National Aeronautics and Space Administration

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HISTORY OF AERONAUTICS AND ASTRONAUTICS A PRELIMINARY BIBLIOGRAPHY

(HHR-24)

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Science and Technology Division
Library of Congress

Sponsored by NASA Historical Staff
Office of Policy Analysis

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FOREWORD

Man's thoughts about flight into his universe long preceded the evolution of practical human flight, first in the lower atmosphere at the beginning of the twentieth century, and then in Earth orbital flight in space less than six decades later. Within months man will set foot on the surface of the moon.

Practical technology for space exploration in pursuit of science or of human mobility, presenting new knowledge, utility, and problems for mankind on Earth, has not yet been well examined by historians. Interrelationships between ideas and actions, persons and institutions, science and technology, strategy and policy, and basic knowledge and its application to the intellectual and creature needs of society -- this spectrum largely awaits historical treatment. But there is no dearth of technical, speculative, or preliminary analysis in the literature which this pioneering listing helps make available and upon which historical study can be based.

This bibliography of bibliographies relating to the history of astronautics was intended to be a working tool, no more or less, for historical documentation and analysis. The compiler, Katherine Dickson of the Library of Congress, has done a noteworthy task. Since it is a preliminary listing, suggestions and comments by its readers will be needed and welcomed.

Eugene M Emme

May 1967

Eugene M. Emme
NASA Historian

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, short bibliographical guide to bibliographies on the history of space exploration from earliest times to 1966 is designed mainly for historians. It is hoped that it will also be of some 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 Staff, which originally sensed the need for such a bibliography in view of the increasing importance of the subject and the lack of other comprehensive bibliographies in the field. Primarily the resources of the NASA Historical Staff; 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.

This guide is merely an effort to list the more important bibliographical sources, in whatever form they appear, in all languages, pertinent to the history or potential history of space exploration.

It does not attempt the comprehensiveness of including everything published. It is a list of items with bibliographies and the result of a partial search of the literature for bibliographies of historical materials. Inclusion of works has been highly selective and determined largely by the nature of the literature itself and the fact that the bibliographical literature of aeronautics is somewhat different from that of astronautics. For instance, one finds in the bibliographical literature of aeronautics many separately published bibliographies, histories which contain bibliographies, and published catalogs of collections, while the existing bibliographical literature for 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.

No systematic attempt has been made to include biographies, history-making works, and journal articles, although there are a few items from each of these categories. Also no attempt has been made to include histories without bibliographies, textbooks, directories, dictionaries, government or official documents, juvenile literature, 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. 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 author's affiliation and/or reputation, language in which the work was written, special features, limitations, comparisons with similar works, arrangement, content, form, indexes, and time period covered.

May 1967 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 Book Company, 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. Ananoff, Alexandre, L'Astronautique. Paris: Libraire Arthème Fayard, 1950. 498p. (Collection "Savoir").

   Bibliography, pp. 475-476, supplements the profuse footnotes scattered through the well-illustrated text of this history by the secretary of the Groupement Astronautique Français of the Société Astronomique de France and organizer of the First International Congress of Astronautics held in Paris in October 1950.

4. 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 Office 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.

5. 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)

Einstein first introduced the clock paradox in 1905, although Michelson had touched upon the subject in 1882. 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 are included.

6. 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.

7. 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. Includes bibliography, pp. 934-948.

8. Bober, Juraj, Vesmír caká na človeka [Space Waits for Man]. V Bratislava: Slovenské vydavatel'stvo politickej literatúry, 1960. 175p.

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

9. Budil, Ivo, ed., Do Blízkého i Vzdáleného Vesmiru [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.

10. 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.

11. 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.

12. 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.

13. Emme, Eugene M., Aeronautics and Astronautics: an American Chronology of Science and Technology in the Exploration of Space, 1915-1960. 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 bibliography, pp. 207-212, and a subject and name index. Items in the bibliography include books, journal articles, congressional hearings; mainly for the historian.

14. Emme, Eugene M., History of Space Flight. New York: Holt, Rinehart and Winston, 1965. 224p.

Part I, "Prehistory of the Space Age," covers the history of flight, rocket technology, and man's expanding concept of the universe while Part 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.

15. 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 appendices 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 author and subject index.

16. Gartmann, Heinz, Rings Around the World; Man's Progress from Steam Engine to Satellite, translated by Alan G. Readett. New York: Morrow, 1959. 366p. (also London: Hodder & Stoughton, 1959. 348p.)

Translation from the German, Sonst stünde die Welt still; das grosse Ringen um das Neue (Düsseldorf, Econ-Verlag, 1957). 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.

17. 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.

18. 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, p. 346-374 for 1963; and Spring 1966, pp. 268-300 for 1964.

19. 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.

20. 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.

21. International Aerospace Abstracts. New York: American Institute of Aeronautics and Astronautics, January 1961 to date. Semimonthly.

Includes 11,000 abstracts a year of 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 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.

22. 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.

23. 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.

24. 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 non-historian. 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.

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

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."

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

Lists 4,551 current and non-current 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).

27. 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.

28. 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.

29. 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.

30. 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."

31. National Academy of Sciences, Space Science Board, Bibliography on Space Sciences: United States, 1956-1965. Washington: National Academy of Sciences, 1956-1965. 10v. 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 the period 1956-1965 have been issued.

