

303. Zentralluftfahrtbücherei, Berlin, Katalog derZentralluftfahrtbücherei, hrsg. vom

Reichsluftfahrtministerium. Leipzig: O. Leiner,

1940. 404p.

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

304. Zhabrov, Aleksei A., Annotirovannyi Ukazatel'Literatury na Russkom Iazyke po Aviatsii iVozdukhoplavaniiu za 50 let, 1881-1931: Teoriia,Tekhnika, Stroitel' stvo, Ekonomika, Statistika,Istoriia, Mirnoe Primenenie [Annotated Index of

Literature in the Russian Language on Aviation

and Aeronautics for 50 years from 1881 to 1931:

Theory, Technology, Construction, Economics,

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

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

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

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

Rocketry

306. AIAA Journal (formed by merger of ARS Journal and

Journal of the Aerospace Sciences). New York:

American Institute of Aeronautics and Astronautics,
1963 to date. Monthly.

January-December 1963 issues contains section "Technical Literature Digest" (published in Journal of the American Rocket Society, September 1951-53; in Jet Propulsion, January 1954-May 1959; in ARS Journal, June 1959-December 1962) listing pertinent books, periodical articles, symposium papers, and technical reports, arranged under broad subject categories.

307. . Baumgarten-Crusius, Artur, Die Rakete als

Weltfriedenstaube. Leipzig: Verband der

Raketen-Forscher und-Förderer, 1931. 174p.

A somewhat far-seeing book published in 1931 on the peaceful and destructive uses of rockets.

308. Benton, Mildred C., Use of High Altitude Rockets for

Scientific Research: An Annotated Bibliography.

Washington: U.S. Naval Research Laboratory, 1959.

123p. (U.S. Naval Research Laboratory. Bibliography,
No. 16)

Chronological list of periodical articles, technical reports, and papers published 1946 through June 1959. Arrangement is alphabetical within years with an author and subject index.

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

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

Doubleday, 1960. 407p.

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

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

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

Van Nostrand, 1958. 270p.

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

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

Associate Editors: Gilman Reid, John Hanessian, Jr., Leonard Cormier. London, New York: Pergamon Press, 1958. 508p. (Annals of the International Geophysical Year, v.6)

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

312. Bialoborski, Eustachy, Raketen, Satelliten, Raumschiffe.

Mit einem Beitrag von Diedrich Wattenberg:

Kunstliche Satelliten der Erde. Leipzig:

Urania-Verlag, 1958. 381p.

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

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

Some Contributions to Its History. Jerusalem:

Israel Program for Scientific Translations, 1966.

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

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

Federal Scientific and Technical Information,

Springfield, Va.)

Translation of Iz Istorii Raketnoi Tekhniki (Moscow: Izdatel'stvo "Nauka," 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.

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

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

315. Bowman, Norman J., The Handbook of Rockets and Guided Missiles. 2d ed. Whiting, Ind.: Perastadion Press, 1963. 1,008p.

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

316. Brügel, Werner, ed., Manner der Rakete, in Selbstdarstellungen von Hanns-Wolf v. Dickhuth-Harrach, Robert Esnault-Pelterie, et al. Leipzig: Hachmeister & Thal, 1933. 144p.

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

317. Burgess, Eric, Long-range Ballistic Missiles. London: Chapman & Hall, 1961. 255p.

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

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

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

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

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

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

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

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

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

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

322. Caidin, Martin, War for the Moon. Paintings by Fred L. Wolff. Drawings by Fred L. Wolff and Bert Tanner. New York: Dutton, 1959. 258p.

Highly popular description of American and Soviet lunar probes.

323. California Institute of Technology, Jet Propulsion Laboratory, Publications of the Jet Propulsion Laboratory, January 1938 through June 1960. Pasadena: Jet Propulsion Laboratory, 1961. 336p. (Its Bibliography, No. 39-1)

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

324. Carter, Leonard J., ed., Realities of Space Travel: Selected Papers of the British Interplanetary Society. New York: McGraw-Hill, 1957. 43lp.

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

325. Cleator, Philip E., Rockets Through Space: The Dawn of Interplanetary Travel. New York: Simon

and Schuster, 1936. 227p.

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

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

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

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

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

328. Collected Rocket Abstracts. v.1-v.2, 1948/50-52. Chicago: Chicago Rocket Society. Annual.

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

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

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

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

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

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

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

332. Department of the Army, Missiles, Rockets and

Satellites. Washington: The Department, 1958.

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

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

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

Space in War and Peace. Washington: The Department,

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

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

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

Vehicles, 1959-1960. Washington: The Department,

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

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

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

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

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

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

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

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

as Jules Verne. Describes the work done by Congreve, Tsiolkovskii, Goddard, Oberth, and that done by the American Rocket Society and by the Germans during World War II.

Bibliography, p. 232, lists nine works in English on rockets. Previous printing appeared in 1955.

338. Esnault-Pelterie, Robert, L'Astronautique. Paris:

Lahure, 1930. 248p.

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

339. Farnsworth, Robert L., Rockets: New Trail to Empire,

Reviews and Bibliography. Glen Ellyn, Ill.:

The Author, 1945. 31p.

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

340. Fiock, Ernest F., and Carl Halpern, Bibliography of

Books and Published Reports on Gas Turbines, Jet

Propulsion and Rocket Power Plants. Washington:

National Bureau of Standards, 1951. 64p. (National

Bureau of Standards.. Circular 509) (For sale by

U.S. Govt. Print. Off.)

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

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

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

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

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

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

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

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

185p.

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

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

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

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

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

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

Bericht, der Legenden zerstört. Neuenhagen b.

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

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

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

S. Low, Marston, 1946. 142p.

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

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

Notre Avenir? Paris: Editions Fleuve Noir,

1957. 254p.

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

349. Hausenstein, Albert, "Zur Entwicklungsgeschichte

der Rakete," Zeitschrift für das gesamte Schiess-

und Sprengstoffwesen, v.34 (May-December 1939),

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

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

pp. 8-9, 32-34.

Includes numerous references throughout the text.

350. Hendrickson, Walter B., Handbook for Space Travelers.

Illustrated by Jack Russell. Indianapolis:

Bobbs-Merrill, 1959. 256p.

Very elementary but Pt. II, pp. 59-126, "History of Rockets," and Pt. III:15, pp. 127-129, "Rocket Bases of the Past," contain historical information.

351. Hoffmann, Horst, ed., Der Mensch im All; eine Reportage

Über den Bemannten Raumflug. Aus Dokumenten und

Materialien zusammenge-stellt. Die Übersetzung

von Dokumenten und Materialien Besorgte Wilfried

Braumann. Berlin: Verlag Kultur und Fortschritt,

1961. 132p.

A history of Russian rocketry and astronautics primarily from such sources as Pravda and Izvestia for mid-twentieth century, and other sources for earlier developments. Includes "Kleine Chronik der Sowjetischen Raketentechnik und Astronautik," pp. 130-133, which covers the period from 1680 to 1961.

352. Hunter, Maxwell W., Thrust into Space. Coordinating

Editor: James V. Bernardo. New York: Holt,

Rinehart and Winston, 1966. 224p. (Holt Library

of Science)

A discussion of propulsion as the key to space exploration. Bibliography, p. 215, lists seventeen book references.

353. Huzel, Dieter K., Peenemunde to Canaveral. With an Introd. by Wernher von Braun. Englewood Cliffs, N.J.: Prentice-Hall, 1962. 247p.

Appendices include: (1) "Rocketry in Germany; Historical Note," pp. 232-234; (2) "German Rockets of the 'A' Series," pp. 235-238; and (3) "Test Facilities of Peenemunde (P-1--P-12)" pp. 239-241.

354. International Symposium on Space Technology and Science, Tokyo. Proceedings. Tokyo, Rutland, Vt.: Printed and distributed by Japan Publications Trading Co. 1st - 1959 to date. Annual.

Sponsored by the Japanese Rocket Society. Vols. for 1959-61 issued under earlier names of the symposium: 1959, Symposium (International) on Rockets and Astronautics. - 1960-61, International Symposium on Rockets and Astronautics. Imprint also varies: 1959-61, Tokyo, Yokendo. Although primarily technical, the proceedings include some papers of interest to the historian.

355. Irving, David, The Mare's Nest. London: William Kimber, 1964. 320p.

Covers British intelligence activities during World War II in attempting to discover the nature and capabilities of German V-2 rockets and the countermeasures subsequently taken.

356. The Journal of Space Flight and Rocket Newsletter.

Chicago, Chicago Rocket Society, v.1-8, June
1949-Dec. 1956. Monthly.

Each issue includes section entitled
"Rocket Abstracts" which lists a total of about
3,000 abstracts throughout the eight volumes.

357. Kaznevskii, Viktor P., Razvedchiki Mezplanetnogo
Prostranstva [Scouts of Interplanetary Space].

Moscow: Idatel'stvo DOSAAF, 1957. 103p.

Somewhat popular explanation of the
principles of rocketry but pp. 8-11
discuss the history of rocketry from
earliest times to 1937. Bibliography,
p. 102, lists 15 Russian publications.

358. Klee, Ernst, and Otto Merk, The Birth of the Missile:

The Secrets of Peenemunde. Trans. by T. Schoeters.

New York: Dutton, 1965. 126p.

This book reproduces pictures, documents,
and data from the Peenemunde archives and
includes an introduction by Wernher von Braun
on this particular period in the development
of rocketry. Original German edition has
title: Damals in Peenemunde; An der
Geburtsstatte der Weltraumfahrt. (Oldenburg:
G. Stalling, 1963).

359. Kolodnyi, Lev. E., Zemnaia Trassa Rakety [Rockets'

Earth Orbit]. Moscow: Izdatel'stvo Politicheskoi
Literatury, 1965. 94p.

Somewhat popular history of rocketry in the

Soviet Union. Includes some bibliographical footnotes.

360. Kosmodemianskii, Arkadii A., K. E. Tsiolkovskii.

Moscow: Voennoe Izdatel'stvo, 1960. 186p.

A biography of Konstantin E. Tsiolkovskii, 1857-1935, and a review of his achievements in light of the developments during the post-Sputnik era since 1957.

361. Kosmodem'ianskii, Arkadii, A., Konstantin

Tsiolkovsky: His Life and Work. [Translated from the Russian by X. Danko]. Moscow: Foreign Languages Publishing House, 1956. 101p.

Translation of Znamenityi deiatel'nauki, K. E. Tsiolkovskii (Moscow: Voennoe Izdatel'stvo, 1954). This biography includes a chapter entitled, "History of the Rocket in Russia," pp. 49-56, and a description of the work of such pioneers as Alexander Zasyadko, Konstantin Konstantinov, Nikolai Kibalchich, Ivan Meschersky, and M. Tikhonravov. Also published in French under title: Constantin Tsiolkovski, sa Vie et son Oeuvre, translated by V. Joukov (Moscou: 'Editious en Langues 'Etrangères, 1957).

362. Lang, Daniel, From Hiroshima to the Moon: Chronicles of Life in the Atomic Age. New York: Simon and Schuster, 1959. 496p.

Essays written over the past 15 years, substantial portions of which were previously

published in the New Yorker, "Early tales of the Atomic Age" (1948), and "The Man in the Thick Lead Suit" (1954). "Excursions of the Rocket," pp. 145-193, and "Visions of Space," pp. 429-487, deal with the swift history of the space age and the effect on our lives of the development of rockets and missiles.

363. Lasser, David, The Conquest of Space . . . with an Introduction by Dr. H. H. Sheldon. New York: Penguin Press, 1931. 271p.

Written by the president of the American Interplanetary Society and said to be the first work in the United States (1931) that attempted to correlate the experimental evidence in favor of space flight. Describes the work of European investigators of the period.

364. Lehman, Milton, This High Man: The Life of Robert H. Goddard. New York: Farrar, Straus, 1963. 430p.

Excellent bibliography in this authorized biography of Goddard, pp. 410-417.

365. Lent, Constantin P., Rocket Research: History and Handbook. New [2d] ed. New York: Pen-Ink Pub. Co., 1945. 135p.

First edition issued July 11, 1944. Includes "Definition and General History of the Rocket," pp. 1-26, "Early Research," pp. 27-32, and "Resume of Early Experiments of the American Rocket Society," pp. 33-40. Also includes over 100 diagrams of early (1920s and 30s) rocket designs.

366. Lent, Cons tantin P., Rocketry: Jets and Rockets; the Science of the Reaction Motor and Its Practical Application for Aircraft and Space Travel.
New York: Pen-Ink Pub. Co., 1947. 254p.

Ch. I: "The Science of Rocketry," pp. 25-48, covers the history of rocketry while ch. VIII, pp. 165-202, discusses the military use of rockets. Includes "List of Rocket and Jet Patents and Rocket Societies," pp. 241-250. Also includes many engineering drawings of rockets. Some of the same material included in the author's Rockets, Jets, and the Atom (New York: Pen-Ink Pub. Co., 1953), especially the material in the first chapter "Rocket History," 16pp.

367. Radulov, Radul, Samoletut i Raketata [Airplanes and Rockets]. Sofia: D'rzhavno Voenna Izdatel'stvo pri MNO, 1957. 223p.

Deals with the development of airplanes and rockets. Popular treatment of the subject from earliest times to 1957. Good for Bulgarian and Russian developments.

368. Rakiety i Pociski Kierowane [Rockets and Ballistic Missiles]. Warszawa: Wydawn. Ministerstwa Obrony Narodowej, 1960. Vol.II.

First chapter contains historical information and many historical references throughout the text. Brief bibliography, p. 166. At head of title page: W. Dichter, R. Odolinski, . . ."

369. Referativnyi Zhurnal. Aviatsionnye i Raketnye Dvigateli [Journal of Abstracts. Aircraft and Rocket Engines]. Moscow: Proizvodstvenno-izdatel'skii Kombinat Vsesoiuznogo Instituta Nauchnoi i Tekhnicheskoi Informatsii, 1963 to date. Monthly.

Contains about 2,400 technical abstracts annually from world literature arranged by subject.

370. Referativnyi Zhurnal. Raketostroenie [Abstract Journal; Rocket Construction]. Moscow: Proizvodstvenno-izdatel'skii Kombinat Vsesoiuznogo Instituta Nauchnoi i Tekhnicheskoi Informatsii, 1962 to date. Monthly.

Contains about 2,400 abstracts a year from world literature. Arranged by subject. From 1962 to 1963 published semimonthly under the title: Referativnyi Zhurnal: Raketnaia Tekhnika i Apparaty Kosmicheskogo Poleta.

371. Levishina, O. N., Dostizheniia Reaktivnoi Tekhniki [Achievement of Rocket Engineering; Review of Recommended Literature]. Moscow: Publichnaia Biblioteka, 1956. 27p.

A brief annotated bibliography of about 20 recommended Soviet publications on rocketry.

372. Ley, Willy, Missiles, Moonprobes, and Megaparsecs.

New York: New American Library, 1964. 189p.

Essentially a history of rocketry from earliest times through the development of liquid fuels.

373. Leyson, Burr W., Man, Rockets, and Space. New York:

Dutton, 1954. 188p.

Describes the development of rocketry and presents the problems which must be solved before space flight will succeed. "The Rocket and How it Works," pp. 31-65, discusses the historical development.

374. Liapunov, Boris, Rakety i Mezplanetyne Polety

[Rockets and Space Flight]. Moscow: Voennoe

Izd-vo Ministerstva Oborony SSSR, 1962. 121p.

