
Robert L. Forward papers

Finding aid prepared by Sara Seltzer, Processing Archivist.

Special Collections & University Archives

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P.O. Box 5900

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Riverside, California 92517-5900

Phone: 951-827-3233

Fax: 951-827-4673

Email: specialcollections@ucr.edu

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Descriptive Summary

Title: Robert L. Forward papers

Date (inclusive): circa 1865-2001, undated

Date (bulk): 1956-2001

Collection Number: MS 175

Creator: Forward, Robert L.

Extent: 60 linear feet(2 flat boxes, 16 record storage boxes, 24 document boxes, 108 volumes)

Repository: Rivera Library. Special Collections Department.

Riverside, CA 92517-5900

Abstract: The Robert L. Forward papers contain official documents, literary works, correspondence, memorabilia, scientific research, and the personal library of Dr. Robert L. Forward, an American physicist and prolific science-fiction author. The bulk of the papers pertain to Dr. Forward's scientific and literary careers, though material regarding personal accomplishments and activities is also included.

Languages: The collection is primarily in English. Select material is in German, Japanese, Danish, Spanish, and Slavic languages.

Collection Access

This collection is open for research, with the exception of select files and items that are restricted.

Access to restricted materials is subject to approval. Please submit written requests to the Director of Distinctive Collections.

Publication Rights

Copyright Unknown: Some materials in these collections may be protected by the U.S. Copyright Law (Title 17, U.S.C.). In addition, the reproduction, and/or commercial use, of some materials may be restricted by gift or purchase agreements, donor restrictions, privacy and publicity rights, licensing agreement(s), and/or trademark rights. Distribution or reproduction of materials protected by copyright beyond that allowed by fair use requires the written permission of the copyright owners. To the extent other restrictions apply, permission for distribution or reproduction from the applicable rights holder is also required. Responsibility for obtaining permissions, and for any use rests exclusively with the user.

Preferred Citation

[identification of item], [date if possible]. Robert L. Forward papers (MS 175). Special Collections & University Archives, University of California, Riverside.

Acquisition Information

Gift of Robert L. Forward, 1988.

Processing History

Processed by Sara Seltzer, Processing Archivist, 2012.

Biographical Note

The following biography was taken from *The New York Times*:

"Robert L. Forward, a science fiction writer, physicist and inventor whose 11 novels were inspired by his research into gravitational physics and advanced space propulsion, died at his home in Seattle [on September 21, 2002]. He was 70. The cause of death was cancer, his son-in-law, Ben Mattlin, said.

With his first book, "Dragon's Egg" (1980), Dr. Forward established a reputation as a creator of fantastic worlds that were solidly based on scientific principles. He set "Dragon's Egg" and its sequel, "Starquake" (1985), on a neutron star, a highly compressed remnant of an exploding star where gravity is 67 billion times stronger than Earth's. The star's inhabitants, whom he called cheelas, lived the equivalent of about 45 minutes.

In his final book, "Saturn Rukh" (Tor/Tom Doherty, 1997), his attention to accuracy led him to include an appendix of mathematical tables and astronomical diagrams for readers interested in verifying the maneuvers of the book's spacecraft. He also wrote "The Flight of the Dragonfly" (1984), which he renamed "Rocheworld" and followed with four sequels.

Dr. Forward, who held a Ph.D. in physics from the University of Maryland, began his literary career while working as a senior scientist at the Hughes Aircraft Company's laboratory in Malibu, Calif. He often explained that he had advised so many science fiction writers on the technical details of space flight and other scientific issues that he decided to take up writing himself.

At Hughes and later at companies he founded, Forward Unlimited (in 1987) and Tethers Unlimited (in 1994), Dr. Forward devoted his research efforts to propulsion systems for space travel. He studied the potential for antimatter propulsion

(similar to the system that powers the Starship Enterprise on "Star Trek") for the Air Force and NASA.

For epic interstellar journeys, he envisioned a rocketless vehicle that would be manufactured in space and equipped with an ultrathin sail as big as Texas. The ship would be propelled by a laser beam or high-energy particles shot from Earth; traveling at 55,000 miles per second, it would reach the nearest star system, Alpha Centauri, in less than 50 years.

Dr. Forward applied this concept of heavenly sailing ships to a somewhat more practical purpose when he designed a satellite, called a statite, that could hover 200,000 miles above one of the poles, held in place by sails filled by solar winds. In 1993 his design won a patent, one of the 20 that he received.

Robert Lull Forward was born in Geneva, N.Y., on Aug. 15, 1932. He served in the Air Force, reaching the rank of captain. He received his bachelor's degree in physics from the University of Maryland and a master's in applied physics from the University of California at Los Angeles. For his doctorate he built and operated the world's first bar antenna for the detection of gravitational radiation, which is now at the Smithsonian Institution.

He is survived by his wife of 48 years, Martha; three daughters, Julie Fuller, of Ramona, Calif.; Mary Lois Mattlin, of Los Angeles; and Eve Forward-Rollins, of Seattle; his son, Robert, of Los Angeles; and seven grandchildren.

Dr. Forward received much praise for his science fiction novels, although it was sometimes qualified. In The New York Times Book Review in 1993, Gerald Jonas wrote that in "Camelot 30K" Dr. Forward wasted "no time on frills like plot and character development." Still, Mr. Jonas concluded, "he has fashioned an intellectual puzzle, pure and simple, with a wonderfully clever solution that blew my own tentative hypotheses sky-high."

Lavietes, Stuart. 2002. Robert L. Forward, Physicist and Novelist, Dies at 70. *The New York Times*, 28 September 2002.

Collection Scope and Contents

The Robert L. Forward papers contain official documents, literary works, correspondence, memorabilia, scientific research, and the personal library of Dr. Robert L. Forward, an American physicist and prolific science-fiction author. The bulk of the papers, dating from 1956-2001, document Dr. Forward's scientific and literary careers. Records are both personal and professional in scope and pertain to business enterprises, the writing and revision of science-fiction and non-fiction literature, extracurricular projects and activities, and research on antimatter, gravity, propulsion, and other physics-related topics. Formats include contracts, patents, manuscripts, publications, correspondence, photographs, notes, and other material.

Collection Arrangement

Material has been kept in the order preserved at the time of acquisition. For many files, this represents the original order maintained by Dr. Robert L. Forward. Consequently, select folders contain items outside the scope of their respective series.

This collection is arranged into six series as follows:

- Series 1. Official documents, 1965-2001, undated
- Series 2. Literary works, 1961-circa 1998, undated
- Series 3. Correspondence, 1932-2001, undated
- Series 4. Memorabilia and personal items, circa 1865-2000, undated
- Series 5. Scientific research, 1953-2000, undated
- Series 6. Personal library, 1949-2000, undated

Indexing Terms

The following terms have been used to index the description of this collection in the library's online public access catalog.

Subjects

Hughes Aircraft Company. Research Laboratories

Physicists

Physics

Science fiction

Science fiction -- Authorship

Genres and Forms of Materials

Books

Business records

Clippings (information artifacts)

Correspondence

Manuscripts
Periodicals
Photographs
Realia
Research notes
Technical writing

Series 1. Official documents 1965-2001, undated

Series Access

Select items in this series are restricted. Access to these materials is subject to approval. Please contact Special Collections & Archives staff for more information.

Series Scope and Contents

This series is comprised of contracts, patents, correspondence, and other material documenting the business enterprises of Robert L. Forward. Records pertain to Dr. Forward's literary works, scientific inventions, and contracted consulting services, including speaking engagements, research and experimentation, and other endeavors.

The correspondence included in this series is either related to the formulary documents contained here, or explicitly pertains to business discussions.

For additional communications pertaining to Forward's business-related activities, please consult "Series 3. Correspondence."

Select documents pertaining to the patenting of inventions and contractual agreements can also be found in "Series 5. Scientific research."

Because many folders maintain the original filing scheme of the creator, select records outside the scope of this series are included.

Series Arrangement

This series is arranged sequentially by box and folder number.

Box 6, Folders 4-5

Contracts, correspondence, and other material regarding select literary works of Robert L. Forward (photocopies) 1979-2000, undated

Note on Access

Restricted.

Box 7, Folder 1,
Box 6, Folder 6

Contracts, correspondence, patents, and other material regarding select literary works and scientific inventions of Robert L. Forward (includes photocopies) 1982-2001, undated

Note on Access

Includes restricted materials.

Box 7, Folder 2

Contracts, correspondence, royalties, and other material regarding the publication and sales of *Future Magic* (includes photocopies) 1965-circa 1993

Note on Access

Restricted.

Box 7, Folder 3

Contracts and correspondence regarding Robert L. Forward's advisory services for the company BlastOff! 2000, undated

Note on Access

Restricted.

Box 12, Folder 17

Patents and patent docket documents documenting inventions of Robert L. Forward (includes photocopies) 1966-1986

Box 13, Folder 2	Documents regarding the invention disclosure and patentability of Robert L. Forward's Polestat TM space communications system concept 1988
Box 13, Folders 3-4	Correspondence, application forms, patent, and other material regarding Robert L. Forward's invention Statite: Spacecraft that Utilizes Sight Pressure and Method of Use 1987-1993, undated Note on Access Includes restricted materials.
Box 14, Folder 11	Contracts, proposals, and other material regarding Robert L. Forward's study of alternate propulsion energy sources for the Air Force Rocket Propulsion Laboratory (includes photocopies) 1982-1983
Box 14, Folder 16	Patents regarding inventions developed by Joseph Weber and Joseph Weber et al. 1973 March 27
Box 14, Folder 18	Correspondence regarding the revision and publication of two submissions to <i>Analog</i> magazine 1989-1990 Note on Access Includes restricted materials.
Box 15, Folder 7	Correspondence regarding publication of <i>Camelot 30k</i> and Forward's literary representation. Includes drafts of <i>Camelot 30k</i> prologue copyedited by Robert L. Forward 1992-1993, undated Note on Access Includes restricted materials.
Box 15, Folder 8	Correspondence and documents regarding <i>Dragon's Egg</i>, <i>Heaven Must Fall</i> and other proposals, <i>Marooned on Eden</i>, <i>Martian Rainbow</i>, and <i>Timemaster</i> 1992-1993, undated Note on Access Includes restricted materials.
Box 21, Folder 6	Correspondence to Robert L. Forward from book publishers 1991 Note on Access Includes restricted materials.
Box 24, Folders 4-5	Financial records pertaining to publication, travel, and other work-related expenses, primarily those incurred while under contract with the United States Air Force (includes photocopies) 1987-1992 Note on Access Restricted.
Box 25, Folders 1-2, Box 24, Folder 6	Correspondence, financial records, contracts, and other material regarding Air Force Contract No. F04611-87-C-0029 (includes reproductions). Labeled "AF Contract Archives. Ready to bind." 1986-1992 Annotation by Robert L. Forward "Archivist: Everything in this box should be bound in one volume in the order arranged." [Binding never completed.]
Box 25, Folder 10	Financial records, documents, and reports regarding Air Force Contract No. F04611-83-C-0046 (includes photocopies) 1984-1985, undated Annotation by Robert L. Forward, 3 May 2002 "Contract with Air Force Rocket Propulsion Lab for 100 days of consulting on Advanced Propulsion Physics Research including monthly reports." Note on Access Includes restricted materials.

- Box 25, Folder 34 **Correspondence regarding a hypersonic tether consulting project. Includes proposal and technical discussions 1997-1999**
 Note on Access
 Includes restricted materials.
- Box 26, Folder 5 **Correspondence, clippings, and other material regarding Robert L. Forward's contribution to a BBC documentary series on time travel (includes reproductions) 1996**
- Box 32, Folder 4 **Correspondence and documents regarding Robert L. Forward's speaking engagement at the symposium *Earth, Environment and Space* in Okayama, Japan (includes reproductions) 1990-1991**
 Note on Access
 Includes restricted materials.
- Box 32, Folder 7 **Forms and notes regarding a prospective business agreement between Robert L. Forward, Ashley D. Grayson, and Ray Klemp for production of "The. Judge" (includes reproductions) 1980-1981, undated**
 Note on Access
 Restricted.
- Box 32, Folder 14 **Contracts and other material regarding literary works (includes photocopies) 1974-1982, undated**
 Note on Access
 Restricted.
- Box 33,
Folders 26-27 **Correspondence, patents, contracts, and other material regarding Robert L. Forward's statite invention (includes reproductions). Notes, drafts, and excerpts from publications used for research are also included 1979-1994, undated**
 Note on Access
 Includes restricted materials.
- Box 33, Folder 30 **Publishing agreement for Robert L. Forward's contribution to *Project Solar Sail*. Includes other documents (includes photocopies) 1987-1989**
 Note on Access
 Includes restricted materials.
- Box 33, Folder 34 **Correspondence, annotations, and other material regarding Robert L. Forward's consulting services for a Time-Life Books project (includes reproductions) 1989**
 Note on Access
 Includes restricted materials.

Series 2. Literary works 1961-circa 1998, undated

Series Scope and Contents

This series contains page proofs, galley proofs, drafts, notes, and other unpublished material pertaining to the literary works, both science-fiction and non-fiction, of Robert L. Forward. Bound and unbound manuscripts are included, with the bulk of the papers containing copyedits by Dr. Forward and/or publishing staff. Many manuscripts are also autographed by Robert L. Forward and, occasionally, co-authors. All copyedits and autographs were made by Dr. Forward unless otherwise noted. Bylines are provided exclusively for co-authored works, works by other authors, and works citing more than one creative role.

When multiple copies or drafts of a short story, outline, or article are present, the number of items is noted in a single description. Separate descriptions are given for Forward's novel-length works and bound volumes, which often contain significant variations. According to one annotation by Dr. Forward, his literary works were often printed out at various stages of editing, resulting in the many iterations that are contained in the archives.

Series Arrangement

This series is arranged into three sub-series as follows:

Sub-Series 2.1. Manuscripts (bound)

Sub-Series 2.2. Manuscripts (unbound)

Sub-Series 2.3. Notes, artwork, and other material

Series Date Disclaimer

Dates are primarily taken from manuscript title pages and are of the following types: copyright dates (year), draft dates (day, month, year), or the date range during which the manuscript was edited or annotated (day, month, year, as documented by Forward).

When no definitive date is present on the title page, dates are taken from the book spine (month and year; or, day, month, year), the manuscript itself (format varies), or other sources in the collection (approximate years).

Sub-Series 2.1. Manuscripts (bound) 1961-1990, undated

Sub-Series Scope and Contents

This sub-series contains the literary works of Robert L. Forward that were selected for binding in book form by Dr. Forward. The volumes are comprised of draft versions of Forward's science-fiction and non-fiction writings. The bulk of the manuscripts are heavily copyedited by Dr. Forward and/or publishing staff. Many manuscripts are also autographed by Forward and, occasionally, co-authors. All copyedits and autographs were made by Dr. Forward unless otherwise noted. Bylines are provided exclusively for co-authored works, works by other authors, and works citing more than one creative role.

Dr. Forward frequently inscribed his manuscripts with brief, contextual descriptions regarding the publication or revision of the work in hand. For those items containing such annotations, pertinent information is transcribed in a supplementary note.

Sub-Series Arrangement

Manuscripts are arranged alphabetically by title. Works of the same name are arranged chronologically.

Sub-Series Note on *Ride the Magic Dragonfly*

This sub-series contains multiple iterations of Forward's science-fiction novel originally entitled *Ride the Magic Dragonfly*. The majority of the bound copies of this work have the title *Flight of the Dragonfly* printed on the book spine, which was the revised title of the finished manuscript.