32. National Aeronautics and Space Administration, Bibliographies on Aerospace Science; a Continuing Bibliography. Springfield, Virginia: 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.

33. National Aeronautics and Space Administration, Index to NASA Tech Briefs. Springfield, Virginia: 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 up to the latter part of 1964, arranged by subject category; (2) three indexes: Subject Index, Originator/Tech Brief Number Index, and Tech Brief/Originator Number Index.

34. 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 between 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.

35. 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.

36. Nihon Kôkû Gakkaishi. 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.

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

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

38. 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.

39. Referativnyĭ Zhurnal. Issledovonie Kosmicheskogo Prostronstva [Journal of Abstracts. Investigation of Outer Space]. Moscow: Proizvodstvenno-izdatel'skiĭ kombinat Vsesoĭuznogo Instituta Nauchnoĭ 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.

40. 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.

41. Rynin, Nikolai A., Mezhplanetnye Soobshcheniia [Interplanetary Space Travel]. Leningrad: N. A. Rynin, 1928-32. 3v. (9 pts.)

Includes bibliography, the most extensive published to this date 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; (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, XIII, July 1954, 192-202, and Nov., 301-313; and XV, March-April, 1956, 82-91.

42. Scientific and Technical Aerospace Reports (supersedes its 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.

43. 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.

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

Lists approximately one hundred 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.

45. 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 Unitersity Library, November-December 1959. Syracuse, N.Y.: 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; The First Men in the Moon by H. G. Wells.

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

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

47. 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.

48. U.S. Government Research and Development Reports, compiled by Clearinghouse for Federal Scientific and Technical Information, Department of Commerce. Washington: 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.

49. 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.

50. 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. Part 10 titled, "Why Explore Space?", includes a chronology of space exploration. Suggestions for futher reading are given at the end of each section.

51. 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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AERONAUTICS

52. Aéro-Club de France, Bibliothèque, Catalogue de la 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.

53. 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.

54. 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.

55. 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.

56. 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 seventeen Aslib Aeronautical Group members.

57. 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.

58. 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, 1887-1906. 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.

59. 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.

60. 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.

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

Covers the history of aeronautics from earliest times up to 1948. Part I, "The Origins", deals with flight in nature, mythology, and early aeronautical devices developed by man. Part II, "History", deals with the development of balloons, dirigibles and the airplane. Part III, "The Modern Phase", includes a discussion of aircraft in war and the social and economic significance of flight. Includes bibliography, pp. 181-182.

62. 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.

63. Gibbs-Smith, Charles H., History of Flying. London: Batsford, 1953. 304p. [American edition-New York: Praeger, 1954]

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.

64. 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, 2d. 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.

65. Imperial War Museum, A Bibliography of Aeronautics. London: The Museum, 1961. 41p.

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.

66. 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 1940's, 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.

67. 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.

68. International Civil Aviation Organization, Library Index of PICAO 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.

69. 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.

70. 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.

71. 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. 2 v. (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."

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

72. Maggs Bros., A Descriptive Catalogue 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 reference 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.

73. 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.

74. National Advisory Committee for Aeronautics, Bibliography of Aeronautics, 1909-1932. Washington: NACA, 1921-1936. 14 v. (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.

75. 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 relating to technical systems; international legislation and regulations; and the relationships between the aeronautical and other international regulations. Bibliographical footnote references throughout the text.

76. 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. Paficic Aerospace Library Uniterm Index to Periodicals serves as an index to the checklist.

77. 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.

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

Part I is a lifting of books by author, Part II is a classified listing of pamphlets, and Part 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.

79. 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.

Volume I: Historical Survey; v. II: Catalogue of Exhibits with Descriptive Notes. Bibliography, v. 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.) V. 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; V. 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: v. I, pp. 111-112; v. II, pp. 108-109; v. III, pp. 100-101. Revised edition published in 1935-1936.

80. 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.

81. 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: 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.

82. 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 c^ie, 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.

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

The Air Documents Division, Intelligence Department, Air Materiel 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. Vols. 3-6 prepared by the Air Documents Division.

84. Work 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) Tailess 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.

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

List of approximately six hundred 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.

86. 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. 1278p. in 2 v.

Annotated bibliography, compiled by Arthur G. Renstrom, pp. 1221-1243, includes 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. 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, 1967).

87. 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 Zentralbucherei der deutschen Luftfahrt (Moedebeck-Bibliothek) 1. Nachtrag. Nach dem Stande vom 16. Juni 1930 (Berlin: 1930, 175p.)

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88. 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 1951-1953; 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.

89. Benton, Mildred C., Use of High Altitude Rockets for Scientific Research; and 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.

90. 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. Part 1, pp. 15-194, includes history of space flight and rocketry in fiction as well as fact.

91. 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," Akademiia 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.

92. 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.

93. Bowman, Norman J., The Handbook of Rockets and Guided Missiles. 2d ed. Whiting, Ind.: Perastadion Press, 1963. 1008p.

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.

94. 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."

95. California Institute of Technology, Jet Propulsion Laboratory, Publications of the Jet Propulsion Laboratory, January 1938 through June 1960. Pasadena: 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.

96. 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.

97. 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.

98. 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.

99. 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.

100. 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. V. 1 has 474 abstracts, v. 2 has 490 abstracts.

101. 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.

102. Dept. of the Army, Missiles and Ventures into Space: 1960-1961. Washington: 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.