Somewhat popular scientific description of space flight. The first chapter includes history of the development of the idea for interplanetary travel. Bibliography, pp. 121-122, lists 31 Russian references. Chronology, pp. 119-120, covers 1957-1961.

375. Library of Congress, Aerospace Technology Division,

Communist Chinese Rocket Propulsion Technology;

Compilation of Abstracts. Washington: The Library,

1966. 25p. (Its ATD Report 66-89)

Consists of 31 abstracts arranged alphabetically by author and based on Chinese communist open sources published between 1960-66. Deals primarily with solid and liquid rocket propulsion.

376. Library of Congress, Science and Technology
Division, United States IGY Bibliography,
1953-1960: An Annotated Bibliography of United
States Contributions to the IGY and IGC (1957-
1959). Compiled by Frank M. Marson and Janet
R. Turner. Washington: National Academy of
Sciences-National Research Council, 1963. 391p.
(National Research Council. Publication 1087;
World Data Center A. IGY General Report No. 18)

Section "Rockets and Satellites," pp.
297-354, lists 509 references, arranged
alphabetically by author. Pertinent materials
also listed under other disciplines. The
purpose of this bibliography of 2,853 abstracts
is to document United States participation
in the International Geophysical Year.

377. Logan, Jeffrey, ed., The Complete Book of Outer
Space. New York: Gnome Press, 1953. 144p.

Consists of 19 articles by experts on
various aspects of space travel. Includes
"History of the Rocket Engine," pp. 50-144,
by James H. Wyld.

378. McGovern, James, Crossbow and Overcast. New York:
W. Morrow, 1964. 279p.

Covers Allied intelligence efforts to
discover the capabilities of the V weapons
and the means by which the Americans rounded

up the leading German rocket scientists, plus documentation and materiel at the close of hostilities in the spring of 1945. Bibliographical references included in "Notes and Sources," pp. 259-272.

379. McIntyne, A., Summary of AFCRL Rocket and Satellite Experiments (1946-1966). Hanscom Field, Bedford, Mass.: Air Force Cambridge Research Laboratories, 1966. 57p. (AFCRL-66-868, Special Reports, no. 54)

A chronological listing of all rocket-borne and satellite-borne scientific experiments conducted by Air Force Cambridge Research Laboratory since the beginning of its rocket program in 1946.

380. Mallan, Lloyd, Men, Rockets, and Space Rats.

Foreword by T. S. Power. 2d rev. ed. New York: Messner, 1961. 368p.

A history of the astronautics research done largely at Muroc Air Force Base, White Sands Proving Ground, and the School of Aviation Medicine.

381. Maxwell, W. R., "Some Aspects of the Origins and Early Development of Astronautics," British Interplanetary Society Journal, v.18.

(September/December 1962), pp. 415-425.

Includes "References (27)," p. 425, to some of the basic works of such pioneers as Oberth, Goddard, and Esnault-Pelterie.

382. May, Roger, 40.000 [i.e. Quarante Mille] Kilometres a l'heure. Illustré de 16 pages hors-texte.

Paris: Flammarion, 1958. 268p. (Collection "L'Aventure Vécue")

Popular history and description of the use of rocket engines in both aeronautics and astronautics.

383. Mielke, Heinz, Kunstliche Satelliten, Raumraketen.

Berlin: Verlag des Ministeriums fur Nationale Verteidigung, 1960. 418p.

Although a fairly popular treatment of the subject, this work contains many references to the historical development of rockets. Bibliography, pp. 407-488, lists 30 references.

384. Mielke, Heinz, Der Weg ins All: Tatsachen und

Probleme des Weltraumfluges. Berlin: Die Buchgemeinde Vorwort, 1957. 281p.

Includes bibliography, pp. 231-232. Historical treatment of the subject includes Daedalus, Plutarch, Kepler, Cyrano de Bergerac, Jules Verne, Copernicus, and Newton.

385. Moscow, Publichnaia Biblioteka, Pervaia Kosmicheskaiia Raketa i Perspektivy Razvitiia Astronavitiki

[First Space Rocket and Prospects for the Development of Astronautics]. Moscow: Publichnaia

Biblioteka, 1959. (News of Science and Technology, vol.19) 2lp.

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

386. National Aeronautics and Space Administration, High Energy Propellants, A Continuing Bibliography. Springfield, Va.: Clearinghouse for Federal Scientific and Technical Information (OTS), January 1962 to date. (NASA SP-7002)

A selection of annotated references to unclassified reports and journal articles introduced into the NASA information system during the period April 1964-December 1965. Prepared by the Scientific and Technical Information Facility operated for the National Aeronautics and Space Administration by Documentation Inc. Arranged in two sections: (1) report references and (2) book and journal article references. All references are to items which have been announced in Scientific and Technical Aerospace Reports (STAR), International Aerospace Abstracts, or the NASA continuing bibliography, Aerospace Medicine and Biology. Primary emphasis is given to references concerned with research and development studies on solid, liquid, and hybrid propellants and oxidizers, and related topics. Subject and personal author indexes included. To be updated periodically by the publication of supplements.

387. National Aeronautics and Space Administration, Space the New Frontier. Washington: NASA, 1963.

72p. (For sale by U.S. Govt. Print. Off.)

Primarily descriptive but ch. II, "The History of Space Flight," pp. 10-13, contains a brief historical review of rocketry and space exploration.

388. Newell, Homer E., Express to the Stars: Rockets in Action. Illustrated by Gustav Schrotter.

Foreword by Lyndon B. Johnson. New York:

McGraw-Hill, 1961. 324p.

A review of the American space effort and all phases of rocketry including historical development by the man who is now NASA Associate Administrator.

389. Northwestern University, Evanston, Ill., Technological Institute, Library, Selected Bibliography on Rockets and Jet Propulsion Compiled November 1945.

Evanston: The University, 1945. 25p.

"History," p. 3, lists ten references on the history of rocketry.

390. Oberth, Hermann, Man into Space: New Projects for Rocket and Space Travel. Translated by G. P. H.

De Freville. New York: Harper, 1957. 232p.

The prominent author, associated with von Braun first at Peenemunde on Nazi V-2 rockets and briefly with von Braun in Alabama, describes man's impending new freedom when he can escape from earth and voyage into

space. Originally published in Germany [Düsseldorf: Econ-Verlag] in 1954 under the title, Menschen im Weltraum; Neue Projekte für Raketen-und Raumfahrt.

391. Oberth, Hermann, Wege zur Raumschiffahrt. München und Berlin: R. Oldenbourg, 1929. 431p.

Primarily technical but considered to be the classic volume, which together with the works of Goddard, Tsiolkovskii, and Esnault-Pelterie, was largely responsible for the modern interest in rocketry and astronautics. First edition published as Die Rakete zu den Planetenräumen [München: Oldenbourg] in 1923. Russian translation from third German edition published in 1948 (Moscow: Oborongiz) as Puti Osushchestvleniia Kosmicheskikh Poletov.

392. Parkinson, Russell J., Doctor Langley's Paradox:

Two Letters Suggesting the Development of Rockets.

Washington: Smithsonian Institution, 1960. 4p.

(Smithsonian Miscellaneous Collections, v.140,

no. 3, and Smithsonian Institution Publication 4424)

Consists of two previously unpublished letters written in 1902 by Samuel Pierpont Langley, then Secretary of the Smithsonian Institution, which anticipate the development of the modern rocket. Includes three footnote references.

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

"Bibliographical Note," pp. 357-369, lists Russian language sources available in English published for the most part during the 1950's.

394. Pascaru, Ion, Sagetile de Foc, Ieri si Azi

[Arrows of Fire, Yesterday and Today].

București: Editura Militară, 1962. 235p.

History of rocketry from earliest times to the present, pp. 153-234. Worldwide in scope. Bibliography, pp. 235-236, lists 15 Russian and Romanian titles.

395. Pellandini, Jean, Les Fusées. Paris: Presses

Universitaires de France, 1958. 127p.

(Que Sais-je?" Le Point des Connaissances

Actuelles, no. 765)

Includes bibliography of fourteen references. Ch. 1, "Historique des Fusées," pp. 9-23, lists many historical references in the text. Although the book is a popularization of the technical aspects of rockets, the approach of the author to the material is historical.

396. Pendray, George E., The Coming Age of Rocket Power.

Rev. and enl. ed. New York: Harper, 1947. 255p.

Describes what rockets have done in the past and the promise they hold for the future. Written by one of the founders of the American Rocket Society and builder of experimental rockets. Originally published in 1945.

397. Progress in Astronautics and Aeronautics, edited

by Martin Summerfield. New York: Academic

Press, 1960-to date. 19v.

Consists of a series of state-of-the-art volumes sponsored by the American Institute of Aeronautics and Astronautics. Thus far the following 19 have been published: v.1. Martin Summerfield, ed., Solid Propellant Rocket Research. 1960.-v.2. Loren E. Bollinger, Martin Goldsmith, and Alexis W. Lemmon, Jr., eds., Liquid Rockets and Propellants. 1960.-v.3. Nathan W. Snyder, ed., Energy Conversion for Space Power. 1961.-v.4. Nathan W. Snyder, ed., Space Power Systems. 1961.-v.5. David B. Langmuir, Ernst Stuhlinger, and J. M. Sellen, Jr., eds., Electrostatic Propulsion. 1961.-v.6. S. S. Penner, and F. A. Williams, eds. Detonation and Two-Phase Flow. 1962.-v.7. Frederick R. Riddell, ed. Hypersonic Flow Research. 1962.-v.8. Robert E. Roberson and James S. Farrior, eds. Guidance and Control. 1962.-v.9. Ernst Stuhlinger, ed. Electric Propulsion Development. 1963.-v.10. Clifford I. Cummings and Harold R. Lawrence, eds. Technology of Lunar Exploration. 1963.-v.11. Morris A. Zipkin and Russell N. Edwards, eds. Power Systems for Space Flight, 1963.-v.12. Kurt E. Shuler and John B. Fenn, eds. Ionization in High-Temperature Gases. 1963.-v.13. Robert C. Langford and Charles J. Mundo, eds. Guidance and Control - II. 1964.-v.14. Victor G. Szebehely, ed. Celestial Mechanics and Astrodynamics, 1964.-v.15. Hans G. Wolfhard, Irvin Glassman, and Leon Green, Jr., eds. Heterogeneous Combustion. 1964.-v.16. George C. Szego and J. Edward Taylor, eds. Space Power Systems Engineering. 1966.-v.17. Raynor L. Duncombe and Victor G. Szebehely, eds. Methods in Astrodynamics and Celestial Mechanics. 1966.-v.18. Gerhard B. Heller, ed. Thermophysics and Temperature Control of Spacecraft and Entry Vehicles. 1966.-v.19. Richard B. Marsten, ed. Communication Satellite Systems Technology. 1966. Most volumes include bibliographies. Other volumes are planned.

398. Rosen, Milton W., The Viking Rocket Story. London and New York: Faber and Faber, 1956. 248p.

An account of the development of the important Viking rocket by the Naval Research Laboratory, told by one of the principals. Describes technological innovations in Viking, such as being the first large rocket whose structure was all of aluminum and which employed a gimballed rocket motor. No bibliography.

399. Rougeron, Camille, Jean Bodet, et al., Fusées et Astronautique. Paris: Larousse, 1964. 415p.

A popular description of technical aspects of astronautics but includes "La Fusée: Declin et Renaissance" by Camille Rougeron, pp. 7-23, which is historical, and "Satellites Scientifiques," "Satellites de Telecommunications," "Fusées et Satellites Météorologiques," and "Satellites Militaire," pp. 245-313, all of which deal with the applications of space exploration. Also includes "Tableau Général des Lancements de Satellites et de Sondes Spatiales," pp. 379-399, which covers the period from October 1957 through November 1964.

400. Scherschewsky, Alexander O., Die Rakete für Fahrt und Flug; eine allgemeinverständliche Einführung in das Raketen-problem. Berlin-Charlottenburg: Volckmann, 1929. 134p.

An important book in the history of rocketry by a Russian living in Germany. Bibliography, pp. 130-134, lists 78 references to books and journals. The third chapter, "Kurze geschichtliche Entwicklung," covers historical development in both fact and fiction.

401. Simon, Leslie E., German Research in World War II,
an Analysis of the Conduct of Research. New York:
Wiley, 1947. 218p.

Explores the relationship between scientific research and the German war effort and in particular investigates such topics as to what extent German research was especially organized for war work, by what methods Germany bridged the gap between research and practical application, and how basic research, technical research, engineering design, development and production were defined. Index lists references to rockets, V-2s, Peenemünde, von Braun, Nordhausen, and Dornberger.

402. Sokol'skii, Viktor N., Russian Solid Fuel Rockets,
edited by S. G. Kozlov. Jerusalem: Israel
Program for Scientific Translations, 1967.
236p. (NASA Technical Translation TTF-415 and
also TT66-51152) (For sale by Clearinghouse
for Federal Scientific and Technical Information,
Springfield, Va.)

Translation of Rakety na Tverdom
Toplive v Rossii (Moscow: Izdatel'stvo
Akademiia Nauk SSR, Institut Istorii
Estestvoznaniia i Tekhniki, 1963). Well
documented historical study covering the
use of pyrotechnic rockets in Russia
before the 19th century, the use of
military rockets, and the 20th century
use of solid propellant rockets.
Bibliography, pp. 224-229, lists approximately
130 references to Russian sources from late
18th century to the present time.

403. Space Research. Amsterdam: North-Holland; New York: Interscience Publishers, 1st-1960 to date. Annual.

Published as the Proceedings of the International Space Science Symposium. These symposia are sponsored by the Committee on Space Research. The papers are primarily technical and deal with scientific investigations carried out with the use of rockets or rocket propelled vehicles. Many papers contain brief bibliographies.

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

Consists of Bd. 1. Raketenfahrt, Raketenflug.- Bd. 2. Die Raketenwaffen des zweiten Weltkrieges.-Bd. 3. Raketenflugprojekte. Covers the development of rocket technology, rocketry during World War II, and rocket programs in France, Russia, America, Germany, Italy, England, Hungary, Sweden, and Switzerland. Includes "Literaturverzeichnis," v.3, pp. 211-216. Lists some of the basic works published during the 1920s and 1930s in rocketry.

405. Stemmer, Josef, Raketenantriebe, ihre Entwicklung, Anwendung und Zukunft; eine Einführung in des Wesen des Raketenantriebes sowie Raketen- und Weltraumfluges. Zürich: Schweizer Druck- und Verlagshaus, 1952. 523p. (SDV 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.

406. Subotowicz, Mieczyslaw, Astronautyka [Astronautics].

Warszawa: Panstwowe Wydawn. Naukowe, 1960.

586p.

Ch. XIII, "Historic Outline of Rocket Problems," pp. 528-571, has many references to historical works throughout the text. Especially good for Polish rocketry activities in the past. Includes bibliography, pp. 573-578.

407. Sunderman, James F., "A Missile and Space Bibliography,"

Air Force and Space Digest, v.45 (April 1962),

pp. 175-183.

Approximately 200 books are listed alphabetically by author under the following categories: rockets and missiles; astronautics; space flight; the men; earth satellites; human factors; and research and reference. An expanded version of lists originally appearing in this journal April 1958, pp. 168-174, and June 1960, pp. 169-181.

408. Tsander, Fridrikh A., Problems of Flight by Jet

Propulsion. Interplanetary Flights. Collection

of Articles. 2d ed., Enl., L. K. Korneev, ed.