Prior to publication as a book, the novel was serialized under the title *Rocheworld*. Like the iterations of *Ride the Magic Dragonfly*, select bound copies of *Rocheworld* have the title *Flight of the Dragonfly* printed on the book spine.

shelf On Shelf

Condensed Version of Ride the Magic Dragonfly for Analog (spine title: Flight of the Dragonfly). Autographed with copyedits 1982 April 4-23

shelf On Shelf	<i>Dragon's Egg</i> (2nd draft; two copies) 1978
shelf On Shelf	<i>Dragon's Egg</i> (6th draft; two copies). Autographed 1979 April 22
shelf On Shelf	<i>Dragon's Egg</i> (6th draft). Includes copyedits by publishing staff circa 1979
shelf On Shelf	<i>Dragon's Egg: A Film Treatment</i> by Ted Pedersen. Based on the novel by Robert L. Forward 1981
shelf On Shelf	<i>Dragon's Egg and Starquake: Notes, Research and Illustrations</i> by Robert L. Forward. Compiled by Daryl F. Mallett 1961-1982, undated
shelf On Shelf	<i>Dusty Pink Rainbow Outlines</i>. Includes copyedits 1986 June-September
shelf On Shelf	<i>The Flight of the Dragonfly</i>. Includes copyedits by Robert L. Forward and publishing staff. Manuscript originally published as <i>Ride the Magic Dragonfly</i> (see copyright page) 1983
shelf On Shelf	<i>The Flight of the Dragonfly</i> (page and galley proofs). Includes copyedits by Robert L. Forward and publishing staff 1984
shelf On Shelf	<i>The Flight of the Dragonfly</i>. Includes copyedits by publishing staff circa 1984
shelf On Shelf	<i>Future Magic</i>. Autographed with copyedits 1986 March 23
	Annotation by Robert L. Forward, 23 March 1986
	"Next to last draft."
shelf On Shelf	<i>Future Magic</i>. Autographed with copyedits 1986 March 23-June 15
	Annotation by Robert L. Forward
	"Original of manuscript accepted by Avon in April. One last edit to correct minor errors and typos. 0930 PDT 27 May 1986 on Flight TWA 38 to Philadelphia to present paper on interstellar beamed power spacecraft at AAAS meeting. (Isaac Asimov is on same program.).
	Black pen marks were those found on 23-24 March before sending to publisher. Purple pen marks are corrections made on AAAS trip. Green pen marks are changes suggested by Charles Sheffield inserted on 1 June 1986. Red marks are insertion of Figure information on 14 June 1986."
shelf On Shelf	<i>Future Magic</i>. Autographed 1986 June 15
shelf On Shelf	<i>Future Magic</i> (photocopied final draft). Includes copyedits by publishing staff 1986-circa 1989
shelf On Shelf	<i>Martian Rainbow</i>. Autographed with copyedits 1988 September 30-October 30
	Annotations by Robert L. Forward
	"20 Oct 1988 - Started final edit - need to cut some.
	21 Oct 1988 - First runthrough - not much cut.
	21 Oct 1988 - Started second runthrough - change Tanya to a blue-eyed blonde.
	24 Oct 1988 - Finished second runthrough - wait for mail tomorrow.
	30 Oct 1988 - Still no reply from Chris McKay & Penny Boston - will have to proceed. Need to write an "About the author"."
shelf On Shelf	<i>Martian Rainbow</i>. Includes copyedits 1988-1989
	Annotations by Robert L. Forward
	"0846 23 March 1989 - On TWA 894 on way to Balticon. Working on del Rey recommended revisions.
	1102 11 May 1989 - One more time through."
shelf On Shelf	<i>A Matter of Extreme Gravity</i>. Includes copyedits 1980
shelf On Shelf	<i>Mirror Matter</i> by Robert L. Forward and Joel Davis 1988
	Annotation by Robert L. Forward, 5 December 1987, Tigh Fada, Reay, Scotland
	"Copyedited manuscript received from Wiley/Publishing Synthesis, Ltd on 3 December. Got a call from Hoffer of Wiley just after Datapost had dropped off package. He was in a hurry - so I sat down, read it in 5-6 hours, then called Joel with major changes - some of which he argued me out of."

- shelf On Shelf ***Mirror Matter Miscellany (copyedited manuscript). Edited chapters included in the non-fiction work *Mirror Matter: Pioneering Antimatter Physics* by Robert L. Forward and Joel Davis circa 1988***
- shelf On Shelf ***Ride the Magic Dragonfly (spine title: *Flight of the Dragonfly*). Includes copyedits. Manuscript originally printed as *Rocheworld* 1981 February 10-March 10***
Annotation by Robert L. Forward, 10 March 1981
"Put into archive box 10:59 PDT 10 March 1981. Replacement labeled 11 March 1981. Only one copy of 11 March 1981 made. To be worked on while in Albuquerque. Has new title: Ride the Magic Dragonfly.
This version retired 11:01 PDT 10 March 1981."
- shelf On Shelf ***Ride the Magic Dragonfly (spine title: *Flight of the Dragonfly*). Autographed with copyedits 1981 March 11-April 21***
Annotation by Robert L. Forward, 21 April 1981
"This draft also includes partially revised sections on STOPPING and LANDING which were typed out midway from last draft. Some of the indicated corrections to HEARINGS were postponed to a later draft.
Put into archive box 10:39 PST 21 April 1981. Replacement dated 21 April 1981. Only one copy of 21 April 1981 version made. Will pick up tomorrow at USC on way to AVS speech, then work on it while in Albuquerque (again)."
- shelf On Shelf ***Ride the Magic Dragonfly (spine title: *Flight of the Dragonfly*) 1981 April 21***
Annotation by Robert L. Forward
"This version printed out by mistake without formatting activated. Wrote some more in Albuquerque and put in 25 April 1981 version."
Annotation by DFM, 12/1/89
"Loss of words at top & bottom of each page due to computer print out format.
Bound thusly as per R.L.F."
- shelf On Shelf ***Ride the Magic Dragonfly (spine title: *Flight of the Dragonfly*). Includes copyedits 1981 April 25-June 20***
Annotation by Robert L. Forward, 19 June 1981
"This last partial draft was finished off to produce the first full draft of the Rocheworld saga. There were some intermediate printouts of the remaining chapters as they went from their first typing phase to their edited phase. These are inserted in their proper places. The final editing and typeout was completed on 19 June 1981, with the final tape-in of figures on the 20th.
The following version is the first full draft of RW with a publication date of 20 June 1981 and consists of a typed original and 15 Xerox copies that were sent out to my technical reviewers for comments. Copies also went to Lester del Rey of Ballantine and Dr. Stanley Schmidt of Analog as possible serial material."
- shelf On Shelf ***Ride the Magic Dragonfly (spine title: *Flight of the Dragonfly*) 1981 June 20***
shelf On Shelf ***Ride the Magic Dragonfly (spine title: *Flight of the Dragonfly*). Includes copyedits 1981-1982***
Annotations by Robert L. Forward
"30 Oct 1981 - Lester has still not read this. I will do it myself. Judy-Lynn del Rey says get it below 120,000 words, but keep appendix (although I will cut it). Will start by putting reviewer comments into MS using green.
31 Dec 1981 - Talk about writer's block! Finally back to this after doing nothing over Thanksgiving and Christmas. Did do "Starhope - The World", "Future Magic", and "The Judge".
9 Jan 1982 - Not much done - back to grindstone - talked to Ashley."
-

shelf On Shelf

Ride the Magic Dragonfly. Autographed with copyedits 1981-1989

Annotation by Robert L. Forward, 1554 Tuesday 19 Sept 1989

"This was the printout of the largest electronic version of Rocheworld that I could find. It was on USC tape 5WARD as file ROCHEWOR.81JUN24. Jacqueline Stafsudd finally was able to read the ancient tape and transfer it to an IBM compatible disk.

Before I typed this I did a little bit of editing to remove the old word processing formats. I then compared this version, chapter by chapter, with the Baen paperback and the 150,000 25 March 1982 version (bound as *Flight of the Dragonfly* at Eaton Collection), and made insertions, deletions and changes to get the 17 September 1989 version of Rocheworld (160,000 words + 12 figures).

This involved breaking Karin Krupp back into two females, changing the name of Eve into Shirley, and restoring Dr. Wang as a male who dies on the way to Barnard. I also had to type in the Baen Book chapter "Reporting" and type in the long version of Arielle's "Flight" sequence from the 1982 version.

I will now do a final edit on the 17 September 1989 version."

shelf On Shelf

Ride the Magic Dragonfly (spine title: *Flight of the Dragonfly*). Autographed with copyedits 1982 February 15-24

shelf On Shelf

Ride the Magic Dragonfly (spine title: *Flight of the Dragonfly*). Autographed 1982 March 25

Annotation by Robert L. Forward

"Copy 7 of 7 copies."

shelf On Shelf

Ride the Magic Dragonfly (Condensed version for serialization in *Analog*; spine title: *Flight of the Dragonfly*). Includes copyedits 1982 April 23-May 17

Annotations by Robert L. Forward

"25 April 1982 - Title page autographed by Forward.

6 May 1982 - Telephone call from Stanley Schmidt of *Analog*. Will serialize it as "Rocheworld". RF.

17 May 1982 - Stanley Schmidt makes some corrections."

shelf On Shelf

Ride the Magic Dragonfly (spine title: *The Flight of the Dragonfly*). Includes copyedits. Manuscript originally printed as *Rocheworld* 1983 March 19-June 15

shelf On Shelf

Ride the Magic Dragonfly (spine title: *Flight of the Dragonfly*) 1983 June 15

shelf On Shelf

Rocheworld (spine title: *The Flight of the Dragonfly*) 1983 March 19

shelf On Shelf

Rocheworld (spine title: *Flight of the Dragonfly*). Autographed 1983 March 19

Annotation by Robert L. Forward

"One of about 5 xeroxes of original ms."

shelf On Shelf

Rocheworld (spine title: *Flight of the Dragonfly*). Includes copyedits 1983 March 19

Annotation by Robert L. Forward

"(Last and final edit for Pocketbooks)."

shelf On Shelf

Rocheworld. Autographed with copyedits 1989 September 25-27

Annotation by Robert L. Forward, 2043 Monday 25 September 1989

"This is an incomplete collection of pages from the final draft that were retyped because of printer errors (it was very hot today and the "ch" combination often jammed), typos, or errors. This should probably be bound in same volume as next to last draft.

Last pages 2129 - 27 Sept 1989."

shelf On Shelf

Rocheworld: Part 1. Autographed with copyedits 1989 September 17-25

Annotation by Robert L. Forward, 1524 Monday 25 September 1989

"This was the next to the last draft of the revised version of Rocheworld, see page ii for its genesis. After this draft was corrected (in the period from 17-23 September 1989) the corrections were made in the electronic version and the "final" draft printed. The final draft will be copyedited and pages retyped to get a nearly error proof final draft."

shelf On Shelf

Rocheworld: Part 1. Includes copyedits and documentation by Baen Books publishing staff circa 1990

shelf On Shelf

Rocheworld: Part 2. Autographed with copyedits 1989 September 17-25

Annotation by Robert L. Forward, 1524 Monday 25 September 1989 (title page photocopied from Part 1)

"This was the next to the last draft of the revised version of Rocheworld, see page ii for its genesis. After this draft was corrected (in the period from 17-23 September 1989) the corrections were made in the electronic version and the "final" draft printed. The final draft will be copyedited and pages retyped to get a nearly error proof final draft."

shelf On Shelf

Rocheworld: Part II. Includes copyedits by Baen Books publishing staff circa 1990

shelf On Shelf

Starquake!. Includes copyedits 1984 March 28-July

shelf On Shelf

Starquake!. Includes copyedits 1984 July 29

shelf On Shelf

Starquake!. Autographed 1984 November 25

Annotation by Robert L. Forward

"Dave Lynch Correction Version."

shelf On Shelf

Starquake!. Autographed 1984 November 25

Annotation by Robert L. Forward

"Original."

shelf On Shelf

Starquake!. Includes copyedits by Robert L. Forward and publishing staff, probably from Del Rey Books 1985 October 2

shelf On Shelf

Starquake Outlines: May-August 1982. Includes copyedits 1982 May-August

shelf On Shelf

Timemaster. Includes copyedits 1990 April 24-June 13

Annotation by Robert L. Forward

"13 June 1990 (In Scotland)."

shelf On Shelf

Timemaster. Autographed with copyedits 1990 June 13-July 28

Annotation by Robert L. Forward

"Reworked 23-28 July 1990."

shelf On Shelf

Timemaster. Autographed with copyedits 1990 July 26-August 20

Annotation by Robert L. Forward

"Sent off outline and four chapters (2, 4, 8 & 12) to Russell Galen today. Still have last chapter to write. Will run off 2, 4, 8, 12-15 and add to this version to take to Worldcon in Amsterdam 23-27 Aug 90. New version dated 20 Aug 1990."

shelf On Shelf

Timemaster. Includes copyedits 1990 August 20-22

Annotation by Robert L. Forward

"Working on next-to-final draft in Promenade Hotel, Den Haag, Netherlands while attending Worldcon."

shelf On Shelf

Timemaster Outlines (spine title). Includes notes, typescripts, and copyedits April 1989

shelf On Shelf

Timemaster Outlines. Includes copyedits July 1990

Sub-Series 2.2. Manuscripts (unbound) 1978-circa 1998, undated

Sub-Series Scope and Contents

This sub-series contains the unbound literary works of Robert L. Forward, which primarily consist of draft versions of Forward's science-fiction and non-fiction writings. While it is often difficult to distinguish a so-called "science fact" article from a piece of technical writing, the title page format used by Dr. Forward often helps to identify a work as one or the other. Non-fiction, science fact articles typically refer to Forward's literary representation on the title page, though this is not universal. Conversely, his technical writings cite his work affiliation with Hughes Research Laboratories or Forward Unlimited. Many of the manuscripts, though left unbound, were arranged by Dr. Forward shortly before his death. Notes identifying a selection of papers are frequently inserted, and occasionally provide contextual or other background information about a work. As with the bound manuscripts, select items also contain inscriptions of a similar type. For those resources containing such annotations, pertinent information is transcribed in a supplementary note. Select papers that were originally intended for binding are also identified as such in a supplementary note.

The bulk of the manuscripts are heavily copyedited by Dr. Forward and/or publishing staff. Many manuscripts are also autographed by Robert L. Forward and, occasionally, co-authors. All copyedits and autographs were made by Dr. Forward unless otherwise noted. Bylines are provided exclusively for co-authored works, works by other authors, and works citing more than one creative role.

Sub-Series Arrangement

Manuscripts are arranged alphabetically by title. Works of the same name are arranged chronologically.

Box 14, Folder 4

Acceleration Constant. Includes copyedits by publishing staff, probably from Scott Meredith Literary Agency, Inc undated

Box 33, Folder 13

Alien Life Between the Planets and the Stars 1995 April 8

Box 27,

Camelot 30K. Autographed with copyedits. Includes notes 1991-1992

Folders 16-17

Annotations by Robert L. Forward

"Archivist - I will be writing this book backwards, starting with the last chapter and notebook and adding previous chapters one at a time and then smoothing forward to end. This is to insure climax stays fixed and isn't telegraphed too early - yet all the clues are there." [inscribed on text]

"Chapter by Chapter (from back) rework of novel." [separate sheet]

Box 28,

Camelot 30K. Autographed with copyedits 1992 September 13-20

Folders 1-2

Annotations by Robert L. Forward

"On this day, 17 September 1992, at 1800 British Daylight Time, this "Creation draft" of Camelot 30K, was finished. There is still a lot to do - additions, corrections, editing - but the basic plot line is established.

20 Sept. - The new draft was completed.

I will now edit this draft, and work on getting a usable version to my Scotland friends before leaving next Wednesday, 23 Sept 1992. Pontifically Yours!"

Annotation by Robert L. Forward, 17 Sept 1992

"Creation" Draft (first complete story)."

Box 34,

Camelot 30K. Autographed with copyedits 1992 September 20-21

Folders 11-12

Annotation by Robert L. Forward, 21 September 1992

"Archivist:

This copy of the final version of Camelot 30K was sent to the Editor, Dave Hartwell at Tor Books, for his approval and acceptance."

Box 28,
Folders 3-4

Camelot 30K. Autographed with copyedits 1992 September 20-November 4

Annotations by Robert L. Forward

"Sent to Hartwell on 20 September 1992.

23 September - Editing on flight from LHR to Newark - [Connoisseur] Class upgrade. Did chapters 00, 01, 02 - Naptime - I think it's good so far.

29 Sept 1992 - Editing on flight from STL to DCA.

3 Oct 1992 - Editing on flight from DCA to STL to SEA.

28 Oct 1992 - Hartwell called with some minor suggestions. Bought off on it.

29 Oct 1992 - started next version with these & Hartwell corrections. Finished 31 Oct 1992.

4 Nov 1992 - Added Prologue & Dave Lynch comments." [inscribed on text]

"ready for binding" [separate sheet]

Box 27,
Folders 13-14

Camelot 30K. Autographed with copyedits 1992 November 10-December 4

Annotations by Robert L. Forward

"30 Nov 1992 - Inserting suggestions from Seichi Kiyohara.

4 Dec 1992 - Last read through.

Next to last draft of *Camelot 30K*. Final draft dated 11 Dec 1992."

Box 27,
Folders 11-12

Camelot 30K. Autographed 1992 December 11

Annotation by Robert L. Forward

"Original of final draft. Xeroxes were sent to publisher and agent."

Box 34,
Folders 13-14

Camelot 30K (photocopy). Autographed with copyedits by Robert L. Forward. Includes copyedits and style sheets from Tor Books copyeditor 1993 December 11, 1992-January 25

Annotation by Robert L. Forward, 25 January 1993

"Started work on checking this copyedited version."

Box 27,
Folders 9-10

Camelot 30K. Includes notes to copyeditor and compositor, correspondence from Robert L. Forward to David Hartwell (Tor Books), and correspondence from Tom Doherty Associates, Inc. to Robert L. Forward 1992-1994

Box 34,
Folders 7-8

Camelot 30K (galley proofs). Includes correspondence from Robert L. Forward to Don Keller, Tor Books (reproduction) 1993

Box 34,
Folders 9-10

Camelot 30K (page proofs). Autographed with copyedits (photocopy) 1993 May 11

Annotation by Robert L. Forward, 11 May 1993

"Author's Corrections."

Box 14, Folder 7
Box 14, Folder 6

Camelot Titania (two drafts). Includes copyedits 1990 October 17-18

Camelot Titania. Autographed. Includes correspondence from Robert L. Forward to Russell Galen, agent with Scott Meredith Literary Agency 1990 October 19-26

Annotation by Robert L. Forward, 26 Oct 1990

"Russell asked for a more upbeat ending. I wrote one and faxed/FedExed it to him."