103. Dept. of the Army, Missiles and Ventures into Space; Progress Report, 1961-1962. Washington: 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.

104. Dept. of the Army, Missiles, Rockets and Satellites. Washington: 1958. 5 v. (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. - v. 1. U.S.S.R. - v. 2. United States. - v. 3. Great Britain, France and Other Free Countries. - v. 4. Technology: Means and Methods. - v. 5. Earth Satellites and Space Exploration. References to "Background and Historical Aspects" included, pp. 41-42 of v. 4. References to "Historic Aspects", p. 9 of v. 5.

105. Dept. of the Army, Missiles, Rockets, and Space in War and Peace. Washington: 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.

106. Dept. of the Army, Missiles, Rockets, and Space Vehicles, 1959-1960. Washington: 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.

107. 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 Edward G. 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, spaceflight, and related technologies arranged by broad subject category such as "History and Chronology" and "Abstracting and Indexing Services."

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

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

109. 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 482 (Washington, 1949. 49p.)

110. 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.

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

111. 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.

112. 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.

113. 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.

114. Library of Congress, Aerospace Technology Division, Communist Chinese Rocket Propulsion Technology; Compilation of Abstracts. Washington: 1966. 25p. (Its ATD Report 66-89)

Consists of thirty one abstracts arranged alphabetically by author and based on Chinese communist open sources published between 1960-66. Deals primarily with solid and liquid rocket propulsion.

115. 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. Terner. 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.

116. 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)," pp. 425, to some of the basic works of such pioneers as Oberth, Goddard, and Esnault-Pelterie.

117. 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.

118. Moscow. Publichnaia Biblioteka., Pervaia Kosmicheskaia Raketa i Perspektivy Razvitiia Astronavtiki. [First Cosmic Rocket and the Development of Astronautics in Perspective]. Moscow: The Author, 1959. (News of Science and Technology, vol. 19) 21p.

Lists approximately 100 annotated Russian titles on the development of titles of rocketry and astronautics.

119. National Aeronautics and Space Administration, High Energy Propellants, a Continuing Bibliography. Springfield, Virginia: Clearinghouse for Federal Scientific and Technical Information (OTS), April-December 1964 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 up-dated periodically by the publication of supplements.

120. 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.

121. Pellandini, Jean, Les Fusées. 1st ed. Paris: Presses Universitaires de France, 1958. 127p. (Que sais-je?" Le point des connaissances actuelles, no. 765)

Includes bibliography of fourteen references. Chapter 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.

122. Rakiety i Pociski Kierowane [Rockets and Ballistic Missiles]. 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,..."

123. 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.

124. Referativnyi Zhurnal. Raketostronie Poleta [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.

125. Sokol'skii, Viktor N., Rakety na Tverdom Toplive v Rossii. [Solid Fuel Rockets in Russia] Moscow: Izdatel'stvo Akademii Nauk SSSR, 1963. 285p.

Bibliography, pp. 276-281, lists approximately 130 references to Russian sources from late eighteenth century to the present time.

126. Stemmer, Josef, Die Entwicklung des Raketenantriebes in allgemein verständlicher Darstellung. Zürich: E. A. Hofmann, 1944-45. 3 v. (Hofmann-Bibliothek, Nr. 106-108)

Includes "Literaturverzeichnis," v. 3, pp. 211-216. Lists some of the basic works published during the 1920's and 1930's in rocketry.

127. 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 Fachbucher)

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.

128. Subotowicz, Mieczysław, Astronautyka [Astronautics]. Warszawa: Państwowe Wydawn. Naukowe, 1960. 586p.

Chapter 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.

129. 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; spaceflight; 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.

130. Von Braun, Wernher, and Frederick I. Ordway III, History of Rocketry and Space Travel. Introd. by Frederick C. Durant III. New York: Crowell, 1966. 244p.

Includes an excellent bibliography, pp. 223-236, of approximately four hundred (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 nineteenth century, as well as references to historical Chinese, Arab, Indian, and European rocketry developments through the nineteenth 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.

131. Voprosy Raketnoĭ Tekhniki [Problems of Rocket Technology]. Moscow: Izdatel'stvo Inostrannoĭ 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.

132. 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.

133. Zarankiewicz, Kazimierz, Astronautyka Popularna [Popular Astronautics]. Warszawa: Państwowe 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

134. 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; previously title varies slightly.

135. 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. Part 1 is for the year 1956 and part 2 covers the period 1957-1958. 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.

136. Boruń, Krzysztof, Księżyc Zdobyty; o Rakietach Księżyocowych 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.

137. 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.

138. 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.

139. Grimwood, James M., Project Mercury, a Chronology. Washington: National Aeronautics and Space Administration, 1963. 238p. (NASA SP-4001)

A listing of major events in the first U.S. manned spaceflight program, from preliminary discussions of Earth satellite vehicles through Astronaut Cooper's 22-orbit flight in May 1963. Includes index and bibliographical footnotes throughout the text.

140. 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.

141. Koelle, Heinz H. and H. J. Kaeppeler, 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.

142. 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.

143. 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.

144. Library of Congress, Science and Technology Division, Space Science and Technology Books, 1957-1961; a Bibliography with Contents Noted. Washington: Library of Congress, 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.

145. National Aeronautics and Space Administration, History; a Literature Search. Washington: The Author, 1966. 137p. (NASA 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.

146. 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.

147. 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.