Translated from Russian [by IPST staff]. Jerusalem:

Israel Program for Scientific Translations,
 1964. 390p. (NASA Technical Translation
 TT F-147) (Available as OTS report 63-11195
 from Clearinghouse for Scientific and Technical
 Literature, Springfield, Va.)

Translation of Tsander's [1887-1833]
Problema Poleta pri Pomoshchi Reaktivnykh
Apparatov. Mezhplanetyne Polety (Moscow:
 Oborongiz, 1961). Comprises Tsander's
 main papers on various problems of long-
 distance rocket flight and, in addition,
 this revised edition includes one biographical
 and seven scientific papers published for
 the first time. First edition of this
 collection of papers, edited by M. K.
 Tikhohravov, was published in Moscow by
 Oborongiz in 1947.

409. Tsiolkovskii, Konstantin E., Reaktivnye Letatel'nye
Apparaty [Rocket Engines] Moscow: Nauka, 1964.
 473p.

A description of Tsiolkovskii's work
 in terms of the heritage it has provided
 for the history of space exploration.
 Includes—"Annotated Bibliography of Manuscripts
 and Published Works of Tsiolkovskii," pp. 458-474.

410. Von Braun, Wernher, and Frederick I. Ordway III,
History of Rocketry and Space Travel. Introd. by
 Frederick C. Durant III. New York: Crowell,
 1967. 244p.

Includes an excellent bibliography,
 pp. 223-236, of approximately 400 (mainly
 book) titles on the history of astronomy,

of man's ideas of the universe around him, surveys of fictional literature on space, a selection of novels dealing with lunar and planetary travel from antiquity to the end of the 19th century, as well as references to historical Chinese, Arab, Indian, and European rocketry developments through the 19th century. Lists works on the pioneers of space travel, on the use of rocketry in World War II, and many works on postwar (1946-66) rocketry, astronautics, and manned space flight.

411. Voprosy Raketnoi Tekhniki [Problems of Rocket Technology]. Moscow: Izdatel'stvo Inostrannoi Literatury, 1951 to date. Monthly.

Completely devoted to translations and surveys of foreign periodical literature. Includes section "Novosti Reaktivnoi Tekhniki" containing 300 abstracts a year from European and American literature.

412. Walters, Helen B., Hermann Oberth: Father of Space Travel. New York: Macmillan Company, 1962. 169p.

Includes bibliography, pp. 161-164, of English language books and articles on space travel, mainly for the layman. Several references are to German rocket scientists coming to the U.S. to work after World War II.

413. Wemmerlov, Albert, Raketer och Rymdfärder. Stockholm: Natur och Kultur, 1953. 116p.

A popular account of space flight with extensive reference to the historical developments in this field. Bibliography, p. 119, lists eight references.

414. Winter, Frank H., "Landmarks on the Road to Space Travel: A Brief History of Rocketry in Denmark in the 19th Century," Militaert Tidsskrift, v.94 (February 1965), pp. 56-66.

Traces the military developments of rockets, especially by Andreas Schumacher, Andreas Meyer, and others. Sixty-eight footnote references, mainly to Danish sources, are given, pp. 64-66. A shortened version with no bibliography appears as "Danish Rocketry in the 19th Century: A Case Study in Challenge and Response" in Aerospace Historian, v.xiii (no. 2 Summer 1966), pp. 81-84.

415. Zarankiewicz, Kazimierz, Astronautyka Popularna [Popular Astronautics]. Warszawa: Panstwowe Wydawn. Naukowe, 1959. 315p. (Biblioteka Problemow)

Although mainly a description of the subject, this work contains some historical information, especially about Polish activities in the field of rocketry. Brief bibliography, pp. 307-309, cites a few Polish references.

Aerospace Vehicles

416. Akademiia Nauk SSSR, Astronomicheskii Sovet,
Iskusstvennye Sputniki Zemli [Artificial
Earth Satellites]. Moscow: Akademiia Nauk
SSSR, 1963. 37p.

Discusses both Soviet and American
artificial earth satellites launched
between 4 October 1957 and 4 October 1962.
Bibliography, p. 36. lists 27 Soviet
references.

417. Akademiia Nauk SSSR, Sovetskii Chelovek v Kosmose
[Soviet Man in Cosmos]. Moscow: Akademiia
Nauk SSSR and Vystavka Dostizhenii Narodnogo
Khoziaistva SSSR, 1961. 11p.

Brief description of Soviet man-in-space
program.

418. Aleksandrov, S. G., and R. E. Federov, Sovetski
Sputniki i Kosmicheskie Korabli [Soviet
Satellites and Cosmic Ships]. 2d. ed. Moscow:
Izd-vo, Akademii Nauk SSSR, 1961. 439p.

First edition published [Moscow: 1959]
under the title, Sovetskie Sputniki i
Kosmicheskaiia Raketa. This first edition
published in English translation [Liaison
Office, Technical Information Center, MCLTD,
Wright-Patterson Air Force Base, Ohio, 1960]
as Soviet Satellites and Cosmic Rocket.
Deals with the Russian space program and
includes such topics as rockets, artificial

satellites, lunar probes, and the Vostok projects. Bibliography, pp. 427-435, lists approximately 150 references.

419. Allward, Maurice F., and John W. Taylor, ABC Satellites and Space Travel. London: I. Allan [distributed by Sportshelf, New Rochelle, N.Y.] 1961. 64p.

Although rather slight, this work contains many references to historical developments in space exploration.

420. Artificial Earth Satellites. Translated from Russian. New York: Plenum Press, 1960-1964. 12v. irregular.

A translation of Iskussvennye Sputniki Zemli, a serial publication of the Soviet Academy of Sciences. Each issue contains several technical articles beginning with data obtained from the first and second Soviet satellites during the International Geophysical Year. Most articles contain brief bibliographies.

421. Astronautics Information Abstracts - Reports and Open Literature. Pasadena, Calif.: Jet Propulsion Laboratory, California Institute of Technology, 1959-August 1963. Monthly.

Contained about 1,200 abstracts a year of selective technical reports and journal literature citations dealing with space

flight and applicable data and techniques. Alphabetical subject arrangement with monthly author, subject, and source indexes cumulated to date of publication, annual cumulated indexes. The volume for 1959 is a cumulation of all abstracts previously published by the Jet Propulsion Laboratory. Absorbed Astronautics Information Open Literature Survey in July 1962; previous title varies slightly.

422. Benton, Mildred, "Artificial Satellites - a Bibliography of Recent Literature," Jet Propulsion, v.28 (May-June 1958), pp. 301-302, 352-361; 399-401, 418-432.

An annotated bibliography of about 340 references arranged alphabetically by author. Pt. 1 is for the year 1956 and Pt. 2 covers the period 1957-58. Includes many references to Vanguard, Sputnik, and Explorer. For the period covered it is a continuation of "A History of the Artificial Satellite" by Alan R. Krull, published in Jet Propulsion, May 1956, pp. 369-383.

423. Bergaust, Erik, and William Beller, Satellite!
Foreword by Hermann Oberth. Garden City, N.Y.:
Hanover House, 1956. 240p.

Although mainly popular description for the layman, this book does contain description of the U.S. artificial satellite program before NASA. Includes

information on Project Vanguard and U.S. participation in the International Geophysical Year, 1957-58. Bibliography, pp. 272-278, lists approximately 100 references, mainly periodical.

424. Borisenko, Ivan G., Pervye Rekordy v Kosmose

[First Records in Space]. Moscow:

Mashinostroenie, 1965. 120p.

Describes the development of Soviet rockets and satellites leading up to the flight of Cosmonaut Yuri Gagarin in 1961.

425. Borun, Krzysztof, Ksiezyca Zdobyty; o Rakietach

Ksiezyocowych i Sztucznych Planetach [The Conquered Moon; Moon Rockets and Artificial Planets]. Warszawa: Wiedza Powszechna, 1959. 107p.

Some historical information although mainly description. First chapter entitled "From Fantasy to Science." Includes bibliography, p. 110, which lists references to (1) Press and Bulletins, and (2) Monographs.

426. Caidin, Martin, Rendezvous in Space; the Story

of Projects Mercury, Gemini, Dyna-Soar, and

Apollo. Drawings by Fred L. Wolff. New York:

Dutton, 1962. 320p.

A fairly popular historical description of the development of projects Mercury, Gemini, Dyna-Soar, and Apollo.

427. Congress, House, Committee on Science and
Astronautics, Missile Development and Space
Sciences. Hearings [Feb.2-Mar.12,1959].
Washington: U.S. Govt. Print. Off., 1959.
492p. (86th Cong., 1st Sess.)

Consists of statements by 36 top officials
from NASA and the three armed services made
at hearings held to present to the Committee
and the public the current state of
astronautics.

428. Congress, Joint Committee on Atomic Energy,
Outer Space Propulsion by Nuclear Energy.
Hearings, Jan.22-Feb.6, 1958. Washington:
U.S. Govt. Print. Off., 1958. 232p.
(85th Cong., 2d Sess.)

Consists of testimony from 19 expert
witnesses from government agencies and
laboratories including Atomic Energy
Commission, Department of Defense, National
Advisory Committee for Aeronautics; from
private industry such as North American
Aviation Co., and from private individuals
such as Dr. I. Fred Singer of the University
of Maryland. All stressed the importance
of the long-range advantages of nuclear
propulsion systems. Includes "Bibliography,"
pp. 227-230, of 58 books written, 1950-58,
and 25 journal article references.

429. Congress, Senate, Committee on Aeronautical and
Space Sciences, Orbital Flight of John H.

Glenn, Jr. Hearing before the Committee.

Testimony of Astronauts and NASA Officials

before the Committee held on February 28, 1962.

Washington: U.S. Govt. Print. Off., 1962.

126p. (87th Cong., 2d. Sess. Senate Document
no. 79)

Consists of basic statistics and a
chronology of Col. Glenn's flight, February 20,
1962, as well as a transcript of his press
conference at Cape Canaveral February 24,
and his message to Congress, February 26.
Includes summary of Project Mercury, pp. 107-120.

430. Congress, Senate, Special Committee on Space and
Astronautics. Compilation of Materials on
Space and Astronautics. no. 1-2; Mar. 27-Apr. 14,
1958. Washington: U. S. Govt. Print. Off., 1958
2v. (85th Cong., 2d Sess.)

Part I includes a summary of the Senate
Preparedness Investigating Subcommittee's
1957-58 inquiry into the missile and
satellite programs, an introduction to
outer space by the President's Science
Advisory Committee, and other reports.
Part II includes "Bills and Resolutions
on Outer Space," pp. 308-354; "Selected
References: Committee Hearings and Reports,"
pp. 355-356; and "Chronology on Space and
Astronautics, 1948-1958," pp. 357-370.

431. Corliss, William R. Scientific Satellites.

Washington: NASA, 1967. 822p. (NASA

SP-133) (For sale by U.S. Govt. Print. Off.)

This comprehensive book on scientific satellites is divided into three parts: Pt. I, Present Status and History; Pt. II, Missions and Spacecraft; and Pt. III, Scientific Instruments. Bibliography, pp. 661-698, contains approximately 950 book and journal article references. Appendix, pp. 699-797, is a series of illustrated descriptions of all unclassified scientific satellites and their payloads to date, with further references on pp. 797 and 798. Good index.

432. Current Contents of Space, Electronic, and Physical Sciences. Philadelphia: Institute for Scientific Information, January 1961 to date. Weekly.

Reproduces tables of contents of about 100 world journals, approximately ten of which are aerospace related. Alphabetical journal and author indexes.

433. "Dix ans dans L'Espace" sous la Direction de Albert Ducrocq. Sciences and Avenir, Numero Special, Octobre 1967. 102p. (Hors-Serie)

Consists of ten articles on various aspects of the first decade of the space age by different leaders in the Cosmos-Club de France.

434. Ehricke, Krafft A., Space Flight. Princeton, N.J.: Van Nostrand, 1960-1962. 3v. (Principles of

Guided Missile Design)

Contents: v.1. Environment and Celestial Mechanics.-v.2. Dynamics.-v.3. Space Operations. Essentially a textbook but the first chapter of v.1 presents the historical background of missiles and spacecraft very well and contains a bibliography, pp. 71-75, of 82 historical references. All other chapters also contain bibliographies of primarily technical references.

435. Ertel, Ivan D., and Mary Louise Morse, The Apollo Spacecraft: A Chronology, v.1, Through November 7, 1962. Houston: Manned Spacecraft Center, Comment Draft, 1968, to be published as NASA SP-4009 in 1969. 386p.

Chronological listing of major events in the early development of the Apollo spacecraft and the mission to land man on the moon. Events from the earliest concepts through the selection of the lunar orbit rendezvous mode and the lunar excursion module contractor are given briefly, accompanied by source documentation throughout and illustrations. Appendixes give committee members, contractors, organization charts, funding charts, flight and launch vehicle data, and an index.

436. Faget, Maxime A., Manned Space Flight. Coordinating Editor: James V. Bernardo. New York: Holt, Rinehart and Winston, 1966. 176p. (Holt Library of Science)

Discusses some of the technical problems facing the builders of manned spacecraft, and explains the various facets of science which came into play in the engineering solutions of these problems. Bibliography, p. 170, lists eight books.

437. France, Ambassade, U. S. Service de Presse et d'Information, France, Air, and Space. New York: The Abassade, 1963. 56p.

Covers current industry and government air and space activities, policy, and research in France and also the role of France in international cooperation in these fields.

438. Gatland, Kenneth W., ed., Project Satellite.

Illustrated with Photos and Drawings by John W. Wood. London: Wingate, 1958. 169p.

Essentially a history of the artificial satellite. Contains information on German, Soviet, British, and American satellite developments. Comprises four essays by Wernher von Braun, Kenneth W. Gatland, Harry E. Ross, and A. V. Cleaver.

439. Gatland, Kenneth W., Spacecraft and Boosters; the First Comprehensive Analysis of More than Seventy U.S. and Soviet Space Launchings, 1961.

London: Iliffe Books; Los Angeles: Aero Publishers, 1964. 296p.

Describes in chronological order the various space launchings of 1961. Includes

satellites, space probes, and test vehicles and includes failures as well as successes. Information for each one includes launch time, height, weight, lift-off thrust, object, project management, program results, and payload description.

440. Gatland, Kenneth W., Spacecraft and Boosters 2:

the First Comprehensive Analysis of More than One Hundred U.S. and Soviet Space Launchings,

1962. London: Iliffe Books; Los Angeles: Aero Publishers, 1965. 302p.

Describes in chronological order both the successful and unsuccessful space launchings of 1962. The first section deals with spacecraft and the second with launch vehicles--should be read in conjunction with the first volume [London: Iliffe Books; Los Angeles: Aero Publishers, 1964] because many of the boosters described in it were still being used in 1962.

441. Green, Constance McL., and Milton Lomask, A History

of Project Vanguard. Washington: NASA, Comment Draft, 1968, to be published in 1969.

History of the earliest U.S. program to launch a man-made satellite into space, from the post World War II background through the campaign for Government support, the International Geophysical Year, the Army's launch of Explorer I, and the successful launches of Vanguard I in 1958 and Vanguard II and III in 1959. Includes a summary of the scientific harvest and "final accounting." Appendixes provide launch tables. Bibliographic references are made in footnotes to the text.

442. Grimwood, James M., Project Mercury, a Chronology.

Washington: NASA, 1963. 238p. (NASA SP-4001)

A listing of major events in the first U.S. manned space flight program, from preliminary discussions of Earth satellite flight in May 1963. Includes index, illustrations, and bibliographical footnotes throughout the text.