Box 13, Folder 8

The Cerebrated Jumping Frog of Calaveras III by Martha Dodson Forward and Robert L. Forward. Includes copyedits by publishing staff undated

Box 8, Folder 7

Cheela to the Rescue!, Acceleration Constant, Twinkle, Twinkle, and The Singing Diamond (manuscript and clipping) 1978-1980

Box 26, Folder 14

Cold Comfort (three drafts). Includes copyedits 1989 June 16-August 21

Box 41

Dragon's Egg (galley proof). Includes copyedits by Robert L. Forward and copyeditors circa 1980

- Box 29, Folder 12 ***Fading Into Blackness (three drafts). Includes copyedits 1987 October 24-25, undated***
Annotation by Robert L. Forward, 3 May 2002
"Published in *Analog*."
- Box 13, Folder 7 ***Fading into Blackness (manuscript and galley proof). Includes copyedits by publishing staff from *Analog Science Fiction/Science Fact* 1988, undated***
- Box 33, Folder 23 ***Faster-Than-Light (Science Fact Article). Includes copyedits by *Analog* copyeditors 1994, June 27, undated***
- Box 26, Folder 17 ***Faster-Than-Light (galley proofs from *Analog*). Includes copyedits and correspondence from Robert L. Forward to Stanley Schmidt 1994, September 15-28***
- Box 20, Folder 3 ***Flattening Spacetime. Analog galley proof with copyedits by publishing staff undated***
- Box 26, Folder 12 ***Flattening Spacetime (five drafts). Includes copyedits 1981 November 12-17***
Annotation by Robert L. Forward, 3 May 2002
"Sold to *Analog* as a Science Fact article."
- Box 30, Folder 1,
Box 29, Folder 19 ***Indistinguishable From Magic: Speculations and Visions of the Future. Autographed with copyedits 1993 December 13-15***
Annotation by Robert L. Forward
"Next to last draft: Finished editing 15 Dec 1993."
- Box 29,
Folders 17-18 ***Indistinguishable From Magic: Speculations and Visions of the Future. Autographed with copyedits 1993 December 15-17***
Annotation by Robert L. Forward
"Last, last draft before final printout with consecutive page numbers and figure pages worked out."
- Box 29,
Folders 15-16
Box 25,
Folders 37-38
Box 9, Folder 1 ***Indistinguishable From Magic: Speculations and Visions of the Future. Includes copyedits by Baen Books copyeditors 1993 December 17, undated***
Indistinguishable From Magic: Speculations and Visions of the Future (galley proofs). Autographed with copyedits 1995 June 2
Magic Matter (chapter from *Future Magic*). Includes copyedits by publishing staff undated
- Box 14, Folder 5 ***Mammalian Connection: Premise for a hard science fiction novel (two drafts). Includes copyedits 1993 May 17***
- Box 38, Folder 12 ***Marooned on Eden by Robert L. Forward and Martha Dodson Forward (page proofs; includes only author-corrected pages). Includes copyedits and correspondence to Martha Dodson Forward from Barbara Van Tine, Baen Books production manager undated***
- Box 25,
Folders 40-41,
Box 26,
Folders 1-4 ***Marooned on Eden by Robert L. Forward and Martha Dodson Forward (three drafts). Autographed with copyedits by Robert L. Forward and Martha Dodson Forward 1992 March 4-June 28***
Annotations by Robert L. Forward
"MAROONED ON EDEN
4 March 1992 draft May 1992 draft 28 June 1992 FINAL DRAFT
Probably ready for binding." [separate sheet; these three drafts were intended to be bound as one volume].
June 28, 1992 draft:
"Third and last draft. Completed 28 June 1992. A disc with entire MS will be mailed to Baen Books on 29 June 1992."
May 1992 draft:
"20 May 1992 - LAX - chaps 00-02 30 May 1992 - Reay -"
-

- Box 4, Folders 3-4 ***Marooned on Eden (page proofs) by Robert L. Forward and Martha Dodson Forward. Includes correspondence from Baen Books production manager to Robert L. Forward 1993***
- Box 5, Folders 1-2 ***Marooned on Eden by Robert L. Forward and Martha Dodson Forward. Includes copyedits 1993 March 25-29***
Annotation by Robert L. Forward
"1st rework draft of MOE plus two earlier rewrites of chapt one."
- Box 4, Folders 1-2 ***Marooned on Eden by Robert L. Forward and Martha Dodson Forward. Includes copyedits 1993 March 30***
Annotation by Robert L. Forward
"Last rewrite of *Marooned on Eden*. Disk was sent to Baen 31 March 1993. No printout of final version was made."
- Box 31,
Folders 6-7
Box 31,
Folders 4-5 ***Martian Rainbow (outline and draft). Includes copyedits 1986-1988***
Martian Rainbow. Autographed with copyedits 1988 July 28-August 9
Annotation by Robert L. Forward
"This is a major edit of everything written up to this point."
- Box 8, Folder 4 ***Martian Rainbow (introduction and chapter 1). Autographed with copyedits 1988 August 7-31***
Annotation by Robert L. Forward, 31 August 1988
"Editing carried out while on trip back to the USA."
- Box 31,
Folders 1-3 ***Martian Rainbow. Includes copyedits circa 1988 September 11-30***
Annotation by Robert L. Forward (on separate sheet)
"There is no title page or Chapter 1 to this version of MARTIAN RAINBOW ~ 11-30 Sept 1988 (I was reworking a number of later chapters to take care of a half-year error in the timeline between Earth and Mars. Ended up shifting the story 4 years." [see note dated 11 Sept 1988 after Chapter 13 (A4 paper)].
- Box 30,
Folders 4-5 ***Martian Rainbow. Includes autograph and correspondence to and from Lester del Rey, Del Rey Books 1989 March 2-May 20***
Annotation by Robert L. Forward, 20 May 1989
"Hopefully final version sent to Del Rey Books with corrections and changes (10) made in response to Lester del Rey letter of 2 March 1989.
Two xeroxes were made. One sent to Russell Galen for copying and distribution. One to Phyllis & Al Eisenstein for checking - I will collect and use."
- Box 30,
Folders 2-3 ***Martian Rainbow (galley proofs). Includes autograph, copyedits (photocopied), and correspondence between Robert L. Forward and publishing staff at Del Rey Books 1991***
- Box 21, Folder 1
Box 21, Folder 10 ***Martian Rainbow (page proofs). Includes copyedits 1991 February 8***
A Matter of Extreme Gravity (draft) circa 1985
Annotation by Robert L. Forward
"Found in 1994 while cleaning out Russell Galen's files at SMLA. Probably from circa 1985."
- Box 26, Folder 19 ***Monkeys to the Moon 1992 February 18***
Annotation by Robert L. Forward, 18 February 1992
"Sent to Analog."
-

Box 26, Folder 11

The Negative Matter Space Drive (four drafts). Includes copyedits 1989 August 6-9

Annotation by Robert L. Forward

"Submitted to *Analog* magazine."

Box 30,
Folders 7-8

Ocean Under Ice by Robert L. Forward and Martha Dodson Forward. Autographed with copyedits by Robert L. Forward and Martha Dodson Forward 1993 October 22-November 3

Annotations by Robert L. Forward

"Martha's Edit Started (in green ink) 23 October 1993. 28 October 1993 Bob started input of Martha's adds. 30 October 1993 - adding his own changes in at the same time. Martha's Edit Finished 3 Nov 1993."

Box 30,
Folders 9-10

Ocean Under Ice by Robert L. Forward and Martha Dodson Forward. Autographed with copyedits 1993 November 3-8

Annotations by Robert L. Forward

"4 November 1993 - Started next-to-final edit.
8 November 1993 - Finished."

Box 30,
Folders 11-12

Ocean Under Ice by Robert L. Forward and Martha Dodson Forward. Autographed with copyedits 1993 November 9-11

Annotations by Robert L. Forward

"9 November 1993 - Started final edit.
11 November 1993 - Disks off to Baen."

Box 30,
Folders 13-14

Ocean Under the Ice by Robert L. Forward and Martha Dodson Forward (galley proof). Autographed with copyedits 1994 March 10-31

Annotations by Robert L. Forward

"Received from Baen Books 10 March 1994. Corrections returned 12 March 1994. Corrected pages inserted back 31 March 1994."

Box 26, Folder 7
Box 26, Folder 10

Polesitters (three drafts). Includes copyedits 1989 July 31-August 3

Race to the Pole (three drafts). Includes copyedits 1989 June 8-July 31

Annotation by Robert L. Forward, 3 May 2002 (on separate sheet)

"Couldn't sell to *Analog* ended up putting it in *Indistinguishable From Magic*."

Box 18, Folder 2
Box 35,
Folders 11-12

Race to the Pole and Polesitters 1989 August 3

Return to Rocheworld by Robert L. Forward and Julie Forward Fuller. Autographed with copyedits 1992 January 15-26

Annotation by Robert L. Forward

"Next to last draft."

Box 35,
Folders 7-8
Box 35,
Folders 13-14

Return to Rocheworld by Dr. Robert L. Forward and Julie Forward Fuller 1992 January 26

Return to Rocheworld by Robert L. Forward and Julie Forward Fuller. Autographed by Robert L. Forward 1992 January 26

Annotation by Robert L. Forward

"Final Draft."

Box 35,
Folders 9-10

Return to Rocheworld by Robert L. Forward and Julie Forward Fuller (galley proofs). Includes copyedits and correspondence from Barbara Van Tine, Baen Books production manager 1992 September-October

Annotation by Robert L. Forward

"ready to bind."

- Box 25,
Folders 35-36
Box 34,
Folders 3-4
- Rescued from Paradise (A Rocheworld Book)* by Robert L. Forward and Julie Forward Fuller (galley proofs). Includes copyedits 1994**
***Rescued From Paradise (A Rocheworld Novel)* by Robert L. Forward and Julie Forward Fuller. Autographed by Robert L. Forward. Includes copyedits by Robert L. Forward and Julie Forward Fuller 1994 January 19-March 24**
Annotation by Robert L. Forward
"Replaced by disk from Julie - ooxxxxx.lst."
- Box 34,
Folders 1-2
- Rescued From Paradise* by Robert L. Forward and Julie Forward Fuller. Includes copyedits by Robert L. Forward and others, probably members of the Forward family March 1994**
Annotation by Robert L. Forward (on separate sheet)
"RFP Chapter Edits after 24 March 1994."
- Box 36,
Folders 1-9
- Rescued From Paradise (A Rocheworld Novel)* by Robert L. Forward and Julie Forward Fuller (four drafts). Autographed by Robert L. Forward. Includes copyedits by Robert L. Forward and Julie Forward Fuller 1994 May 4-July 2**
Annotation by Robert L. Forward (on separate sheet)
"4 versions including final one sent to Baen." [Each version has inscriptions.]
- Box 2, Folders 5-6
Box 37,
Folders 30-32
- Ridge the Magic Dragonfly* 1981 June 20**
***Rocheworld*. Autographed 1989 September 25**
Annotation by Robert L. Forward
"Copy 2 of original kept to compare with Baen page proof. Didn't need detailed comparison."
- Box 37, Folder 29
- Rocheworld* (page proofs). Includes copyedits, paperback cover, and correspondence from Allison Ort, Baen Books managing editor 1989 December 6-15, undated**
- Box 33, Folder 6
- Saturn Rukh*. Autographed with copyedits 1994-1995**
Annotation by Robert L. Forward
"Back to work on manuscript after finishing off NASA Phase I contract on Failsafe Multistrand Tethers."
- Box 33,
Folders 4-5
- Saturn Rukh*. Autographed with copyedits 1995 August 14-September 24**
Annotations by Robert L. Forward
"24 September 1995 - At IAD waiting 8 hours for flight to LHR.
11 October 1995 - Put in edits to chapters 00-04. 05-08 still draft notes."
- Box 33, Folder 3
- Saturn Rukh*. Autographed with copyedits 1995 October 13-November 16**
Annotations by Robert L. Forward
"14 November 1995 - Editing in Caithness General Hospital after "angina" attack. Corrections made by 16 Nov."
- Box 33,
Folders 1-2
- Saturn Rukh*. Autographed with copyedits by Robert L. Forward and Julie Forward Fuller 1995-1996**
Annotations by Robert L. Forward
"Edit completed March 18, 1996. Other comments by Julie Forward Fuller."
- Box 3, Folders 1-2
- Saturn Rukh* (galley proofs). Autographed with copyedits (photocopies). Includes correspondence from Tom Doherty Associates, Inc. editorial assistant to Robert L. Forward 1996**
- Box 3, Folders 3-4
- Saturn Rukh*. Autographed 1996 March 19**
-

Box 32,
Folders 26-27

Saturn Rukh. Autographed with copyedits 1996 March 19-July 19

Annotations by Robert L. Forward

"1 June 1996 - "Editor's Cut" Version. Going through again to: put in Latin Names, correct minor errors - and to make changes David Hartwell (the dreaded editor) would like to see made.

19 July 1996 - Inserting Changes."

Box 32,
Folders 23-24
Box 25, Folder 21

Saturn Rukh. Includes paperback cover and copyedits by Robert L. Forward and Tor Books copyeditors circa 1996-1998

Self-Limiting (two drafts). Includes copyedits 1991 May 11

Annotation by Robert L. Forward

"Sent to Stan Schmidt, Analog."

Box 26, Folder 8
Box 18, Folder 4

Starhope -- The World. Includes copyedits 1981 December 21-23

Timemaster. Autographed with copyedits 1989 September 4-October 6

Annotation by Robert L. Forward

"29 September 1989 - Returning to work on TIMEMASTER after spending almost full time in the last three weeks working on RW-II, the 155,000 word version of ROCHEWORLD. Now to get out my calculator and see if the plot line holds together at 1-30 gees instead of at 100 gees.

6 Oct 1989 - Was able to do it by reversing Randy travel. Will have to rework timeline."

Box 18, Folder 3
Box 18, Folder 6

Timemaster. Includes copyedits 1989 October 20-November 16

Timemaster. Autographed with copyedits 1989-1990

Annotation by Robert L. Forward

"Back to work on novel after having written or rewritten something like 8 papers and articles on advanced propulsion for my AFAL contract. One paper "Cable Catapult" has an "acknowledgement" to "Harold Randolph Hunter and his crew at Reinhold, Inc." since I invented the concept while writing the novel."

Box 27,
Folders 5-6

Timemaster. Autographed with copyedits 1990 September 7-15

Annotations by Robert L. Forward

"Starting final edit, on 12 September 1990.

Inserting corrections on 14 September 1990. Printing out as I go along. Should be done by tomorrow if printer holds out.

Printed out 14 Sept 1990. Will mail tomorrow."

Box 27,
Folders 2-4

Timemaster. Autographed with copyedits. Includes notes 1990-1991

Annotations by Robert L. Forward

"3 May 1991 - Reworking per Hartwell's suggestions.

15 May 1991 - Finished reworking.

Dear Archivist:

This stack is arranged in the order I worked on it. There are portions of chapters interleaved as flashbacks into other chapters, and some chapters were typed out, re-edited, and typed out again. A real mess - but that is the way I worked on it."

Box 35,
Folders 3-4
Box 26,
Folders 26-27

Timemaster. Includes copyedits and notes by David G. Hartwell, Tor Books editor 1991 February 22

Timemaster. Autographed with copyedits 1991 May 7-17

Annotation by Robert L. Forward

"Next to last draft of revised version."

Box 27, Folder 1,
Box 26, Folder 28
Box 26,
Folders 23-24

Timemaster (photocopy with autograph). Includes correspondence from Robert L. Forward to David G. Hartwell, Tor Books 1991 May 17
Timemaster. Autographed with copyedits. Includes two versions of chapter one 1991 May 17-July 12

Annotations by Robert L. Forward

"Working on second set of Hartwell corrections, plus any I come up with on re-read.
5 July 1991 - In Tigh Fada, Reay, Scotland. Will restart rework from beginning with shortened Chapter 1.
12 July 1991 - Typed out final version."

Box 35,
Folders 1-2
Box 34,
Folders 15-16
Box 28,
Folders 8-9

Timemaster. Autographed (photocopy). Includes correspondence from Russell Galen to David G. Hartwell, Tor Books 1991 July 12-23
Timemaster (galley proofs) 1992 January 21

Timemaster circa 1992

Annotation by Robert L. Forward (on separate sheet)

"Archivist: Manuscript returned from Tor Books w/o cover pages. It does not contain copyeditor marks."

Box 28,
Folders 6-7
Box 26, Folder 25

Timemaster. Includes copyedits by Tom Doherty Associates, Inc. (Tor Books) copyeditors 1992
Timemaster (advanced uncorrected proofs). Autographed. Bound by Tom Doherty Associates, New York 1992

Box 23,
Folders 1-2
Box 34,
Folders 17-18

Timemaster (galley proofs; photocopy). Includes copyedits and correspondence between Robert L. Forward and Donald G. Keller, Tor Books 1992
Timemaster (galley proofs). Autographed with copyedits. Includes correspondence between Robert L. Forward and Donald G. Keller, Tor Books 1992

Annotation by Robert L. Forward

"Copyedited 9 Jan 1992."

Box 26, Folder 9

Twin Paradox (two drafts). Includes copyedits 1982 May 10-16

Annotation by Robert L. Forward (on separate sheet)

"Sold to Analog in a drastically cut version. Full version in IFM."

Box 13, Folder 9
Box 14, Folder 14

Twin Paradox (two drafts). Includes copyedits 1982 May 21-August 14
A Very Heavy Touchstone. Review and narrative regarding the influence of the science-fiction novel Mission of Gravity 1985 December 28

Box 29, Folder 13
Box 21, Folder 3

When You Live Upon A Star (three drafts). Includes copyedits 1987 October 30-31
When you live upon a star...makes some difference what you are (photocopy). Feature prepared for New Scientist. Includes copyedits by Robert L. Forward and others, probably publishing staff undated

Box 26, Folder 18

Wizard of the Oz Project. Includes copyedits 1989 October 9

Annotation by Robert L. Forward, 13 January 1992

"Sometime in 1990 Roger Cook told me that the [Oz] proposal had not been approved higher-up. Later that year the Berlin Wall came down, and as of a few weeks ago, the U.S.S.R. ceased to exist. I therefore felt it was no longer necessary to keep these files encrypted, and typed them out for addition to my archives."