148. Petrov, Viktor P., Iskusstvennyi Sputnik Zemli [Artificial Earth Satellite]. Moscow: Voen. Izdatel'stvo, 1958. 305p. (Nauchno-populiarnaia 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.

149. Rand Corporation, An Annotated Bibliography of Rand Space Flight Publications. Santa Monica, Calif:, 1958 (rev. 1959). 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.

150. 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.

151. 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.

152. Sosnitskii, Georgii G. and Galina M. Aleksandrova, Rozvidnyky Vsesvitu [Explorers of the Universe]. Kiev: Derzhavna Respublikans'-ka Biblioteka URSR 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.

153. Swenson, Lloyd S., James M. Grimwood, and Charles C. Alexander, This New Ocean: a History of Project Mercury. Washington: National Aeronautics and Space Administration, 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 twenty-five project Mercury working papers, thirteen bibliographical aids, twenty-five official reports and documents, and references to 372 books and journal articles; and thirteen unpublished works, as well as fifteen post-flight reports. Also extensive "Footnotes," pp. 515-604.

154. U.S. Air Force Academy, Library, Astronautics. Rev. ed. [Colorado Springs, Colo.]: The Academy, 1961. 13p. (Its Special bibliography series, no. 5)

A selective list of approximately 130 books from the holdings of the Air Force Academy Library. Includes "Popular and Historical Accounts," pp. 12-16. Earlier editions appeared in 1958 and 1959.

155. Zentralblatt der Aero- und Astronautik (ZAA). (Abteilung 1, Deutschsprachigues 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, etc.

156. 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.

157. Dept. of the Army, Army Library, Guided Missiles. Washington: 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.

158. Dept. of the Army, Army Library, Guided Missiles, Rockets and Artificial Satellites, Including Project Vanguard: a Selected List of Titles. Washington: 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.

159. Engineer School [U.S. Army] Library, Guided Missiles and Rockets, a Bibliography, 1946-1956. Fort Belvoir, Virginia: 1956. 50p.

English-language periodical articles are cited.

160. 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.

161. 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)

Parts I and II deal with a review of electronic equipments and components for space communications systems. Part 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.

162. 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.

163. 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 communication 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.

164. 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: Library of Congress, 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.

165. National Aeronautics and Space Administration, Communications Satellites; a Continuing Bibliography. Springfield, Virginia: 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, or 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.

166. National Aeronautics and Space Administration, Lasers and Masers; a Continuing Bibliography. Springfield, Virginia: 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.

167. 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.

168. 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 twenty references to books and journal articles.

169. 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, lists ten references.

170. 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 twenty-seven references to books and journal articles and "Related Reading," p. 153, lists eighteen additional book titles.

171. U.S. Air Force, Air Materiel Command, Bibliography of German Guided Missiles. Dayton, Ohio: 1946. 145p. (Its Bibliography No. 2)

Lists German World War II documents available on microfilm at the Air Documents Division, Air Materiél Command (now at Federal Clearinghouse for Scientific and Technical Information, Springfield, Va.) Arrangement is by eleven broad subject categories.

THE RISE OF SPACE SCIENCE

AERODYNAMICS

172. Aero-Club der Schweiz, Bibliothek, Bibliothek-Katalog des Schweizer. Aero-Club. Catalogue de la Bibliothèque de l'Aéro-Club Suisse. Bern: 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.

173. 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. Appendices 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.

174. 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.

175. Journal of the Royal Aeronautical Society. London: Royal Aeronautical Society, 1866 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.

176. National Advisory Committee for Aeronautics, Index of NACA Technical Publications. 1947-1957/58. Washington: The Committee, 1947-1959. 9 vols.

An index to NACA research reports covering the period 1915-1958. Issued 1957/58 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.

ASTRONOMY

177. 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.

178. 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. Chapter 2 deals with the history of the discovery of planetoids. Bibliography, pp. 251-261, compiled by Rosa Bernstein, consists of approximately 400 references to journal articles and parts of books in all languages. An impressive bibliography in view of the fact that through 1964 only one whole book had been published on this subject.

179. 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.

180. Florence, Università, Osservatorio Astrofisico di Arcetri, Biblioteca, Catalogo della Biblioteca dell'Osservatorio Astronomico di Arcetri, per cura di V. Messeri, Assistente. Appendice. Firenze: Tipografa 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°. 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.

181. Houzeau, Jean C., and Albert Lancaster, Bibliographie Générale de l'Astronomie, ou Catalogue Méthodique des Ouvrages, des Mémoires et des Observations Astronomiques Publiés depuis l'Origine de l'Imprimerie jusqu 'en 1880. Bruzelles: Havermans, 1882; Hayez, 1887-89. 2 v. in 3.

Vol. I (published 1887-89) is a classed bibliography of manuscripts and separately published works, with no author index; Vol. II is a classed index to material in periodicals and society publications with author index. Vol. I alone lists a total of 15,775 references, some of which are annotated.

182. 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.

183. Jakubíček, Milan, comp., Vesmír na dosah ruky [Space is Within Reach]. Brünn: Universita Knihovna, 1959. 44p.

An annotated list of 91 references to Czechoslovakian publications and a few Russian on astronomy and outer space.

184. Kaula, William M., Celestial Geodesy. Washington: National Aeronautics and Space Administration, 1962. 120p. [NASA Technical Note, D-1155]

Bibliography, pp. 103-120, lists 280 mainly technical references to the geodetic use of rockets, satellites, and the moon.