443. Grimwood, James M., and Barton C. Hacker, with

Peter Vorzimmer, Project Gemini--Technology

and Operations: A Chronology. Houston: Manned

Spacecraft Center, Comment Draft, 1968, to be

published as NASA SP-4002 in 1969. 437p.

A listing of major events in the engineering and technological development of the second U.S. manned space flight program, with numerous diagrams and photographs. Begins with 1961 efforts to improve Mercury spacecraft and goes through 10 manned flights in 1965 and 1966 to program end in 1967, with source citations following each item. Appendixes include flight summary tables, program objectives, vehicle history tables, lists of Government agencies and contractors in the program, and an index.

444. Hansen, Leo, Rumfart og Raket-teknik. København:

H. Hirschsprung, 1958. 144p.

Discusses space flight and rocketry. "Raketvabnets Historie," pp. 72-75, is historical. In addition, "Astronautik," pp. 87-92, is also historical. "Litteraturfortegnelse," p. 143, lists about twelve references.

445. Holmes, David C., What's Going on in Space? A

Chronicle of Man's Exploration into Space

Beyond this Earth. New York: Funk & Wagnalls,

1958. 256p.

Review of space progress by a U.S. Navy commander. Discusses satellite projects and activities of the International Geophysical Year. Considered to be the first American book on artificial satellites.

446. Holmes, Jay, America on the Moon: the Enterprise

of the Sixties. Pref. by E. C. Welsh. Philadelphia:

Lippincott, 1962. 272p.

A description of the American space program including a description of its first few years and a description of the various projects, especially the one to land a man on the moon. Explores the interrelationships between government and science and the competition between the U.S. and the Soviet Union.

447. IGY World Data Center A: Rockets and Satellites,

Catalogue of Data Received by WDC-A During the

Period 1 July 1957-31 December 1961. Submitted

to the Committee on Space Research (COSPAR) of the International Council of Scientific Unions.

Washington: 1962. 88p.

Consists mainly of a bibliography of approximately 1,400 reports and reprints

on artificial satellites and astronautics
in meteorology arranged by author and subject.

448. International Astronautical Congress, Proceedings.

1950 to date. Annual.

Collection of primarily technical papers in Russian, German, Italian, French, and English presented at annual congress on various aspects of space technology. Early volumes issued by the Congress under an earlier name: International Congress on Astronautics. Volume for 1952 has title Vorträge; for 1953, A Complete Collection of All Lectures; for 1954, Bericht. Some volumes have also a distinctive title: 1951, The Artificial Satellite. - 1952, Probleme aus der Astronautischen Grundlagenforschung. - 1953, Space-flight Problems. - 1963, The Space Environment. - 1965, Lunar International Laboratory Symposium, First, Proceedings. Some papers contain bibliographies.

449. Kaplan, Samuil A., Novye Dannye o Kosmicheskom

Prostranstve [New Data on Outer Space]. Kiev:

Obshchestvo po Rasprostraneniui Politicheskikh
i Nauchnykh Znaniï Ukrainskoi SSR, 1960. 37p.

(Seria 5, No. 16)

Discusses Soviet results obtained from
the International Geophysical Year, 1957/58.

450. Koelle, Heinz H., ed., Handbook of Astronautical

Engineering. New York: McGraw-Hill, 1961.

Various paging.

Includes some information on the history and future trends of astronautics, as well as some information on the military, social, and economic impact of space flight. Most chapters contain a brief list of references.

451. Koelle, Heinz H., and H. J. Kaeppler,

Literaturverzeichnis der Astronautik.

Literature-Index of Astronautics. Tittmoning/

Oberbayern: W. Puster, 1954. 100p.

A selective bibliography of approximately 2,000 books and periodical articles published 1914-1953, arranged in accordance with a three-place decimal system developed by Dr. Eugen Sänger. Has an author index. Designed for the scientist or engineer who wishes to acquire a general view and outline of the present state of research and development of aeronautics, astronautics, and related topics. Includes such subject areas as history of aeronautics, astronautics, nautical history, pioneers of astronautics, and history of technology.

452. Krull, Alan R., "A History of the Artificial

Satellite," Jet Propulsion, v.26 (May 1956),

pp. 369-383.

A chronological (1879-1955) bibliography of approximately 350 annotated references to the significant published literature of artificial, manned or unmanned, satellites of the earth.

453. Liapunov, Boris V., Station Outside the Earth.

Wright-Patterson Air Force Base, Ohio:

Foreign Technology Division, U.S. Air Force,

1966. 16lp. (Its Translation FTD-MT-64-531)

Translation of Stantsiia vne Zemli
(Moscow: Voennoe Izdatel'stvo, 1963).
"Recommended Literature," pp. 158-160,
lists about 30 references to Russian
books on space stations published 1960-1963.

454. Library of Congress, Science and Technology Division,

Space Science and Technology Books, 1957-1961:

a Bibliography with Contents Noted. Washington:

The Library, 1963. 133p. (For sale by U.S.

Govt. Print. Off.)

A list of approximately 400 publications arranged chronologically and by country within each of the given years. Includes subject and author indexes. References cover such allied areas as space law and international cooperation in space exploration; reports and committee prints of the U.S. Congress; and works dealing with commercial applications of space vehicles such as communication satellites.

455. Manned Spacecraft Center, Gemini Midprogram Conference,

Including Experiment Results. Washington: NASA,

1966. 443p. (NASA SP-121) (For sale at U.S.

Govt. Print. Off.)

Series of papers summarizing the Gemini manned space flight program through the first

seven missions. The papers are roughly in two groups: one group describes the spacecraft and launch vehicle, operations, and results; the other group reports on the results from experiments performed on the flights.

456. Manned Spacecraft Center, Gemini Summary Conference.

Washington: NASA, 1967. 345p. (NASA SP-138)

(For sale at U.S. Govt. Print. Off.)

Series of papers presented at the conference held at Manned Spacecraft Center, Houston, Texas, February 1 and 2, 1967, summarizing the highlights of the entire Gemini program and reviewing in more detail the flight results of the last five missions. The papers are divided in five groups: the first describes rendezvous, docking, and tethered vehicle operations involving the spacecraft and a target vehicle; the second describes extravehicular activity; the third deals with operational support of missions; the fourth summarizes experiments; and the fifth compares flight and simulation experience and relates Gemini results to Apollo.

457. Massachusetts Institute of Technology, Lincoln

Laboratory, Lexington. Collection of Soviet

Papers on Earth Satellites. Cambridge, Mass.:

The Institute, 1958. 182p.

Consists of translations of 11 technical Soviet papers on artificial satellites presented by the U.S.S.R. delegation to the October 1957 International Geophysical Year meeting in Washington, D.C. Most articles contain brief bibliographies.

458. National Aeronautics and Space Administration,
History: a Literature Search. Washington:
NASA, 1966. 137p. (Its Literature Search
No. 2578)

Unpublished NASA literature search.
A list of 436 references to unclassified
books, reports, journal articles on the
subject of history introduced into the
NASA information system during the period
1962 to June 6, 1966. Citations arranged
by accession number. All citations have
been announced either in Scientific and
Technical Aerospace Reports or in
International Aerospace Abstracts.

459. National Aeronautics and Space Administration,
Ranger VII: a Special Report, August 5, 1964.
Washington: NASA and Jet Propulsion Laboratory,
Pasadena, Calif., 1964. 35p. (For sale by
U.S. Govt. Print. Off.)

Includes "This Historic Extension of
Man's Knowledge," pp. 3-4, and "Flight
Chronology," pp. 8-9.

460. Ordway, Frederick I., Annotated Bibliography of
Space Science and Technology, with an
Astronomical Supplement. A History of
Astronautical Book Literature--1931 through

1961. 3d ed. Washington: Arfor Publications,

1962. 77p.

First published in 1955 and again in 1958 under title Specialized Books on Space Flight and Related Disciplines. A list of 352 English-language astronautical and 151 astronomical books arranged chronologically with author and title indexes. Includes multi-language proceedings of international astronautical conferences and significant translations from French, German, and Russian.

461.. Ordway, Frederick I., and Ronald C. Wakeford,
International Missile and Spacecraft Guide.

New York: McGraw-Hill, 1960. lv. (various pagings)

Comprehensive worldwide survey of modern military and research missiles. Arranged geographically and for each missile gives background description and technical specifications. Includes "Chronology of Missile Progress," and "Organization of Missile Activities," pp. 3-51, and "Bibliography," at end of Pt. II (6 pp.) which lists approximately 180 book and journal titles.

462. Pacific Aerospace Library Uniterm Index to Periodicals.

Los Angeles: Pacific Aerospace Library, 1955
to date.

Accessions list weekly, posting list triweekly, quarterly cumulations, annual volume. Cites 12,000 references a year from 300 world journals with author and Uniterm subject index. Arrangement is by accession number. Serves as an index to Pacific Aerospace Library Checklist of Periodical Titles.

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

Deals with the various developments which lead to earth satellites. Fairly popular treatment of the subject. Bibliography, pp. 301-303, consists of 73 references.

464. Pfaffe, Herbert, and Peter Stache, Typenbuch der Raumflugkörper, 1957-1964. 2. erweiterte Ausg.
Berlin: Deutscher Militärverlag, 1964. 295p.

Discusses Soviet and American satellite launches between 1957 and 1964. Brief bibliography, p. 295, lists 25 references.

465. RAND Corporation, An Annotated Bibliography of RAND Space Flight Publications. Santa Monica, Calif.:
RAND Corp., 1958. 53p. (Its Report RM2113-1;
and Report AD-21608)

A list of approximately 200 reports issued from 1948 to 1959 and covering various aspects of space flight. Revised 1959.

466. Reboux, Michel, Sputnik: Exploration de L'Infini.
Paris: Chronique de France, Diffu-Livre, 1957.
223p.

Describes the development and early achievements of the first Sputnik. The

author sees Soviet and American space efforts as a reflection of the national goals and character of each country.

467. Rousseau, Pierre, Les Satellites Artificiels.

Paris: Hachette, 1957. 192p.

Contains many references to historical developments within the field of artificial satellites.

468. The Russian Literature of Satellites. New York:

International Physical Index, 1958. 2v.

A series of Soviet papers presented at the conference on earth satellites held in Washington, D.C., October 2-5, 1957, and which are a translation of vol.63, no. 1, 1957, of Uspekhi Fizicheskikh Nauk and which treat the most important problems of launching, guiding, and deriving data from artificial satellites. Most papers contain brief bibliographies. These same papers were also published under the title Symposium of Soviet Research on Artificial Earth Satellites and Related Subjects (New York: U.S. Joint Publications, Research Service, 1958. Report no. 187. Project NR-1377). Several of these papers were originally published in translation in Collection of Soviet Papers on Earth Satellites (Cambridge, Massachusetts Institute of Technology, Lincoln Laboratory, 1958).

469. Sokoll, Alfred H., Bibliographie zur Aero- und

Astronautik; deutschsprachiges Schrifttum,

1945-1960. München: Alkos-Verlag, 1962. 206p.

Lists approximately 1,550 German books, reports, and journal articles published

during the period 1945-1960. Arranged chronologically by year with an index by author.

470. Sokoll, Alfred H., Literatur zur Aero- und

Astronautik: ein Bibliographischer Wegweiser.

München: Alkos-Verlag, 1961. 89p.

A guide to the literature of aeronautics and astronautics listing pertinent materials by country under the following categories: bibliographies; documentation services; reference works; news services; bulletins, notes, papers, and reports; and periodicals. Includes author, title, and subject index.

471. 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.

472. Soviet Moon Rockets: a Report on the Flight and

Scientific Results of the Second and Third

Space Rockets. Pref. by A. Nesmeyanov.

Appendix: Some Problems of the Future Exploration of the Moon with Rockets, by G. V. Petrovich.

Rev. ed. London: Soviet Booklets, 1960.

66p. (Soviet Booklet, No. 62)

Covers Soviet artificial satellite and lunar probe launching during 1957, 1958, and 1959 and includes the first automatic interplanetary station which took the first photographs of the hidden side of the moon.

473. Soviet Writings on Earth Satellites and Space Travel.

New York: Citadel Press, 1958. 253p.

In two parts: Pt. I, "From Earth Satellites to Interplanetary Travel," by Ari Sternfeld; Pt. II, "The Sputniks," is comprised of essays by various Soviet authors. Pt. I published in Italian translation as "Basi Dell' Astronautica," pp. 3-74, in L'URSS e lo Spazio: Scritta e Documenti Ufficiali Sovietici (Milano: Lerici, 1960).

474. Stine, George H., Earth Satellites and the Race for Space Superiority. New York: Ace Books, 1957. 191p.

Although primarily popular description, this work contains a description of early U.S. space projects, especially project Vanguard, before the creation of NASA.

475. Sullivan, Walter, Assault on the Unknown. New York: McGraw-Hill, 1961. 460p.

History of the planning, exploration, successes, and failures of the International

Geophysical Year, 1957/58, one of the greatest international scientific programs, written by the chief science writer of the New York Times. Covers Soviet and American IGY space programs. "Notes," pp. 419-441, lists footnote references chapter by chapter.

476. Swenson, Loyd S., James M. Grimwood, and Charles

C. Alexander, This New Ocean: a History of Project Mercury. Washington: NASA, 1966.

681p. (The NASA Historical Series. NASA

SP-4201) (For sale by U.S. Govt. Print. Off.)

Describes the historical development of America's first achievements in manned space flight. Includes "Note on Sources and Selected Bibliography," pp. 605-630, which lists 137 Project Mercury working papers, 13 bibliographical aids, 25 official reports and documents, and references to 372 books and journal articles; and 13 unpublished works, as well as 15 post-flight reports. Also extensive "Footnotes," pp. 515-604.

477. Tsiolkovskii, Konstantin E., Collected Works.

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

Translation of Tsiolkovskii's Sobranie Sochinenii (Moscow: Izdatel'stvo Akademii

Nauk SSSR, 1951-1954), based on materials in the Tsiolkovskii archives in the U.S.S.R. Academy of Sciences. V.I. is entitled "Papers on Aerodynamic Theory, Flight of Birds and Insects, and Wind Tunnel Tests, 1890-1902."; v.II, "Reactive Flying Machines." Three additional volumes are planned: v.III, "Inventions and Miscellaneous Works"; v.IV, "Problems of Natural Science"; and v.V, "Autobiography, Correspondence, Bibliography". In addition, a special volume containing Tsiolkovskii's popular writings and science fiction will be published separately. V.I, pp. 363-365, has a bibliography of 15 references, "Works of K. E. Tsiolkovskii on Problems of the Resistance of Air Published Before the Appearance of This Volume" and v.II, pp. 593-614, has a bibliography of 79 references, "Printed Works and Manuscripts on Reactive Flying Machines and Interplanetary Travel." Both bibliographies are compiled by B. N. Vorob'yev, secretary of the Commission for the Publication of the Works of Tsiolkovskii.

478. U.S. Air Force Academy, Library, Astronautics.

Rev. ed. [Colorado Springs, Colo.]: The Academy, September, 1966. 46p. (Its Special Bibliography Series, no. 34)

A selective list of approximately 528 books from the holdings of the Air Force Academy Library. Includes "Historical, Introductory, Selected Popular Works," pp. 1-2; "Chronologies," p. 4; and "Astronautics in Countries other than the United States," pp. 14-15. Earlier editions published in 1958, 1959, and 1961.

479. Von Braun, Wernher, The Mars Project. Urbana:

University of Illinois Press, 1953. 91p.

