. Off.,

1959. 210p. (86th Cong., 1st Sess.)

Includes testimony given by 15 U. S. experts on the state of the art in the Soviet Union.

898. Congress, Senate, Committee on Aeronautical and

Space Sciences, Soviet Space Program, 1962-65;

Goals and Purposes, Achievements, Plans, and

International Implications. Staff Report.

Washington: U. S. Govt. Print. Off., 1966.

920p. (89th Cong., 2d Sess.)

Examines Soviet intentions, organizations, plans, capabilities, and programs in space and analyzes Soviet space science and technology, and their international, political, and legal implications. Based on open sources only. Previous edition, Soviet Space Programs: Organization Plans, Goals, and International Implications, was published in 1962. Extensive footnotes.

899. USSR: Missiles, Rockets, and Space Efforts; a

Bibliographic Record, 1956-1960. Washington:

The Department, 1960. 49p. (Its Pamphlet 70-5-8.)

An annotated bibliography covering the period 1956-1960 and including approximately 270 references to books, journal articles, and reports.

900. Dressner, Richard B., French Outer Space Program;

Selected Annotated References, 1959-1966.

Washington: Legislative Reference Service,

Library of Congress, 1966. 20p.

Contains approximately 200 references to books, pamphlets, documents, periodicals, and newspapers.

901. Ducrocq, Albert, Le Fabuleux Pari sur la Lune,  
12 Septembre 1959, Paris: R. Laffont, 1961. 234p.  
 (Ce jour là: 12 Septembre 1959)

A history of Soviet lunar probes.

902. Krieger, Firmin J., Behind the Sputniks: A Survey of Soviet Space Science. Washington: Public Affairs Press, 1958. 380p.

Comprises articles and papers, supplemented by new materials, which originally appeared as RAND Research Memoranda RM 1760 and RM 1922 which formed Pt. I and II of a series entitled "A Casebook on Soviet Astronautics," dated June 21, 1956, and June 21, 1957, respectively. Includes "Bibliography of Soviet Books, Monographs, and Periodicals on Space," in two parts, pp. 339-376, arranged alphabetically by author and covering period 1928-1957. Pt. I lists books and monographs dealing with historical, scientific, and technical aspects of rocketry and astronautics. Pt. II contains references drawn from various Russian newspapers, popular magazines, and serious technical journals.

903. Krieger, Firmin J., Recent Soviet Advances in Aerospace Technology. Santa Monica, Calif.: RAND Corp., 1962. 25p. (RAND Memorandum RM 3053-PR)

A description of the recent developments of the Soviet aerospace program. Covers various programs aimed at manned interplanetary travel. This paper was presented as part of the National Tracking and Command of Aerospace Vehicles Symposium held by the Institute of the Aerospace Sciences in San Francisco, February 19-21, 1961. Includes bibliography, p. 25.

904. Krieger, Firmin, J., Soviet Astronautics: 1957-1962. Santa Monica, Calif.: RAND Corp., 1963. 16p. (RAND

Memorandum RM 3595-PR)

Describes recent Soviet aerospace developments and is based mainly on material from Soviet literature. Part of a continuing study, this memorandum updates the following titles, Behind the Sputniks (R-311); Soviet Space Experiments and Astronautics (R-2261); and Recent Soviet Advances in Aerospace Technology (RM-3053). Originally presented as part of the annual Air Force Space Briefings for the State Department Seminar in Foreign Policy at Patrick Air Force Base, Florida, March 6-8, 1963.

905. Krieger, Firmin J., Soviet Space Experiments and Astronautics. Santa Monica, Calif.: RAND Corp., 1961. 42p. (RAND Paper P-2261)

This paper was presented as part of a Symposium on Russian Progress in Aerospace Sciences held by the Institute of the Aerospace Sciences in Los Angeles on April 4, 1961. Reviews Russian achievements in space exploration by means of rockets. Includes bibliography, pp. 41-42.

906. Liapunov, Boris V., Problema Mezhplanetnykh Puteshestviĭ v Trudakh Otechestvennykh Uchenykh [Problems of Interplanetary Flight in the Papers of Russian Scientists]. Moscow: Pravda, 1951. 22p.

Deals mainly with a discussion and quotes from the work of K. E. Tsiolkovskii, F. A. Tsander, and IU. V. Kondratiuk. Includes brief bibliography of nine items, p. 24.