185. Kolchyns'kyĭ, Illiâ Hryhoriiovych, ed., Astronomiia na Ukraini, 1918-1962 [Ukrainian Astronomy, 1918-1962]. Kiev: Akademiia Nauk URSR, Biblioteka, 1965. 160p.

A list of 2,827 references to Ukrainian publications arranged by broad subject category.

186. Lavrova, N. B., Bibliografiia Astronomicheskikh Bibliografii. Bibliographie de Bibliographies Astronomiques. Moscow: Astronomicheskiĭ 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. Part I includes bibliographies international in scope, catalogs of astronomy libraries, and bibliographies of Russian literature while Part 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 Issledovania, fasc. 5, 1959, pp. 83-196.

187. Ley, Willy, Watchers of the Skies; an Informal History of Astronomy from Babylon to the Space Age. New York: Viking, 1963. 528p.

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.

188. 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. Chapter 3, "The Moons of Mars," discusses the history of this discovery. Includes bibliography, pp. 167-168.

189. Library of Congress, Aerospace Information Division, Future Lunar Missions; Review of Soviet and Soviet-Bloc Literature. Washington: The Author, 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.

190. Library of Congress, Aerospace Technology Division, Lunar Dimensions; Annotated Bibliography. Washington: The Author, 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 AID-u-64-54.

191. Mikhailov, Aleksandr A., ed., Astronomiia v SSSR za Sorok Let [Astronomy in the Soviet Union for Forty Years]. Moskva: Gos. Izdatel'stvo Fiziko-maticheskoi Lit-ry, 1960. 728 p.

Series of articles dealing with the history of astronomy in the Soviet Union for forty years from 1917-1957. Bibliography, pp. 371-700, is a comprehensive list of Soviet publications, 1917-1957, compiled by N. B. Lavrova.

192. National Academy of Sciences, National Research Council, Space Science Board, Science in Space. Washington: The Author, 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. Chapter 1, "Dimensions and Problems" summarizes the current status of the national program and outlines areas of international cooperation. The eight successive chapters include: the Nature of Gravitation; Earth; Moon; Planets; Sun; etc. Each chapter has a brief bibliography.

193. National Aeronautics and Space Administration, Lunar Surface Studies; a Continuing Bibliography. Springfield, Virginia: 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.

194. National Aeronautics and Space Administration, Planetary Atmospheres; a Continuing Bibliography. Springfield, Virginia: 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.

195. 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 atricles, and technical reports.

196. Petrtýl, Miroslav, comp., Astronomie; Výběrovy 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.

197. Pulkovo. Glavnaia Astronomicheskaia 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, USSR as of 1860. Lists approximately 15,000 works of world literature from earliest times. Historical works listed pp. 121-124 and pp. 499-511. Vol. 2 has title: Librorum in Bibliotheca Speculae Pulcovensis Contentorum Catalogus Systematicus. Pars 2. ab Eduardo Lindemanno Elaborata. Edendum Curaviet et Praefatus Est Otto Struve...

198. Reichel, Max, Die Fortlaufenden Astronomischen Veröffentlichungen in ihrer Geschichtlichen Entwicklung. Mit einer Gesamtbibliographie. Koln: Greven Verlag, 1957. 124p. (Arbeiten aus dem Bibliothekar-Lehrinstitut des Landes Nordrhein-Westfalen, Heft 12)

Bibliographie, 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.

199. Richardson, Robert S., Man and the Moon. Cleveland: World, 1961. 171p.

Chapter 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.

200. Struve, Otto, and Velta Zebergs, Astronomy of the 20th Century. New York: Macmillan, 1962. 544p.

"Bibliography," pp. 529-531, lists forty 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 (Zebergs). "Notes," pp. 502-514, list footnote references by chapter.

201. 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 up to the present time in order to show how man's knowledge of the space enviornment 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.

202. Vorontsov-Vel'iaminov, 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.

203. 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.

204. Zinner, Ernst, Geschichte und Bibliographie der Astronomischen Literatur in Deutschland zur Zeit der Renaissance. Leipzig: Hiersemann, 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

205. "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 eleven 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.

206. Air Force Missile Development Center, Holloman Air Force Base, N.M., 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., 1958. 114p.

Numerous bibliographical references include 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 May 1958); (3) Major Achievements in Biodynamics: Escape Physiology at the Air Force Missile Development Center, 1953-1958 (issued June 1958).

207. Armed Forces-NRC Committee on Bio-Astronautics, Human Acceleration Studies for the Armed Forces-NRC Committee on Bio-Astronautics. Washington: National Academy of Sciences--National Research Council, 1961. 71p. (Its Publication 913)

"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.

208. Armed Services Technical Information Agency, Bio-Astronautics: an ASTIA Report Bibliography. Arlington, Va.: 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 headings. 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.

209. 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.

210. Banghart, Frank W., and Evan G. Pattishall, Human Factors at Extreme Altitudes: Synopsis and Bibliography. Charlottesville, Va.: Division of Educational Research, University of Virginia, March 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.

211. 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.

212. 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.

213. 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.

214. Department of Commerce, Office of Technical Services, Bio-Astronautics, a Selective Bibliography. Washington: 1961. 12p.

This bibliography lists reports and translations placed in the OTS collection between January 1959 and April 1961 on the human aspects of space flight ... A separate section lists bibliographies, dictionaries, and surveys in the field.