Technical analysis of the feasibility of interplanetary trips to Mars.. Based on Das Marsprojekt: Studie einer Interplanetischen Expedition (Frankfurt am Main: Umschau, 1952).

480. Weitzel, Ronald, The Origins of ATS: the Advanced

Syncom. Greenbelt, Maryland: Goddard Space

Flight Center, Comment Draft, 1968. 95p.

(NASA HHN-83)

Historical narrative that traces the roots of NASA's Advanced Technology Satellite (ATS) from the Syncom communications satellite through the Advanced Syncom--a concept that never was fully developed--and through the changing role of NASA in communications satellite research after the Communications Satellite Corporation was established. Bibliography.

481. Wilson, John Tuzo, I.G.Y.: The Year of the New Moons.

New York: Knopf, 1961. 350p.

A history of the International Geophysical Year, 1957/58, and the accomplishments of the 67 participating nations by the president of the International Union of Geodesy and Geophysics which conceived and planned the I.G.Y. "References for Further Reading," pp. 347-350, lists approximately 50 titles in English.

482. Zentralblatt der Aero- und Astronautik (ZAA).

(Abteilung 1, Deutsch-sprachiges Schriftum).

Munich: Alkos-Verlag, 1961 to date. Quarterly.

Cites about 1,000 references and
abstracts a year relating to aerospace
technology and bioastronautics from
German books and over 700 German journals.

Other: Electronics, Guidance, Materials, Tracking,
Geodesy, Particles and Fields

483. Benecke, Theodor, and A. W. Quick., History of German Guided Missiles Development (First Guided Missiles Seminar, Munich, Germany, April 1956). Brunswick, Germany: E. Appelhans and Co., 1957. 420p.
(Advisory Group for Aeronautical Research and Development. AGARDograph, No. 20)

Comprises 26 technical papers, some with short lists of references, which describe all aspects of German work done prior to 1945 by participants.

484. Congress, House, Committee on Science and Astronautics, Discussion of U.S. Satellite Tracking System.
Hearings . . . February 15, 1961 (open and executive sessions). Washington: U.S. Govt. Print. Off., 1961. 43p. (87th Cong. 1st Sess.)

Largely the testimony of Hugh L. Dryden, NASA Deputy Administrator, and Lt. Gen. Donald N. Yates, Deputy Director, Defense Research and Engineering, Office of the Secretary of Defense.

485. Congress, House, Committee on Science and Astronautics, Equatorial Launch Sites--Mobile Sea Launch

Capability. Hearings . . . May 15 and 16, 1961.

Washington: U.S. Govt. Print. Off., 1961. 69p.

(87th Cong. 1st. Sess.)

Includes statements of top NASA, Dept. of Defense, Air Force, and Bureau of Yards and Docks officials.

486. Corliss, William R., The Evolution of the Manned

Space Flight Network Through Gemini. Greenbelt,

Maryland: Goddard Space Flight Center, Comment

Draft, 1968. 124p.

The second in a series of preliminary historical essays on the evolution of NASA's tracking and data acquisition networks. This essay describes developments from Peenemünde through the Gemini program, emphasizing NASA programs but including the NASA-Department of Defense interface. Sources are cited in footnotes, with additional references on pp. 110-111.

487. Department of the Army, Army Library, Guided Missiles.

Washington: Army Library, 1956. 91p. (Its

Special Bibliography, No. 4)

A comprehensive list of over 800 titles of books, periodical articles, and studies, with abstracts and annotations. Emphasis on work published from 1950 through March 1956. Includes section entitled "History," pp. 1-5, which lists about 30 references.

488. Department of the Army, Army Library, Guided Missiles, Rockets and Artificial Satellites, Including Project Vanguard: a Selected List of Titles. Washington: Army Library, 1957. 153p. (Its Special Bibliography, No. 11)

A partially annotated list of about 1,000 pertinent books, documents, periodical articles, and motion pictures. Continues Special Bibliography No. 4 with the same title and on the same plan, but includes material on additional aspects of the subject, and covers material published April 1956 through January 1957.

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

English-language periodical articles are cited.

490. Filipowsky, Richard F., and Louise C. Bickford, Space Communications: Theory and Applications, a Bibliography. Washington: National Aeronautics and Space Administration, 1965. 4 v. (NASA. SP-7022)

An extensive collection of annotated references to reports, journal articles, and books published during the period 1958-1963. The subjects of each volume are as follows: v. 1, Modulation and Channels; v. 2, Coding

and Detection Theory; v. 3A, Information Processing; v. 3B, Advanced Techniques; v. 4A, Communications Satellites; v. 4C, Deep Space Applications; v. 4D, Manned Space Flight Applications.

491. Filipowsky, Richard F., and Eugene I. Muehldorf,
Space Communication Techniques. Englewood Cliffs,
N.J.: Prentice-Hall, 1965. 333p. (Prentice-
Hall International Series in Space Technology)

Pts. I and II deal with a review of electronic equipments and components for space communications systems. Pt. III comprises a bibliography, pp. 191-300, of unclassified publications organized the same way as are the individual subjects discussed in Parts I and II. Appendix, pp. 303-305, deals with Telstar and includes a brief bibliography, p. 307.

492. Hymoff, Edward, Guidance and Control of Spacecraft.
Coordinating Editor: James V. Bernardo. New
York: Holt, Rinehart and Winston, 1966. 176p.
(Holt Library of Science)

Discusses the development of means for man to go from one place to another and reach his goal: from guidance used by primitive man to inertial guidance systems, ballistics trajectories, satellites, Mercury, Gemini, and Apollo projects, and manned orbiting laboratories. Bibliography, p. 62, lists ten books.

493. Jaffe, Leonard, Communications in Space. Coordinating Editor: James V. Bernardo. New York: Holt, Rinehart and Winston, 1966. 176p. (Holt Library of Science)

Describes various types and developments of communications satellite systems and the various possibilities for their uses in the future. Bibliography, pp. 169-172, is a list of footnote references arranged by chapter.

494. Kiebert, M. V., "Bibliography of Telemetry," IRE Transactions on Telemetry and Remote Control, v. TRC-4 (no. 1, June 1958), pp. 10-19.

Consists of a technical bibliography of approximately 550 periodical articles on the subject from about 1945 to 1958.

495. Library of Congress, Legislative Reference Service, Guided Missiles in Foreign Countries, Prepared for the Committee on Armed Forces, United States Senate, by Eilene Galloway. Washington: The Library, 1957. 73p. (For sale by U.S. Govt. Print. Off.)

Includes bibliography, pp. 58-62, listing selected references on guided missiles in Australia, Canada, France, Great Britain, Italy, Sweden, Switzerland, and U.S.S.R. and satellite countries; preceded by general section.

496. National Aeronautics and Space Administration,
Communications Satellites; a Continuing
Bibliography. Springfield, Va.: Clearinghouse
for Federal Scientific and Technical Information
(OTS), January 1962/April 1964 to date.
(NASA SP-7004)

A selection of annotated references to unclassified reports and journal articles introduced into the NASA information system during the period January 1962-April 1964. Prepared by the Scientific and Technical Information Facility operated for the National Aeronautics and Space Administration by Documentation Incorporated. All references included have been announced in either Scientific and Technical Aerospace Reports (STAR) or its predecessor, Technical Publication Announcements, International Aerospace Abstracts. The entries are arranged in two major groups: (1) report references, and (2) books and journal article references. Primary emphasis is given to the transmission of information by communication satellite and includes such topics as television broadcasting, telemetry, multi-station systems, and the history and operation of Advent, Courier, Echo, Telstar, etc. Many entries on the use of satellites for meteorological studies are also included. Subject and personal author indexes. To be updated periodically by supplements.

497. National Aeronautics and Space Administration, Lasers
and Masers: a Continuing Bibliography. Springfield,
Va.: Clearinghouse for Federal Scientific and

Technical Information (OTS), June 1965 to date.

(NASA SP-7009)

Bibliography of annotated references to the characteristics and applications of lasers and masers that were introduced into the NASA information system between January 1962 and February 1965.

498. National Aeronautics and Space Administration,

Significant Achievements in Satellite Geodesy,

1958-1964. Washington: NASA, 1966. 174p.

(NASA SP-94) (For sale by U.S. Govt. Print. Off.)

One of a series of ten volumes which summarize the progress and describe achievements during the period 1958 through 1964 in the following areas: Astronomy (560), Space Bioscience (623), Communications and Navigation (499), Satellite Geodesy (499), Ionospheres and Radio Physics (660), Meteorology (647), Particles and Fields (661), Planetary Atmospheres (558), Planetology (559), and Solar Physics (662). Brief bibliography given at the end of each chapter.

499. National Aeronautics and Space Administration,

Significant Achievements in Space Communications

and Navigation, 1958-1964. Washington: NASA,

1966. 68p. (NASA SP-93) (For sale by U.S. Govt. Print. Off.)

One of a series of ten volumes which summarize the progress and describe achievements during the period 1958 through 1964 in the following areas: Astronomy, Bioscience,

Communications and Navigation, Geodesy, Ionospheres and Radio Physics, Meteorology, Particles and Fields, Planetary Atmospheres, Planetology, and Solar Physics. Bibliography, pp. 57-68, lists 135 references to significant books, journal articles, and technical reports.

500. Naugle, John E., Unmanned Space Flight. Coordinating Editor: James V. Bernardo. New York: Holt, Rinehart and Winston, 1966. 175p. (Holt Library of Science)

Discusses exploration of space when man remains on earth and sends his instruments into space and thereby explores the sun, interplanetary space, the moon, planets, and earth. Bibliography, pp. 169-170, lists 20 books and journal articles.

501. Park, Robert A., and Thomas Magness, Interplanetary Navigation. New York: Holt, Rinehart and Winston, 1966. 128p. (Holt Library of Science)

Discusses the principles and methods for journeys to other planets. Bibliography, p. 124.

502. Rogers, Preston C., comp., Space Rendezvous Rescue and Recovery; an Abstract Compilation, a Report Bibliography. Alexandria, Va.: Defense Documentation Center, 1963. 108p. (Its report AD 410 085)

Citations are included for reports processed by the Defense Documentation Center, 1953-1963, and covering such subjects as astronaut training, communications, computers, docking, instrumentation, life support systems, recovery, reentry, rescue, sensors, etc. Approximately 650 annotated references are included.

503. Thomas, Shirley, Satellite Tracking Facilities. New York: Holt, Rinehart and Winston, 1966. 159p.
(Holt Library of Science)

Discusses the system of tracking and receiving ground stations which record what the spacecraft has to say through its telemetering channels. Footnotes, pp. 148-149, list 27 references to books and journal articles and "Related Reading," p. 153, lists 18 additional book titles.

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

Lists German World War II documents available on microfilm at the Air Documents Division, Air Materiel Command (now at Federal Clearinghouse for Scientific and Technical Information, Springfield, Va.) Arrangement is by 11 broad subject categories.

THE RISE OF SPACE SCIENCE

Aerodynamics

505. Aero-Club der Schweiz, Bibliothek, Bibliothek-Katalog des Schweizer. Aero-Club. Catalogue de la Bibliothèque de l'Aéro-Club Suisse. Bern: Aero-Club der Schweiz, 1915. 76p.

An author list of 1,227 books, pamphlets, and periodical titles which represents the holdings as of 1915 of the library which was founded in 1904. Title page, table of contents, and captions are in German and French. A short supplement with the same title and same arrangement was issued in 1921, containing material added to the library, 1915-1920.

506. Aviatsiia i Vozdukhoplavanie, Katalog Knig, Aeronauticus. Moscow: Mezhdunarodnaia Kniga, 1938. 20p.

A bibliography which lists approximately 320 Soviet books on aeronautics published mostly in the 1930s.. Subjects covered include general and theoretical problems of aeronautics, gliders, and flights into the stratosphere.

507. Federal Aviation Administration, Systems Research and Development Service, Consolidated Abstracts of Technical Reports, 1957-1962. Washington: The Administration, 1963. 148p.

Contains approximately 125 abstracts of technical aeronautics reports done by various contractors under U.S. government contract.

508. Hodgson, John E., The History of Aeronautics in Great Britain, from the Earliest Times to the Latter Half of the Nineteenth Century. London: Humphrey Milford; Oxford University Press, 1924. 436p.

Excellent for aeronautical history in Great Britain. Covers the endeavors of foreign aeronautics in Britain as well and includes 150 handsome illustrations. Appendixes include chronology, p. 373. Includes "List of Papers in the Aeronautical Society's Reports, 1866-1893," "Selected and Annotated Bibliography," pp. 387-415; and "Note on the Cuthbert Aeronautical Collection," pp. 416-418. The bibliography is rich in historical aeronautical references.

509. Index Aeronauticus: Journal of Aeronautical and Astronautical Abstracts. London: Technical Information and Library Services, Ministry of Aviation, 1945 to date. Monthly.

Contains about 3,500 abstracts a year from world literature, including articles in scientific and technical journals, patents, published papers, and reports, arranged by Universal Decimal Classification with monthly and annual author indexes.

510. Journal of the Royal Aeronautical Society. London:

Royal Aeronautical Society, 1897 to date. Monthly.

Includes section "The Library" containing 250 abstracts a year from world literature, including books, pamphlets, and technical reports, relating to rocket technology with annual author and subject index. Title changed from The Aeronautical Journal in January 1923; absorbed Institution of Aeronautical Engineers Journal in October 1927.

511. National Advisory Committee for Aeronautics,

Index of NACA Technical Publications. 1915/1947-

1957/58. Washington: The Committee, 1947-1959.

9 vols.

An index to NACA research reports covering the period 1915-1958, the first volume covering the period 1915/1947 (superseded by volume 1915/1949). Volume for 1957/58 issued by the National Aeronautics and Space Administration and thereafter superseded by the National Aeronautics and Space Administration's Index of NASA Technical Publications 1959-1961. Arrangement is chronological under subject category and includes an author index except for the volume covering 1915/1949 which has a separately published author index.

512. North Atlantic Treaty Organization, Advisory Group

for Aeronautical Research and Development,

Bibliography. I, 1960 to date. New York:

Pergamon Press, 1960 to date.

A primarily technical series of annotated bibliographies on various aspects of aerodynamics and aeronautics. Includes Bibliography I-Magneto-Fluid-Dynamics, II-VTOL-STOL, III-Crack Initiation, IV-Structural Stability. Some numbers issued in revised editions and some published in Paris.

513. Strizhevskii, Semen I^uA. Nikolai Zhukovsky, Founder of Aeronautics. [Translated from the Russian by Y. Sdobnikov. Edited by H. Perham] Moscow: Foreign Languages Publishing House, 1957. 92p.
(Men of Russian Science)

Translation of N. E. Zhukovskii-Osnovopolozhnik Aviatsionnoi Nauki (Moscow: Voennoe izdatel'stvo, 1954). Includes information on Zhukovskii's research on lift, airfoils, aircrews, rotors, and gas dynamics and his contribution to Soviet aviation engineering.

514. Von Kármán, Theodore, Aerodynamics: Selected Topics in the Light of Their Historical Development. Ithaca, N. Y.: Cornell University Press, 1954. 203p.

In a series of lectures the author examines the main principles and underlying theories of aerodynamics and the historical development of aerodynamical thinking from 1903-1953. Includes theory of lift, drag, and skin friction; stability and aeroelasticity; supersonic aerodynamics; and space rockets. Each section contains a brief bibliography.

515. Von Kármán, Theodore, with Lee Edson, Wind and Beyond:

Theodore von Kármán, Pioneer in Aviation and
Pathfinder in Space. Boston: Little Brown, 1967.
376p.