907. Library of Congress, Aerospace Information Division,  
Top Personalities in the Soviet Space Program,  
Comprehensive Analysis Based on Soviet Open  
Literature, 1930-64. Washington: The Library,  
1964. 43p. (Its AID Report U-64-49)

Abundant references scattered throughout the text, which is mainly on the following three top scientists in the Russian space program: Sergey Pavlovich Korolev, Valentin Petrovich Glushko, and Mikhail Klavidiyevich Tikhonravov. Bibliography, pp. 25-29, lists 57 references to Soviet publications in the Library of Congress.

908. Library of Congress, Aerospace Information Division,  
U.S.S.R. Missile and Rocket Program; Bibliography.  
Washington: The Library, 1961. 66p. (Its AID  
Report 61-12)

The bibliography, consisting of 709 entries arranged alphabetically within eight major subject categories, serves as a guide to the Soviet literature of astronautics and the problems of space flight. The materials listed comprise Russian monographic titles given in transliterated form and followed by an English translation, periodical articles, conference proceedings, newspaper references, and other public sources.

909. Library of Congress, Aerospace Technology Division,  
Data on the Soviet Space Program; Analytical  
Survey. Washington: The Library, 1965. 25p. (Its

ATD Report P-65-11)

Contains a selection of Soviet technical papers and gives a view of some space-exploration problems as they existed in mid-1964. These include (1) guidance systems, (2) human factor in space flight, (3) pressure suits and spaceship cabins, (4) coming trends in aerospace vehicle design, and (5) bioastronautics, simulated space flights, communications, and space vehicles. Bibliography, pp. 24-25, lists 20 references to Soviet literature.

910. Library of Congress, Aerospace Technology Division,

Data on Soviet Space Program: Analytical Survey.

Washington: The Library, 1965. 16p. (Its

ATD Report P-65-37)

Contains a selection of Soviet technical papers and gives a view of some space-exploration problems as they existed at the end of 1964. These include (1) Soviet space biology, (2) supersonic and hypersonic aircraft, (3) the Voskhod spacecraft, and (4) Soviet exploration of the moon. Materials from which this report was completed are available in the Aerospace Technology Division of the Library of Congress. Bibliography, pp. 15-16, lists 26 references to Soviet literature.

911. Library of Congress, Aerospace Technology Division,

L. I. Sedov: a Survey and Evaluation of his

Works and Activity. Washington: The Library,

1961. 116p. (Its AID Report 61-136)

Consists principally of an annotated bibliography of Sedov's writings. Sedov is

one of Russia's leading space scientists and an expert in the field of mechanics, specializing in gas and fluid dynamics.

912. Library of Congress, Aerospace Technology Division,  
Materials on Vostok-5, Vostok-6, and Polet-1  
Flights: Comprehensive Report. Washington:  
The Library, 1964. 65p. (Its ATD Report  
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A report based on Soviet open literature on VOSTOK V, VOSTOK VI, and POLET I manned space flights. Bibliography, pp. 55-60, lists 98 references to Soviet literature. "Appendix," pp. 61-22, contains general data on the Vostok series of manned space flights and "References to Appendix," pp. 63-65, is a bibliography of 36 items.

913. Library of Congress, Aerospace Technology Division,  
Soviet Long-Range Space-Exploration Program:  
Analytical Survey. Washington: The Library,  
1966. 29p. (Its ATD Report 66-57)

Presents the Soviet view on such space exploration programs as the origin of life, establishing contact with extraterrestrial civilizations, Mars satellites, etc., as revealed by a selection of Soviet technical papers. References, p. 29, list 13 journal articles.

914. Library of Congress, Aerospace Technology Division,  
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German Specialists; Comprehensive Report.

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ATD Report 65-101)

Deals with East German open literature sources (1960-64) available at the Aerospace Division of the Library of Congress. Section 1 includes general remarks and contains the analyst's conclusions. Sections 2-8 contain a chronological review of the literature. Bibliography, pp. 35-40, includes 108 references to German literature.

915. Mallan, Lloyd, Russia's Space Hoax: The Documental

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Publishing Co., 1966. 112p. (Science and

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1957. 78p. (Booklets on the Soviet Union)

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New York: Harper, 1961. 179p.

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