215. 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.

216. 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.

217. 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, D. C.: 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.

218. 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.

219. Jacobius, Arnold J., "Bioastronautics Information Services and Publications in the United States," Aerospace Medicine, v. 34, (April 1963), pp. 344-348.

Part 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.

220. Library of Congress, Aerospace Technology Division, Soviet Bioastronautics and Biotechnology, 1964; Compilation of Abstracts. Washington: The Author, 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.

221. Library of Congress, Aerospace Technology Division, Soviet Bioastronautics and Manned Spaceflight; Programs, Organization, and Personalities. Washington: The Author, 1965. 118p. (Its ATD Report P-65-14)

A survey of Soviet literature on bioastronautics with running text annotations. The period from the 1950's to 1965 is covered. Bibliography, pp. 76-118, lists 769 references to Soviet literature.

222. 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.

223. Lomonaco, Tomaso, et al., Medicina Aeronautica ed Elementi di Medicina Spaziale. Roma: "Regionale" Editrice, 1959. 586p.

Chapter 1, "Storia," pp. 7-42, is essentially a history of Italian aeronautical medicine; it includes a bibliography, pp. 543-544.

224. 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. (NASA SP-7011) Quarterly.

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) and subsequent volumes covering the years 1962 and 1963 are in preparation. Cumulative indexes to vols. 1-X covering the 1952-1961 literature were 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.

225. 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 selection 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.

226. Potocko, Richard J., Bibliography Related to Human Factors System Program, July 1962 - February 1964. Washington: National Aeronautics and Space Administration, 1964. 237p.

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.

227. 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 1930's 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.

228. Sergeev, Aleksandr A., Essays on the History of Aviation Medicine. Washington: National Aeronautics and Space Administration, for sale by Clearinghouse for Federal Scientific and Technical Information (OTS), Springfield, Va.: 1965. 413p. (NASA Technical Translation TT F-176)

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.

229. 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 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 eighteenth century through 1965.

230. 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 plantes.

METEOROLOGY

231. Ashby, John H., A Preliminary History of the Evolution of the TIROS Weather Satellite Program. Comment ed. Greenbelt, Md.: Goddard Space Flight Center, August, 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 one hundred references. Footnote references scattered throughout the text.

232. 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.

233. 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.

234. 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."

235. 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: Part I includes the design, development, operation, and engineering evaluation of TIROS I; Part 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.

236. 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.

237. Wexler, Harry, and J. E. Caskey, Jr., eds., International Symposium on Rocket and Satellite Meteorology, 1st, Proceedings, Washington, D. C., April 23-25, 1962. Sponsored by Committee on Space Research (COSPAR), World Meteorological Organization (WMO), [and] International Union of Geodesy and Geophysics (IUGG). Amsterdam: North Holland, 1963. 441p.

Consists of 39 papers by experts from all countries arranged as follows: Part I; "Meteorological Rockets"; Part II; "Meteorological Satellites-Radiation Studies;" Part III; "Meteorological Satellites-Cloud Studies;" Part IV, "Meteorological Satellites-Special Studies." Most of the articles contain brief bibliographies.

238. 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. Chapter 4 is entitled "The History and Background that Led to TIROS." Bibliography, pp. 255-276, lists references by chapter.

PHYSICS

239. 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.

240. Goddard Space Flight Center, Publications. Washington: G.S.F.C., 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.

241. Jastrow, Robert, and A. G. Cameron, "Space: Highlights of Recent Research" Science, v. 145, no. 3637 (September 11, 1964), pp. 1129-1139.

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, magnestophere, magnetopause, the atmosphere of Venus, solar physics, x-rays, and gamma rays. Bibliography, p. 1139, lists approximately 50 references.

242. Library of Congress, Aerospace Information Division, Future Trends in Soviet Science and Technology; Review of Soviet and Soviet-Bloc Literature. Washington: The Author, 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 Sept. 15 through Nov. 15, 1962. The "quotation-in-depth" method is used with occasional bibliographic references in the text. "Astrophysics and Space Sciences," pp. 32-84.

243. National Aeronautics and Space Administration, Significant Achievements in Ionospheres and Radio Physics, 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.

244. 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.

245. 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.

246. Seifert, Howard S., and Mary H. Seifert, Orbital Space Flight. New York: Holt, Rinehart and Winston, 1966. 138p. (Holt Library of Science)

Deals with the physics of satellite motion including laws of motion, forms of energy, satellites, launch and re-entry. Bibliography, p. 129, lists 20 references to books.

247. 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.

IMPACT AND APPLICATIONS OF SPACE EXPLORATION

MILITARY

248. U.S. Air Force. Studies and Histories Prepared by the USAF Historical Division, Research Studies Institute, Air University, as of 1 September 1959. Maxwell Air Force Base, Ala.: Air 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.

249. 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.

250. 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 indexes. Published 1949-1962 as Air University Periodical Index.

251. 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.

252. 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.

253. Congress, House, Committee on Science and Astronautics, The Practical Values of Space Exploration. Report ... 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.

254. Dept. of the Army. Army Library, Military Aspects of Space Exploration; a Selected List of Titles. Washington: 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 1950's.

255. Estep, Raymond, An Aerospace Bibliography. Maxwell Air Force Base, Ala.: Documentary Research Division, Aerospace Studies Institute, Air University, 1962. 158p. (Air University Documentary 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, Alabama. Supplement, An Aerospace Bibliography (Maxwell Air Force Base, Ala., 1965), covers book and periodical literature for the years 1962-1964.