Autobiography of von Kármán, pioneer aerodynamicist. Bibliography, pp. 355-361, consists of a list of five books and approximately 200 scientific papers by von Kármán.

516. Works Projects Administration, Bibliography of
Vibration and Flutter of Aircraft Wings and
Control Surfaces. Compiled with the Cooperation
of Dr. Alexander Klemin. Prepared by Workers under
the Supervision of the U.S. Works Progress
Administration. New York: [Institute of Aero-
nautical Sciences] 1937. 337p.

Covers not only books on flutter and vibration with particular reference to aircraft structure but also deals with the general instrumentation of vibration research. Covers European and American book and journal literature from the 1920s to mid-1930s and includes a list of the 250 journals indexed.

517. World Conference on World Peace Through the Rule of
Law, Athens, June 28-July 6, 1963, [Papers
Presented]. St. Paul, Minn.: West Pub. Co.,
1964. 874p.

Includes "Creating Law for Outer Space and Space Communications," pp. 471-577, which consists of 16 papers presented by authorities from various countries. Includes a few footnote references.

518. Zahm, Albert F., and Cecil A. Ross, comps.,

Bibliography on Skin Friction and Boundary Flow.

Washington: The Library of Congress, 1932. 46p.

Lists alphabetically by author approximately 500 technical papers published internationally from late 19th century to 1933. Earlier edition (1930) had title, Tentative Bibliography.

Astronomy

519. Abetti, Giorgio, History of Astronomy. Translated by Betty Burr Abetti. New York: H. C. Schuman, 1952. 338p. (Life of Science Library, no. 24)

Comprehensive history of astronomy from earliest times from the Italian point of view. Treatment includes discussion of astronomers, observatories, and astronomical instruments. Translated from the Italian Storia dell'Astronomia [Firenze: Vallecchi, 1949].

520. Advances in Astronomy and Astrophysics. New York: Academy Press, v. 1, 1962 to date. Annual.

As of 1967 the five volumes thus far issued each contain five or six technical papers by authorities in the field. Bibliographies usually included.

521. Annual Review of Astronomy and Astrophysics. Palo Alto, Calif.: Annual Reviews, v. 1, 1963 to date. Annual.

Each volume consists of approximately 15 technical contributions by leading authorities in the field. Very good as a record of new developments in various aspects of astrophysics and astronomy. Usually each contribution contains a bibliography.

522. Astronomische Gesellschaft, Bibliothek, Catalog der Bibliothek der Astronomischen Gesellschaft. Hrsg. von . . . Dr. C. Bruhns. Leipzig:

W. Engelmann, 1880. 75p. (Drittes Supplementheft zur Vierteljahrsschrift der Astronomischen Gesellschaft, Jahrgang xiv)

Catalog lists approximately 1,000 items from world literature, published mainly in the 19th century.

523. Baev, Konstantin L., ed., Astronomiia [Astronomy].

Moscow: Gospolitizdat, 1941. 127p.

A bibliography of astronomy from earliest times to the present and worldwide in scope. Each title cited has an extensive annotation. Approximately 200 works cited.

524. Bahn, Catherine I., "350 Years of Lunar Mapping,"

Geography and Maps Division Bulletin (Special

Libraries Association). v. 52 (June 1963),

pp. 3-10.

Describes the history of lunar mapping from the publication of Galileo's Sidereus Nuncius in 1610 to the present. Bibliography, pp. 7-10, lists approximately 45 references to books and journal articles on lunar mapping.

525. Berry, Arthur, A Short History of Astronomy, from Earliest Times Through the Nineteenth Century.

New York: Dover, 1961. 440p.

Originally published in London by John Murray in 1898 and now considered a standard

work on the subject. The final section records the shift of interest from the solar system to interstellar space: Herschel's great catalogs, the discovery of double stars, instrumental advances, Bessel's tables, the discovery of Neptune, tidal theory, the discovery of asteroids, spectrum analysis, stellar photometry, theories on the development of the solar system, and the birth of the moon. Bibliography, pp. 411-416, lists references by chapter in running text.

526. Brinton, Henry, Measuring the Universe. New York: Roy Publishers, 1962. 100p.

A history of the tools man had devised for measuring the universe. Includes discussion of the moon's orbit, satellite orbits, Kepler's law, weighing the planets, stellar distance measurement, the age of the universe, and radio astronomy. A "Select Book List" by Norman Stone, p. 98, lists 13 British titles.

527. Carmody, Francis J., Arabic Astronomical and Astrological Sciences in Latin Translation; A Critical Bibliography. Berkeley, Calif.: Univ. of California Press, 1956. 193p.

Lists the works of over 40 Arabic astronomers chronologically. Includes brief description of each work and lists of editions and manuscripts. Covers period 800-1300 approximately.

528. Cole, Dandridge M., and Donald W. Cox, Islands in Space; the Challenge of the Planetoids, with Foreword by Willy Ley. Philadelphia: Chilton Books, 1964. 276p.

Describes the 50,000 minor planets known as planetoids. Ch. 2 deals with the history of the discovery of planetoids. Impressive bibliography,, pp. 251-261, compiled by Rosa Bernstein, consists of approximately 400 references to journal articles and parts of books in all languages.

529. Collard, Auguste, L'Astronomie et les Astronomes.

Bruxelles: Van Oest, 1921. 119p. (Répertoires des Ouvrages à Consulter)

A classed catalog listing about 700 references, with author index, and including works published from 1880 to 1920 to supplement Houzeau and Lancaster.

530. Davidson, Martin, The Stars and the Mind: a Study of the Impact of Astronomical Development on Human Thought. London: Watts, 1947. 210p.

History of astronomy and also astrology showing how the astral fatalism of astrology gave way to the concept of a mechanical universe and natural order which in the 20th century, because of the impact of atomic physics, has given way to the view of a non-mechanical, infinite universe. The influence of astronomy on Christianity is also discussed.

531. Doig, Peter, A Concise History of Astronomy. With a Foreword by Sir Harold Spencer Jones. London: Chapman & Hall, 1950. 320p.

A history of astronomy from the oldest astronomy to the present time. Bibliography, pp. 310-311, lists approximately 40 English language titles. Brief chapter bibliographies also included.

532. Dreyer, John L. E., A History of Astronomy from Thales to Kepler. Rev. with a Foreword by W. H. Stahl. 2d ed. New York: Dover, 1953. 438p.

Originally published under title History of the Planetary Systems from Thales to Kepler (Cambridge University Press, 1906). Includes literature references in text and a "Supplementary Bibliography," pp. 425-430.

533. Edinburgh, Royal Observatory, Crawford Library, Catalogue. Edinburgh: Her Majesty's Government, 1890. 497p.

Represents the approximately 5,000 books, pamphlets, and manuscripts collected from 1872 to 1888 and presented to the Edinburgh Royal Observatory by the Earl of Crawford. The nucleus of this collection was formed by the library of Charles Babbage. Subject coverage includes astronomy, especially material on comets. Arrangement is by author and subject.

534. Florence, Università, Osservatorio Astrofisico di Arcetri, Biblioteca, Catalogo della Biblioteca dell'Osservatorio Astronomico di Arcetri, per cura di V. Messeri, Assistente. Appendice. Firenze: Tipografia Galletti e Cocci, 1909. 203p. (Pubblicazioni del R. Istituto di Studi Superiori Pratici e di Perfezionamento in Firenze, Sezione di Scienze Fisiche e Naturali (R. Osservatorio di Arcetri) Fasc. n^o. 27)

A listing of 44,158 items acquired by the library 1775-1909 and arranged by broad subject categories such as periodicals, annals of observatories, catalogs of stars, astronomy, mathematics, meteorology, geography, etc. Lists many works about Galileo.

535. Geological Survey, Military Geology Branch, Bibliography of the Moon. Washington: Intelligence and Mapping Division, Office of the Chief of Engineers, Department of the Army, 1960. 170p.

Consists of a list of approximately 2,550 references to books, journal articles, and reports on the moon, arranged alphabetically by author. Covers from the late 19th century to 1959.

536. Houzeau, Jean C., and Albert Lancaster, Bibliographie Générale de l'Astronomie, ou Catalogue Méthodique des Ouvrages, des Memoires et des Observations

Astronomiques Publiées depuis l'Origine de

l'Imprimerie jusqu'en 1880. Bruzelles: Havermans,
1882; Hayez, 1887-89. 2v. in 3.

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

537. Hoyle, Fred, Astronomy: A History of Man's Investigation of the Universe. New York: Doubleday, 1962. 320p.

An account from earliest astronomical discoveries up to the latest modern developments. "Acknowledgements," pp. 315-320, cites 305 items, including a few manuscripts, and books, but mostly photographs referred to in the text.

538. Jakubíček, Milan, comp., Vesmír na Dosah Ruky [Space is Within Reach], Brunn: Universita Knihovna, 1959. 44p.

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

539. Jastrow, Robert, Red Giants and White Dwarfs: The Evolution of Stars, Planets and Life. New York: Harper and Row, 1967. 176p.

Story of the development of the stars and planets as a part of the history of man's evolution, beginning before the formation of the solar system and relating separate scientific fields of physics, astronomy, earth science, and biology. Written for the layman. Includes numerous illustrations and an index.

540. Jobes, Gertrude, and James Jobes, Outer Space: Myths, Name Meanings, Calendars from the Emergence of History to the Present Day. New York: Scarecrow Press, 1964. 479p.

Deals with the myths, folklore, name origins, and astrological backgrounds of various astronomical bodies including stars, constellations, the solar system, galaxies, meteors, and comets. Covers all time periods and areas of the earth. Bibliography, pp. 411-417, lists approximately 200 books and articles.

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

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

542. King, Henry C., Background of Astronomy. London: Watts, 1957. 254p.

A history of astronomy from its beginnings in the Near East to its position at the close of the 16th century in Western Europe at the time of the discovery of the telescope. Brief bibliography, pp. 241-246, lists approximately 130 references to books on the history of: astronomy, time-keeping, chemistry, geography, archaeology, mathematics, medicine, religion and mythology, and science and its philosophy.

543. Kolchyns'kyĭ, Illiā Hryhoriiiovych, 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.

544. Korzeniewska Iwona, Bibliografia prac Astronomów Polskich za lata 1923-1963 [Bibliography of the Works of Polish Astronomers, 1923-1963]. Warszawa: Polskie Tow. Astronomiczne, 1964. 221p.

Completed on the 40th anniversary of the founding of the Polish Astronomical Society. Although primarily technical in scope, nos. 24, 75, 175, 178, and 185, etc., are histories and reports of activities at the Observatories of Warsaw, Lwow, and Wilma, while no. 24 deals with Copernicus and modern astronomy. Subject index lists items on history under "Histortia Stronomii." Includes 2,025 items.

545. Lavrova, N. B., Bibliografiia Astronomicheskikh

Bibliografii. Bibliographie de Bibliographies

Astronomiques. Moscow: Astronomicheskii Sovet

Akademii Nauk SSSR i Nauchnaia Biblioteka

Moskovskogo Gosudarstvennogo Universiteta, 1962.

109p.

In Russian, but table of contents and preface also in French. Lists 247 bibliographies with annotations published 1760-1960. Pt. I includes bibliographies international in scope, catalogs of astronomy libraries, and bibliographies of Russian literature, while Pt. II includes special subject bibliographies such as in celestial mechanics, astrophysics, and the solar system. An earlier version by N. B. Lavrova appeared as "Sketches on the History of Astronomical Bibliography" in Istoriko - Astronomicheskie Issledovaniia, fasc. 5, 1959, pp. 83-196.

546. Ley, Willy, Watchers of the Skies: an Informal History

of Astronomy from Babylon to the Space Age. New

York: Viking, 1966. 529p.

This work relates contemporary space exploration to the history of astronomy showing that space exploration will extend the frontiers of astronomy. Leading up to this was first the Copernican revolution, then the revolution between 1920-1930 when it was realized by Harlow Shapley and R. J. Trumpler that the solar system was not the center of the Milky Way. Bibliography, pp. 518-520, lists books with brief annotations.

547. Levitt, Israel M., A Space Traveler's Guide to Mars.

New York: Holt, 1956. 175p.

Although mainly description of Mars, this book does contain some information on the history of man's exploration of Mars, especially on the exhaustive telescopic survey done by Percival Lowell. Ch. 3, "The Moons of Mars," discusses the history of this discovery. Includes bibliography, pp. 167-168.

548. Library of Congress, Aerospace Information Division,
Future Lunar Missions: Review of Soviet and
Soviet-Bloc Literature. Washington: The Library,
1964. 249p. (Its Report P-64-1)

A compilation of Soviet statements on manned lunar flight with bio-bibliographic information provided. The purpose of the compilation is to establish the possible patterns of thought of Soviet scientists and authoritative news commentators. Covers 1961-1963 period.

549. Library of Congress, Aerospace Technology Division,
Lunar Dimensions: Annotated Bibliography.
Washington: The Library, 1965. 22p. (Its
ATD Report B-65-60)

An annotated bibliography of 44 references to Soviet-bloc open source literature which reflect Soviet development from about 1963 to 1965 in investigating lunar revolution, rotation, libration, and mapping techniques. Earlier versions appeared as AID report B-63-100 and AIR-u-64-54.

550. Lune-An 1. Adaptation Française et Notes de Pierre de Latil. Traduction de Paul Kolodkine. Paris: Gedalge, 1959. 189p. (Collection Grand Pavois, 3)

Translation of Polet na Lunu (Moscow: Trudrezervizdat, 1955, 182p.). Consists of 25 articles by different Soviet authors on a projected interplanetary flight to the moon.

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

Series of articles dealing with the history of astronomy in the Soviet Union for 40 years from 1917-1957. Bibliography, pp. 371-700, is a comprehensive list of Soviet publications, 1917-1957, compiled by N. B. Lavrova.

552. Moon Explorations; Special Bibliography/Index
Announced in U.S. Government Research Reports.
Washington: Technical Information Service, 1963.
252p.

Includes an annotated list of 215 reports on moon explorations and lunar probes covering the period from June 1956 through October 1962.

553. Moore, Patrick, Astronomy. London: Oldbourne,
1961. 253p.

Popular, pictorial history of astronomy from 2000 B.C. to 1961. Final chapters deal with direct space exploration by such means as radio astronomy, rockets, earth satellites, and space probes. Brief chronology, "Landmarks in the Story of Astronomy," pp. 244-45, covers the period from 2000 B.C. to 1961.

554. National Academy of Sciences, National Research Council, Space Science Board, Science in Space. Washington: The Academy, 1960. 9 v.

Also available in another ed. (New York: McGraw-Hill, 1961. 439p.) This report was prepared to review those areas of endeavor which appear to be major in the national space effort. Ch. 1, "Dimensions and Problems" summarizes the current status of the national program and outlines areas of international cooperation. The eight succeeding chapters include: The Nature of Gravitation; Earth; Moon; Planets; Sun; etc. Each chapter has a brief bibliography.

555. National Aeronautics and Space Administration,
Lunar Surface Studies: a Continuing Bibliography.
Springfield, Va.: Clearinghouse for Federal
Scientific and Technical Information (OST),
January 1962-March 1964 to date. (NASA SP-7003)

A selection of annotated references to unclassified reports and journal articles

introduced into the NASA information system during the period January 1962-March 1964. Arranged in two sections: (1) report references and (2) book and journal article references. All references are to items which have already appeared in either Scientific and Technical Aerospace Reports or in International Aerospace Abstracts. To be updated periodically by the publication of supplements.