Sub-Series 2.3. Notes, artwork, and other material 1971-1997, undated

Sub-Series Access

Select items in this series are restricted. Access to these materials is subject to approval. Please contact Special Collections & Archives staff for more information.

Sub-Series Scope and Contents

This sub-series contains notes, correspondence, clippings, outlines, realia, and other material regarding the development and/or publication of Robert L. Forward's science-fiction stories and non-fiction writings. Materials provide contextual information about plot and other story elements, as well as insight into the hard science concepts developed chiefly for Forward's fiction. Many documents contained in this series are heavily copyedited and occasionally autographed. All copyedits and autographs were made by Dr. Forward unless otherwise noted. Bylines are provided exclusively for co-authored works, works by other authors, and works citing more than one creative role.

Because many folders maintain the original filing scheme of the creator, select records outside the scope of this sub-series are included.

Sub-Series Arrangement

This sub-series is arranged sequentially by box and folder number. Shelved material is listed at the end of the sub-series.

Sub-Series Note on *Timemaster*

While the bulk of the notes pertaining to *Timemaster* are explicitly identified as such by Dr. Forward, a small selection of novel-related notes were interfiled with research notes taken by Forward early in his career at Hughes. It is unclear whether or not Forward's notes from the 1960s directly influenced the later concepts used in the book.

Please consult "Sub-Series 5.10. Research notes and other material" for the interfiled story notes.

Box 1, Folder 4	Notes regarding <i>Timemaster</i> and other stories (includes photocopies). Issue 150 of <i>Fosfax</i> is also included 1977-1990
Box 1, Folder 7	<i>Wizardry</i> (first draft). Screenplay by Bob Forward (Robert D. Forward). Includes insert with comments by Robert L. Forward 1990
Box 3, Folder 5	Notes and correspondence regarding <i>Saturn Rukh</i>. Labeled "Saturn Rukh Art and Notes" 1981-1996, undated
Box 3, Folder 6	Correspondence, clippings, and excerpts from scientific publications consulted for <i>Rocheworld</i> 1972-1982, undated Annotation by Robert L. Forward (on separate sheet) "References I used while writing <i>Rocheworld</i> , including correspondence with Carl Richard Feynman, son of Prof. Richard Feynman."
Box 3, Folder 7	Forms, notes, and other material regarding the stylistic formatting and publication of <i>Flight of the Dragonfly</i> 1983, undated
Box 9, Folder 2	<i>Martian Rainbow</i> (Outline of 80,000 word novel) 1986 September 1
Box 9, Folder 3	Notes, clippings, and other material consulted for the writing of <i>Martian Rainbow</i> 1979-1988, undated
Box 9, Folder 5	Notes, drawings, drafts, and other material regarding <i>Rocheworld</i> (includes photocopies) 1979-1983, undated
Box 9, Folder 6, Box 12, Folder 6	Excerpts from books written by Robert L. Forward. Includes brief notes regarding the context and inspiration of the works 1986
Box 11	<i>Martian Rainbow</i> (Japanese translation; Hayakawa Bunko series, SF986). Translated by Akira Yamataka. Published by Hayakawa Shobō, Tokyo 1992
Box 12, Folder 2	Chapter outline and notes for the non-fiction work <i>Mirror Matter: Pioneering Antimatter Physics</i> by Robert L. Forward and Joel Davis undated
Box 12, Folder 7	Manuscript entitled <i>The World of Dragon's Egg</i> by Robert L. Forward. Includes story abstract and contextual information undated
Box 12, Folder 9	Documents regarding the book jacket design and text for <i>Mirror Matter: Pioneering Antimatter Physics</i> by Robert L. Forward and Joel Davis 1988, undated

Box 15, Folder 4	Outlines for science-fiction stories entitled <i>Supernova!</i> and <i>How Swift-Rider Got Her Name</i> (includes photocopy) 1980-1982
Box 15, Folder 9	Outline entitled <i>Saturn Rukh (Premise for a Hard Science Fiction Novel)</i> (two drafts; one copyedited by Robert L. Forward). Includes notes and correspondence from Russell Galen and Carl Sagan 1992-1993
Box 16, Folder 1	Manuscripts, notes, and line copies regarding Robert L. Forward's role as Science Consultant for the television series <i>Starhope</i> (includes photocopies). Developed by Ted A. Pedersen and John Joachims for K-Bella/Hanna-Barbera Australia 1981-1986
Box 16, Folder 2	Correspondence between Robert L. Forward and Julie Forward Fuller regarding their co-authorship of <i>Return to Rocheworld</i> (includes reproductions). Drafts, excerpts, and notes are also included 1991, undated
Box 16, Folder 3	Outline entitled <i>Preliminary Treatment for Dragon's Egg Movie</i>. Includes copy of <i>Dragon's Egg: A Motion Picture Treatment</i> by Ted Pedersen with copyedits by Robert L. Forward 1980-1986
Box 16, Folder 4	Outlines and correspondence regarding the sequels to <i>Rocheworld</i>. Documents primarily pertain to character development 1991, undated
Box 16, Folder 5	Technical reports (fictional) with copyedits by Robert L. Forward regarding <i>Rocheworld</i> scientific data. Includes notes and correspondence between Robert L. Forward and co-author Julie Forward Fuller 1991, undated
Box 16, Folder 6	Script for the BBC program <i>Timelords</i>, for which Robert L. Forward was Science Consultant. Includes copyedits 1996
Box 16, Folder 7	Outline entitled <i>Lord Over the Darkness (Premise)</i>. Includes copyedits 1990 April 29
Box 16, Folder 8	Outlines and correspondence regarding a hard science-fiction adventure novel entitled <i>Heaven Must Fall</i> (includes reproductions). Correspondence is primarily between Robert L. Forward and Robert D. Forward. Includes copyedits 1990-1991
Box 17, Folder 8	Outline entitled <i>Lord Over the Darkness</i> (three drafts). Includes copyedits 1990 April 28-29
Box 18, Folder 1	<i>The Negative Matter Space Drive</i>. Concept to be used in a novel 1989 August 9
Box 18, Folder 5	<i>Adam's Ribs</i>. Contribution to the SFWA Cookbook Project, Astrid Anderson Bear, Editor 1988 March 4
Box 18, Folder 7	Notes regarding <i>Timemaster</i>, attached to excerpts from the novel. Includes notes regarding <i>Lord Over the Darkness</i> 1989-1990
Box 18, Folder 9	<i>Timemaster (Outline for a novel)</i>. Includes notes and correspondence from Baen Books 1989-1990
Box 20, Folder 11	Outline with notes for a story entitled <i>Go Beyond -- Again</i> circa 1975-1976
Box 20, Folder 16	Outline entitled <i>Journey to the Center of the Earth (feature proposal)</i> written by Bob Forward (Robert D. Forward; reproduction). Includes copyedits 1990 May 2
Box 20, Folder 17	Outlines, notes, drafts, and other material regarding science-fiction and science fact projects by Robert L. Forward and others (includes photocopies). Includes copyedits by Robert L. Forward and others 1971-1982, undated
Box 20, Folder 20	Illustration labeled "<i>Dragon's Egg</i> by Robert L. Forward, A Hayakawa Edition, Japan" undated Annotation by Robert L. Forward "Tentative cover for Japanese edition. I rejected it because of scientific inaccuracy."
Box 20, Folder 22	<i>Timemaster (Outline for a novel)</i>. Includes copyedits and correspondence from Robert L. Forward to Russell Galen (photocopy) 1989 April 19
Box 25, Folder 39	Outline, notes, and drafts for <i>Marooned on Eden</i> by Robert L. Forward and Martha Dodson Forward 1991, undated

- Box 26, Folder 13 **Outline entitled *Heaven Must Fall* by Robert L. Forward and Robert D. Forward (four drafts). Includes copyedits 1991-1992**
Annotation by Robert L. Forward, 26 September 1992 (on February 21, 1991 draft)
"Had a long talk with Rob today, and we decided to try and do this work jointly - 50:50 - if we could get our agents to come up with an equitable solution. Rob called Candy. She felt that under the conditions the various agents, Russ, Candy, & Henry - would come up with an equitable solution. I am to call Russ and get things started. I will write first draft - (after Rob & I have agreed on outline) - Rob will made hero & villain come alive and activate action scenes, and I will do final draft."
- Box 26, Folder 15 **Outline entitled *Saturn Rukh (Premise for a Hard Science Fiction Novel)* (two drafts). Includes copyedits 1992 October 27-29**
- Box 26, Folder 20 **Outline entitled *Saturn Rukh* undated**
- Box 26, Folder 21 **Outline entitled *Saturn Rukh (Premise for a Hard Science Fiction Novel)*. Includes correspondence from Robert L. Forward to Russell Galen 1992 December 12**
- Box 26, Folder 22 **Outline entitled *Prospectus for the Hawke Space Resort*, associated with the story *Heaven Must Fall*. Includes copyedits undated**
- Box 27, Folder 7 **Notes regarding *Timemaster* 1989-1991**
- Box 27, Folder 8 **Correspondence between Robert L. Forward and David Hartwell, Tor Books, regarding *Timemaster*. Includes pages from the novel with copyedits by Hartwell circa 1992**
- Box 27, Folder 15 **Outlines and background story notes regarding *Camelot 30 K* (originally entitled *Camelot Titania*). Includes copyedits 1990 October 26, undated**
- Box 28, Folder 5 **Notes, correspondence, excerpts from scientific publications, and other material used as "background notes" for *Camelot 30 K* (includes photocopies) 1989-1992, undated**
- Box 28, Folder 10 **Notes by Simon & Schuster publishing staff regarding copyediting of *The Flight of the Dragonfly*, originally inserted in manuscript. Includes comments by Robert L. Forward undated**
- Box 29, Folder 14 **Autographed paperback copy of *Indistinguishable From Magic*. Includes publicity ephemera (photocopy) 1995**
- Box 30, Folder 6 **Outlines (two) and notes regarding *Ocean Under Ice* by Robert L. Forward and Martha Dodson Forward. Includes original outline by Robert L. Forward and Eve Laurel Forward 1991-1993, undated**
- Box 32, Folder 10 **Inventories of articles and stories written by Robert L. Forward (handwritten). Includes information regarding publication and payment circa 1975-1983**
Note on Access
Restricted.
- Box 32, Folder 13 **Notes labeled "Singing Diamond" (includes photocopies) 1978, undated**
- Box 32, Folder 22 **Autographed hardback copy of *Saturn Rukh* 1997**
- Box 32, Folder 25 **Computer art by Geoffrey Leet for *Saturn Rukh* 1996 August 20**
Annotation by Robert L. Forward, 20 August 1996
"Draft Artwork for Saturn Rukh. Done by Geoffrey Leet, Thurso, Caithness (personal friend)."
- Box 33, Folder 18 **Clippings regarding reviews of *Ocean Under Ice* by Robert L. Forward and Martha Dodson Forward (includes photocopies) 1994-1995, undated**
- Box 33, Folder 20 ***Magic Matter*, essay excerpted from *New Destinies*. Includes copyedits (photocopy) undated**
- Box 33, Folder 38 **Paperback copy of *Rescued From Paradise* by Robert L. Forward and Julie Forward Fuller. Booklist reviews of the novel are inserted 1995**
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Box 34, Folders 5-6	Outlines, notes, correspondence, and drafts regarding the writing of <i>Rescued From Paradise</i> by Robert L. Forward and Julie Forward Fuller (includes reproductions) 1992-1993, undated Annotations by Robert L. Forward (on separate sheet) "Various early drafts and development of Outline, Timeline, and "Bibles" for Aliens in discussions with co-author Julie Forward Fuller. 9 May 1993 - Various rewrites of Outline, Timeline, Wereshark Bible, and Jolly Bible for Julie and I to work toward in writing RESCUED FROM PARADISE."
Box 35, Folders 5-6 Box 36, Folders 10-11	Outlines, notes, and correspondence regarding <i>Rocheworld</i> sequels (includes reproductions) 1979-1994, undated Miscellaneous drafts. Includes interfiled notes, inscriptions, and copyedits 1978-1989 Annotation by Robert L. Forward (on separate sheet) "Various Drafts of published stories and magazine articles."
Box 39, Folder 3	Audiocassette labeled "Tape #30 / Loscon 9 / 662 - Rocheworld: Slide Show / Dr. Forward discusses his novel. / (EB)" 1982
Box 39, Folder 3	Audiocassette labeled "Science Fiction Radio Show / Program Number__Crystal Music 1, Paul O. Williams 2-4, Robert Forward 5 / Aired Dec 31 / David Carson - Daryl Lane / Odessa College, TX 79762" 1983
Box 39, Folder 3	Audiocassette labeled "Science Fiction Radio Show / Forward & Patterson / May 30 - June 3" 1983
Box 39, Folder 3	Audiocassette labeled "Science Fiction Radio Show / Program Number__43-82 Forward 1-3 / Iron Dream 4-5" 1982
Box 39, Folder 3	Audiocassette labeled ""Life on a Neutron Star" / Dr. Robert L. Forward / IguanaCon II. 36th World SF Convention" undated
Box 39, Folder 3	Audiocassette labeled ""Far Out Physics" / Dr. Robert Forward" (Side 1) and ""Far Out Physics concl." (Side 2) undated
Box 39, Folder 3	Audiocassette labeled "TBHawley? - 2 Nov 89 - Forward" 1989 November 2
Box 39, Folder 6	Sculpture (clay?) of a Cheela undated
Box 40, Folder 2	Paintings on cardboard canvases (four) depicting Cheela, probably by Robert L. Forward 1979
shelf On Shelf	<i>Martian Rainbow</i> (signed first edition) 1991

Series 3. Correspondence 1932-2001, undated

Series Access

Select items in this series are restricted. Access to these materials is subject to approval. Please contact Special Collections & Archives staff for more information.

Series Scope and Contents

This series contains the bulk of Robert L. Forward's personal and professional correspondence. Many of these records were explicitly identified as yearly correspondence files at the time of acquisition, and are in the form of letters, faxes, e-mails, and postcards. Correspondents include colleagues, science-fiction authors, students, fans, business associates, family, and others. Topics primarily pertain to Forward's professional areas of expertise, his scientific and literary careers, and extracurricular projects and programs with which he was involved, such as the *Mirror Matter* newsletter and The British Interplanetary Society peer-reviewed journal. The majority of post-1980 incoming correspondence contains annotations by Dr. Forward which typically indicate the nature and tenor of his replies.

Due to the papers' arrangement, much of the correspondence is related to Dr. Forward's literary contracts and negotiations, as well as freelance speaking or writing engagements.

For additional correspondence regarding Forward's business endeavors, please consult "Series 1. Official documents."

Because many folders maintain the original filing scheme of the creator, select records outside the scope of this series are included.

Series Arrangement

This series is arranged sequentially by box and folder number.

Box 12, Folder 8
Box 14, Folder 19

Correspondence (includes photocopy) 1993-1998, undated
Correspondence (includes reproductions) 1989-1990

Note on Access

Includes restricted materials.

Box 14, Folder 20
Box 15, Folder 1

Correspondence (includes photocopies) 1988
Correspondence (includes reproductions) 1992-1993

Note on Access

Includes restricted materials.

Box 15, Folder 2

Correspondence (includes reproductions) 1991, 1994

Note on Access

Includes restricted materials.

Box 15, Folder 3

Correspondence (includes reproductions) 1995-1996

Note on Access

Includes restricted materials.

Box 15, Folder 10
Box 19, Folder 4

Correspondence 1992-1993, undated
Correspondence (includes reproductions) 1987-1990

Note on Access

Includes restricted materials.

Box 20, Folder 13

Correspondence (includes photocopies) 1985-1991, undated

Note on Access

Includes restricted materials.

Box 20, Folder 19
Box 21, Folder 13
Box 24, Folder 3

Correspondence 1989-1990
Correspondence (includes reproductions) 1974-2000
Correspondence (includes reproductions) 1989-1991, undated

Box 28, Folder 12	Correspondence (includes reproductions). Notes and drafts regarding <i>Saturn Rukh</i> are also included 1960-1994 Note on Access Includes restricted materials.
Box 28, Folders 13-14	Correspondence (includes reproductions). Clippings, ephemera, and other material are also included 1962-1997, undated Note on Access Includes restricted materials.
Box 28, Folder 15	Correspondence (includes reproductions). Clippings, ephemera, and other material are also included 1941-2001, undated Note on Access Includes restricted materials.
Box 28, Folder 16	Correspondence (includes reproductions) 1982 Note on Access Includes restricted materials.
Box 28, Folders 17-18	Correspondence (includes photocopies) 1983 Note on Access Includes restricted materials.
Box 29, Folder 1	Correspondence (includes reproductions) 1984 Note on Access Includes restricted materials.
Box 29, Folder 2	Correspondence (includes reproductions) 1985 Note on Access Includes restricted materials.
Box 29, Folder 3	Correspondence (includes reproductions) 1986 Note on Access Includes restricted materials.
Box 29, Folder 4	Correspondence (includes reproductions) 1987 Note on Access Includes restricted materials.
Box 29, Folders 5-6	Correspondence (includes reproductions) 1988 Note on Access Includes restricted materials.
Box 29, Folder 7	Correspondence (includes reproductions) 1989 Note on Access Includes restricted materials.
Box 29, Folder 8 Box 32, Folder 3	Correspondence (includes reproductions) 1990 Correspondence (includes reproductions) 1990-1991 Note on Access Includes restricted materials.