256. Higham, Robin D., An Introduction to Maritime, Naval, and Aeronautical History. Chapel Hill,: University of North Carolina, 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.

257. 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.

258. 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.

POLITICAL AND LEGAL

259. Akademiia Nauk SSSR, Komissiia po Pravovym Voprosam Mezhplanetnogo Prostranstva. Kosmos i Mezhdunarodnoe Pravo [Legal Problems of Interplanetary Space]. Moscow: Izdatel'stvo Instituta Mezhdunarodnykh Otnoshenii, 1962. 181p.

A discussion, from the Russian point of view, of space law. Bibliography, pp. 254-255, lists Soviet publications on the subject.

260. Arroyo, Madrigal R., 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.

261. 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 eighteen references which cover material published through 1963. "Index of Cases," p. 491, lists thirty one mentioned in the text.

262. 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.

263. 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.

264. 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.

265. 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.

266. 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 from a wide range of informed American and English 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.

267. 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 1940's.

268. 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.

269. Gál, Gyula, Világurjog. 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.

270. Goodall, Marcus C., Science and the Politican. 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 every day living. Bibliography, pp. 77-83, consists of fifty annotated references to books.

271. 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."

272. 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. 79-133.

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.

273. Jessup, Philip C., and Howard J. Taubenfeld, Controls for Outer Space and the Antarctic Analogy. New York: Columbia University Press, 1959. 379p.

Part III, pp. 191-282, is entitled "International Control for Outer Space." Includes bibliography in the form of bibliographical "Notes," pp. 285-354.

274. 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 GmbH, 1965. 365p.

Covers literature from fifty-five 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.

275. Kemp, John M., Evolution Toward a Space Treaty: An Historical Analysis. Comment ed. Washington: National Aeronautics and Space Administration, September 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 67. "Selected Bibliography," pp. 218-221, lists forty books and articles.

276. 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.

277. 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.

278. 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.

279. National Aeronautics and Space Administration, Conference on the Law of Space and of Satellite Communications. 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.

280. 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 twelve broad subject categories. Reprinted in the author's Les Problèmes Juridiques de l'Espace (Paris: Sirey, 1959), pp. 20-46.

281. 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 cosmic law; Nature of the rules of international cosmic law; Particular problems.

282. 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.

283. Rettig, Richard A., Bibliography on Science and World Affairs. Prepared for the Foreign Service Institute, U.S. Dept. of State. Washington: Dept. of State, November 1964. 179p. (For sale by U.S. Govt. Print. Off.)

Chapter 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.

284. Sänger, Eugen, Raumfahrt-- Technische Überwindung des Krieges. Aktuelle Aspekte der Überschall-Luftfahrt und Raumfahrt. Hamburg: Rowohlt, 1958. 142p. (Rowohlts deutsche Enzyklopädie, 59)

Includes bibliography, pp. 137-138, and such topics as military, world political, and cultural aspects of space flight.

285. "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.

286. 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.

287. Smirnoff, Michel, Svetska Bibliografija Astronautičkog Prava--World Bibliography of Space Law. Belgrad: Institut za Medjunarodnu 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.

288. 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.

289. 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.

290. U.S. Air Force, Judge Advocate General, Space Law Bibliography. Washington: Dept. of the Air Force, 1961. 79p. (Air Force Pamphlet AFP110-1-4)

Lists alphabetically by author: books, periodical and newspaper articles, official speeches, reports, diplomatic communications, and other official and semi-official documents readily available in libraries in the Washington area. Includes "Bibliographies on Space Law," pp. 6-9.

291. 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 deals with 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.

SOCIAL AND ECONOMIC

292. 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.

293. 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.

294. Campbell, Henry C., "Some Implications for Libraries of Communication Satellites," Unesco Bulletin for Libraries, v. 21 (No. 3, 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 the period 1965 to 1980 on libraries in both developed and newly developed countries. Includes eight footnote references.

295. 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 scientistis as C.P. Snow, P.M.S. Blackett, and Bernal. Many essays include bibliographical footnote references.

296. 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.

297. Holton, Gerald, Science and Culture; a Study of Cohesive and Disjunctive Forces. Cambridge, Mass.: Houghton Mifflin, 1965. 348p. (The Daedalus Library v. 4)

Comprises sixteen articles with brief bibliographies by various specialists. Most were previously published in the Winter 1965 issue of Daedalus and all explore the role oi science in the contemporary world. The Intergrity 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.

298. 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. No bibliographies. Indexed in Chemical Abstracts and Public Affairs Information Service.

299. McCurdy, Howard, List of Doctoral Theses Since 1961 on the Management of Aerospace Activities. Washington: National Aeronautics and Space Administration, 6p. (HHN-67)

List 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.

300. 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.

301. 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 effect of aviation on such topics as the family, cities, religion, government, and international relations. Bibliography, pp. 725-737, lists books, pamphlets, and journal articles.

302. Rand Corporation, Astronautics and its Applications. Santa Monica, Calif.: Rand Corp., 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.

303. 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.

304. 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.

305. 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.

306. Wells, Helen T., comp., The Publications of Dr. Hugh L. Dryden. Rev. ed. Washington: NASA, July 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.