556. National Aeronautics and Space Administration,
Planetary Atmospheres; a Continuing Bibliography.
Springfield, Va.: Clearinghouse for Federal
Scientific and Technical Information (OTS),
July 1965 to date. (NASA SP-7017).

Selection of annotated references to unclassified reports and journal articles announced in Technical Publications Announcements (TPA, Vol. 2), Scientific and Technical Aerospace Reports (STAR), and International Aerospace Abstracts (IAA). The majority of the references pertain to studies, measurements, and discussions concerning the atmospheres of Mars, Venus, and Jupiter, but a limited number of references to the atmospheres of Mercury and Saturn are also included. Subject and author indexes.

557. National Aeronautics and Space Administration,
Scientific Findings from Explorer VI. Washington:
NASA, 1965. 381p. (NASA SP-54) (For sale by
U.S. Govt. Print. Off.)

Consists of 33 scientific papers prepared on the basis of data acquired from Explorer VI, launched August 7, 1959, the first artificial satellite to return useful data. Covers astronomy and celestial mechanics, ionospheric physics, and energetic particles in magnetic fields. Many of the papers contain brief bibliographies.

558. National Aeronautics and Space Administration,

Significant Achievements in Planetary Atmospheres,

1958-1964. Washington: NASA, 1966. 59p.

(NASA SP-98) (For sale by U.S. Govt. Print. Off.)

One of a series of ten volumes which summarize the progress and describe achievements during the period 1958 through 1964 in the following areas: Astronomy, Bioscience, Communications and Navigation, Geodesy, Ionospheres and Radio Physics, Meteorology, Particles and Fields, Planetary Atmospheres, Planetology, and Solar Physics. Bibliography, pp. 51-59, lists 126 references to significant books, journal articles, and technical reports.

559. National Aeronautics and Space Administration,

Significant Achievements in Planetology, 1958-1964.

Washington: NASA, 1966. 71p. (NASA SP-99)

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

One of a series of ten volumes which summarize the progress and describe achievements during the period 1958 through 1964 in the following areas: Astronomy, Space Bioscience, Communications and Navigation, Satellite Geodesy, Ionospheres and Radio Physics, Meteorology, Particles and Fields, Planetary Atmospheres,

Planetology, and Solar Physics. Bibliography, pp. 61-71, lists 117 references to books, journal articles, and technical reports.

560. National Aeronautics and Space Administration,
Significant Achievements in Space Astronomy:

1958-1964. Washington: NASA, 1966. 73p.

(NASA SP-91) (For sale by U.S. Govt. Print. Off.)

One of a series of ten volumes which summarize the progress and describe achievements during the period 1958 through 1964 in the following areas: Astronomy, Space Bioscience, Communications and Navigation, Satellite Geodesy, Ionospheres and Radio Physics, Meteorology, Particles and Fields, Planetary Atmospheres, Planetology, and Solar Physics. Bibliography, pp. 69-73, lists 67 references to books, journal articles, and technical reports.

561. National Aeronautics and Space Administration,
Significant Achievements in Space Science, 1965.

Washington: NASA, 1967. 218p. (NASA SP-136)

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

This volume describes the significant scientific progress in 1965 in the following areas: Astronomy, Ionospheres and Radio Physics, Particles and Fields, Planetary Atmospheres, Planetology, and Solar Physics. Each one of these six subject areas has a separate paper devoted to it and each one has a separate, brief bibliography. A companion volume (NASA SP-137) summarizes the progress in space applications in 1965 in the following areas: Communications, Geodesy, and Meteorology.

562. National Aeronautics and Space Administration,
Significant Achievements in Space Science, 1966.

Washington: NASA, 1967. 419p. (NASA SP-155)

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

This volume describes the significant scientific progress in 1966 in the following areas: Space Astronomy, Space Bioscience, Ionospheres and Radio Physics, Particles and Fields, Planetary Atmospheres, Planetology, and Solar Physics. Each one of these seven subject areas has a separate paper devoted to it and each one has a brief bibliography. A companion volume (NASA SP-156) summarizes the progress in space applications in 1966 in the following areas: Applications Technology Satellites, Communications Satellites, Satellite Geodesy, Meteorological Program, and Navigation and Traffic Control Satellite Program.

563. Newell, Homer E., et al., Astronomy in Space.

Washington: National Aeronautics and Space
Administration, 1967. 67p. (NASA SP-127)

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

Comprises four papers which explore present and prospective results of placing astronomical instruments above the Earth's atmosphere: "Space Astronomy Program of the National Aeronautics and Space Administration," by Homer E. Newell, p. 1; "Solar Astronomy," by Henry J. Smith, p. 9; "Stellar and Galactic Astronomy," by Nancy G. Roman, p. 27; and "Expanding Vistas in Astronomy," by George E. Mueller, p. 49. Section entitled "The Past and Current Contributions of the Space Program to Astronomy," pp. 3-6 includes historical information.

564. Pannekoek, Antonie, A History of Astronomy. New York: Interscience, 1961. 521p.

Survey of the history of astronomy from Babylonian and Assyrian astrology to the present, told in terms of man's concept of his world. "References," pp. 502-506, lists 214 footnote references. Published in London by Allen and Unwin in 1961 from the original Dutch De Groei van ons Wereldbeeld (Amsterdam: Wereld-Bibliotheek, 1951).

565. Petrtýl, Miroslav, comp., Astronomie; Výběrový Seznam Populárně Vedecké Literatury [Astronomy: Selected List of Popular Scientific Literature]. Praha: Městská lidová knihovna, 1955. 13p.

A short, annotated list of Czechoslovakian publications published mostly 1950-1955.

566. Pulkovo, Glavnaia Astronomicheskaiia Observatoriia, Librorum in Bibliotheca Speculae Pulcovensis Anno 1858 Exeunte Contentorum Catalogus Systematicus. Edendum Curavit et Praefatus est Otto Struve . . . Petropoli: Typis Academiae Imperialis Scientiarum Petropolitanae; 1860-80. 2v.

A catalog of the holdings of the library of the central observatory at Pulkovo, U.S.S.R., as of 1860. Lists approximately 15,000 works of world literature from earliest times. Historical works listed pp. 121-124 and pp. 499-511. V. 2 has title: Librorum in

Bibliotheca Speculae Pulcovensis Contentorum
Catalogus Systematicus. Pars 2. ab Eduardo
Lindemanno Elaborata. Edendum Curaviet et
Praefatus Est Otto Struve . . .

567. Reichel, Max, Die fortlaufenden astronomischen
Veröffentlichungen in ihrer geschichtlichen
Entwicklung. Mit einer Gesamt-bibliographie.
 Köln: Greven Verlag, 1957. 124p. (Arbeiten
 aus dem Bibliothekar-Lehrinstitut des Landes
 Nordrhein-Westfalen, Heft 12)

Bibliography, pp. 41-124, lists 1,250
 items from earliest times to the present
 from world literature including books,
 journals, publications of observatories,
 comprehensive catalogs of libraries,
 year-books, and indexes.

568. Reichen, Charles A., A History of Astronomy. New
 York: Hawthorne Books, 1963. 105p.
 (New Illustrated Library of Science and
 Invention, v. 5)

A concise, beautifully illustrated
 history of astronomy from earliest times to
 the advent of radio and space astronomy.
 Chronology, pp. 106-110, covers the period
 10,000 B.C. to 1961.

569. Rousseau, Pierre, Man's Conquest of the Stars. Trans-
 lated from the French by Michael Bullock. New
 York: Norton, 1961. 355p.

Survey of astronomy and its place in civilization from the sun worship of the ancient Egyptians, to Galileo, Newton, and the discovery of the telescope and introduction of photometry. Covers the rise in importance of American astronomy at the end of the 19th century. English translation originally published in London by Jarrolds in 1959. Translation of A la Conquête des Étoilles.

570. Royal Astronomical Society, Library, Grove-Hills
Library. Catalogue. London: The Society,
1924. 48p.

A bibliography representing the collection of over 500 volumes printed before 1800, made by Col. Edmond Herbert Grove-Hills and bequeathed by him to the Royal Astronomical Society. Contains a large number of rare books on astronomy including incunabula. Arranged by author.

571. Schwartz, George, and Philip W. Bishop, eds.,
Moments of Discovery. Foreword by Linus Pauling.
New York: Basic Books, 1958. 2v.

Consists of two volumes entitled:
(1) The Origins of Science and (2) The Development of Modern Science. Comprises a collection of writings by approximately 80 scientists on episodes of scientific discovery or achievement from the ancient Greeks to atomic scientists. "The Scientific Revolution," v.1, pt. v, pp. 213-320, includes texts by Copernicus, Brahe, Galileo, Kepler, Newton, Halley, and Laplace.

572. Seydl, Otto, ed., Knihovna astronoma Antonína Strnada, reditele Prazské hvezdárny (1746-1799) Podle rukopisu knihovny královské kanonie Premonstrátu na Strahove v Praze a jiných pramenu [Library of the Astronomer Anthony Strnad, Director of the Astronomical Observatory in Prague (1746-1799) According to the Manuscripts in the Library of the Monastery of the Premonstratensians at Strahov, and other Sources]. Praha: Tiskárna "Prometheus," 1939. 77p. (Publikace Prazské hvezdárny, c. 13)

Lists 940 16th, 17th, and 18th century works and treatises chiefly in the fields of astronomy, meteorology, mathematics, and philosophy. Works by Anthony Strnad are listed, pp. 72-76. Summaries in German and English.

573. Stern, Philip D., Our Space Environment. Coordinating Editor: James V. Bernardo. New York: Rinehart and Winston, 1966. 160p. (Holt Library of Science)

Discusses astronomy from ancient Greece to the present time to show how man's knowledge of the space environment required thousands of years to accumulate and how man had first to understand his home in the cosmos before he could try to understand other worlds. Bibliography, pp. 154-155, lists eight annotated book references.

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

"Bibliography," pp. 529-531, lists 40 book titles and about ten journal titles used in the preparation of this book written by the director of the National Radio Astronomy Observatory at Green Bank, West Virginia (Struve), and a member of the Observatory's scientific staff (Zeberg). "Notes," pp. 502-514, list footnote references by chapter.

575. Thiel, Rudolf, And There Was Light: the Discovery of the Universe, Translated by Richard and Clara Winston. New York: Knopf, 1949. 415p.

History of astronomy and the development of man's interest in the stars from the days of Babylon to the present. Translated from the German Und es wird Licht; Roman der Weltallforschung [Hamburg: Rowohlt, 1956.] Emphasizes the history of man's concepts of the solar system.

576. Vaucouleurs, Gérard H. de, Discovery of the Universe: an Outline of the History of Astronomy from the Origins to 1956. New York: Macmillan, 1957. 328p.

History of astronomy, covering the Middle Ages, Copernican revolution, and emphasizing the flowering of classical astronomy in 17th and 18th century France in the work of La Caille, Lalande, Cassini, Lagrange, and Laplace. The final chapter covers the development of astrophysics. Bibliography, pp. 309-313, lists approximately 45 book

titles in English. Translation of L'Esprit de l'Homme à la Conquête de l'Univers. (Paris: Editions Spes, 1951). Also published in London by Faber in 1957.

577. Voice of America (Radio program), Space Science Series. Washington: Voice of America, 1962.
20v. (Its Forum Lectures)

A series of 20 lectures by prominent authorities in the space sciences originally broadcast by Voice of America. Includes such topics as astronomy, meteorology, and the life sciences.

578. Forontsov-Vel'iâminov, Boris A., Ocherki Istorii Astronomii v Rossii [Outline History of Astronomy in Russia]. Moscow: Gos. Izdatel'stvo Tekhniko-teoreticheskoi Lit-ry, 1956. 371p.

A history of astronomy in Russia up to the time of the 1917 revolution. Includes bibliography of Russian publications, pp. 355-362.

579. West, Clarence J., and Callie Hull, comps. List of Manuscript Bibliographies in Astronomy, Mathematics and Physics. Washington, D.C.: National Research Council, Research Information Service, 1923. 14p.
(Reprint and Circular Series of the National Research Council. no. 41).

A list of approximately 100 unpublished bibliographies known to the Research Information Service and compiled in the hope that the information contained therein could be more effectively utilized. Arranged by subject.

580. Woolf, Harry, The Transits of Venus; a Study of Eighteenth-Century Science. Princeton, N.J.: Princeton University Press, 1959. 258p.

Deals with the 18th century attempt to determine the dimensions of the solar system from the transit observations of 1761 and 1769. Includes bibliography, pp. 215-251.

581. Zinner, Ernst, Astronomie; Geschichte ihrer Probleme. Freiburg: K. Alber, 1951. 403p. (Orbis Academicus. Problemgeschichten der Wissenschaft in Dokumenten und Darstellungen, Bd. II/1)

A history from the point of view of theories about the planets, sun, and stars from classical times to the present. "Bibliographie," pp. 389-395, lists approximately 175 titles, including both primary and secondary sources.

582. Zinner, Ernst, Geschichte und Bibliographie der astronomischen Literatur in Deutschland zur Zeit der Renaissance. Leipzig: 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

583. "Abstracts of Current Literature," prepared by Science and Technology Division, Library of Congress, Aerospace Medicine, v. 29 (November 1958) to date.

About 1,000 informative abstracts a year are included from world-wide report, periodical, and monographic literature in the field of bioastronautics and related fields. Arrangement is by 11 broad subject categories with cumulated subject and author indexes in each December issue of the journal. These abstracts are a selection from those appearing in Aerospace Medicine and Biology since January 1964.

584. Air Force Missile Development Center, Holloman Air Force Base, N. Mex., History of Research in Space Biology and Biodynamics at the Air Force Missile Development Center, Holloman Air Force Base, New Mexico, 1946-1958. Holloman Air Force Base, N. Mex.: The Center, 1958. 114p.

Numerous bibliographical references included in notes at end of each chapter. Some of the chapters appeared as separately published monographs with the following titles: (1) Major Achievements in Space Biology at the Air Force Missile Development Center, 1953-1957 (issued March 1958); (2) History of Research in Subgravity and Zero-G at the Air Force Missile Development Center, 1948-1958 (issued in May 1958); (3) Major Achievements

in Biodynamics: Escape Physiology at the Air Force Missile Development Center, 1953-1958 (issued June 1958).

585. Armed Forces--NRC Committee on Bio-Astronautics,

Human Acceleration Studies for the Armed Forces--

NRC Committee on Bio-Astronautics, by James D.

Hardy and Richard J. Crosby. Washington: National Academy of Sciences--National Research Council, 1961. 71p. (Its Publication 913)

Includes "A Proposed Physiological Acceleration Terminology with an Historical Review," by C. C. Clark, pp. 7-65, lists approximately 300 flight acceleration landmarks chronologically from 1500 to 1961. In almost every instance, a documentary reference is also given. Bibliography, pp. 54-65, lists these and references to flight acceleration.

586. Armed Services Technical Information Agency,

Bio-Astronautics: an ASTIA Report Bibliography.

Arlington, Va.: The Agency, 1959. 164p. (Its Report AD-211 775; PB Report 151 853)

A selected list of references to reports originating primarily from Government-sponsored research programs relating to the biological problems of space flight. Entries are for period 1952 to 1958 and are grouped under ASTIA subject categories. A Supplement issued in 1960, 49p., Its Report AD-233 000, PB Report 161 653, lists 248 references and brings the subject matter up to date through 1959.

587. Armstrong, Harry G., Principles and Practice of Aviation Medicine. . Baltimore, Md.: Williams and Wilkins, 1939. 496p.