Box 32, Folders 5-6	Correspondence (includes reproductions) 1991 Note on Access Includes restricted materials.
Box 32, Folder 11 Box 32, Folder 16	Correspondence (includes reproductions) 1991-1996, undated Correspondence (includes reproductions) 1983-1992, undated Note on Access Includes restricted materials.
Box 32, Folders 17-18	Correspondence (includes reproductions) 1982-1994, undated Note on Access Includes restricted materials.
Box 32, Folder 19	Correspondence (includes reproductions) 1989-1994, undated Note on Access Includes restricted materials.
Box 37, Folder 3	Correspondence (includes photocopies) circa 1984-1988, undated Note on Access Includes restricted materials.
Box 37, Folder 4 Box 37, Folder 5 Box 37, Folder 6 Box 37, Folder 7 Box 37, Folder 8 Box 37, Folder 9 Box 37, Folder 10 Box 37, Folder 11	Correspondence 1932-1937 Correspondence 1940-1944, undated Correspondence 1953-1959 Correspondence (includes reproductions) 1960 Correspondence 1961 Correspondence (includes photocopies) 1962 Correspondence (includes photocopies) 1963 Correspondence (includes photocopies) 1964 Note on Access Includes restricted materials.
Box 37, Folder 12 Box 37, Folder 13 Box 37, Folder 14 Box 37, Folder 15 Box 37, Folder 16 Box 37, Folder 17	Correspondence 1965 Correspondence (includes photocopies) 1966 Correspondence (includes photocopies) 1967 Correspondence (includes photocopies) 1968 Correspondence (includes photocopies) 1969 Correspondence (includes photocopies) 1970 Note on Access Includes restricted materials.
Box 37, Folder 18 Box 37, Folder 19	Correspondence (includes photocopies) 1971 Correspondence (includes photocopies) 1972 Note on Access Includes restricted materials.
Box 37, Folder 20 Box 37, Folder 21	Correspondence (includes photocopies) 1973 Correspondence (includes photocopies) 1974 Note on Access Includes restricted materials.
Box 37, Folder 22	Correspondence (includes photocopies) 1975

Box 37, Folder 23	Correspondence (includes photocopies) 1976 Note on Access Includes restricted materials.
Box 37, Folder 24 Box 37, Folder 25	Correspondence (includes photocopies) 1977 Correspondence (includes photocopies) 1978 Note on Access Includes restricted materials.
Box 37, Folder 26	Correspondence (includes reproductions) 1979 Note on Access Includes restricted materials.
Box 37, Folder 27	Correspondence (includes photocopies) 1980 Note on Access Includes restricted materials.
Box 37, Folder 28	Correspondence (includes reproductions) 1981 Note on Access Includes restricted materials.

Series 4. Memorabilia and personal items circa 1865-2000, undated

Series Scope and Contents

This series contains publications, clippings, awards, photographs, artwork, and other material collected by Dr. Forward that documents his personal life and professional accomplishments. Publications include popular and academic serials, often featuring articles by or about Forward, as well as programs and other literature produced in conjunction with professional conferences. While select documents may be classified as scientific research, it is evident that the materials in this series were preserved for commemorative, rather than professional, purposes.

For writings preserved as evidence of Dr. Forward's research, please consult "Series 5. Scientific research."

Series Arrangement

This series is arranged sequentially by box and folder number. Shelved material is listed at the end of the series.

Box 1, Folder 1	Clippings, papers, and other material regarding Robert L. Forward's childhood and personal accomplishments 1932-1943, undated
Box 1, Folders 2-3	Black-and-white photographs, color photographs, color slides, and negatives regarding the life and work of Robert L. Forward. Images document Forward's childhood and family, career at Hughes Research Laboratories, and other subjects circa 1865-1998, undated
Box 2, Folders 1-3	Clippings, magazines, and other popular publications featuring articles by or about Robert L. Forward, or referencing his work (includes photocopies) 1990-1999
Box 5, Folders 3-4, Box 6, Folder 1	Newsletters, pamphlets, prints, and other ephemera regarding space exploration projects and research, primarily those funded by NASA and managed by the Jet Propulsion Laboratory circa 1958-1987, undated
Box 6, Folder 2	Newsletters, pamphlets, prints, and other ephemera regarding the NASA Voyager Mission (includes photocopies). Clippings regarding other topics are also included 1957-1986, undated
Box 6, Folder 3	Fliers, pamphlets, and other ephemera regarding science fiction and fantasy literature. Includes National Geographic poster regarding the solar system 1948-1984, undated

Box 7, Folders 4-6	Journals, magazines, and other publications (academic and popular) regarding physics, space exploration, and related topics. Select issues feature articles by or about Robert L. Forward, or referencing his work 1981-1991
Box 8, Folders 1-2	Journals, magazines, and other publications (academic and popular) regarding physics, space exploration, and related topics. Select issues feature articles by or about Robert L. Forward, or referencing his work 1962-1990, undated
Box 9, Folder 7	Sermons, programs, and notes regarding Robert L. Forward's guest sermons delivered at the Church of the Foothills, a United Church of Christ-Congregational institution 1968-1982, undated
Box 12, Folder 4	Manuscript (untitled), probably a biography of Robert L. Forward. Includes copyedits by Robert L. Forward undated
Box 12, Folder 5	Manuscript entitled <i>USAA Presents <u>Future Flight</u>: A One Hour Television Special Saluting Tomorrow's Top 10 Air & Space Adventures</i> . Created by Arnold Shapiro and Jean O'Neill 1986
Box 12, Folder 12	Clippings, conference materials, and other publications featuring articles by or about Robert L. Forward, or referencing his work 1961-1991, undated
Box 13, Folder 12	License plate of Robert L. Forward, personalized "NTRSTLR." circa 1992
Box 13, Folder 13	Appointment books and passports 1983-1992
Box 18, Folder 12	Clippings and magazines featuring articles by or about Robert L. Forward, or referencing his work (includes photocopies) 1989-1990, undated
Box 20, Folder 14	Fliers and other ephemera regarding Robert L. Forward speaking engagements 1990, undated
Box 20, Folder 23	Booklet entitled <i>Robins Air Force Base "Pass in Review!": 1953 AFROTC Summer Camp 1953</i>
Box 20, Folder 24	Caricature of Robert L. Forward. Signed Prosser 89 1989 Annotation by Robert L. Forward "Vikingcon X Program Book."
Box 21, Folder 7	Program for the Eleventh Annual J. Lloyd Eaton Conference on Science Fiction & Fantasy, entitled <i>Styles of Creation: Aesthetic Technique and the Creation of Fictional Worlds</i> April 14-16, 1989
Box 21, Folder 8	Narrative by Martha Dodson Forward regarding a trip to Japan. Includes note from Robert L. Forward to Shiro Nagano, Governor of Okayama Prefecture (reproduction) 1991
Box 21, Folder 9	File labeled "Forward: Personal Info." Includes clippings, ephemera, official documents, and other material regarding the life and career of Robert L. Forward (includes photocopies) 1976-1991, undated Note on Access Includes restricted materials.
Box 22, Folders 1-2	Clippings, magazines, and other material featuring articles by or about Robert L. Forward, or referencing his work (includes photocopies) 1986-2000, undated
Box 22, Folder 3	Journals, narrative, and other material regarding Robert L. and Martha Dodson Forward's 1979 Scotland trip and Seacon '79 convention (includes photocopies) 1979, undated
Box 23, Folder 6	Magazine (Italian) with article about Robert L. Forward's <i>Project Solar Sail</i>. Includes correspondence to Robert L. Forward from author 1993-1994
Box 25, Folder 31	Booklet entitled <i>Executive Summary of The Space Summit: An International Conference on Manned Space Exploration</i>. Includes correspondence and certificate of appreciation from the National Space Club 1990
Box 32, Folder 8	Clippings, fliers, and other ephemera regarding Robert L. Forward's literary works and scientific career (includes reproductions) 1965-1994, undated
Box 32, Folder 9	Illustrations by Robert D. Forward and other material (includes photocopies) 1979-1981, undated Annotation by Robert L. Forward, 3 May 2002 "My son, Robert D. Forward, did these cartoons for me to use as letterheads."

Box 32, Folder 12	Documents regarding the Aerojet Propulsion Research Institute 1985, undated Annotation by Robert L. Forward "Was interviewed by Dan Raymer to join group. Aerojet dropped plans shortly after."
Box 32, Folder 21	Manuscript entitled <i>Imagining the Future-Possible</i> by William G. Doty regarding science-fiction literature (photocopy) undated
Box 33, Folder 19	Manuscript entitled "<i>Ad Astra!</i>" by Ulyana Horodyskyj regarding her admiration of Robert L. Forward December 2000 Annotation by Robert L. Forward "A+ writing assignment."
Box 33, Folder 32	Manuscript entitled <i>Death of the Impossible</i> regarding the career of Robert L. Forward (author unknown). Autographed with copyedits by Robert L. Forward November 3-6, 1989 Annotations by Robert L. Forward "Rec. 11/6/89. Returned 6 Nov 1989."
Box 33, Folder 35	Directory entitled <i>Contact Listing and Personal Profile from The Soviet Watchers: A Biographical Directory to Western Sources of Information on Soviet Space Efforts</i> . Presented to Robert L. Forward in appreciation for his participation in this project by C. Blake Powers. Includes correspondence from C. Blake Powers October 1989
Box 35, Folders 15-16	Clippings, magazines, and other publications featuring articles by or about Robert L. Forward, or referencing his work. Includes magazine used by Martha Dodson Forward when writing <i>Marooned on Eden</i> and photocopy of <i>Silver Quill</i> Vol. I No. II, published by Montgomery Blair Senior High School (Forward's alma mater) 1950-1992
Box 36, Folder 12	Magazines and convention programs featuring articles by or about Robert L. Forward, or referencing his work 1992-1994
Box 37, Folder 2	Résumés of Robert L. Forward (includes photocopies) circa 1974, undated
Box 37, Folder 33	Book entitled <i>The Complete Registry of the Forwards in America</i> by Sharon Taylor. Includes certificate of authenticity 1986
Box 37, Folders 37-38	Magazines featuring articles by or about Robert L. Forward, or referencing his work. Includes unrelated publications 1961-1989
Box 38, Folders 1-2	Magazines featuring articles by or about Robert L. Forward, or referencing his work. Includes material regarding fiction writing and other topics 1978-1991
Box 38, Folder 4	Plaque containing the inscription "Icon X Scientist Guest of Honor <i>Dr. Robert L. Forward</i> Presented by the Science Fiction Forum of the State University of New York at Stony Brook April 19-April 21, 1991." April 19-21, 1991
Box 39, Folder 1	Award (silver rocket on wood base) with inscription "Sixth Space Development Conference "Return to the Vision" May-1987 "Space Pioneer Award" Scientist/Engineer." May 1987
Box 39, Folder 2	Certificate (Japanese) 1990 Annotation by Robert L. Forward "Certificate from Japanese SF Society awarding Robert L. Forward a "Star Cloud" award for the best non-fiction book in 1990. "Future Magic" published in Japanese by Hodansha. The "Lucky Cat" goes with this."
Box 39, Folders 7-8	Floppy disks (13 items), some labeled 1993, undated
Box 40	Certificate with the inscription "Star Cloud Prize / Robert L. Forward, Mr. / Your <u>Dragon's Egg</u> / Translated in Showa 57 / Out of the Many Submitted, the Fans Chose from the Foreign Novels, to Present the Top Prize / A Souvenir is Being Presented / Showa 58 August 21 (1983) / Japan SF Fan Group Conference / Chairman, Kadokura, Junichi" (English translation). Mounted on wood plaque August 21, 1983
Box 40	Poem entitled <i>Dragon's Egg</i> by V. Pace (handwritten in calligraphic script). Mounted on wood plaque undated

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| Box 40 | Certificate with the inscription "The Gravity Research Foundation of New Boston, New Hampshire awards to Robert L. Forward This Certificate for Outstanding Achievement in the Science of Gravity." Mounted on wood plaque 1965 |
| Box 40, Folder 1 | Color photograph possibly depicting an early laser interferometer and associated electronics taken at Hughes Aircraft Company circa 1966-1970 |
| Box 40, Folder 1 | Color photograph depicting the entrance to <i>Einstein: A Centenary Exhibition</i>, held at the National Museum of History and Technology in 1979 1979? |
| shelf On Shelf | Award (gold rocket on wood base) with inscription "Foreign Long Novel Category Nebula prize presented to Robert Forward" (Japanese) circa 1991 |

Series 5. Scientific research 1953-2000, undated

Series Scope and Contents

This series represents the oeuvre of Robert L. Forward's scientific work, containing journals, papers, articles, lectures, technical reports, notes, and other material regarding his career as a physicist and consultant. Materials document a variety of topics, including Forward's work at Hughes Research Laboratories, professional publications and research, and consultant services undertaken for separate projects and contracts. While the bulk of the records were created by, or pertain to, Dr. Forward, the intellectual products of other scientists are also included.

Because many folders maintain the original filing scheme of the creator, select records outside the scope of this series are included.

Series Arrangement

This series is arranged into ten sub-series according to genre/format or subject of materials:

Sub-Series 5.1. Articles and manuscripts, 1960-1996, undated

Sub-Series 5.2. Conference papers and abstracts, 1985-1990, undated

Sub-Series 5.3. Contract reports and other documents, 1983-2000, undated

Sub-Series 5.4. Lectures, seminars, and workshops, 1974-1995, undated

Sub-Series 5.5. Notebook (handwritten), 1966-1972

Sub-Series 5.6. Papers (bound), 1956-1986

Sub-Series 5.7. Projects, 1972-1996, undated

Sub-Series 5.8. Proposals, 1969-1995, undated

Sub-Series 5.9. Research notes and other material, 1953-1998, undated

Sub-Series 5.10. Technical writings (bound), 1964-1988

Sub-Series 5.1. Articles and manuscripts 1960-1996, undated

Sub-Series Scope and Contents

This sub-series documents the scientific research of Dr. Robert L. Forward that was published in the form of professional, scholarly articles. This includes draft versions of manuscripts, the bulk of which contain copyedits, as well as clippings and copies of published articles. Select academic articles by other scientists are also included. Bylines are provided exclusively for co-authored works, works by other authors, and works citing more than one creative role. All copyedits were made by Robert L. Forward unless otherwise noted.

This sub-series also contains clippings from popular publications regarding the work of Robert L. Forward, which attest to his achievements in the field of science.

For clippings preserved as commemorative items, please consult "Series 4. Memorabilia and personal items."

Sub-Series Arrangement

This sub-series is arranged sequentially by box and folder number.

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|-----------------|--|
| Box 8, Folder 3 | <i>How to Build an Antigravity Machine, Space Elevators, and Mirror Matter 1978-1985</i> |
| Box 8, Folder 5 | <i>Antimatter--The Ultimate Fuel, How to Build a Time Machine, Life on a Neutron Star, and How to Build an Antigravity Machine December 6, 1978-October 3, 1979</i> |

Box 8, Folder 8	Negative Matter Propulsion (two drafts; one handwritten). Autographed with copyedits February 15, 1987-October 17, 1988 Annotation by Robert L. Forward, 17 Oct 1988 "Trying to cut down paper for publication."
Box 8, Folder 9	Clippings of scientific articles published in popular and academic publications (photocopies) 1981-1986, undated
Box 8, Folder 10	Pluto - Doorway to the Stars by George Peterson Field (manuscript; photocopy) 1961
Box 8, Folder 11 Box 12, Folder 3	A Star is Born circa 1978 Response of Detectors to Gravitational Radiation from Collapsing Stars and Binary Systems by J. Weber and R. Clemens (photocopy). Technical Report No. 878, University of Maryland Department of Physics and Astronomy, College Park, Maryland. Includes annotations undated
Box 12, Folder 14	Documents, forms, clippings, and other material regarding the writing and publication of scientific articles (includes photocopies) 1984-1986, undated
Box 13, Folder 1	Correspondence, draft, and reprints regarding the publication of <i>The Statite: A Spacecraft That Does Not Orbit</i> 1989-1991
Box 13, Folder 10	Gravity Dynamics. Includes copyedits August 15-September 4, 1982
Box 13, Folder 11	Gravity in Motion (formerly Gravity Dynamics). Includes copyedits September 4-7, 1982
Box 14, Folder 1	Starship History (four drafts). Includes copyedits October 7-November 2, 1982
Box 14, Folder 2	Vodka Power. Includes copyedits October 10-19, 1982
Box 14, Folder 8	Mirror Matter (newsletter; multiple issues). Edited by Robert L. Forward 1986-1990
Box 14, Folder 10	Extracting Electrical Energy from the Vacuum by Cohesion of Foliated Conductors August 22, 1983
Box 14, Folder 13	Perforated Solar Sail Study. Includes notes on the topic May 9, 1983-November 21, 1986, undated
Box 14, Folder 15	Physics - General Developments (four drafts). Reviews of recent developments in the field of physics, probably written for the <i>Yearbook of Science and the Future</i>. Includes copyedits January 11, 1983-January 15, 1989
Box 16, Folder 9	Advanced Space Propulsion (five drafts). Includes copyedits and photocopy of published article February 20-May 23, 1990
Box 17, Folder 9	Grey Solar Sails (two drafts). Includes reprints and galley proof copies April 13, 1988-October 11, 1989
Box 17, Folder 12	Negative Matter, formerly On Negative Matter (four drafts). Includes copyedits. Submitted to <i>New Scientist</i> for publication October 24-25, 1989
Box 19, Folder 5	Physics: General Developments. Entry for <i>Encyclopaedia Britannica: 1988 Yearbook of Science and the Future</i>. Includes copyedits January 1, 1987
Box 19, Folder 8	Starwisp: An Ultra-Light Interstellar Probe (photocopy) 1985
Box 19, Folder 9	Generation and Detection of Dynamic Gravitational-Gradient Fields (reprint). Includes notes (photocopies) 1965-1969
Box 20, Folder 1	Roundtrip Interstellar Travel Using Laser-Pushed Lightsails (two reprints) 1984, undated
Box 20, Folder 2	Clippings, manuscripts, and presentation printouts regarding interstellar travel. Includes material by Robert L. Forward, or referencing his work (includes photocopies) 1980-1987, undated
Box 20, Folder 4	New Source for Dynamical Gravitational Fields by J. Sinsky and J. Weber (photocopy) and Generation and Detection of Dynamic Newtonian Gravitational Fields at 1660 cps by J.A. Sinsky (reprint) 1967-1968 Annotations by Robert L. Forward, 1987 Sinsky and Weber: "See last paragraph. Weber did not allow mention of my dynamic gravity field work, published before this." Sinsky: "Does not mention my dynamic gravitational field work published in 1967."