307. 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

308. Akens, David S., Historical Origins of the George C. Marshall Space Flight Center. Huntsville, Ala.: George C. Marshall Space Flight Center, 1960. 1 v. (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.

309. 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. 439 p. (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.

310. Keller, David M., Fifty years of Flight Research. A Chronology of the Langley Research Center, 1917-1966. Comment Edition. Washington: National Aeronsutics and Space Administration, November, 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 twenty seven references to books, dissertations, and NASA Historical Office archival material.

311. Kennedy, John F., Space Center, Library, A Selective Bibliography, 1949-1965. Cape Kennedy, Fla.: The Center, July 1966. 24p.

This chronological bibliography of approximately one hundred annotated references to journal and newspaper articles shows the development of the Kennedy Center and the Air Force Missile Test Center.

312. National Aeronautics and Space Administration, Historical Sketch of NASA. Washington: NASA, 1965. 56p. (NASA EP-29) (For sale by U.S. Govt. Print. Off.)

313. 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.

314. Rosenthal, Alfred, The Early Years, Goddard Space Flight Center: Historical Origins and Activities Through December 1962. Washington: National Aeronautics and Space Administration, 1964. 273p.

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. 125-168, and bibliography of publications by and about the Center, pp. 239-273. The bibliography includes selected NASA releases, speeches, technical reports, translations, and Congressional documents relating to NASA activities.

315. Rosholt, Robert L., An Administrative History of NASA, 1958-1963. Washington: National Aeronautics and Space Administration, 1966. 381p. (NASA SP-4101)

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.

316. Smull, Thomas L., The Nature and Scope of the NASA University Program. Washington: National Aeronautics and Space Administration, 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.

317. 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.

FOREIGN

318. 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.

319. 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.

320. Dept. of the Army, Office of the Chief of Research and Development, USSR: Missiles, Rockets, and Space Efforts; a Bibliographic Record, 1956-1960. Washington: 1960. 49p. (Department of the Army Pamphlet 70-5-8.)

An annotated bibliography covering the period 1956-1960 and including approximately 270 references to books, journal articles, and reports.

321. Dressner, Richard B., French Outer Space Program; Selected Annotated References, 1959-1966. Washington: Legislative Reference Service, Library of Congress, July 31, 1966. 20p.

Contains approximately 200 references to books, pamphlets, documents, periodicals, and newspapers.

322. 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 Parts 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. Part I lists books and monographs dealing with historical, scientific, and technical aspects of rocketry and astronautics. Part II contains references drawn from various Russian newspapers, popular magazines, and serious technical journals.

323. 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.

324. 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 up dates 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.

325. 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.

326. Liapunov, Boris V., Problema Mezhplanetnykh Puteshestvii 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. Tsiolkovskiy, F. A. Tsander, and IU. V. Kondratiuk. Includes brief bibliography of nine items, p. 24.

327. Library of Congress, Aerospace Information Division, Top Personalities in the Soviet Space Program, Comprehensive Analysis Based on Soviet Open Literature, 1930-64. Washington: 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.

328. Library of Congress, Aerospace Information Division, U.S.S.R. Missile and Rocket Program; Bibliography. Washington: 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.

329. Library of Congress, Aerospace Technology Division, Data on the Soviet Space Program; Analytical Survey. Washington: The Author, March 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.

330. Library of Congress, Aerospace Technology Division, Data on Soviet Space Program; Analytical Survey. Washington: The Author, June 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.

331. Library of Congress, Aerospace Technology Division, L. I. Sedov; a Survey and Evaluation of his Works and Activity. Washington: The Author, 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.

332. Library of Congress, Aerospace Technology Division, Materials on Vostok-5, Vostok-6, and Polet-1 Flights; Comprehensive Report. Washington: The Author, 1964. 65p. (Its ATD Report P-64-57)

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.

333. Library of Congress, Aerospace Technology Division, Soviet Space Exploration as Viewed by East German Specialists; Comprehensive Report. Washington: The Author, 1965. 40p. (Its 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.

334. Parry, Albert, Russia's Rockets and Missiles. Garden City, N.Y.; Doubleday, 1960. 382p.

"Bibliographical Note," pp. 357-360, lists Russian language sources available in English published for the most part during the 1950's.

335. TSiolkovskii, Konstantin E., Collected Works. Washington: National Aeronautics and Space Administration (For sale by Clearinghouse for Federal Scientific and Technical Information, Springfield, Va.) 1965. 2v. (NASA Technical Translation TT F-236 and TT F-237)

Translation of TSiolkovskiĭ's Sobranie Sochineniĭ (Moscow: Izdatel'stvo Akademii Nauk SSSR, 1951-1954), based on materials in the TSiolkovskiĭ 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. TSiolkovskiĭ 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 TSiolkovskiĭ.

336. Ursul, Arkadiĭ D., Sotsializm i Kommunizm--Startovaia ploshchadka Sovetskikh Kosmicheskikh Korableĭ [Socialism and Communism-the Starting Point for Soviet Astronautics]. Kishinev: Kartia Moldoveniaske, 1964. 109p.

Discusses the relationship between the Russian political system and the soviet space program. Bibliographical footnote references to Engels, Marx, TSiolkovskiy, and others throughout the text.

337. Zaehringer, Alfred J., Soviet Space Technology. New York: Harper, 1961. 178p.

"References," pp. 159-162, are listed by chapter and are primarily to American journal articles.

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