Written by the Surgeon General, U.S. Air Force, this book was one of the earliest on this subject published in America. Second edition published in 1943 and third edition in 1952. First chapters in all editions are historical and most chapters list references at the end.

588. Ashe, William F., et al., Historical Survey of Inhabitable Artificial Atmospheres. Columbus: Ohio State University Research Foundation, 1959. 154p. (Wright Air Development Center Technical Report, WADC 58-154; PB Report 151 277; report AD-155 901)

Abstracts of approximately 450 articles and reports disclosed in survey of world literature covering the period 1918-1959 on production and control of artificial atmospheres for living organisms.

589. Banghart, Frank W., and Evan G. Pattishall, Human Factors at Extreme Altitudes: Synopsis and Bibliography. Charlottesville, Va.: Division of Educational Research, University of Virginia, 1960. 111p. (U.S. Air Force. Air Research and Development Command. Contract AF 18(600)-1792)

Includes the following topics: Space 1956-1959; Space Medicine 1956-1959; Ecology 1956-1959; Behavior and Performance 1956-1959; Acceleration and Deceleration; Weightlessness 1956-1959; Radiation 1956-1959; Instrumentation, Monitoring, and Communication; Selection and Training.

590. Bauer, Louis H., Aviation Medicine. Baltimore:

Williams and Wilkins, 1926. 24lp.

An important book on the history of the subject. Considered a classic in the field. Bibliography, pp. 179-201, lists approximately 484 references, mainly to journal articles. Some chapter endings list a few additional footnote references.

591. Beischer, Dietrich E., and Alfred R. Fregly, Animals

and Man in Space: a Chronology and Annotated Bibliography Through the Year 1960. Pensacola, Fla.: U.S. Naval School of Aviation Medicine, 1962. 97p. (Its Monograph No. 5; ONR Report No. ACR-64; AD Report 272 581)

Lists pertinent bibliographies, monographs, technical publications, and periodical articles relating to biological experiments conducted during balloon and rocket flights and includes detailed tabulations of such flights.

592. Campbell, Paul A., Earthman, Spaceman, Universal Man.

New York: Pageant, 1965. 229p.

A historical study of man's quest for the stars and drive to conquer the universe. The author, who served as Director of Research at the Air Force School of Aviation Medicine, traces the upward progress of each facet of man's learning which has led him to space. Includes a list of 81 footnote references, pp. 206-213.

593. Carpenter, M. Scott, "Inner Space and Outer Space--

Common Technical Challenges," Astronautics and Aeronautics, v. 4. (December 1966), pp. 68-70.

Includes examples which bear out the author's point that one of the effects of manned space exploration has been to make man conscious of how the simple activities he takes for granted become major challenges in space.

594. Clark, Carl C., et al., "Chronological Bibliography on the Biological Effects of Impact," in Symposium on Impact Acceleration Stress, Brooks Air Force Base, 1961, Proceedings. Washington: National Academy of Sciences--National Research Council, 1962. 504p. (Its Publication, 977)

The symposium was held under the auspices of the Man in Space Committee of the Space Science Board, National Academy of Sciences, and includes approximately 80 references from 1876 to 1961 mainly to journal articles.

595. Congress, House, Committee on Science and Astronautics,
Life Sciences and Space. Report Pursuant to H.
Res. 133. Washington: U.S. Govt. Print. Off.,
1960. 21p. (86th Cong, 2d Sess. House Report,
no. 2227)

Based on hearings held June 15 and 16,
1960, to determine the present state of and
future needs of space biology and bioastro-
nautics research in relation to the space
program.

596. Congress, House, Committee on Science and Astronautics,
Space Medicine Research. Hearings before the
Special Investigating Subcommittee . . . June 15
and 16, 1960. Washington: U.S. Govt. Print. Off.,
1960. 70p. (86th Cong., 2d Sess.)

Includes scattered bibliographical
references throughout the text, which is
testimony on the state of the art and where
in the armed services future research should
be done.

597. Congress, Senate, Committee on Aeronautical and Space
Sciences, Space Research in the Life Sciences:
an Inventory of Related Programs, Resources, and
Facilities; Report. Washington: U.S. Govt.
Print. Off., 1960. 269p.

Includes brief bibliographies, pp. 237-238, and p. 269, at end of appendixes; "From Aviation Medicine to Space Medicine," by Hubertus Strughold; and "Exobiology-Experimental Approaches to Life Beyond Earth," by Joshua Lederberg.

598. Department of Commerce, Office of Technical Services,
Bio-Astronautics; a Selective Bibliography.

Washington: The Office of Technical Services,
1961. 12p.

This bibliography lists reports and translations placed in the Federal Clearinghouse for Scientific and Technical Information, Springfield, Va.: (OTS) between January 1959 and April 1961 on the human aspects of space flight. A separate section lists bibliographies, dictionaries, and surveys in the field.

599. Fogel, Lawrence J., Biotechnology; Concepts and Applications. Englewood Cliffs, N.J.: Prentice-Hall, 1963. 826p.

A bibliography accompanies each chapter. Section F, "An Overview of Biotechnology," pp. 793-796, lists 48 references.

600. Gantz, Kenneth F., ed., Man in Space: the United States Air Force Program for Developing the Spacecraft Crew. With a preface by Gen. Thomas D. White. New York: Duell, Sloan and Pearce, 1959. 303p.

Reviews U.S. Air Force investigations into manned space flight. Consists of 18 papers by different life sciences experts written originally for publication in the Air University Quarterly Review. "Reference Notes," pp. 259-265, consists of chapter footnote references. "A Reading List of Books on Astronautics," compiled by Raymond Estep, pp. 279-285, lists approximately 75 annotated book references.

601. Gauer, Otto H., and George D. Zuidema, eds.,

Gravitational Stress in Aerospace Medicine.

Sponsored by the Aerospace Medical Laboratory,

Wright-Patterson Air Force Base, Ohio. Boston:

Little, Brown, 1961. 278p.

V. 1 in a series on aviation medicine and space biology from the Guggenheim Center for Aviation Health and Safety at the Harvard School of Public Health. Primarily technical but ch. 2, "Historical Aspects of Gravitational Stress," pp. 7-9, by Otto H. Gauer, is an historical account from 1794 to 1961. "References," p. 9, lists ten book titles in German and English.

602. German Aviation Medicine, World War II. Prepared

under the auspices of the Surgeon General, U.S.

Air Force, by the USAF School of Aviation

Medicine. Washington: Dept. of the Air Force,

1950. 2 v. (For sale by U.S. Govt. Print. Off.)

Comprises 14 chapters by German aero-medical experts on the state of the art in Germany at the end of the war. A rich source

of German reference on the subject; each chapter contains a brief bibliography and ch. 1 by Hubertus Strughold is on the history of aviation medicine in Germany.

603. Haber, Heinz, Man in Space. Illustrated by Jerry Milord. Indianapolis: Bobbs-Merrill, 1953.
291p.

Discusses the human aspects of space flight in terms of biology and medicine. Presents the development of ways of dealing with weightlessness, stress, oxygen supply, solar radiation, cosmic rays, and meteoroids as of 1953. Brief bibliography, pp. 7-8, lists about ten references on space medicine.

604. Hendrickson, Ruth M., Bibliography on Space Medicine.
Los Alamos, N. Mex.: Los Alamos Scientific Laboratory, 1958. 47p. (Atomic Energy Commission. Report AECU-3914)

Covers period 1940-1957. Lists approximately 300 book and journal article references arranged by author under 13 subject categories.

605. Henry, James P. Biomedical Aspects of Space Flight.
New York: Holt, Rinehart and Winston, 1966. 184p.

A Holt Library of Science Series account of the evolutionary buildup preceding each new step in controlling the environment for space travel. Discusses ascent through the air, escape from the earth's gravity, weightlessness, self-sustaining space vehicles, radiation, man-machine combination, and selection and training of the astronaut. Includes references, pp. 179-180, and an index.

606. Hoff, Ebbe C., and John F. Fulton, A Bibliography of Aviation Medicine. Prepared for the Committee on Aviation Medicine, Division of Medical Science, National Research Council, Acting for the Committee on Medical Research, Office of Scientific Research and Development, Washington, D.C. Springfield, Ill., Baltimore, Md.: C. C. Thomas, 1942. 237p. (Yale University. School of Medicine. Yale Medical Library. Historical Library. Publication no. 5) Supplement by Phebe M. Hoff, Ebbe C. Hoff, and John F. Fulton. Washington: Committee on Aviation Medicine, Division of Medical Sciences, National Research Council, Acting for the Committee on Medical Research, Office of Scientific Research and Development, 1944. 109p. (Yale University. School of Medicine. Yale Medical Library. Historical Library. Publication no. 9)

A comprehensive bibliography of 6,029 references to world literature from the earliest times to 1942. Covers related topics in the biological, physical, and chemical sciences. Includes references to histories and bibliographies of the subject. Arrangement is by broad subject category with author and subject indexes. The supplement is on the same plan and lists 2,336 entries covering the period 1942-1944.

607. Huang, Su-Shu, "Some Astronomical Aspects of Life in the Universe," in Smithsonian Institution Annual Report, 1961. Washington: 1962. pp. 239-249.

Reprinted from Sky and Telescope, v. 21, June 1961. Discusses the ways in which space exploration may answer the question of life elsewhere in the solar system and an understanding of the origin and nature of all living beings.

608. Interagency Life Sciences Supporting Space Research and Technology Exchange [ILSE]; NASA and DOD Research Work-Units in Life Sciences. Bethesda, Md.: Documentation Incorporated, 1966. 776p.

Revised and enlarged version of the 1965 edition. A directory of current research projects supported by NASA and the Department of Defense in the life sciences arranged by subject. Includes a list of projects for bibliographies and literature surveys, pp. 715-719.

609. Jacobius, Arnold J., "Bibliographic Control of Aviation and Space Medical Literature," Aerospace Medicine, v. 30 (July 1959), pp. 512-516.

A guide for the researcher in this field listing 69 pertinent references and sources in section entitled "Published Bibliographies of Aerospace Medicine and Related Fields," pp. 513-516.

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

Pt. II, entitled "Bibliographic Services in the United States Pertinent to the Space Life Sciences," lists 18 services published on a continuing basis with pertinent bibliographical data and a detailed annotation for each.

611. Jeans, Sir James H., "Is the [i.e. there] Life on the Other Worlds?" in Smithsonian Institution Annual Report, 1942. Washington, 1943. pp. 145-150.

Lecture November 20, 1941. Reprinted from the Proceedings of the Royal Institution of Great Britain, 1941. Although brief and written too long ago to contain current theories on the question, this article does contain a concise review of the history of views held as to whether there is life on other planets.

612. Lansberg, Martin P., A Primer of Space Medicine.

Foreword by Wernher von Braun. Translated from the Dutch by M. E. Hollander. Amsterdam, New York: (Elsevier Monographs, Medicine Section)

Translation of the author's thesis, Problemen der Ruimtevaartgeneeskunde (Utrecht: 1958). Ch. 1, "The Birth and Growth of Space Medicine from Aviation Medicine," pp. 3-16, is an historical account of the subject. "References," pp. 151-160, lists 210 books and journal articles mainly English language.

613. Library of Congress, Aerospace Information Division,
Principles of Life Support in Space; Based on
Soviet Open Literature Published in Connection
with the Vostok-3 and Vostok-4 Launchings.
Washington: The Library, 1962. 27p. (Its
AID Report, 62-194)

This report is based on more than 200 Soviet sources written by various Soviet specialists. Much emphasis is on the Soviet study of weightlessness. Includes a bibliography, pp. 23-27, of 70 Russian articles, most of which appeared in 1962.

614. Library of Congress, Aerospace Information Division,
Soviet Bioastronautics and Biotechnology Facilities,
Programs, Personalities; Summary of Data. Washing-
ton: The Library, 1963. 49p. (Its AID Report,
P-63-95)

Describes the scope of Soviet bioastro-
nautics activities as revealed by Soviet
open literature. Includes "List of References,"
pp. 36-49, which cites 211 sources, mainly
journal articles.

615. Library of Congress, Aerospace Technology Division,
Soviet Bioastronautics and Biotechnology, 1964;
Compilation of Abstracts. Washington: The Library,
1965. 115p. (Its ATD Report, P-65-4)

This report comprises abstracts of all significant Soviet bioastronautics open literature published in the U.S.S.R. in 1964 and available at the Aerospace Technology Division of the Library of Congress.

616. Library of Congress, Aerospace Technology Division,

Soviet Bioastronautics and Manned Spaceflight;
Programs, Organization, and Personalities.

Washington: The Library, 1965. 118p. (Its
ATD Report, P-65-14)

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

617. Library of Congress, Aerospace Technology Division.

Soviet Biotechnology and Bioastronautics, June
1965-December 1965: Compilation of Abstracts.

Washington: The Library, 1966. 163p. (Its
ATD Report, 66-75)

Lists 93 Soviet-satellite countries-Western annotated references which reflect Soviet research in the fields of bioastronautics, space biology, and space-oriented biotechnology, published during 1965.

618. Link, Mae M., Space Medicine in Project Mercury.

Washington: National Aeronautics and Space Administration, 1965. 198p. (NASA SP-4003) (For sale by U.S. Govt. Print. Off.)

This volume examines the historical development of NASA's fund of space-medicine information and experience. It also shows how NASA was able to draw upon the space-medicine resources of the Air Force, the Navy, other Government agencies, industry, and academic and private research institutions to develop life-support systems for the Mercury program. Includes index and bibliographical references, pp. 180-181.

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

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

620. Machell, Reginald M., ed., Summary of Gemini Extravehicular Activity. Washington: NASA, 1967. 330p. NASA SP-149. (For sale at U.S. Govt. Print. Off.)

Series of papers on extravehicular activities in the Gemini manned space flights. One or more papers consider the extravehicular activities flight by flight, the various subsystems directly involved, the operational aspects, the simulation and training aspects, and the medical aspects. "References," p. 12-1.

621. National Aeronautics and Space Administration, Aerospace Medicine and Biology; a Continuing Bibliography. Springfield, Va.: Clearinghouse

for Federal Scientific and Technical Information
(OTS), January/March, 1964 to date. Quarterly.
(NASA SP-7011)

A selection of annotated references to unclassified reports and journal articles introduced into the NASA information system during the quarterly periods covered. All references included have been compiled by the joint efforts of the American Institute of Aeronautics and Astronautics, NASA, and the Aerospace Medicine and Biology Bibliography Project of the Library of Congress. Material previously announced in separate journals is now combined in a single bibliography which will be updated periodically by supplements. Primary emphasis given to biological, physiological, psychological, and environmental effects to which man is subjected during and following simulated or actual flight in the earth's atmosphere or in interplanetary space. Related topics such as life-support systems, pharmacology, sanitary problems, personnel factors, etc., are included. Subject, personal author, and corporate source indexes. Aerospace Medicine and Biology is a continuation of the Aviation Medicine Bibliography initiated in 1954 by the Library of Congress. Ten volumes of this annotated bibliography: v. 1 and 2 entitled Aviation Medicine and Biology; an Annotated Bibliography, and v. 4-10 entitled Aerospace Medicine and Biology; an Annotated Bibliography, were published 1956-1966 (covering the period 1952-1961). Subsequent volumes covering the years 1962 and 1963 are in preparation. A cumulative index to v. 1-10, covering the 1952-1961 literature, was published in 1966. A Cumulative Index to the 1964 Issues of a Continuing Bibliography on Aerospace Medicine and Biology supersedes all the 1964 separate issue indexes.