- Box 20, Folder 5 ***Light-Levitated Geostationary Cylindrical Orbits Using Perforated Light Sails.*** Includes report and clipping by other authors 1979-1983
- Box 20, Folder 6 ***Aliens in Our Seas* (two copies) August 11, 1980**
- Box 20, Folder 8 ***Spin Drive to the Stars.*** Includes photocopies of published article March 23, 1980
- Box 20, Folder 10 ***Advanced Propulsion (Preliminary Outline).*** Commissioned by Aerospace America, AIAA, 370 L'enfant Promenade SW, Washington, DC 20024 for July 1990 Special Issue on Propulsion. Includes copyedits by Robert L. Forward and outside reviewers February 7, 1990
- Box 20, Folder 18 **Illustrations from "A Program for Interstellar Exploration" by Dr. Robert L. Forward.** Original artwork by Seichi Kiyohara, Hughes Research Laboratories. Includes reprints of text circa 1975-1976
- Box 20, Folder 21 ***The Weber Effect* (three drafts).** Includes copyedits May 4, 1989
- Box 21, Folder 4 ***Mirror Matter Newsletter* (complete bound series).** Printed and distributed by Forward Unlimited June 1986-May 1990
- Annotation by Robert L. Forward**
- This has been filed with the copyright office as a book. Put in University catalog files as a book. Library of Congress refused to give ©.
- Box 21, Folder 5 **Clippings regarding works by Robert L. Forward and others (includes photocopies) 1969-1989, undated**
- Box 23, Folder 3 **Correspondence, drafts, and journal regarding the publication of *Light-Levitated Geostationary Cylindrical Orbits: Correction and Expansion in The Journal of the Astronautical Sciences* Vol. 38, No. 3 1988-1990**
- Box 23, Folder 4 **Correspondence, documents (invention disclosure), reprints, and other material regarding the publication of *Solar Photon Thruster* in the *Journal of Spacecraft and Rockets*, Vol. 27, No. 4 1988-1990**
- Box 23, Folder 5 ***Nullor Space Drive.*** Labeled "Original to Nullor Space Drive." 1990
- Box 23, Folder 7 ***Surgical Strikes From Space Using Solar Sail Statites* (six drafts).** Includes copyedits, drawings, and notes November 5, 1990-January 22, 1991, undated
- Annotation by Robert L. Forward**
- "Idea used in *Martian Rainbow*."
- Box 23, Folder 8 ***The Cable Catapult: Putting It There and Keeping It There* by Robert L. Forward, Buford Ray Conley, Clay Stanek, and William Ramsey (two versions).** Includes correspondence, notes, and other documents 1991-1992, undated
- Annotation by Robert L. Forward**
- "Started as a sole-author paper, but brought in some students."
- Box 24, Folders 1-2 ***Lifetime of a Circularly Symmetric Singly-Crosslinked Multistrand Tether* by Robert L. Forward and Rob Hoyt, *Constant Length Bridging of Cuts in Tether Structures*, and *Comparative Lifetimes of Non-Interconnected Multistrand Tethers.* Appendices A, B, and D for the report *Failsafe Multistrand Tethers for Space Propulsion.* Includes copyedits and notes 1991-1992, undated**
- Box 25, Folder 4 ***Appendix E: Meteoroid and Space Debris Crater Rate Model* by Robert L. Forward and Stan Love (two drafts, probably included in *Failsafe Multistrand Tethers for Space Propulsion*).** Includes copyedits and correspondence 1991-1992
- Box 25, Folder 7 ***Oz Project.*** September 12, 1989
- Box 25, Folder 12 ***Mirror Matter* nos. 15 and 16 (drafts).** Includes copyedits 1989
- Box 25, Folder 17 ***Instructions and user license for Tether Analysis: Software for Analyzing Space Tether Systems* (IBM version).** Created by Hoyt Starcraft 1992
- Box 25, Folder 18 ***Using Lasers to Extract Energy from Nuclear Shape Isomers.*** Includes copyedits August 18, 1992
- Box 25, Folder 20 ***Diamond Fuel Tanks for Metallic Hydrogen Fuel* (two abstracts) and *Diamond Fuel Tanks for High Pressure HEDM Fuels* (Appendix B; two drafts).** Includes notes and copyedits November 29, 1989-March 16, 1991, undated

- Box 25, Folder 22 **21st Century Space Propulsion (photocopy). Excerpted from *The Journal of Practical Applications in Space* Vol. II, No. 2 1991**
- Box 25, Folder 23 ***The Weber Effect Experiments (Appendix C; five drafts). Includes copyedits February 26-March 1, 1991***
- Box 25, Folder 24 ***Negative Matter Propulsion (Russian translation; photocopy) 1988***
- Box 25, Folder 26 **Physics: General Developments (clippings of entry from *Encyclopaedia Britannica Yearbook of Science and the Future 1984-1989* editions) 1983-1989**
- Box 25, Folder 27 ***Interstellar Travel: A Review for Astronomers* by I.A. Crawford (reprint) 1990**
- Box 25, Folder 30 ***Polestat (two drafts). Includes copyedits February 4, 1991***
- Annotation by Robert L. Forward**
- "Printed in *Analog*. Reworking for *New Scientist*."
- Box 25, Folder 33 ***Billiard Balls in Wormhole Spacetimes with Closed Timelike Curves: I. Classical Theory* by Fernando Echeverria, Gunnar Klinkhammer, and Kip S. Thorne (manuscript; photocopy) October 29, 1990**
- Annotation by Kip S. Thorne**
- "Bob Forward, This is a working draft, but it may interest you in connection with Timemaster. Note especially Section 3 & Figure 8. Were you aware that following your idea (Fig 8b) one can get an infinite number of solutions?"
- Annotation by Robert L. Forward**
- "My novel, Timemaster, made a major contribution to this scientific paper while the novel was still being written."
- Box 26, Folder 6 ***Technological Limits to Space Exploration: Can We Sail to the Stars? (three drafts). Contribution to the National Air and Space Museum *Where Next, Columbus?* book. Includes copyedits, reproductions, and business correspondence 1991-1992***
- Box 26, Folder 16 ***Antimatter (five drafts). Includes copyedits October 13-16, 1992***
- Annotation by Robert L. Forward**
- "Feature article for the *Annual Yearbook of Science & Technology* for *Encyclopaedia Britannica*."
- Box 31,
Folders 8-9 **File labeled "Drafts of Technical Papers." 1984-1988, undated**
- Box 31,
Folders 10-11 **File labeled "Drafts of Technical Papers." 1984-1989**
- Box 32, Folder 15 ***Proof-of-Concept Demonstration of Antiproton Propulsion* by B. Augenstein et al (white paper) 1985**
- Box 33, Folder 10 ***Advanced Propulsion Systems (page proofs). Chapter 11, probably from the reference book *Spacecraft Propulsion Analysis and Design 1995****
- Box 33, Folder 14 ***Measurement of Casimir Stress Produced Anisotropic Inertial Mass (three drafts). Includes copyedits September 16-17, 1995***
- Box 33, Folder 15 ***Mass Modification Experiment Definition Study: An Air Force Report (page proofs). Submitted for publication in the *Journal of Scientific Exploration*. Includes copyedits 1996***
- Box 33, Folder 16 **Correspondence, notes, and excerpts regarding the publication of *Natural Wormholes as Gravitational Lenses* by John G. Cramer et al. (includes reproductions) 1994-1995, undated**
- Box 33, Folder 17 ***Alien Abodes Between Neptune and the Stars 1983-1996***
- Box 33, Folder 25 ***Space Slings. Includes photocopies November 16, 1993***
- Box 33, Folder 28 ***Using Lasers to Extract Energy From Nuclear Shape Isomers August 19, 1992***
- Box 33, Folder 31 ***The Journal of Social, Political and Economic Studies*, Winter 1990, Vol. 15, No.4. Includes article *Advanced Space Propulsion 1990***
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Box 37, Folder 1	<i>Horizon Missions Volume I: Technology Concept Study.</i> Published by the Office of Aeronautics and Space Technology, National Aeronautics and Space Administration, Washington, DC 20546. Includes correspondence from NASA April 1992
Box 37, Folder 35	<i>Do Vacuum Fluctuations Prevent the Creation of Closed Timelike Curves?</i> by Sung-Won Kim and Kip S. Thorne (preprint) 1990
Box 38, Folder 11	<i>General Relativity for the Experimentalist.</i> Hughes Research Laboratories Research Report No. 161. Includes clipping about Robert L. Forward August 30, 1960
shelf On Shelf	<i>Detectors for Dynamic Gravitational Fields</i> (University of Maryland doctoral dissertation) 1965

Sub-Series 5.2. Conference papers and abstracts 1985-1990, undated**Sub-Series Scope and Contents**

This sub-series is comprised of drafts and reprints of papers presented at, or submitted to, professional conferences. A brief description or summary of the conference, as well as the date and location of the event, is listed on the title page of each document. Occasionally, Dr. Forward also identified the panel or session for which the paper was submitted. Select papers include copyedits, notes, or other documents pertaining to the subsequent revision and publication of the conference paper. All copyedits were made by Dr. Forward.

Sub-Series Arrangement

This sub-series is arranged sequentially by box and folder number.

Box 14, Folder 12	<i>Solar Photon Thrustor</i> (reprint and abstract) and <i>Continuously Viewable Non-Geosynchronous Broadcast Spacecraft</i> (abstract). Submitted to the AIAA/ASME/SAE/ASEE 25th Joint Propulsion Conference, Monterey Conference Center, Monterey, California (10-14 July 1989) November-December 1988, 1989
Box 15, Folder 5	<i>Advanced Propulsion Concepts in the U.S.A.</i> 36th International Astronautical Congress, Stockholm, Sweden, 7-12 October 1985 1985
Box 16, Folder 10	<i>The Cable Catapult</i> (two drafts). Paper submitted to Space Transfer Vehicle Technology Session, Frank D. Berkopoc, Chairman, AIAA/ASME/SAE/ASEE 26th Joint Propulsion Conference, Marriott Orlando World Center, Orlando, Florida, USA 16-18 July 1990. Includes copyedits January 4-5, 1990
Box 17, Folder 1	<i>Light-Levitated Geostationary Cylindrical Orbits: Correction and Expansion</i> (four drafts). To Be Presented At Space Commercialization: Roles of Developing Countries, Nashville, Tennessee, USA, 5-10 March 1989. Revised for publication in AAS Journal of the Astronautical Sciences. Includes copyedits April 21, 1988-February 2, 1990
Box 17, Folder 2	<i>The Statite: A Spacecraft that Does Not Orbit</i> (four drafts; one abstract). Presented at the AIAA/ASME/SAE/ASEE 25th Joint Propulsion Conference, Monterey Conference Center, Monterey, California (10-14 July 1989). Revised for publication in the AIAA Journal of Spacecraft and Rockets. Includes reprint January 26-February 3, 1990
Box 17, Folder 3	<i>Space Warps: A Review of One Form of Propulsionless Transport.</i> To be presented at the AIAA/ASME/SAE/ASEE 25th Joint Propulsion Conference, Monterey Conference Center, Monterey, California (10-14 July 1989). Includes reprints of published article 1989
Box 17, Folder 5	<i>Negative Matter Propulsion</i> (two drafts). Presented at the AIAA/ASME/SAE/ASEE 24th Joint Propulsion Conference, Boston, Massachusetts, 11-13 July 1988. Accepted for publication in the AIAA <i>Journal of Propulsion and Power</i>. Includes reprints, photocopy, galley proof, and publication forms May 30, 1988-1990
Box 17, Folder 7	<i>Exotic Power and Propulsion Concepts</i> (two drafts). Keynote speech presented at Vision-21, Space Travel for the Next Millennium, NASA Lewis Research Center, Cleveland, Ohio, USA, 3-4 April 1990. Includes copyedits March 21-30, 1990

- Box 17, Folder 10 ***Diamond Fuel Tanks for Metallic Hydrogen Fuel.* Abstract submitted to High Energy Density Propulsion Systems Session, Mark Sorensen, Chairman, AIAA/ASME/SAE/ASEE 26th Joint Propulsion Conference, Marriott Orlando World Center, Orlando, Florida, USA, 16-18 July 1990 November 29, 1989**
- Box 17, Folder 10 ***Lightsails from the Earth to the Stars.* Abstract submitted to "Solar Sails: The Future is Here" Session, Thomas H. Penn, Chairman, AIAA Aerospace Engineering Conference and Show, Los Angeles Airport Hilton, Los Angeles, California, USA, 13-15 February 1990 January 16, 1990**
- Box 18, Folder 10 ***Microwave Beam Riders for Planetary Exploration.* Reprint from AIAA/SAE/ASME/ASEE 26th Joint Propulsion Conference, July 16-18, 1990, Orlando, Florida 1990**
- Box 18, Folder 11 ***Nullor Space Drive (two drafts).* Prepared for AIAA/SAE/ASME/ASEE 26th Joint Propulsion Conference, July 16-18, 1990, Orlando, Florida. Includes copyedits, reprints, and notes 1990, undated**
- Box 20, Folder 15 ***21st Century Space Propulsion.* Presented at the 9th Annual International Space Development Conference, Anaheim, California, USA, 25-28 May 1990. Previously presented at Vision 21 - Space Travel for the Next Millennium, NASA Lewis Research Center, Cleveland, Ohio, USA, 3-4 April 1990 May 8, 1990**
- Box 25, Folder 14 ***Space Warps: A Review of One Form of Propulsionless Transport.* Originally presented at the AIAA/ASME/SAE/ASEE 25th Joint Propulsion Conference, Monterey Conference Center, Monterey, California (10-14 July 1989) August 5, 1989**
- Annotation by Robert L. Forward**
"Space Warps. Turning AIAA paper into a JBIS publication."
- Box 25, Folder 25 ***Exotic Propulsion in the 21st Century.* Prepared for Proceedings of American Astronautical Society 33rd Annual Meeting, Boulder, Colorado (27-29 Oct. 1986) October 29, 1986**
- Box 33, Folder 29 ***The Cable Catapult (three drafts).* Paper submitted to Space Transfer Vehicle Technology Session, Frank D. Berkopec, Chairman, AIAA/ASME/SAE/ASEE 26th Joint Propulsion Conference, Marriott Orlando World Center, Orlando, Florida, USA 16-18 July 1990. Includes copyedits December 30, 1989-January 4, 1990**
- Box 33, Folder 33 ***Solar Photon Thrustor (two drafts).* Presented at the AIAA/ASME/SAE/ASEE 25th Joint Propulsion Conference, Monterey Conference Center, Monterey, California (10-14 July 1989). Revised for publication in the AIAA Journal of Spacecraft and Rockets 9 January 1990. Includes copyedits 1989-1990**
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Sub-Series 5.3. Contract reports and other documents 1983-2000, undated

Sub-Series Scope and Contents

This sub-series contains technical reports, notes, correspondence, drafts, and other material regarding contract projects completed by Robert L. Forward. Dr. Forward typically served as the principal, and sole, investigator for these projects, the bulk of which were sponsored by U.S. government entities. Clients include the Air Force Astronautics Laboratory, NASA, and the Jet Propulsion Laboratory. Project titles and contract numbers are provided when known. Select documents contain copyedits by Robert L. Forward.

Many of the technical writings included here pertain to projects documented elsewhere in the collection. For additional records regarding Robert L. Forward's contractual work, please consult "Series 1. Official documents" and "Sub-Series 5.10. Technical writings (bound)."

Sub-Series Arrangement

This sub-series is arranged sequentially by box and folder number.

- Box 1, Folder 6 ***21st Century Space Propulsion Study (three drafts; one abstract).* Final Report for the period 30 July 1987 to 30 April 1990. Contract F04611-87-C-0029. Includes copyedits November 29, 1989-August 1990, undated**
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Box 2, Folder 4	Lecture (transparencies) for the Informal Program Review presentation of the 21st Century Space Propulsion Study, AFAL contract F04611-87-C-0029, August 1987 to July 1990 April 15, 1988
Box 12, Folder 11	Advanced Propulsion Research Definition Study: Interim Annual Report. JPL Contract 959317, Subcontract Under NASA Contract NAS7-918, Task Order No. RE-156. Includes draft entitled <i>Beamed-power propulsion</i> April 1993, undated
Box 13, Folder 6	Lecture, progress reports, and other material regarding work for the Air Force Astronautics Laboratory. Contract F04611-86-C-0039, Advanced Air Propulsion Study 1983-1987, undated
Box 15, Folder 11	Correspondence, notes (witnessed and dated), drafts, and other material regarding miscellaneous contract projects (includes photocopies) 1983-1993, undated
Box 19, Folder 6	Lecture and reports regarding work for the Air Force Astronautics Laboratory. Contract F04611-86-C-0039, Advanced Space Propulsion Study 1987
Box 21, Folder 12	Interstellar Propulsion Concepts Assessment. Final Report on Purchase Order H-30839D placed by NASA/Marshall Space Flight Center MSFC, AL 35812. Covering the Reporting Period From 19 March 1999 through 5 October 1999 February 17, 2000
Box 23, Folder 9	Failsafe Multistrand Tethers for Space Propulsion (two copies). Final Report NAS8-39318 - SBIR 91-1 Phase I Research Study. Prepared for James K. Harrison, Code FA34, NASA/Marshall Space Flight Center, MSFC, AL 35812. Includes related article July 1992
Box 25, Folder 3	Advanced Propulsion Research Definition Study: Interim Report Number 2: Novel Propulsion Engineering Concepts. JPL Contract 959317, Subcontract Under NASA Contract NAS7-918, Task Order No. RE-156. Includes copyedits July-August 1992
Box 25, Folder 29	21st Century Space Propulsion Study. Final Report for the period 30 July 1987 to 30 April 1990. Prepared for the Astronautics Laboratory (AFSC), Air Force Space Technology Center, Space Systems Division, Air Force Systems Command, Edwards AFB CA. Contract F04611-87-C-0029 October 1990
Box 29, Folder 11	Tether-Assisted Planetoid Sampler (TAPS). Final report on JPL Contract 960735 October 31, 1996
Box 33, Folder 8	Mass Modification Experiment Definition Study. Final report prepared for Phillips Laboratory, Propulsion Directorate, Air Force Material Command, Edwards Air Force Base, CA. Contract F04700-95-M-4216 February 1996
Box 33, Folder 11	Correspondence, report, official documents, and other material regarding Robert L. Forward's Mass Modification Experiment Study (includes photocopies). Prepared for Phillips Laboratory, Propulsion Directorate, Air Force Material Command, Edwards Air Force Base, CA. Contract F04700-95-M-4216 1990-1996
Box 33, Folder 22	Advanced Propulsion Research Definition Study: Third Annual Final Report. JPL Contract 959317, Subcontract Under NASA Prime Contract NAS7-1260, Task Order No. RF-156. For the period 13 April 1994 to 12 April 1995 May 1995
Box 33, Folder 24	Failsafe Multistrand Tether Seds Technology Demonstration: Second Bi-Monthly Technical Report. NASA Contract NAS8-40545 with NASA/George C. Marshall Space Flight Center, MSFC, AL 35812 based on NASA SBIR Phase I Proposal 94-1 09.09-7652. Report submitted by Tethers Unlimited, Dr. Robert L. Forward and Dr. Robert P. Hoyt, Partners April 24, 1995
Box 33, Folder 37	Alternate Propulsion Energy Sources: Final Technical Report. Contract F04611-83-C-0013, Air Force Rocket Propulsion Laboratory, LKDH, Edwards AFB, CA 93523 October 1983

Sub-Series 5.4. Lectures, seminars, and workshops 1974-1995, undated

Sub-Series Scope and Contents

This sub-series is comprised of material prepared for, or documenting, lecture, seminar, and workshop presentations given by Robert L. Forward. Formats include transparencies and other visual aids, computer printouts, drawings, notes, drafts, and audiovisual recordings. Materials pertain to science-fiction and hard science topics and events.

Sub-Series Arrangement

This sub-series is arranged sequentially by box and folder number.

- Box 8, Folder 6 ***Far Out Physics (An Illustrated Lecture) by Dr. Robert L. Forward; illustrations by Robert D. Forward. Originally presented at the Annual Conference of Science Fiction Writers of America, Century Plaza Hotel, Los Angeles, California, 27 April 1974 1974***
- Box 8, Folder 12 ***A Matter of Extreme Gravity. Notes for a seminar extrapolating the future trends of science in the field of gravitation. Presented on 27 April 1977 for one class of the UCLA Extension course - "Deep Prophecy - The Meeting of Science and Fiction" organized by Jerry Pournelle and Larry Niven 1977***
- Box 9, Folder 4 ***Prospects for Antiproton Production and Propulsion (two drafts). Submission to be published in the Proceedings of the Cooling, Condensation, and Storage of Hydrogen Cluster Ions Workshop at SRI International, Menlo Park, California 8-9 January 1987. Includes copyedits 1986-February 4, 1987***
- Box 14, Folder 3 ***Contribution to Micro Spacecraft for Space Science Workshop: Jet Propulsion Laboratory, Pasadena, California, 6-7 July 1988. 1988***
- Box 14, Folder 9 ***Laser Weapon Target Practice with Gee-Whiz Targets. Prepared for the Laser Propulsion Workshop, Lawrence Livermore National Laboratory, Livermore, California, 7-18 July 1986. Includes draft and notes 1986***
- Box 21, Folder 2 ***Drawings and computer renderings (reproductions) for a presentation on the Starwisp project. Includes copyedits October 19, 1989, undated***
- Box 25, Folder 19 ***World Technology in the Far Future (lecture) 1991***
Annotation by Robert L. Forward
"First draft of talk given in Okayama, Japan, 6 June 1991."
- Box 25, Folder 32 ***World Technology in the Far Future (lecture; bound). Includes copyedits 1991***
Annotation by Robert L. Forward
"Final version of talk given in Okayama, Japan, 4 June 1991."
- Box 29, Folder 9 ***Beamed Energy Systems (lecture; transparencies) undated***
- Box 29, Folder 10 ***Radioisotope Sails for Deep Space Propulsion and Electrical Power (lecture and reprint) 1995, undated***
- Box 33, Folder 12 ***Report on the NASA/JPL Workshop on Advanced Quantum/Relativity Theory Propulsion by Gary L. Bennett et al. (report and lecture). Microwave Beam Riders for Planetary Exploration (abstract and reprint) 1989-1995***
- Box 39, Folder 3 ***Audiocassette labeled "Futuristic Propulsion Concepts / UCSD Seminar June 1976 / Part I" (Side A) and "Part II" (Side B) June 1976***
- Box 39, Folder 3 ***Audiocassette labeled "Gravity and the Curvature of the Universe 2/2/78 / Robert L. Forward, Ph.D." (two tapes, #3 and #3B). Produced by UCLA Extension February 2, 1978***
- Box 39, Folder 3 ***Audiocassette labeled "SWE Conv. 27 June 1981 - Disneyland / Dr. Robert L. Forward Instellar Flight Systems." June 27, 1981***
- Box 39, Folder 3 ***Audiocassette labeled "SWE Conv. 28 June 1981 - Disneyland / Technical Panel #1." June 28, 1981***
- Box 39, Folder 3 ***Audiocassette labeled "SWE Conv. 28 June 1981 - Disneyland / Technical Panel #2." June 28, 1981***
- Box 39, Folder 3 ***Audiocassette labeled "Antimatter Propulsion / Science Track - Friday PM / 1989 Space Development - Chicago / Tape # 5520." 1989***
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Box 39, Folder 3

Audiocassette labeled "English: New Horizons #1383 Flight to the Stars / For: Mallove/Curr AFF." undated

Box 39, Folder 4

Videocassette labeled "AIAA Television Conference 18 April 1985 / Dr. Robert L. Forward / Antimatter-Annihilation Propulsion." April 18, 1985

Sub-Series 5.5. Notebooks (handwritten) 1966-1972

Sub-Series Scope and Contents

This sub-series contains personal journals maintained by Dr. Robert L. Forward during an eight-year period of his time at Hughes Research Laboratories (1966-1972). While they primarily document daily activities and projects undertaken at Hughes, the earliest journal is described by Dr. Forward as "a separate notebook for professional work outside of Hughes." Dr. Forward inscribed his contact information on the inside cover of each journal and identified the date of his writings on the title page. He began the Hughes journals while an Associate Manager in the Theoretical Studies Department, transitioning to the position of Manager in the Exploratory Studies Department after less than one year. Contents include narrative entries, notes regarding departmental and other meetings at Hughes, and mathematical and scientific equations and diagrams pertaining to projects and experiments.

Sub-Series Arrangement

This sub-series is arranged chronologically.

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Notebook (handwritten) March 1966-July 1967

Notebook (handwritten) July 1967-February 1968

Notebook (handwritten) March-August 1968

Notebook (handwritten) August 1968-January 1969

Notebook (handwritten) January 26-July 9, 1969

Notebook (handwritten) July-November 1969

Notebook (handwritten) December 1969-April 1, 1970

Notebook (handwritten) April-November 1970

Notebook (handwritten) November 1970-August 1971

Notebook (handwritten) August 1971-March 1972

Sub-Series 5.6. Papers (bound) 1956-1986

Sub-Series Scope and Contents

This sub-series contains the papers of Robert L. Forward that were selected for binding in book form by Dr. Forward. The papers are primarily composed of scientific articles, reports, and texts that were published in professional journals, presented at conferences, or prepared for projects at Hughes Research Laboratories. The bulk of the papers have indices listing the individual works featured in the respective volume, as well as the date of publication or authorship. Both single-authored and co-authored works are included. All volumes are bound with the exception of "Papers 1986," which was selected for binding by Dr. Forward but never completed.

Because the records are in original order, select volumes contain materials outside the scope of this sub-series. These are mainly literary works, including copyedited manuscripts and photocopies of published pieces, and copies of Forward's U.S. patents. For descriptions regarding Dr. Forward's literary works, please consult "Series 2. Literary works." For descriptions regarding his U.S. patents, please consult "Series 1. Official documents."

Sub-Series Arrangement

This sub-series is arranged chronologically.

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"Papers 1956 to 1960" (includes index) 1956-1960

"Papers 1961-1962" (includes index) 1961-1962

"Papers 1963" (includes index) 1963

"Papers 1964" (includes index) 1964

shelf On Shelf	"Papers 1965" (includes index) 1965
shelf On Shelf	"Papers 1966" (includes index) 1966
shelf On Shelf	"Papers 1967" (includes index) 1967
shelf On Shelf	"Papers 1968" (includes index) 1968
shelf On Shelf	"Papers 1969" (includes index) 1969
shelf On Shelf	"Papers 1970" (includes index) 1970
shelf On Shelf	"Papers 1971" (includes index) 1971
shelf On Shelf	"Papers 1972" (includes index) 1972
shelf On Shelf	"Papers 1973" (includes index) 1973
shelf On Shelf	"Papers 1974" (includes index) 1974
shelf On Shelf	"Papers 1975" (includes index) 1975
shelf On Shelf	"Papers 1976" (includes index) 1976
shelf On Shelf	"Papers 1977" 1977
shelf On Shelf	"Papers 1978" 1978
shelf On Shelf	"Papers 1979" (2 volumes; includes index) 1979
shelf On Shelf	"Papers 1980" (includes index) 1980
shelf On Shelf	"Papers 1981" (2 volumes; includes index) 1981
shelf On Shelf	"Papers 1982" (includes index) 1982
shelf On Shelf	"Papers 1983" (includes index) 1983
shelf On Shelf	"Papers 1984" (includes index) 1984
shelf On Shelf	"Papers 1985" (2 volumes; includes index) 1985
Box 32,	"Papers 1986" (includes index) 1986
Folders 1-2	Annotation by Robert L. Forward "ready for binding."

Sub-Series 5.7. Projects 1972-1996, undated**Sub-Series Scope and Contents**

This sub-series contains manuscripts, correspondence, audiovisual recordings, and other material regarding prospective or extracurricular projects with which Robert L. Forward was involved. These include projects affiliated with Forward's consulting firm, Forward Unlimited, as well as locally and nationally organized science initiatives he contributed to. Audiovisual recordings, in particular, capture Forward's participation as an interviewee for science media projects, including documentaries and radio shows.

Sub-Series Arrangement

This sub-series is arranged sequentially by box and folder number.

Box 1, Folder 5	Abstracts, papers, lectures, and other material regarding research projects of Forward Unlimited (includes photocopies) 1989-1990, undated
Box 17, Folder 6	<i>Future Bonuses from our Space Investment (two drafts)</i>. Prepared for Col. Simon P. Worden, Director of Advanced Concepts, National Space Council. Includes notes March 4, 1990
Box 19, Folder 7	Documents regarding gravity gradiometer applications to navy problems (photocopies). Based on research conducted at Hughes Research Laboratories 1972-1976, undated
Box 25, Folder 5	<i>Failsafe Multistrand Tethers for Space Propulsion (project summary and abstract)</i>. Includes copyedits 1991-1992
Box 25, Folder 16	Correspondence and documents regarding innovative technical ideas for the U.S. Moon/Mars Space Exploration Initiative (includes photocopies). Submitted to the National Space Council 1990-1991
Box 38, Folder 6	Videocassette labeled "Future Fantastic - Prog 6 "Weird Science", TX: 09/08/96, VHS NTSC, NO BITC." September 8, 1996
Box 39, Folder 5	Videocassette labeled "Omni Productions / Omni - The New Frontier / Episode 18 / 28:25 / 3/25/82." March 25, 1982

Box 40, Folder 3

Long-playing records (two) of the radio program Future File. Includes broadcasts for the weeks of June 23, 1980 and July 6, 1981 1980-1981

Annotations by Robert L. Forward [on record covers]

"One or more tracks interview with Dr. Robert L. Forward."

Sub-Series 5.8. Proposals 1969-1995, undated

Sub-Series Scope and Contents

This sub-series contains written proposals for various research and experimentation projects in the field of physics, primarily those developed by Robert L. Forward. The bulk of the proposals were prepared for U.S. government entities, including the Department of Defense, Air Force, and National Science Foundation. Select proposals contain copyedits by Forward, or supplementary correspondence and/or other documents. Bylines are provided exclusively for works by other authors.

Sub-Series Arrangement

This sub-series is arranged sequentially by box and folder number.

Box 15, Folder 12

Correspondence, proposal, and other documents regarding research on ultracold neutrons and their use for national security operations (photocopies) 1969-1976, undated

Box 17, Folder 4

Unconventional Neutrino Sensor for Army ASAT Program (draft and final proposal). Includes copyedits 1990

Box 17, Folder 11

World Space Foundation Solar Sail Project: Statite Proposal for Robert Forward circa 1989

Box 25, Folder 6

Advanced Propulsion Research Definition Study (proposal). Unsolicited proposal submitted to Jet Propulsion Laboratory. Includes correspondence 1991-1992

Annotation by Robert L. Forward, 7 April 1992

"Negotiated a version of this. \$20,630."

Box 25, Folder 8

Unconventional Neutrino Sensor for Future Naval Warfare (proposal; photocopy). Submitted to U.S. Department of Defense Small Business Innovation Research (SBIR) Program May 24, 1991

Annotation by Robert L. Forward

"Not funded."

Box 25, Folder 9

Breakout Propulsion Technologies Study (proposal; photocopy) April 27, 1991

Box 25, Folder 11

Continuously Hovering Solar Sail Statite for Polar Science & Operations (proposal). Submitted to National Science Foundation Small Business Innovation Research Program. Includes documents from the National Science Foundation and photocopies 1993-1994

Annotation by Robert L. Forward

"Declined 4 April 1994 - Crowley - Tech Evaluator."

Box 25, Folder 13

21st Century Astronautics Study (proposal; three drafts). Submitted to the United States Air Force. Includes copyedits July 3-7, 1989

Box 25, Folder 28

Unconventional Neutrino Sensor for Army ASAT Program (proposal; photocopy). Submitted to U.S. Department of Defense Small Business Innovation Research (SBIR) Program. Includes correspondence from the Department of the Army 1990 Correspondence, notes, and other material regarding the TSAR proposal of Tethers Unlimited (includes reproductions) 1995

Box 33, Folder 9

Box 33, Folder 21

New Millenium Technology for the Modular Architectures and Multifunctional Systems Integrated Product Development Team for a Demonstration of Atmospheric Tether Apparatus (two versions of proposal). Includes lecture 1995

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| Box 33, Folder 36 | Drafts and other documents regarding the proposal <i>21st Century Space Propulsion Study</i> (includes photocopies). Submitted to the Air Force Rocket Propulsion Laboratory 1983-1986, undated |
| Box 37, Folder 34 | <i>Independent Corroboration of the Weber Effect [Unsolicited Proposal]</i> by R.O. Newlon May 17, 1989 |
| Box 37, Folder 36 | <i>Electrically Accelerated Antimatter for Space-Based Particle Beam Weapons: A New and Innovative Concept for the Strategic Defense Initiative</i> (proposal). Submitted to the U.S. Department of Energy by the Pacific-Sierra Research Corporation February 1986 |
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Sub-Series 5.9. Research notes and other material 1953-1998, undated

Sub-Series Scope and Contents

This sub-series contains research notes, correspondence, manuscripts, and other material regarding Robert L. Forward's academic study of physics and the scientific concepts and inventions developed by him over the course of his career. Materials particularly document Forward's work with conceptual, or "exotic," physics and inventions related to interstellar space exploration and antimatter. Records included here are not identified as pertaining to his literary works, though there are exceptions resulting from the existing order of the files.

Sub-Series Arrangement

This sub-series is arranged sequentially by box and folder numbers.

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| Box 9, Folder 8 | Manuscripts, excerpts, and report regarding the research of physicists (includes photocopies). Select materials reference or acknowledge the work of Robert L. Forward 1966-1987, undated |
| Box 12, Folder 1 | Research notes, bibliography, and other material regarding physics topics 1988, undated |
| Box 12, Folder 13 | Research notes and correspondence regarding conceptual physics inventions by Robert L. Forward 1993, undated |
| Box 12,
Folders 15-16 | Manuscripts, papers, clippings, and other material regarding Robert L. Forward's research of propulsion and interstellar flight and exploration (includes photocopies) 1963-1987, undated |
| Box 13, Folder 5 | Research notes, correspondence, manuscripts, and other material regarding Robert L. Forward's Polestat concept (includes photocopies) 1987-1993, undated |
| Box 14, Folder 17 | Clippings, ephemera, programs, and other material regarding the Gravity Research Foundation, Gravity Day, and the study of gravity (includes photocopies) 1962-1984, undated |
| Box 15, Folder 6 | Research notes regarding interstellar propulsion, light sails, and other conceptual physics topics. Includes concepts developed by Robert L. Forward in collaboration with Freeman J. Dyson 1983-1987, undated |
| Box 18, Folder 8 | Research notes regarding Forward's research of radioisotope sails, space drives, and related topics at Hughes Research Laboratories. Includes interfiled notes pertaining to the novel <i>Timemaster</i> September 1962-May 23, 1990, undated |
| Box 19, Folder 1 | Manuscripts, reprints, clippings, and other material regarding the scientific research of Joseph Weber. Many documents contain inscriptions by Robert L. Forward 1953-1987, undated |
| Box 19, Folder 2 | File labeled "Ideas." Includes research notes, manuscripts, forms (invention disclosures), and other material created and accumulated by Robert L. Forward while employed at Hughes Research Laboratories (includes photocopies) 1958-1989, undated |

Annotation by Robert L. Forward, 28 May 1987

"Archivist:

This was my file for wild ideas, thoughts, things to work on later. I retire in 2 1/2 months so later is now. I will pass through this collection, throw out "ideas" that are not mine, copy the few that I might discuss in my present AFAL contract, and let you have the bulk."

- Box 19, Folder 3 **Research notes labeled "Search for Non-Newtonian Potential." 1964-1987, undated**
- Box 20, Folder 7 **Research notes and documents labeled "Possible Gravitational Experiments" (photocopies) 1961-1966, undated**
- Box 20, Folder 9 **Manuscripts, clippings, and excerpts regarding supernovae, interstellar propulsion and travel, and other topics (includes photocopies) 1974-1989, undated**
- Box 20, Folder 12 **Drawings labeled "Flat Solar Sail Stable Regions" and "Stable Regions Solar Photon Thrustor." Autographed by Robert L. Forward January 15, 1990**
- Box 21, Folder 11 **Research notes regarding a cardio cyclotether (cardio rotovator) December 12-14, 1998**
- Box 25, Folder 15 **Research notes regarding perforated light sails May 8-9, 1983**
 Annotation by Robert L. Forward
 "Perforated Sails notes needs to be put with manuscripts."
- Box 28, Folder 11 **Model (representation) identified as "tether samples." undated**
- Box 32, Folder 20 **Research notes from Robert L. Forward's final notebook (# N5765) kept at Hughes Research Laboratories (photocopies) 1987**
- Box 33, Folder 7 **Research notes and report regarding TSS-2 Hoytether developed by Robert L. Forward and Robert P. Hoyt 1996**
- Box 39, Folder 3 **Audiocassette labeled "Gods Universe (contd on side 2)." undated**
- Box 38, Folder 5 **16mm motion picture regarding gravitational radiation research at the University of Maryland September 25, 1963**
 Annotation by Robert L. Forward
 "16mm Color Work Print taken by BBC on 9-25-63 of University of Maryland Gravitational Radiation Experimental Apparatus. Robert L. Forward, Joseph Weber, David Zipoy, Joel Sinsky, David Hines, Mrs. Brown (sec.)."
- Box 38, Folder 7 **Videotape regarding the Weber Bar undated**
 Annotation by Robert L. Forward
 "Damaged Weber Bar Movie. Damaged sprockets mended by Smithsonian."
- Box 38, Folder 8 **Videotape from Hughes Aircraft Company labeled "Electric Damping 2 min 23 sec version, product 3234, copy 1, 10 minutes, 300 feet." June 7, 1978**
- Box 38, Folder 9 **Videotape from Hughes Aircraft Company labeled "Electric Damper Starring Robert L. Forward & Cesar DeAnda, product 3302, copy 2, 6 minutes, 200 feet." October 20, 1978**
- Box 38, Folder 10 **Seismographic data graph capturing a 48 hour period May 13, 1965?**
 Annotation by Robert L. Forward, 14 August 1986
 "The data on which my thesis was based. This roll also appears as a bit player in opening scenes of "Dragon's Egg" where it rolls along a table and off onto the floor."
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Sub-Series 5.10. Technical writings (bound) 1964-1988**Sub-Series Scope and Contents**

This sub-series contains technical reports, proposals, studies, drafts, and other research-related material selected for binding in book form by Dr. Forward. The contents of each volume chiefly pertain to a common project or research initiative, which Dr. Forward identifies on the volumes' title pages. While the format of these identifications varies, they often include a brief description or summary, date range, or alphanumeric notation for the project. For those select volumes lacking a title proper, descriptive information is taken from other parts of the item.

Dr. Forward served as the Principal Investigator or Manager for the majority of these endeavors, which were projects contracted by Hughes Research Laboratories.

Sub-Series Arrangement

This sub-series is arranged chronologically.

shelf On Shelf	"Research on Gravitational Mass Sensors: 1964-1966." NASA Contract Reports NASW-1035 1964-1966
shelf On Shelf	"Research Toward Feasibility of an Instrument for Measuring Vertical Gradients of Gravity: 1966-1967." Air Force Contract AF 19(628)-6134 1966-1967
shelf On Shelf	"Rotating Gravity Gradiometer Development Programs: 1969-1971" (includes index) 1969-1971
shelf On Shelf	"Prototype Moving Base Gravity Gradiometer." Proposal 71M-1593-/C3755 September 1971
shelf On Shelf	"Prototype Moving Base Gravity Gradiometer." First two Scientific Reports covering the work during 1972 1972
shelf On Shelf	"Prototype Moving Base Gravity Gradiometer." Two Design Review briefing charts and the Third Scientific Report (never published) covering the work during 1973 1973
shelf On Shelf	"Prototype Moving Base Gravity Gradiometer." Design Review briefing charts and Final Report covering the work during 1974, followed by another Design Review and Final Report for a follow-on effort in 1975, concluding with a Proposal for a 1976 effort covering the work through 1975 1974-1975
shelf On Shelf	"Rotating Gravity Gradiometer Development Programs." Consists of delayed 1975 Sperry/Navy GEMS study, 1976 Moving Base Gravity Gradiometer Conference briefing, Interim DARPA/AFGL R&D Design Evaluation Report, JPL Lunar Study, and 1976 Sperry/Navy GGS proposal 1975-1976
shelf On Shelf	"Rotating Gravity Gradiometer Development Programs." Consists of two volume final report on DARPA/AFGL Rotating Gravity Gradiometer Development program, Sperry/Navy Early Award GGS program, and briefings to SAMSO and DMA 1977
shelf On Shelf	"Navy Gravity Gradiometer System Study." Consists of 1978 Moving Base Gravity Gradiometer Conference briefing, proposal to Sperry/Navy for follow-on work, and four volume final report on Sperry/Navy GGS program. RGG development at Hughes stopped in July 1978. Final summary of instrument status given in 1979 Moving Base Gravity Gradiometer Conference briefing 1978
shelf On Shelf	"Gravity Gradiometer Instrument (GGI) Sensor Output Stability Test Report," part of the Gravity Gradiometer Instrument (GGI) Feasibility Demonstration and Studies and Gravity Gradiometer System (GGS) Definition Studies Program July 1978
shelf On Shelf	"Wideband Gravitational Radiation Antenna Research." Compiled by Dr. Forward "as a "sales brochure" to take along with me on marketing trips." 1978-1979
shelf On Shelf	"Alternate Propulsion Energy Sources." Final Report for the period 3 March 1983 to 21 September 1983 December 1983
shelf On Shelf	"Advanced Space Propulsion Study: Antiproton and Beamed Power Propulsion." Final Report, Contract F04611-86-C-0039, 1 May 1986 to 30 June 1987 August 1987
shelf On Shelf	"Negative Matter Propulsion Drafts: 1987-88" (copyedited). Includes papers prepared in Forward's capacity as a Hughes Research Laboratories scientist and consultant with Forward Unlimited 1987-1988

Series 6. Personal library 1949-2000, undated

Series Scope and Contents

This series is comprised of Dr. Forward's collection of science-fiction and non-fiction books by other authors, many of which contain author inscriptions or autographs. The bulk of the texts include brief, inserted notes written by Forward that address his relationship to the author, either as a colleague, advisor, or fan. Dedications or acknowledgements of Forward and his work that appear in a text are also meticulously noted. This information, when available, is transcribed in a supplementary note.

Series Arrangement

This series is arranged alphabetically by publication title.

Box 38, Folder 3
Box 11

***Approach to Infinity* by Morris Scott Dollens (two copies) undated**
***The Coattails of God: The Ultimate Spaceflight -- The Trip to the Stars* by Robert M. Powers. Published by Warner Books, New York 1981**

Annotation by Robert L. Forward, 24 Dec 1986 (on inserted paper)

"See page 52. I later sent him my 1962 article on laser-pushed lightsails."

Box 11

***Deep Thoughts: Proceedings of Life, the Universe, & Everything XII, February 16-19, 1994* (conference publication; two copies). Edited by Steve Setzer and Marny K. Parkin. Published in Provo, Utah 1995**

Annotation by Robert L. Forward (on inserted paper)

"See page 15."

Box 11

***Earthlight* by Arthur C. Clarke. Published by Ballantine Books, New York 1975, © 1955**

Annotation by Author

"Great Times, Bob!"

Annotation by Robert L. Forward (on inserted paper)

"Only book of his I had when he visited Hughes.

I had nothing to do with this one. Just hate to see an AC Clarke Autograph lost."

Box 22

***Einstein's Unfinished Symphony: Listening to the Sounds of Space-Time* by Marcia Bartusiak. Published by Joseph Henry Press, Washington, D.C. 2000**

Annotation by Author

"To Bob, in appreciation of your kind assistance and sage advice during the course of my research."

Box 11

***The Endless Frontier (Vol. II)* edited by Jerry Pournelle with John F. Carr. Published by Ace Books, New York 1982**

Box 38, Folder 3

***Fantasy Review* Vol. III, No. 14. Published by Walter Gillings, Essex, England April-May, 1949**

Box 36

***Free Space! Real Alternatives for Reaching Outer Space* by B. Alexander Howerton. Published by Loompanics Unlimited, Port Townsend, Washington 1995**

Annotation by Author, 2 December 1994

"Bob - Thank you for helping me with this book. With luck, we'll both enjoy success."

Box 10

***Friday* by Robert A. Heinlein. Published by Holt, Rinehart and Winston, New York 1982**

Annotation by Author

"To my colleague Robert Forward, with thanks for many things."

Annotation by Robert L. Forward (on inserted paper)

"Heinlein credits me with an anti-gravity drive in this story and names a spacecraft after me."

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- Box 11 ***Imperial Earth* by Arthur C. Clarke. Published by Harcourt Brace Jovanovich, New York 1976**
 Annotation by Author (on inserted paper)
 "Dear Bob, Herewith the Clarke Drive (inter alia).
 (& see reference!)"
 Annotation by Robert L. Forward, 24 Dec 1986 (on inserted paper)
 "See credit on page 302 for giving him the details on how a black hole space drive might work. I also described how one might look at a black hole under a microscope, which he uses on page 90."
- Box 10 ***The Integral Trees* by Larry Niven. A Del Rey Book published by Ballantine Books, New York 1983**
 Annotation by Robert L. Forward, 24 Dec 1986 (on inserted paper)
 "See dedication."
- Box 9 ***Islands in the Sky: Bold New Ideas for Colonizing Space* (Wiley Popular Science series). Edited by Stanley Schmidt and Robert Zubrin. Published by John Wiley & Sons, Inc., New York 1996**
- Box 22 ***Mind Children: The Future of Robot and Human Intelligence* by Hans Moravec. Published by Harvard University Press, Cambridge, Massachusetts 1988**
 Annotation by Author
 "To Bob Forward, For imagining the future."
 Annotation by Robert L. Forward
 "Archivist - see pages 203 & 204."
- Box 9 ***The New Gravitation: Key to Incredible Energies* by H. Arthur Klein (Introducing Modern Science series). Published by J.B. Lippincott Company, Philadelphia; New York 1971**
 Annotation by Author
 "To Bob Forward who helped put levity into my struggles with gravity! "
 Annotation by Robert L. Forward, 24 Dec 1986 (on inserted paper)
 "See credit twice in Acknowledgements. Figures 8-1, 8-2, 8-3, 8-4, 8-13, 11-4, 11-7 are from my papers. Chapter 8 is largely based on my papers. See also pages 84, 112."
- Box 10 ***The New Race for Space: The U.S. and Russia Leap to the Challenge for Unlimited Rewards.* By James E. Oberg; foreward by Ben Bova. Published by Stackpole Books, Harrisburg, Pennsylvania 1984**
 Annotation by Author
 "To Bob Forward -- Who knows the value of the goal."
 Annotation by Robert L. Forward, 24 Dec 86 (on inserted paper)
 "I influenced chapter 17 heavily, supplying many of the references."
- Box 38, Folder 3 ***Other Worlds Science Stories Vol. 1 No. 4.* Published by Clark Publishing Company, Evanston, Illinois May 1950**
- Box 10 ***Polidštěná Galaxie: Kosmická budoucnost lidstva* by Karel Pacner (Kolumbus series, Sv. 112). Published by Mladá Fronta, Prague 1987**
 Annotation by Author, June 14, 1988
 "To Dr. Robert Forward with compliments."
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- Box 10 ***Poselství Kosmických Světů* by Karel Pacner (Edice Pyramida series). Published by Panorama, Prague 1987**
 Annotation by Author, 11/23, 87
 "To Dr. Robert L. Forward with compliments."
 Annotation by Robert L. Forward
 "See pp. 409 ff. (front cover)."
- Box 22 ***Proteus: Insights from 2020*. Compiled by Pamela H. Krause; written by Michael S. Loescher, Chris Schroeder, and Charles W. Thomas. Published by The Copernicus Institute Press and Michael S. Loescher 2000**
 Annotation by Robert L. Forward
 "See page ix. I was on the New Camelot Team and made the summary presentation."
- Box 11 ***Proteus Unbound* by Charles Sheffield. A Del Rey Book published by Ballantine Books, New York 1989**
 Annotation by Author
 "To Bob -- who like me believes things should be done the hard way."
- Box 11 ***Proteus Unbound* by Charles Sheffield. Published by the New English Library paperbacks 1989**
 Annotation by the Author
 "To Bob, with thanks for all the useful suggestions."
- Box 9 ***The Ransom of Black Stealth One* by Dean Ing. Published by St. Martin's Press, New York 1989**
- Box 11 ***Der Regenbogen des Mars* by Robert L. Forward (German translation; Bastei Lübbe series). Published by Bastei-Verlag, Cologne 1992**
- Box 11 ***Riding the Torch* by Norman Spinrad. Published by Bluejay Books, New York 1984**
 Annotation by Robert L. Forward, 24 Dec 1986 (on inserted paper)
 "See Afterward page 156 ff. Frenkel offered \$250 after originally offering \$500 for 5000 words. I told him to give it to Silverberg's SFWA indigent author's fund.
 He spelled my name wrong on the cover."
- Box 10 ***The Search for Extraterrestrial Intelligence: Listening for Life in the Cosmos* by Thomas R. McDonough (Wiley Science Editions series). Published by John Wiley & Sons, Inc., New York 1987**
 Annotation by Author
 "To Bob, with thanks for all you're doing to make us an interstellar civilization!"
 Annotation by Robert L. Forward, 24 Dec 1986 (on inserted paper)
 "I influenced the inclusion of a chapter on interstellar flight. See chapter 13 and index."
- Box 10 ***Science Fiction, Today and Tomorrow* edited by Reginald Bretnor. Published by Penguin Books, Inc., Baltimore 1974**
 Annotation by Editor, 11/4/75
 "For Robert L. Forward, with all good wishes."
 Annotation by Robert L. Forward (on inserted paper)
 "I had nothing to do with this one. Just sent for your disposal."
- Box 36 ***Space Sailing* by D.M. Souza. Published by Lerner Publications Company, Minneapolis 1994**
- Box 38, Folder 3 ***Stellar Science-Fiction Stories #6* edited by Judy-Lynn del Rey. A Del Rey Book published by Ballantine Books, New York 1980**
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Box 11

***That Buck Rogers Stuff* by Jerry Pournelle. Introduction by Larry Niven; edited by Gavin Claypool. Published by Extequer Press, Los Angeles. Copy no. 20 of 500 copies. Autographed by author 1977**

Annotation by Robert L. Forward, 24 Dec 86 (on inserted paper)

"See page 69 about my gravity wave experiments and 72-73 about their trip up to Malibu. That ultimately resulted in *Far Out Physics*. I also gave them the idea for the Mote (green laser beam) in *God's Eye*, the Moties were using my one way laser pushed lightsail."

Box 10

***Le Vol de la Libellule* by Robert L. Forward (Le Livre de Poche series). Published by Robert Laffont, Paris. Two copies 1986**

Box 36

***Where Next, Columbus? The Future of Space Exploration* edited by Valerie Neal. Published by Oxford University Press, New York. Includes an entry by Robert L. Forward 1994**